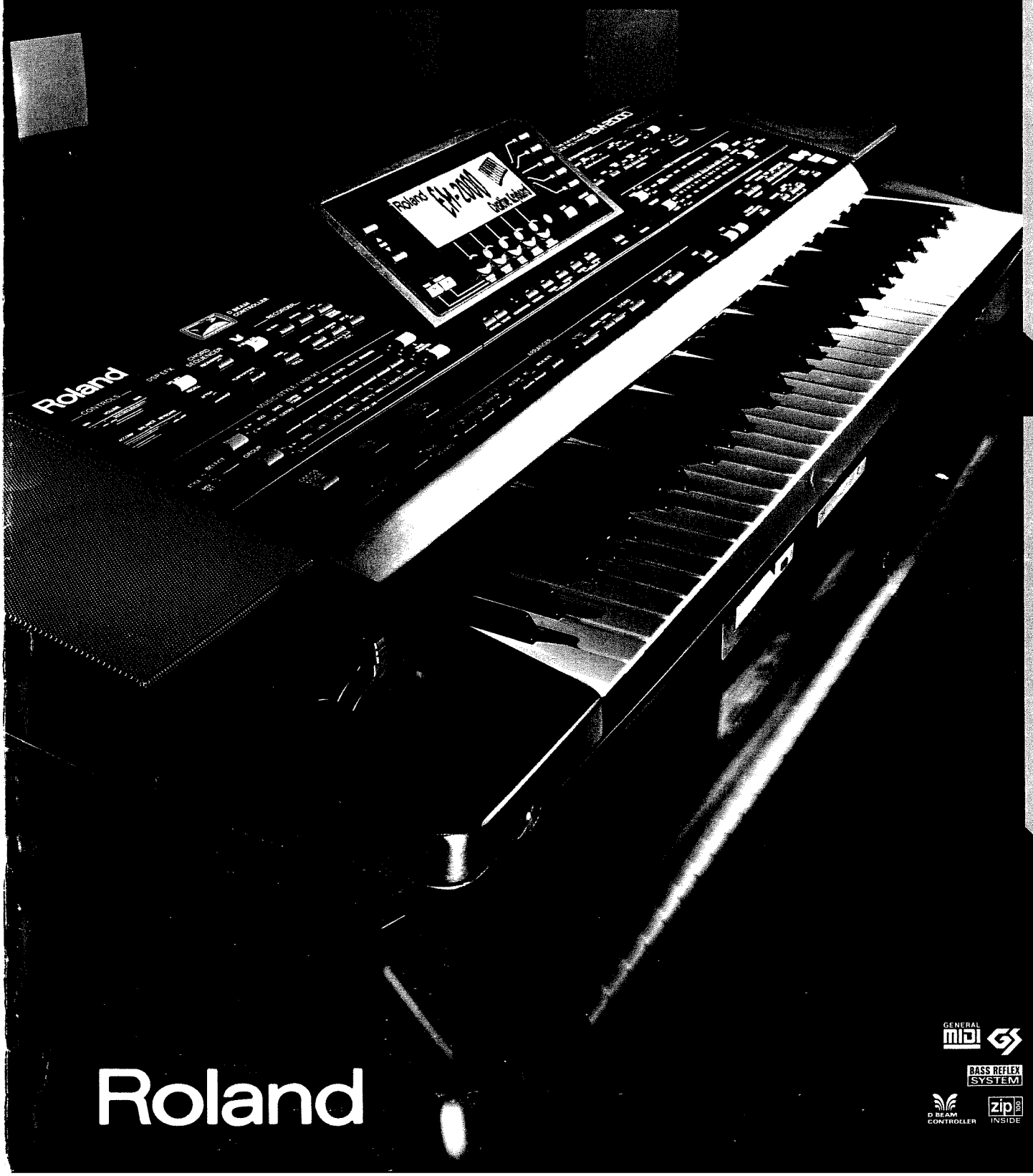
# EM-2000

## CREATIVE KEYBOARD
## 64 VOICE POLYPHONY




PLAYER'S GUIDE

REFERENCE MANUAL

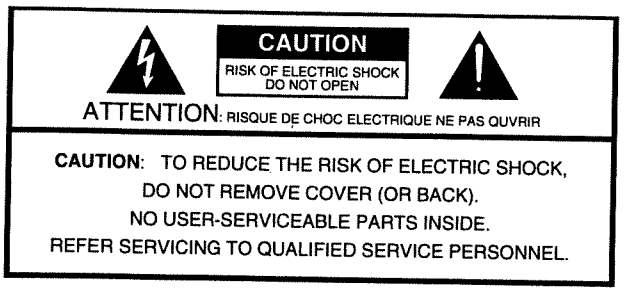
GENERAL MIDI

BASS REFLEX SYSTEM

D BEAM CONTROLLER

zip INSIDE

Roland




The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

# IMPORTANT SAFETY INSTRUCTIONS
# SAVE THESE INSTRUCTIONS

**WARNING** - When using electric products, basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. Do not use this product near water — for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should be used only with a cart or stand that is recommended by the manufacturer.
4. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
8. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
9. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
10. The product should be serviced by qualified service personnel when:
    A. The power-supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled onto the product; or
    C. The product has been exposed to rain; or
    D. The product does not appear to operate normally or exhibits a marked change in performance; or
    E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

**For the USA**

This product may be equipped with a polarized line plug (one blade wider than the other) . This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of the plug.

**For Canada**

For Polarized Line Plug

**CAUTION:** TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

**ATTENTION:** POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU' AU FOND.

**For the U.K.**

**IMPORTANT:** THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

Roland

# EM-2000

## CREATIVE KEYBOARD

# Player's Guide

Thank you, and congratulations on your choice of the Roland EM-2000 Arranger Workstation.

Its outstanding ease of use, versatility, and its superfast RISC processor make the EM-2000 a truly grand instrument. Introducing a number of firsts in its class, the EM-2000 is the perfect instrument for professionals and serious amateurs.

To get the most out of the EM-2000 and to ensure many years of trouble-free service, we urge you to read through this Player's Guide thoroughly. Additional information can be found in the Reference Manual.

- To avoid confusion, let's agree to use the word "button" for all keys on the front panel, and only use "key" when referring to the EM-2000's keyboard.
- The contents of the illustrations appearing in this manual may differ slightly from the settings you see when you start using your instrument.

Before using this instrument, carefully read the sections entitled "IMPORTANT SAFETY INSTRUCTIONS", "USING THE UNIT SAFELY", and "IMPORTANT NOTES". These sections provide important information concerning the proper operation of the EM-2000. Be sure to keep this manual in a safe place for future reference.

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The D Beam has been licensed from Interactive Light, Inc.

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# Features

### Velocity-sensitive keyboard with channel aftertouch

The EM-2000's keyboard is a delight to play. Capable of generating channel aftertouch messages, it allows you to control the volume, timbre, and Arranger functions in an intuitive way.

### New sound source

The EM-2000 comes with a new 32-part multitimbral sound source with 1161 instrument sounds and 43 Drum Kits that cover everything from incredibly realistic acoustic instruments to cooking Techno sounds. It goes without saying that the EM-2000 is 64-voice polyphonic.

### Effects galore

In addition to the indispensable digital Chorus and Reverb, the Delay effect introduced on the G-800 and the 2-band Equalizer, the EM-2000 also features a multi-effector with a stunning 89 effects and combinations (distortion, Rotary, Humanizer, Enhancer, 3D Chorus, LoFi, etc.).

### Innovative D Beam™ Controller

The EM-2000's D Beam Controller is a new performance function introduced on Roland's groundbreaking MC-505 Groovebox. It allows you to control several parameters by moving your hand over an (invisible) infrared light beam.

### On-board Zip™ drive, standard SCSI port, and floppy disk drive

Not content with offering you an instrument with a SCSI port as standard for external data storage, the EM-2000 engineers also thought you might appreciate a 100MB Zip drive for data storage and therefore wrote operating software that provides direct access to data on a Zip disk.

The SCSI port allows you to use external storage media (such as JAZ™ drives, hard disks, Mo disks, etc.). Given all this, you will probably only use the 2HD floppy disk drive to load data programmed on a G-1000, G-800, G-600, E-96, E-86, or RA-800 (User Styles, MIDI Sets, Performance Memories/User Programs).

### 192 User Programs

Apart from allowing you to customize existing Styles quickly, the User Programs are also used to save all panel settings. If you need more than 192 memories, you can save the contents of the User Programs to Zip or floppy disk (or an external SCSI storage device) and load them whenever necessary.

If you do not wish to program Styles, or if you are too busy to delve into this matter, you can personalize existing Styles by modifying the instrument assignments to any given Arranger part (bass, drums, chord backing, etc.), and then save these changes to one of the 192 User Programs in RAM.

### Innovative functions

*Disk Style Link* is a function that allows you to instantly call up any one of up to 111 Music Styles from the Zip disk with no waiting time. As you can program which Styles should be included, this function is the perfect tool for live performances.

*Play & Search (P&S)* allows you to locate the desired song (Standard MIDI File) simply by playing a musical phrase on the EM-2000's keyboard. The EM-2000 then looks for all songs that contain this phrase.

*Style Database* is another search function. It allows you to locate songs and Music Styles by entering information for one of the data fields. These include the song or Style title, the composer/author, the genre, the file name, etc.

### 128 High-definition Music Styles, 16 Flash ROM memories plus 441 Music Styles on the supplied Zip disk

Your EM-2000 comes loaded with an impressive 128 high-definition Music Styles covering every musical genre you need. Each Style comprises four versions (Basic, Advanced, Original, and Variation), two Intros, two Endings, and various other elements that actually add up to far more than 128 accompaniments.

Furthermore, 16 Flash ROM memories are preloaded with additional Music Styles.

And if this impressive offer still isn't enough, the supplied Zip disk provides 441 additional Music Styles to choose from.

Of course, the EM-2000 also allows you to program your own Music Styles (called *User Styles*). It even provides a nifty function that allows you to convert carefully selected sections of a Standard MIDI File into a Style.

### 16-track sequencer

The EM-2000 comes with a 16-track sequencer with a host of edit functions.

### Three trigger modes

The Music Styles of your EM-2000 can be triggered in one of three modes: Standard, Intelligent or Piano Style. In Standard mode, the chord recognition of the Arranger works the way you would expect an arranger keyboard to operate.

In Intelligent mode, you do not have to play complete chords in order to hear them. Pressing one, two, or

three keys will produce even the most complex chords you can think of.

The Piano Mode, finally, is provided for those with a "pianistic" background.

### Intuitive user interface

The large 156 x 48 mm display keeps you posted about the status of the EM-2000 and allows you to access various functions via the function key pad. Depending on the display page, the five knobs below the display can be used to set the volume, pan, effect send level, to select Tones and Styles, or to change parameter values. Several of these functions are duplicated by dedicated buttons on the EM-2000's front panel. And what's more: there are two programmable buttons (PAD 1 & 2) you can assign frequently used functions to. For enhanced operation, the EM-2000's display can be tilted.

### Lyrics display

The EM-2000 displays Standard MIDI File (SMF) lyrics on its LCD and can also transmit Lyrics data to an optional LVC-1 Lyrics Converter. This should help you remember the words of every song you wish to sing.

## Unpacking your EM-2000

Your EM-2000 comes with the following items. Please check the contents of the cardboard box and report any problems to the Roland dealer you purchased the EM-2000 from.

- The *Player's Guide* and the *Reference Manual.*
- A Zip disk with 441 Music Styles and 306 Standard MIDI Files.
- A metal music stand
- A power cable

## Useful options

**1. FC-7 Foot Controller**

The FC-7 Foot Controller allows you to perform various Style selection functions (Fill In To Original/To Variation, Start/Stop, etc.) by foot. Connect it to the FC-7 connector at the back of your EM-2000.

*Note: The FC-7 cannot be used as MIDI pedal board because it transmits pulses rather than MIDI messages. Do not try to connect it to the MIDI IN jack of your EM-2000, or any other instrument.*

**2. EV-5 or BOSS FV-300L Expression pedal**

An optional EV-5 or BOSS FV-300L expression pedal can be used to perform various tasks, such as master volume changes.

**3. DP-2, DP-6, or FS-5U Foot Switch**

You will probably need two DP-2 (DP-6 or Boss FS-5U) footswitches. One should be connected to the SUSTAIN FOOTSWITCH connector to function as Hold pedal.

A second DP-2 (DP-6 or Boss FS-5U) can be used to perform various selectable tasks. The FOOT SWITCH assignment can be saved to a User Program along with all other settings.

**4. MSA, MSD, and MSE series Style Disks**

The MSA, MSD, and MSE series Music Style disks contain new Styles. The MSE Music Style series is specially developed for the EM-2000, G-1000, G-800, G-600, E-96, and RA-800. You cannot share MSE Styles with colleagues that own another E series or RA series instrument because the MSE series Styles take advantage of the EM-2000's sound source. You will have no trouble reading MSA and MSD series Style disks on your EM-2000 (upward compatibility).

**5. External hard disk, MO drive, JAZ drive, Zip drive, etc.**

For archiving purposes, you may want to buy a hard disk or removable drive. Please consider that Zip disks can hold 100MB of precious data that deserve to be backed up. That way, you can always return to the backup copy in case the data on the Zip disk become corrupted. Use the File Copy functions for making backups.

**6. RH series headphones**

A pair of Roland RH series headphones can be connected to the PHONES jack.

# Important notes

In addition to the items listed under "IMPORTANT SAFETY INSTRUCTIONS" and "USING THE UNIT SAFELY", please read and observe the following:

### Power supply

- Do not use this instrument on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).
- Before connecting the EM-2000 to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

### Placement

- Using the EM-2000 near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This instrument may interfere with radio and television reception. Do not use it in the vicinity of such receivers.
- Do not expose the EM-2000 to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the instrument.

### Maintenance

- For everyday cleaning wipe the EM-2000 with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a mild, non-abrasive detergent. Afterwards, be sure to wipe the instrument thoroughly with a soft, dry cloth.
- Never use benzene, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

### Repairs and data

- Please be aware that all data contained in the instrument's memory may be lost when it is sent for repairs. Important data should always be saved to Zip disk or to an external storage device. In certain cases (such as when circuitry related to memory itself is out of order), we regret that it may not be possible to restore the data. Roland assumes no liability concerning such loss of data.

### Additional precautions

- Please be aware that the memory contents can be irretrievably lost as a result of a malfunction, or the improper operation of the instrument. To protect yourself against the risk of losing important data, we recommend that you periodically make a backup copy of important data via SCSI.
- Use a reasonable amount of care when using the instrument's buttons, other controls, and jacks/connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- When connecting/disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- A small amount of heat will radiate from the instrument during normal operation. This is perfectly normal.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the instrument, package it in the box (including padding) that it came in. Otherwise, you will need to use equivalent packaging materials, or a flightcase.

### Handling Zip disks

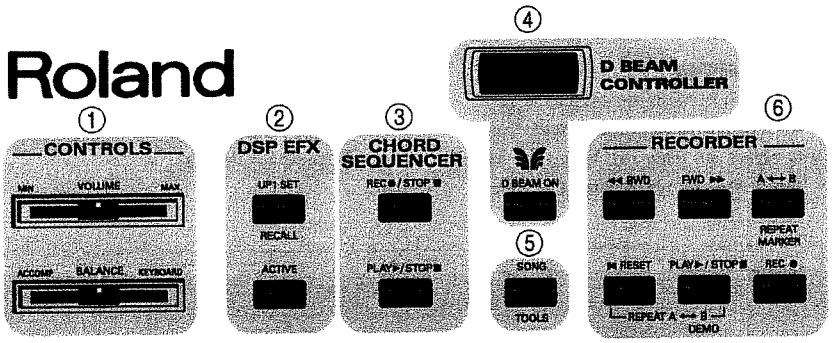
- Be sure to INSERT THE ZIP DISK AFTER SWITCHING ON THE EM-2000.
- When inserting the Zip disk, hold it horizontally and gently push it downward into the drive until it snaps into place. If the mechanism fails to load the disk completely, gently push the Zip disk downward.
- To remove a Zip disk, first unmount it (see p. 17), then press the EJECT button. Never force the Zip disk into or out of the drive.
- Store the Zip disk in its protective case when it is not in use.
- Avoid exposing the Zip disk to direct sunlight, high temperature, moisture, and magnetic fields.
- Never insert a floppy disk into the Zip drive, and never try to clean the drive with a 3,5" head cleaning diskette.
- Be sure to make a backup of the included Zip disk as well as all important data on any other Zip disk (see "Copy functions" on page 80 in the Reference Manual).

- See also "Handling SCSI devices" on page 107 for additional precautions.

# Contents

# 1. Panel descriptions

## 1.1 Front panel




① **CONTROLS section**

**VOLUME slider:** This slider controls the master volume of your EM-2000, i.e. the volume of the speakers and the signals present at the output jacks and the PHONES jack.

**BALANCE slider:** This slider allows you to quickly change the balance between the EM-2000's Arranger and Realtime parts. Use it if the melody is way too soft or too loud with respect to the accompaniment (Music Style) or Standard MIDI File.

② **DSP EFX section**

**UP1 SET/RECALL:** Press this button to recall the DSP settings of the Tone currently assigned to the Upper 1 part. This button thus provides a quick way of selecting an appropriate DSP effect for the melody sound. Please note that the factory-set DSP-to-Tone assignments apply to Tone families (piano, electric piano, etc.) rather than individual Tones.

*Note: If you press this button, the preset DSP effect assigned to the Upper 1 Tone will be used by all Realtime parts.*

**ACTIVE:** This button allows you to switch on (indicator lights) or off (indicator goes dark) the DSP effect for all Realtime parts. Only the parts whose EFX switch (see page 76) is set to On will use this effect, however.

③ **CHORD SEQUENCER section**

These buttons are used to operate the powerful on-board Chord Sequencer that allows you to record and playback entire accompaniments including the chord changes. See "Chord Sequencer" on page 55.

④ **D BEAM CONTROLLER section**

The D Beam Controller detects motion and translates that information into MIDI data. This new controller is based on an infrared light beam. Move your hand or body over the two "eyes" to control the volume, filter setting, modulation depth, etc. of the currently active Realtime parts. The function to be controlled by the D Beam is assignable (see "Param\Cntrl\7: D Beam Assign" on page 32 in the Reference Manual).

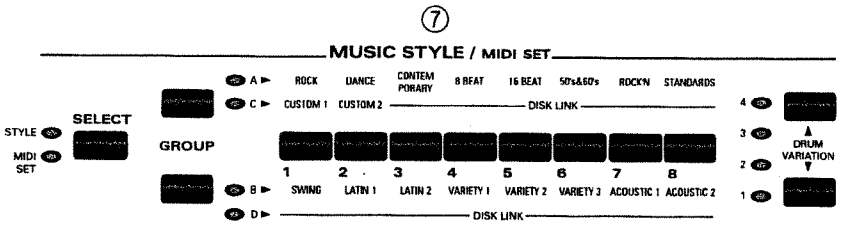
Press the [D BEAM ON] button (indicator must light) to activate the D Beam Controller. Press it again to switch off the D Beam Controller.

⑤ **SONG TOOLS button**

The [SONG TOOLS] button provides access to the 16-track sequencer as well to a number of edit functions for Standard MIDI Files.

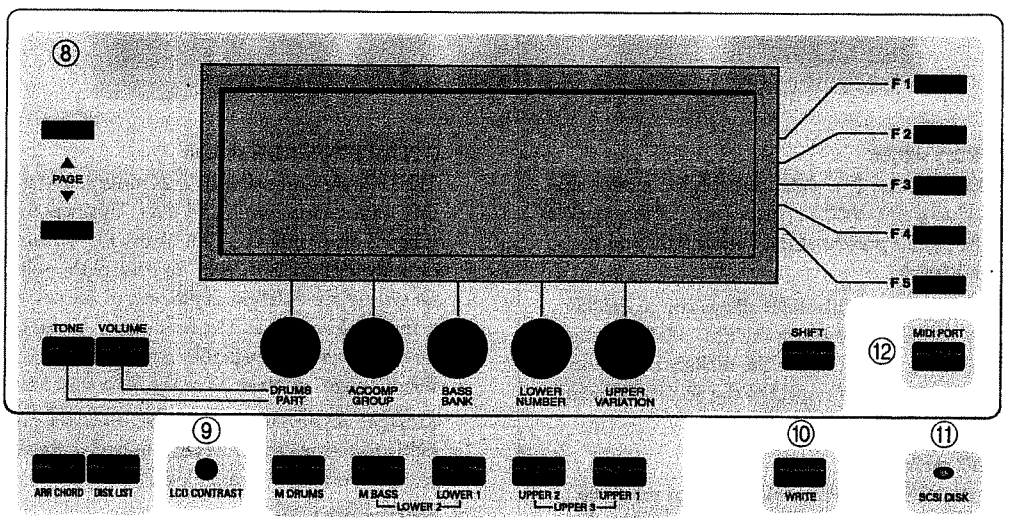
⑥ **RECORDER section**

The buttons of this section allow you to operate the on-board sequencer/Standard MIDI File Player. See "Recorder (GM/GS mode)" on page 57.




### ⑦ MUSIC STYLE/MIDI SET section

The Music Style section buttons are used to select Music Styles – i.e. automatic accompaniments (see "Selecting Music Styles" on page 18). When the MIDI SET indicator lights, you can use the eight number buttons to select a MIDI Set (see "MIDI Sets" on page 102). The [DRUM VARIATION] ▲▼ buttons allow you to select the desired drum accompaniment (see page 43 for details).




### ⑧ DISPLAY and navigation section

The display shows all the information you need in a given situation. The function keys to the right of the display allow you to select one of the five displayed Menu options.

The knobs are assigned to the function displayed on the bottom line of the display, and allow you to modify the corresponding setting.

The **Part Select** buttons ([M.DRUMS], [M.BASS], [LOWER1], [UPPER2], and [UPPER1] below the display) allow you to select the Realtime part you wish to assign a Tone to but may also serve to execute a display function.

[ARR CHRD] provides access to the Arranger Chord display page (see page 42), while [DISK LIST] calls up the mode of the same name.

### ⑨ LCD CONTRAST knob

Use this knob to set the contrast whenever you are having problems reading what is written on the display. Turn it to the right to make the characters darker, or to the left to make the characters lighter.

### ⑩ WRITE button

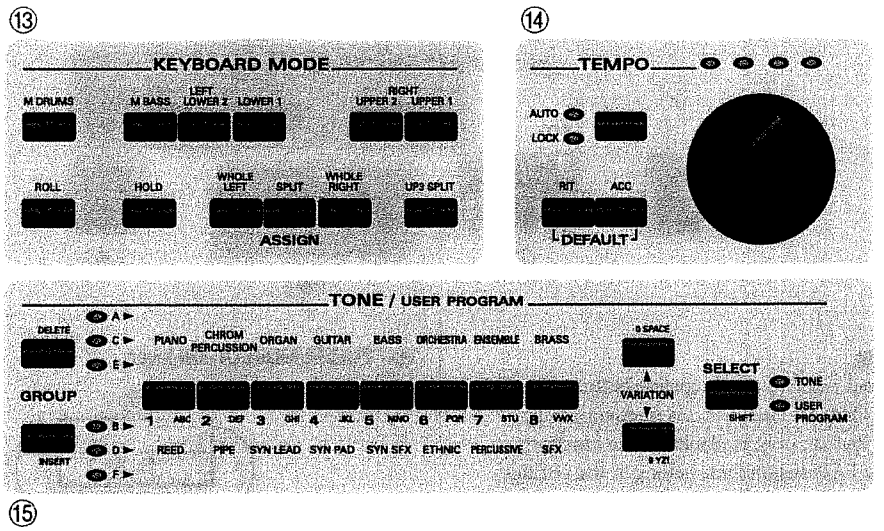
Press this button to store your current panel and parameter settings as a "User Program" (see p. 49) or your MIDI settings as a "MIDI Set" (see p. 102). To avoid confusion, let's agree to say "write" for storing settings to the EM-2000's internal memory, and use "save" for storing data on a Zip, floppy, etc., disk.

### ⑪ SCSI/DISK indicator

The SCSI/DISK indicator lights when either the ZIP drive (DISK) or an external storage device is being accessed (SCSI).

### ⑫ MIDI PORT button

Press this button to call up the MIDI Port page where you can assign the desired group of 16 MIDI Channels to the EM-2000's MIDI connectors (see "Selecting the MIDI Port" on page 97).




### ⑬ KEYBOARD MODE section

Use the buttons of this section to select the Realtime parts you wish to play. See "Selecting Realtime parts for playing" on page 27.

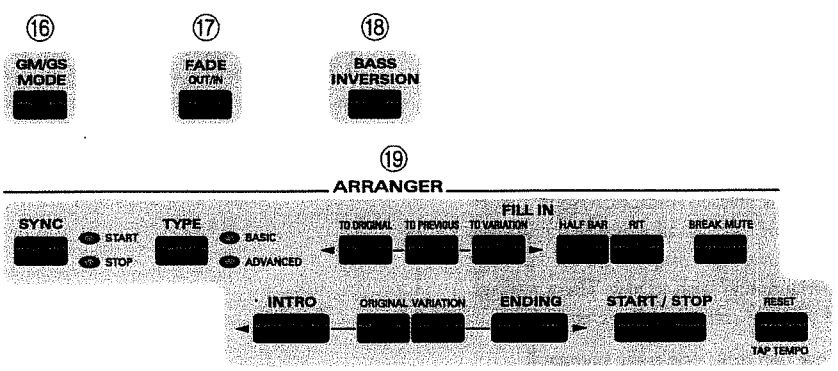
### ⑭ TEMPO section

The TEMPO dial allows you to set the Arranger or Recorder playback tempo. Use the [AUTO/LOCK] button to override the preset tempo settings (see "Auto Tempo and Tempo Lock" on page 46). [RIT] allows you to gradually reduce the tempo, while the [ACC] button can be used to gradually increase it (see "Tempo Rit and Tempo Acc" on page 46).

### ⑮ TONE/USER PROGRAM section

This section allows you to select Tones (see page 19) or User Programs (see p. 49) as well as to enter names (see page 25). Use the [SELECT] button to specify whether you want to select Tones or User Programs. For Tone selection, it is important that you first choose a Realtime part with the *Part Select* buttons below the display before calling up the desired sound.

User Programs contain all settings you can make on the front panel and in the Volume, Mixer, and Parameter modes. MIDI settings can be saved to MIDI Sets.




### ⑯ GM/GS MODE button

Press this button to activate (indicator lights) or switch off the EM-2000's GM/GS mode. This mode is automatically selected whenever you play back a Recorder song. You cannot use the Arranger while the GM/GS mode is active.

### ⑰ FADE (OUT/IN) button

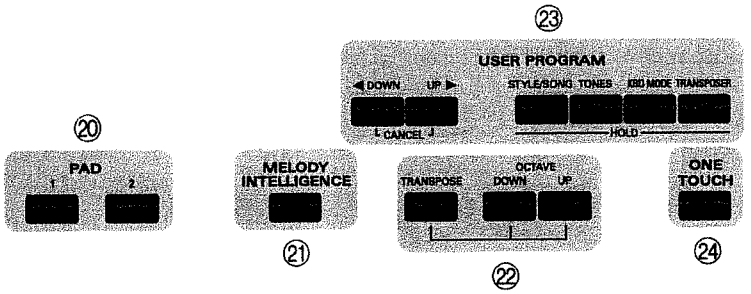
Allows you to launch a Fade In (gradual volume increase) or Fade Out (gradual volume decrease) that affects both Arranger playback and Realtime parts currently in use. See page 45 for details.

### ⑱ BASS INVERSION button

Press this button when you want the Accompaniment Bass part (ABS) to play the lowest note of your chords rather than the root.

### ⑲ ARRANGER section

The buttons in this section are used for controlling the EM-2000's automatic accompaniment function in Realtime (while playing). This function is called the *Arranger*.




**⑳ PAD buttons**
[PAD 1] and [PAD 2] are assignable buttons. You could use them to directly access frequently used functions that are only available via the function menu. The PAD assignments belong to the settings that can be written to a User Program.

**㉑ MELODY INTELLIGENCE button**
Press this button (indicator lights) to add an automatic counter-melody (second and third voice) to your solos or melodies. The EM-2000 provides a selection of 18 different harmony voicings for you to choose from.

**㉒ TRANSPOSE, OCTAVE UP/DOWN buttons**
Use these buttons whenever you want to sound in a different key (Transpose) or octave than the one you are playing in (see pages 32 and 33).

**㉓ USER PROGRAM section**
[◀DOWN] and [UP▶] allow you to step through the EM-2000's User Programs, which can be practical if you saved your settings in the right order for your gigs.

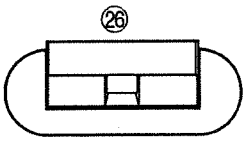
The HOLD buttons allow you to specify which data should be loaded when you select a User Program. See "Selectively loading User Program settings (User Program Hold)" on page 52.

**㉔ ONE TOUCH button**
When this button is pressed (indicator lights), selecting a Music Style will also recall a number of settings for the Realtime parts that complement the kind of music you (presumably) wish to play. These settings include Tone selection, effects settings, etc.

**㉕ Floppy disk drive (left drive below the keyboard)**
The disk drive can be used to save and playback Recorder songs and to save or load User Styles, User Programs, MIDI Sets, Chord Sequences, etc. You can use 2DD or 2HD disks. As stated earlier, you will probably only need the floppy disk drive to load settings programmed on a G-1000, G-800, RA-800, etc. Press the eject button (right) to remove the disk from the drive. (See also "Inserting floppy disks" on page 107 for an important remark about floppy disks.)

*Note: Do not remove the floppy disk while the drive's indicator lights or flashes. Doing so may indeed damage both the floppy disk and the drive's head.*

**㉖ BENDER/MODULATION lever**




Use this lever to bend the notes of the Realtime part you are playing, or to add some vibrato. See "Pitch Bend and Modulation" on page 32.

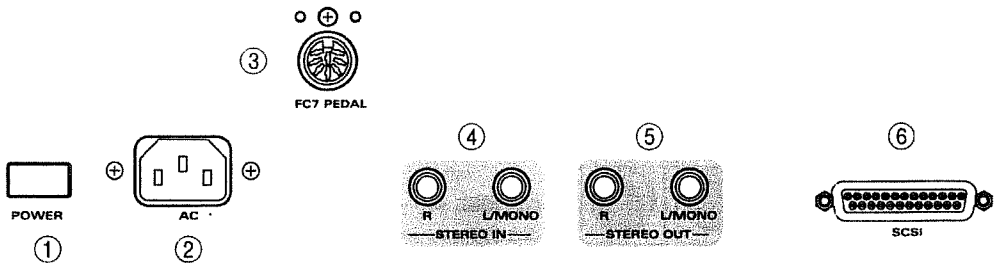
**㉗ Zip drive (right drive below the keyboard)**
The Zip drive can be used to save and playback Recorder songs, and to save or load User Styles, User Programs, MIDI Sets, Chord Sequences, etc.

*Note: To prevent damaging your Zip disk (it can hold up to 100MB worth of precious Music Styles, Standard MIDI Files, etc.), you cannot not remove it without unmounting it first. See page 17 for details.*

*Note: Be sure to INSERT THE ZIP DISK AFTER SWITCHING ON THE EM-2000.*

**㉘ PHONES connector (front right)**
This is where you can connect a pair of stereo headphones that carry the same signal as the OUTPUT L/R jacks. Connecting headphones to the PHONES jack switches off the EM-2000's speakers but does not turn off signal sent to the OUTPUT jacks.

# 1.2.Rear panel




① **POWER switch**
Press this switch to turn on and off the EM-2000.

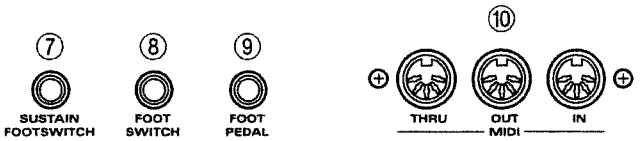
② **AC connector**
This is where you connect the supplied power cable.

③ **FC-7 PEDAL connector**
This is where you can connect an optional FC-7 footswitch unit that allows you to start, stop, and select Style divisions by foot.

④ **STEREO IN (R/L) jacks**
These are two input jacks to which you can connect external audio sources (module, CD-player, cassette player, etc.). Signals input to these jacks will be amplified by the EM-2000 and thus also be audible in its speakers and the headphones connected to the PHONES jack. If your signal source is mono, connect it to the L/MONO jack.

⑤ **STEREO OUT (R/L) jacks**
These jacks can be connected to the AUX or LINE IN inputs of a HiFi or keyboard amplifier, which may be necessary for live performances. You could also use these jacks to record your performances to MiniDisc, cassette, DAT, etc. In that case, you need to connect them to the REC (or IN) jacks of the recording device.

⑥ **SCSI port**
This is where you can connect external SCSI devices (Jaz drive, external Zip drive, MO drive, hard disk, etc.) to be used for backup purposes or as "on-line" data media.




⑦ **SUSTAIN FOOTSWITCH connector**
Connect an optional DP-2, DP-6, or BOSS FS-5U to this jack to sustain the notes of the Realtime section even after releasing the key(s) you pressed.

⑧ **FOOT SWITCH jack**
Connecting an optional DP-2, DP-6, or FS-5U to this jack allows you to control an assignable function by foot. These functions include starting and stopping Arranger or Recorder playback. See "Assignable footswitch" on page 36.

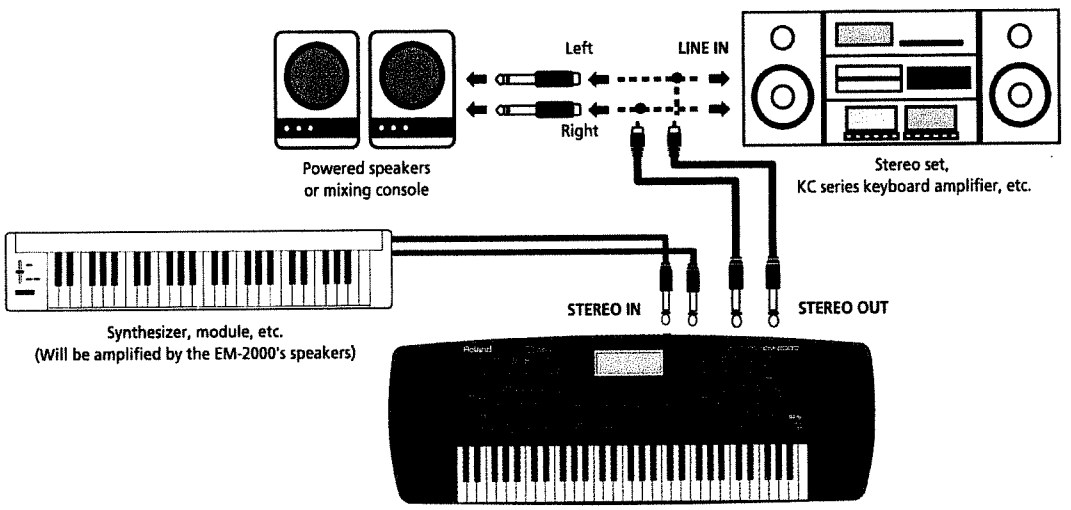
⑨ **FOOT PEDAL jack**
Connect an optional EV-5 or BOSS FV-300L expression pedal to this jack to control the volume of one or several parts by foot. See "Expression (Foot Pedal)" on page 36.

⑩ **MIDI connectors**
These connectors allow you to use your EM-2000 along with other MIDI instruments. See "MIDI mode" on page 97. You are free to specify whether these connectors should function as "MIDI A" or "MIDI B" connectors. That is why the EM-2000 is fitted with a [MIDI PORT] button (see p. 10).

# 2. A few things you need to know

## 2.1 Connections

Connect your EM-2000 and other components as follows:




## 2.2 Demo songs

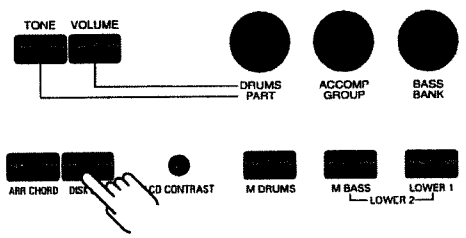
The EM-2000 is shipped with demonstration songs on the supplied Zip disk to give you an accurate impression of the versatility of your instrument. Here is how to listen to the demo songs:

**1. If you don't want to disturb your family or neighbors, connect a pair of headphones to the PHONES jack. This will turn off the EM-2000's speakers.**

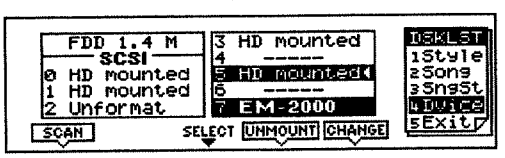
**2. Switch on the EM-2000.**

**3. Insert the supplied Zip disk into the drive (right drive below the keyboard).**
*Note: Be sure to INSERT THE ZIP DISK AFTER SWITCHING ON THE EM-2000.*

**4. Press the [DISK LIST] button below the display.**




**5. Press [F4] (Device) to jump to the Device page.**

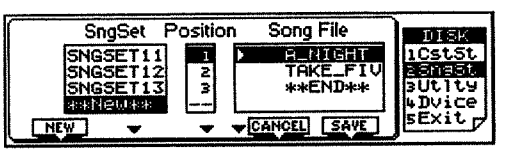



**6. Press Part Select [M.DRUMS] (Scan).**
The EM-2000 now looks for all available drives. The internal floppy disk drive is called "FDD", while the internal Zip drive is called "ID5".

**7. Use the [BASS/BANK] knob below the display to select the Zip drive (ID5).**

**8. Press Part Select [UPPER1] below the display to activate the Zip drive (CHANGE).**

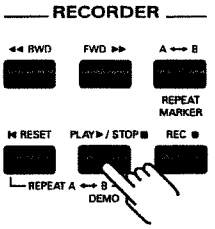
**9. Press [F3] to select the Song Set level of the Disk List mode.**



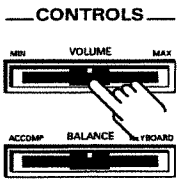

Songs Sets are chains of several songs that are played back one after another. If you want to listen to just one demo song, press [F2] (Song) instead.

**10. Set the [VOLUME] slider all the way to the left (MIN).**

11. Press the [PLAY►/STOP■] button in the RECORDER section to start playback of the DEMO Song Set.



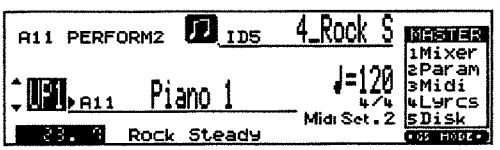

12. Set the [VOLUME] slider to a comfortable listening.




*Note: All demosongs © 1998 by Roland Europe in collaboration with Luigi Bruti and Roberto Lanciotti. All rights reserved.*

If you'd rather listen to a specific demo song, see "Playback of a specific song on disk" on page 59. The name of the song you select will appear both on the bottom line and in the right hand corner of the display.

When you start playback, the EM-2000 activates the GM/GS mode and the display shows the song tempo and time signature:

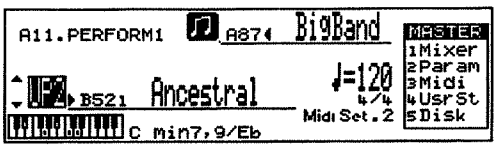



13. To stop playback of the demo songs, press [PLAY►/STOP■].

Before taking an in-depth look at your EM-2000, let's first have some fun and try out the most important functions.

## 2.3 Easy and Expert displays

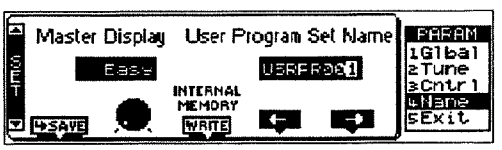
When you first switch on your EM-2000, the display will be in Easy mode. The Master page then contains less information than can be displayed. Here is what the Easy Master page looks like:




If you are used to working with a G series instrument (or E-96)– or if you'd like to see more information about the selected Tones, etc., you can switch to the Expert mode. The choice of the display mode can be saved internally.

Here is how to select the Expert display mode:

1. Press [F2] (Param).
2. Press [F4] (Name).



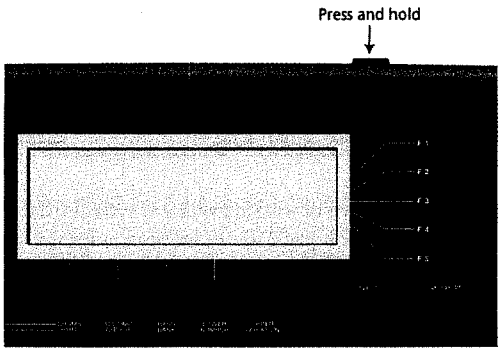

3. Use the [ACCOMP/GROUP] knob below the display to select *Expert*.
4. Press the [LOWER1] button (Internal Memory Write) to save your setting.
5. Press [F5] (Exit) to return to the Master page. It should now look like this:


*Note: In this manual, we will use the "Expert" Master page wherever applicable.*

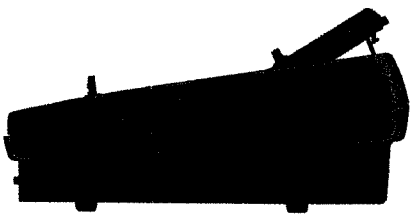
## 2.4 Tilting the display

For enhanced ease of use, you can place the display at an angle of approximately 30°:

**1. Press and hold the locking switch on the EM-2000's rear panel.**




**2. While pressing the locking switch, gently pull the display towards you until the supporting lever below the display snaps into place.**

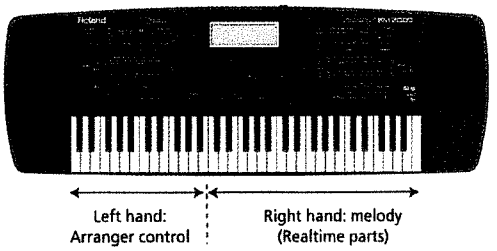


**3. To return the display to its original (flat) position, gently press the lower part of the supporting lever towards the keyboard and lower the display until it snaps into place.**

*Note: Be sure to return the display to its flat position before putting the EM-2000 in a hard or soft case, or before moving it to a different location.*

## 2.5 The general idea

Your EM-2000 is two instruments in one: one half provides the backing for the melody you play with the other half.




There are two main sections you can use for playing live. (The third section, the Recorder, can also be used for live applications, but it is mainly intended for recording and playing back your music. See page 57 for details.)

① **Realtime section:**
This section consists of parts that do not play by themselves, hence the name "Realtime". The EM-2000 provides eight Realtime parts, six of which can be used simultaneously: Upper 1/2/3, Lower 1 & 2, and Manual Bass (called M.Bass or just MBS). The seventh part, Manual Drums (called M.Drums or MDR), can only be played in isolation, i.e. you cannot combine it with other Realtime parts. See page 27 for details. The eighth part, MI, is what computer buffs would call a "cross-platform part": it belongs to the Realtime section but it is in part controlled by the Arranger. See "Melody Intelligence" on page 44.

② **Arranger section:**
The Arranger is your backing band. It plays an accompaniment (called *Music Style*) recorded by Roland, third-party suppliers, friends/colleagues, or yourself. In a way, the Arranger works like a drum machine because it uses accompaniment patterns.

Unlike a drum machine, however, you can easily select the desired pattern while you play. So you do not need to program the order in which you intend to use the patterns. Furthermore, the Arranger not only provides a rhythm section but also chords, guitar and synthesizer riffs, and so on. The accompaniment can be transposed in realtime. All you have to do is play a different chord (usually with your left hand).

# 3. Basic routine for playing the EM-2000



The EM-2000 is a remarkably versatile instrument, which means that there is a lot you can do. To keep things simple, let as first look at a few basic routines and leave the details for later. Here is what you will usually have to do in order to take advantage of your Arranger Workstation:

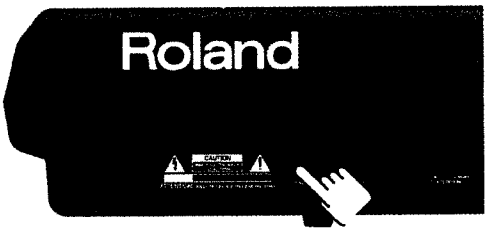
1. Switching the EM-2000 on and off (see below)
2. Selecting Music Styles →page 18
3. Selecting a sound for the right hand (Upper 1) →page 19
4. Final preparations →page 20
5. Take it away →page 21

## 3.1 Switching the EM-2000 on and off

### Switching on the EM-2000

*Note: Do not insert the supplied Zip disk into the internal Zip drive prior to switching on the EM-2000.*

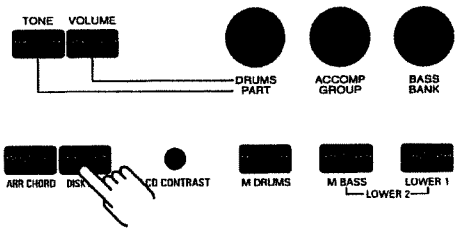
1. Connect the supplied power cord to the EM-2000's AC jack as well as to a suitable wall outlet.
2. To switch on the EM-2000, press the [POWER] button on the rear panel.



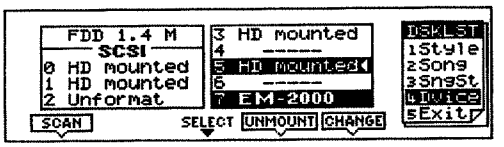

### Switching off the EM-2000

If you inserted and mounted the supplied (or another Zip disk) at some stage, you must eject it before switching off the EM-2000.

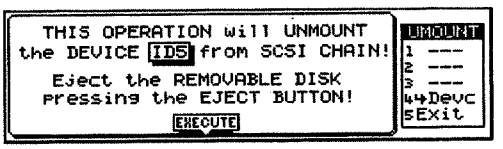
1. Press the [DISK LIST] button.




2. Press [F4] (Dvice) to select the following display page:




3. Press Part Select [UPPER2] to jump to a display page where you can unmount a SCSI device:




You cannot eject a Zip disk without unmounting it first (even if you press the EJECT button on the internal Zip drive). Use this command prior to ejecting any removable media (magneto-optical disks, Jaz disks, etc.).

*Note: You can only unmount disks that are indicated as "HD mounted".*

4. Press Part Select [UPPER2] to unmount the selected SCSI device.
5. Press the EJECT button of the internal Zip drive.
6. Remove the Zip disk.
7. Switch off the EM-2000.

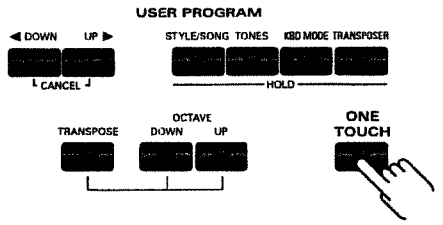
# 3.2 Selecting Music Styles

Music Styles are collections of accompaniment patterns for a given style (pop, ballad, techno, etc.). These patterns allow you to structure the song you play and to add some variation to your backing, so that the chorus sounds different from the verses.

Let's assume that you do not wish to use the A21 Downbeat Style that is automatically selected at power-up. In that case, here is what you need to do (see page 109 in the Reference Manual for a list of the internal Music Styles and "Quick access to Music Styles and Songs on the supplied Zip disk" on page 23 for selecting Music Styles on the Zip disk):

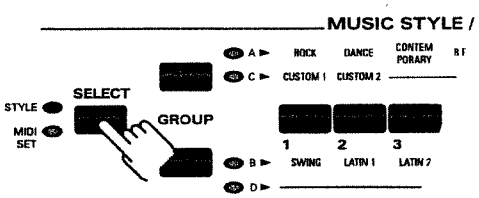
## Selecting internal Music Styles

**1. Press the [ONE TOUCH] button (indicator must light).**




This is an easy way of ensuring that the EM-2000 automatically selects a melody sound (for the Upper 1 part) and a number of other settings that complement the Music Style.

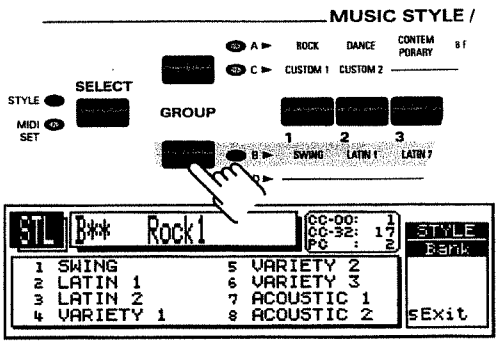
**2. Press the [SELECT] button in the MUSIC STYLE/ MIDI SET section to make the STYLE indicator light.**




**3. Look at the names printed above and below the numeric MUSIC STYLE/MIDI SET buttons.**

Some names refer to musical styles (Rock, Dance, etc.). As there are only eight numeric buttons for at least 128 directly accessible Music Styles (the ones in ROM), you need to ensure that you have access to the desired style group. To be able to select Swing, for example, you will have to activate Group B.

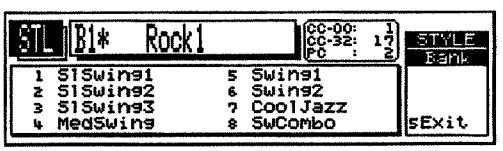
**4. Press the lower [GROUP] button to make the "B" indicator light, and watch the display:**




The top line still contains the name of the previously selected Music Style (Rock1 in the above example), yet the address (B**) already indicates that you have moved to Group B. The information window now displays the names of the Music Style banks to be found in Group B.

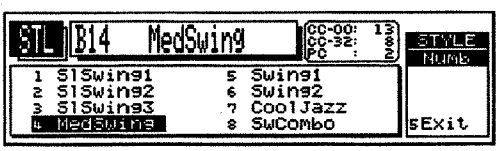
The Swing bank is assigned to the [1] button, so...

**5. Press [1] to select the Swing bank of Group B.**




The information window now displays the names of the Styles that are available in Bank 1 of Group B.

**6. To select the Music Style *B14, MedSwing*, press [4].**



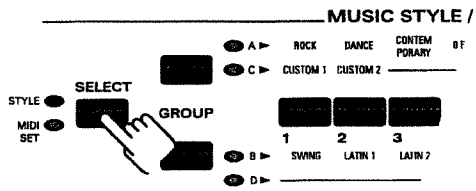

After briefly showing the name of the Style you have just selected, the display returns to the Master page. If you want to check whether you have selected the right Style, look at the field that contains the Music Style's address (B14) and name (MedSwing):

## Selecting a "Custom" Music Style

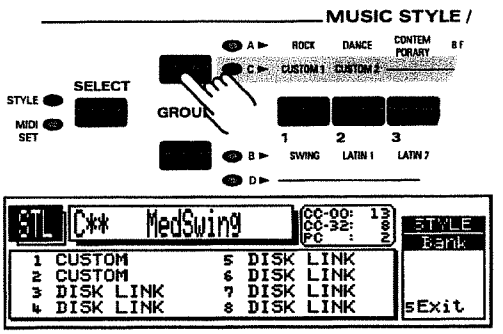
Apart from the 128 "internal" Music Styles in Groups A and B, your Arranger Workstation also contains 16 additional Music Styles that are copied to the memories of the two Custom Banks. You can load other Music Styles in these Custom memories. See "Custom Style Sets" on page 78 in the Reference Manual. The contents of these memories are preserved when you switch off the EM-2000.

Here's how to select a Custom Style:

**1. Press the [SELECT] button in the MUSIC STYLE/ MIDI SET section to make the STYLE indicator light.**




**2. Press the upper [GROUP] button to make the "C" indicator light.**




As indicated in the above illustration (and printed on the front panel), banks 1 and 2 of Group C contain Custom Styles.

**3. Press the [1] or [2] button to select a Custom bank.**

**4. Press the same or another numeric button to select a Custom Style number within that bank.**

See page 79 in the Reference Manual for how to load your own favorite Music Styles into these memories.

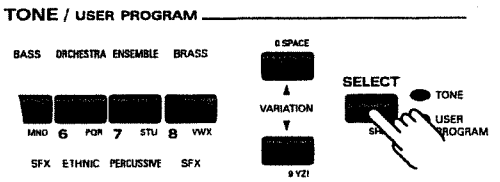
# 3.3 Selecting a sound for the right hand (Upper 1)

On page 18 we told you to press [ONE TOUCH] to ensure that, by selecting a Music Style, you also assign a suitable sound to the part you play with your right hand. The EM-2000's sounds are called *Tones*, so that is what we shall call them from now on.

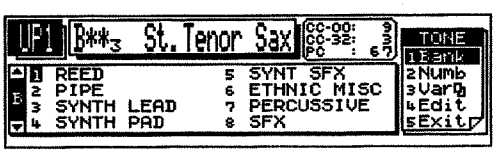
In the case of B14 MedSwing, the Upper 1 Tone is called B13₃ St. Tenor Sax. Let's assume you'd rather use a synth Tone (e.g. Soundtrack). So here is what you need to do:

**1. Press Part Select [UPPER1] below the display to activate the Upper1 part for Tone selection (indicator lights).**

**2. Press the TONE/USER PROGRAM [SELECT] button to make the TONE indicator light (if it doesn't already).**



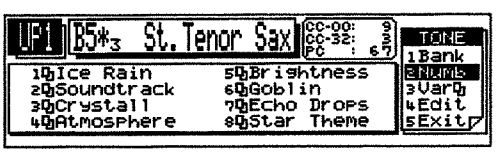

**3. Press the lower [GROUP] button (B, D, F) to make the B indicator light.**




The Tone name next to B**3 is still the old one, i.e. St. Tenor Sax. The names in the information window, however, are those of the Tones available in group B (Reed, Pipe, Synth Lead, etc.).

(If you want to see what instrument families are in the other groups, press [PAGE]▲ or [PAGE]▼.)

**4. Press the [5] button to select the SYNTH FX bank.**




Bank 5 of Group B is now active but you still hear the sax sound if you play on the keyboard.

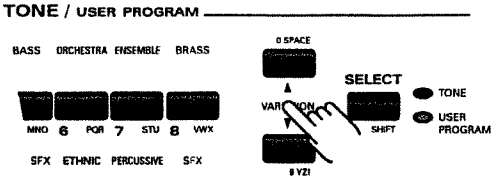
**5. Press the [2] button to select the Soundtrack Tone.**

In fact, the EM-2000 does not select the Soundtrack Tone.

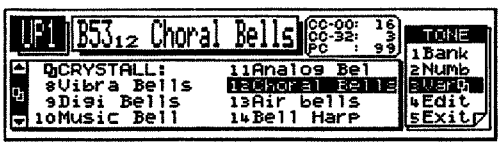
In some cases, the EM-2000 does not recall the Tone you selected but rather a Variation. (If you performed the above steps after selecting group D in step (3), the EM-2000 would select the Ancestral Tone.) There is a reason for this: whenever you select a Tone using the TONE/USER PROGRAM section, the EM-2000 calls up the best sound of the Tone family you specify. That is why the number ("2" here) is sometimes displayed white-on-blue to indicate that the EM-2000 didn't recall the selected Tone but rather a Variation of that family.

The display returns to the Master page and the [TONE] indicator at the lower left of the display goes out shortly after you specified a Tone number.

**6. To select the actual Tone you requested rather than a Variation, use the VARIATION ▲/▼ buttons.**




This takes you back to the Number display and shows you the Tone you selected by pressing a VARIATION button.




The ❑ symbol here means that the Soundtrack Tone is the Capital of this Tone family.

*Note: If you'd rather the display didn't return to the Master page at this point, press [TONE] to the left of the display (indicator lights). In that case, the only way to return to the Master page will be to press [TONE] again (indicator off).*

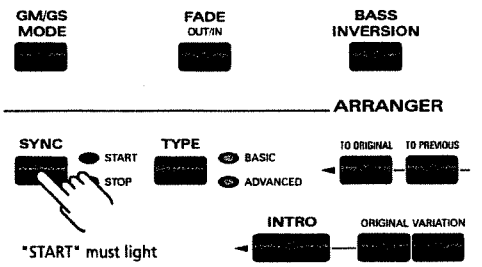
*Note: See page 31 for more information about Tone selection.*

# 3.4 Final preparations

## Starting "naturally" (Synchro Start)

One way to start the Arranger is to press the [START/STOP] button. Another, more intuitive, approach, however, is to make the Arranger start as soon as you play a chord with your left hand.

To do so, press the [SYNCHRO] button to make the START indicator light.

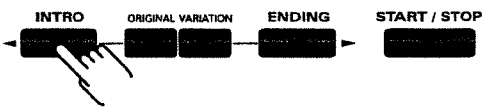



Now, all you have to do is play one note (or chord) with your left hand to begin. But please wait a moment as there are other settings we have to make. (Otherwise press the [START/STOP] button to stop the Arranger.)

## Introduction

Every Music Style contains a number of patterns that allow you to begin your performance with a suitable introduction.

If that is how you want to start, press the [INTRO] button.



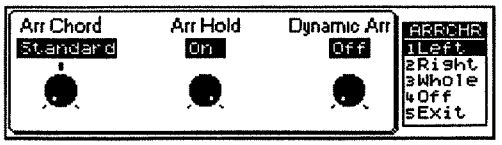

## Simplified chord fingering (Intellig)

The Arranger relies on the chords you play for determining the key of the accompaniment. See page 38 for details. For complex chord changes you may want to select the Intelligent mode. Doing so allows you to play major chords by pressing just one key, minor chords with two keys, and so on.

Here is how to select the Intellig mode:

**1. Press the [ARR CHORD] button to the left of the display.**

The display now looks more or less like this:




The function we need to set is called *Arr Chrd* (Arranger Chord).

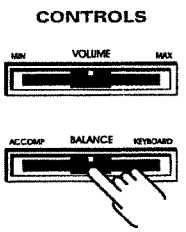
**2. Use the [DRUMS/PART] knob to select *Intellig* (indicator lights).**
And while you're here, check whether *Arr Hold* is set to "On". If not, use the [BASS/BANK] knob to select it. If you select "Off", the chord backing will only last as long as you play chords with your left hand.

**3. Press [ARR CHORD] (or [F5] Exit) to return to the Master page.**

# 3.5 Take it away

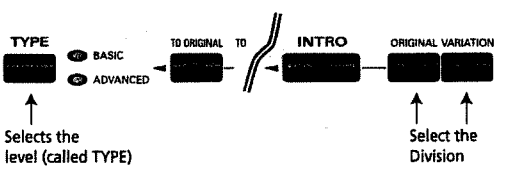
Now all you have to do is play a chord with your left hand to start Arranger playback. Wait until the Intro is finished before you start playing the melody. If you're not sure when to begin, watch the INTRO indicator. When it goes dark, the Arranger switches to the "real" accompaniment.

If the volume of the melody is way too loud or too soft, use the CONTROLS [BALANCE] slider to correct the volume balance between the "Keyboard" (the Upper 1 part) and the "Accomp" (Arranger):




## Verse, chorus, bridge

There are four "regular" accompaniment patterns for every Music Style to be used as backbone for the melodies you play. In order of complexity, these are called Basic/Original, Basic/Variation, Advanced/Original, and Advanced/Variation.




You may want to play the first verse with the simplest accompaniment (select Basic and press Original). For the second verse, you could select Basic/Variation, and then switch to Advanced/Original for the first Chorus. That is what the [TYPE] and [ORIGINAL]/[VARIATION] buttons are for. Try them out now. See page 38 for details.

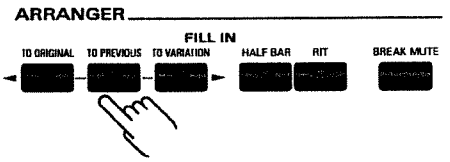
Pattern changes always occur on the downbeat of the next measure.

## Musical transitions

Instead of using the [TYPE] and [ORIGINAL]/[VARIATION] buttons for selecting another accompaniment pattern, how about "announcing" such changes by means of a Fill-In, i.e. a roll in the drums and some other deviations from the standard pattern?

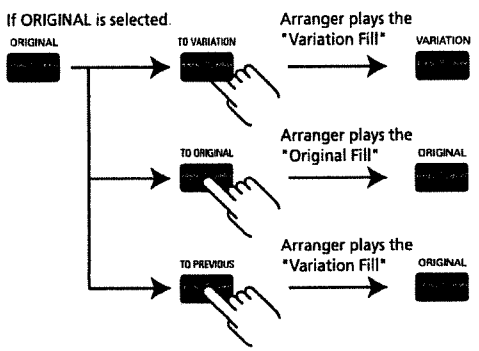
Press FILL IN [TO VARIATION] to go from the Original pattern of the currently selected level (Basic or Advanced) to the Variation pattern.

Press FILL IN [TO ORIGINAL] to return from the Variation pattern to the Original.




To insert a Fill-In without switching to another Division, press the [TO ORIGINAL] button while the Arranger is playing the Original pattern, or [TO VARIATION] if the Arranger is currently playing the Variation pattern.

Press FILL IN [TO PREVIOUS] to use the Fill-In of the "other" Division (Original or Variation) without selecting that Division once the Fill-In is complete. Here's an example of what this means:

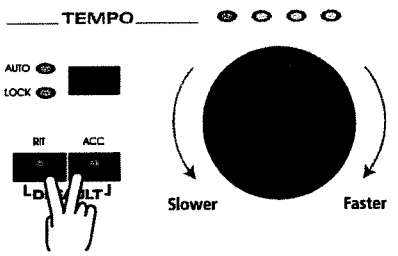



*Note: The length of the Fill In depends on when you press one of these buttons. If you press them in the first half of the current measure, the Fill-In lasts until the end of that measure. If you press a FILL IN button on the last beat of a measure, the Fill starts on the next downbeat and lasts one measure.*

*Note: See "Complementary Fill functions: Fill In Half Bar and Fill In Rit" on page 40 for details about [HALF BAR] and [RIT].*

## Tempo

Every Music Style contains a preset tempo value. To practise a new song, or if you think the tempo is not quite right, you can change it. That is what the [TEMPO] dial is for:




Back to the preset tempo.

Turn it clockwise to increase the tempo, or counter-clockwise to decrease the tempo. To return to the preset Style tempo, simultaneously press TEMPO [RIT] and [ACC].

*Note: See page 46 for additional tempo functions.*

## Adding a counter-melody (Melody Intelligence)

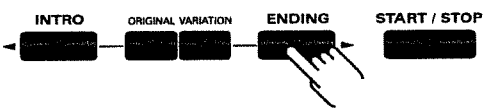
The Arranger of your EM-2000 can not only play chords but also a counter-melody based on the chords you play. This counter-melody will be played by the MI part and added to Upper1.


See page 44 for details about selecting the voicing of the Melody Intelligence function.

By pressing [MELODY INTELLIGENCE] (indicator lights), you activate the MI part. You can assign whichever Tone you like to this part.

## And now the end is near... (Ending)

Of course, you can use the [START/STOP] button to stop Arranger playback at the end of the song. A much more musical way, however, is to press [ENDING].




As soon as the Ending phrase is completed, the Arranger stops. The length of the Ending depends on the Music Style you selected. Sometimes it lasts two measures, sometimes four, and sometimes even longer.

# 3.6 Quick access to Music Styles and Songs on the supplied Zip disk

One of the main advantages of your EM-2000 (except for the sound and style quality) is that you have instant access to all Music Styles and Standard MIDI Files on the supplied Zip disk, on external hard disks, etc.

The function we are referring to is called *Disk List*. It is based on a Database (the files on Zip, etc.).

The Database allows you to quickly locate the desired Music Style, Song, or Song Set on the inserted Zip disk or on a connected and mounted SCSI device (hard disk, magneto-optical disk, etc.).

This function is so fast, that you have virtually instant access to the desired file on Zip disk. Try it out: start playback of an internal Music Style and recall a Style from Zip on the last beat of a measure: the Style will be played back on the next downbeat (i.e. a split second later)!

The Disk List/Database function can be used for Music Styles, Songs, and also for locating Song Sets. Seeing that the approach is very similar for Music Styles and Songs, we will explain the procedure only once and point out all differences on the spot. See page 14 in the Reference Manual for using the Database for locating Song Sets.

There are three approaches for using the Database function:

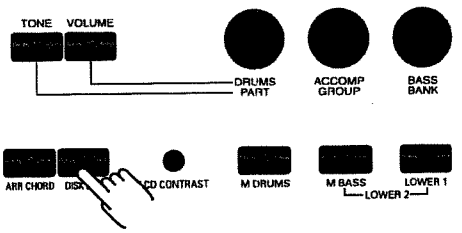
- You can sort all files alphabetically (see "ALL: sorting files in alphabetical order")
- You can ask the EM-2000 to display what you want to see on top of the list (see "Initl: search by entering the first characters"), or hide all files that do not match the search criteria ("Contn: searching by specifying a few characters contained in the name" on page 25).
- You can play a few notes on the keyboard and have the EM-2000 look for the desired song ("Play & Search: finding Songs by playing a few notes" on page 26; this does not work for Music Styles or Song Sets).

## Searching by supplying information

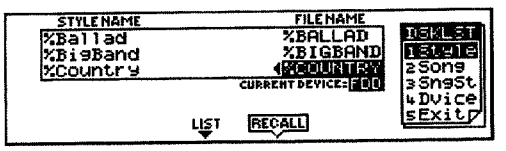
### General procedure

Let's agree to use the word "device" for any media that can be used with the EM-2000: a floppy disk, a Zip disk, hard disks, magneto-optical disks, etc.

**1. Press the [DISK LIST] button.**

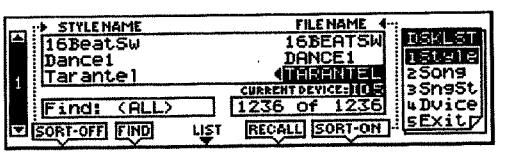



If you forgot to insert the supplied Zip disk and if the floppy drive contains a disk, the display now looks more or less like this:




If the floppy drive contains no disk or a disk with no Song or Music Style files, the name window will be blank.

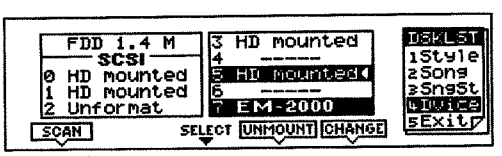
If you inserted the supplied Zip disk, the display will look something like this:




*To select another device* (floppy, Zip or external SCSI) than the one that is currently active, proceed as follows. If the desired device is already selected (check the CURRENT DEVICE message), skip to step (6).

*Note: The internal Zip drive is called ID5.*

**2. Press [F4] (Dvce) to the right of the display.**




**3. To use a SCSI device that was off when you powered on your EM-2000, press Part Select [M.DRUMS] to scan the SCSI bus.**

This allows the EM-2000 to see who is there and to update the Database information.

*Note: Switch off the external drive and the EM-2000 before establishing or breaking a SCSI connection.*

*Note: Do not forget to terminate the last SCSI device in the chain. See "Handling SCSI devices" on page 107.*

**4. Use the [BASS/BANK] knob to position the arrow (◄) next to the device you wish to load a Music Style or Song from.**

*Note: If there is no disk in the Zip drive, the SCSI 5 entry will read Unformat. For other SCSI IDs, nothing will be displayed if the devices are either not switched or not connected.*

**5. Press Part Select [UPPER1] to "change" to the device. The EM-2000's now briefly reads the disk and compiles the Database information.**

**6. Press [F1] if you want to recall a Music Style, or [F2] if you want to recall a Song from the selected disk.**

You can sort Music Styles or Songs:

- By **Style Name** ([F1]) or **Song Name** ([F2]). These names appear in the left column.
- *Page 1* (right column): by **File Name**. This refers to the name the file actually has on disk.
- *Page 2* (right column): by **Author** ([F2]) or **Country** ([F1]). The word "Author" should not be taken literally. It can refer to either the composer or the artist who made the song famous.
- *Page 3* (right column): by **Genre** (jazz, classic, etc.).

*Note: See also page 11 in the Reference Manual.*

**7. Use the [PAGE] ▲▼ buttons to select the desired item for the right column (see above).**

**8. Use the Part Select [M.DRUMS] or [UPPER1] button below the display to select the column you wish to sort.**

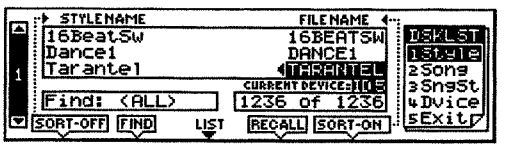
You can either sort the left column (Song or Style Name) or the right column. I.e., if you press Part Select [M.DRUMS] while the right SORT button reads SORT ON, it will be set to SORT OFF, whereas the left one will read SORT ON.

This selection is important for further refinement of your search routine (see below).

*Note: The two SORT buttons only appear if CURRENT DEVICE is set to SCSI 0~6. If you set CURRENT DEVICE to FDD, these buttons are not displayed because the capacity of a floppy disk is rather limited, so that is probably easier to select the desired file right away. Furthermore, files on a floppy disk contain no Database information (and you cannot program any yourself).*

## ALL: sorting files in alphabetical order

The default setting for the Database function is Find ALL, which means "show all files in alphabetical order".




The files will be sorted according to the SORT button that reads SORT ON. Here is an example: if you press the right SORT button (ON) on the [F1] Style level, and then use [PAGE] ▲▼ to select the second page (sort by *Country*), the sort order will be: first the countries in alphabetical order, then the files belonging to these countries in alphabetical order. Consider the following example:


**9. Use the [BASS/BANK] knob (List) to scroll through the files.**

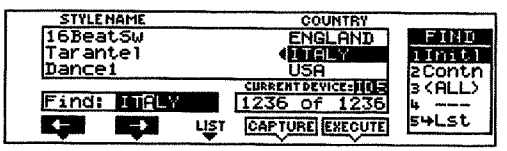
**10. Press Part Select [UPPER2] (Recall) to load the Song or Style you need.**

If you recall a Music Style, it is copied to the MUSIC STYLE D88 memory and can be selected according to the procedure explained on page 18 until you load another Style or switch off your EM-2000. If you recall a Style during Arranger playback, it will be automatically selected on the next downbeat.

If you selected a song, press [PLAY►/STOP■] in the Recorder section to start playback of the song. If you selected a Style, press the [START/STOP] button if necessary.

If the FIND field does not read ALL, proceed as follows:

- Press [M.BASS] (Find) below the display.



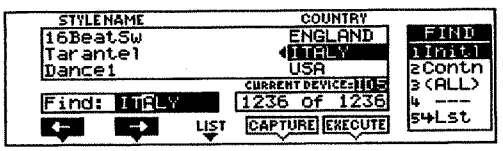
- Press [F3] (ALL). The files on the CURRENT DEVICE are now sorted in alphabetical order, based on the column whose SORT button reads ON.
- See steps (9) and (10) above.

### Initl: search by entering the first characters

Another way of locating the desired Style or Song is by entering the first characters of the Style or Song Name, or of the item selected for the right column. Remember that the status of the two SORT buttons determines which column will be searched, while [PAGE] ▲▼ allow you to select the desired item for the right column.

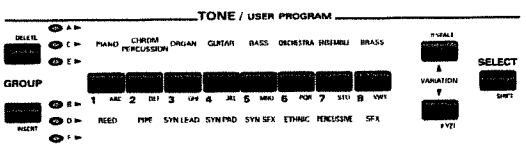
**1. See "General procedure" on page 23 for the first steps to perform.**

**2. Press [M.BASS] (Find) below the display.**




**3. Press [F1] (Initl).**

**4. Use the Part Select [M.DRUMS] and [M.BASS] buttons to move the cursor in the FIND field, and the TONE/USER PROGRAM buttons to enter the first few characters of the item you are looking for.**




Every button allows you to input several characters and/or symbols, so you may have to press a button several times.

**DELETE:** ([GROUP] A/C/E) allows you to erase the currently selected character, thereby shortening the word (all subsequent characters are shifted one position to the left).

**INSERT:** ([GROUP] B/D/F) allows you to insert a new character at the currently selected position, thereby shifting all subsequent characters further to the right.

Use **SPACE** (VARIATION ▲) to insert a space at the cursor position.

**SHIFT:** ([SELECT]) Allows you to write uppercase or lowercase characters. This is not possible for the FILE NAME entry, however, as –true to the MS-DOS standard– only uppercase characters are allowed. Furthermore, the number of symbols is restricted.

*Note: You can also use the [ACCOMP/GROUP] and [DRUMS/PART] knobs for entering characters.*

Press Part Select [UPPER2] to "capture" the name of the currently selected item. This will copy the characters in question to the FIND window. You can then use this word for the search operation, or change it before searching for the desired items.

**5. Press Part Select [UPPER1] (Execute) to launch the search.**

The display now returns to the previous page.

**6. Use the [BASS/BANK] knob to position the arrow (◄) next to the Music Style or Song you wish to load.**

**7. Press Part Select [UPPER2] (Recall) to recall the song or style.**

### Contn: searching by specifying a few characters contained in the name

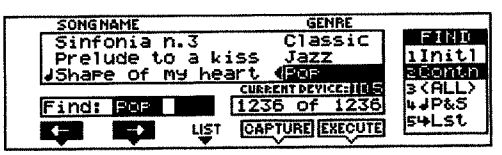
Another way of looking for the desired file is by entering a series of characters contained in the item you need (Genre, Country, Author, etc.). Here's an example: by entering "16", you can search for all files that contain the number "16", e.g. "16Beat", "Sweet 16", "Call 231654", etc.

*Note: This function is only meaningful if you enter at least three characters. Otherwise, the Database will find too many items.*

**1. See "General procedure" on page 23 for the first steps to perform.**

**2. Press [M.BASS] (Find) below the display.**

**3. Press [F2] (Contn).**




**4. Use the Part Select [M.DRUMS] and [M.BASS] buttons below the display to move the cursor in the FIND field, and the TONE/USER PROGRAM buttons to enter the characters of the item you are looking for (see "Initl: search by entering the first characters" for details).**

**5. Press Part Select [UPPER1] (Execute) to launch the search.**

The display now returns to the previous page.

This time, the list is restricted to the files that contain the characters you entered, so that the "xx of yy" message in the lower right corner may very well read "12 of 428". This means that 12 items out of 428 contain the exact character string you entered.

**6. Use the [BASS/BANK] knob to position the arrow (◄) next to the Music Style or Song you wish to load.**

**7. Press Part Select [UPPER2] (Recall) to recall the song or style.**

## Play & Search: finding Songs by playing a few notes

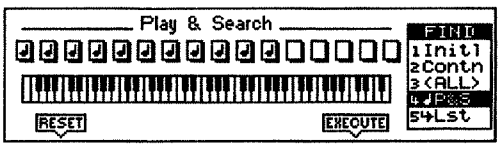
The following only works for Songs (i.e. neither for Music Styles nor Song Sets).

The Play & Search function (or ♩P&S for short) is like a very gifted assistant: you can ask your EM-2000 something like the following: "what's the name of the song that goes like this..." (and then you play the main theme). Here is how to use this exciting function:

**1. See "General procedure" on page 23 for the first steps to perform. Press [F2] (Song).**

**2. Press [M.BASS] (Find) below the display.**

**3. Press [F4] (♩P&S) to jump to the following page:**




**4. Play the notes of the Song you want the EM-2000 to find. The key and rhythm are of little importance.** The boxes above the keyboard will display a quarter note for every note you played. Five "note boxes" thus mean that you played five notes.

**5. If you make a mistake, press Part Select [M.DRUMS] to cancel the notes the EM-2000 already memorized, and play the phrase again.**

**6. Press Part Select [UPPER1] (Execute) to launch the search for Songs that match the melody you played.** The display returns to the previously selected page (2 Song). This time, only the names of the songs that contain the excerpt you played will appear in the List window. That's why the counter (lower right) may display something like "2 of 54".

**7. To leave the Disk List mode, press [DISK LIST] again (or [F5] if it is assigned to the Exit function).**

This completes our quick tour of the EM-2000. Be sure to read the rest of the manual to find out about the other things your EM-2000 can do.

# 4. Realtime parts



The Realtime section contains the parts you yourself can play. A part is the "voice", such as the melody, the solo, etc. you play. The following Realtime parts are available on your EM-2000:

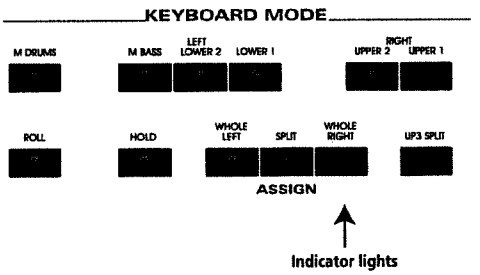
- **Upper 1:** Though there are only slight differences between Upper1 and Upper2, Upper 1 is normally the main solo part. In other words, select this part to play the melody or solo line.
- **Upper 2:** Upper 2 can be used as additional solo part to be layered with the Upper 1 part, or as an alternative melody sound. As Upper 1 and Upper 2 can be separately switched on and off (see "Selecting Realtime parts for playing"), you could use one sound for the verses (Upper 1, for example), and another one for the choruses (Upper 2).
- **Upper 3:** Upper 3 triggers the Tone that will be used when you set a second split point. This allows you to play question/answer types of melodies. See "Split and split point" on page 28 for details.
- **MI** (Melody Intelligence): This part is triggered by the Arranger to play automatic harmonies. The harmony type is selectable (see page 22).
- **Lower 1:** The Lower 1 part allows you to play chords with your left hand. Use it whenever you want to add a live accompaniment, such as strings, to your right-hand melody. It goes without saying you only need to select the Lower 1 part when you want to play the chords with another sound than the one you chose for the Upper part(s).
- **Lower 2:** The Lower 2 part is to Lower 1 what Upper 2 is to Upper 1, i.e. it allows you to add a second sound to the notes you play with your left hand, or to alternate between two sounds.
- **Manual Bass:** The Manual Bass (or M. Bass) part is used to play bass lines. Select this part whenever you want to play the bass accompaniment yourself.
- **Manual Drums:** The Manual Drums (or M.Drums) part is somewhat different from the other Realtime parts in that you can only select Drum Sets for this part. You cannot play melodies using this part because every key is assigned to a different sound. Select this part whenever you feel like drumming on the keyboard.

Your EM-2000 can assign different sounds (or *Tones*) to each of these parts. Note, however, that you can only assign Drum Sets to the M.Drums part, and that it is impossible to assign Drum Sets to the other Realtime parts (Upper 1/2/3, Lower 1/2, M. Bass).

## 4.1 Selecting Realtime parts for playing

When you power on your EM-2000, the Upper 1 part is automatically selected. The Tone assigned to Upper1 is called A11 Piano1w.

The indicator of the Part Select [UPPER1] button (below the display) lights, as do the indicators of the ASSIGN [WHOLE RIGHT] and [UPPER 1] buttons.




You can turn off Upper1 by pressing the Keyboard Mode [UPPER1] button (indicator goes dark). Since no other Realtime part is currently active, you will hear nothing when you play on the keyboard. Turn Upper1 back on again.

### Layering and selecting Upper2

Let's use the Upper 2 part now: Press Keyboard Mode [UPPER2] to activate it.

This does not turn off (or on) the Upper 1 part, so that Upper 1 and Upper2 are now layered. If you only want to hear the Upper 2 part, you have to press Keyboard Mode [UPPER1] to turn off that part. Again play a few notes on the keyboard to hear the Tone assigned to Upper2. The display will tell you that this sound is called A15 E. Piano1.

### Selecting the Lower 1/2 and M.Bass Parts

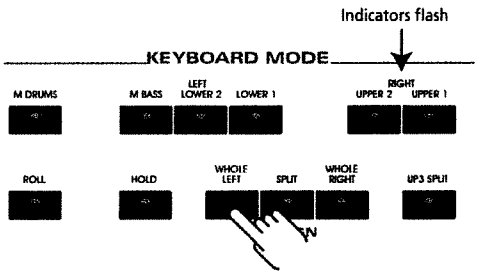
The buttons of the Assign section (which is part of the Keyboard Mode section) allow you to choose the area on the keyboard where you can play Realtime parts.

#### Keyboard Mode: Whole Right

After pressing the [WHOLE RIGHT] button, can play the Upper 1, Upper 2 Parts on the entire keyboard. Before trying this out, check whether the SYNCHRO START indicator is off.

### Whole Left

Whole Left means that either the Lower 1/2 or M.Bass part(s) will be assigned to the entire keyboard. Press [WHOLE LEFT] now and play a few notes. In fact, you don't hear what you play because neither the Lower 1/2, nor the M.Bass Part are currently active.




The indicator(s) of the activated UPPER part(s) start(s) flashing, meaning that Upper 1 and/or Upper 2 have been activated but will not sound because the EM-2000 now waits for note information for a Left part (Lower 1/2 and/or M.Bass).

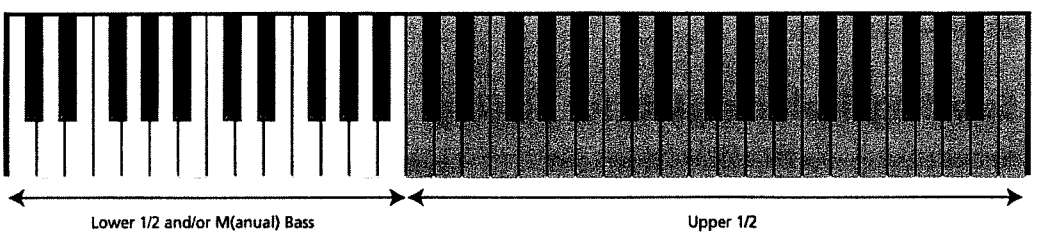
To hear the Lower parts, you have to press the Keyboard Mode [LOWER1] or [LOWER2] button (indicator lights). If you like, you can switch back to your latest Upper setting simply by pressing [WHOLE RIGHT], in which case the indicator of the Keyboard Mode [LOWER1] or [LOWER2] and/or [M.BASS] buttons start flashing, while the Keyboard Mode [UPPER1] and/or [UPPER2] indicators light steadily.

Press [WHOLE LEFT] again, followed by Keyboard Mode [M.BASS] to select the Manual Bass part. Again, selecting this part does not turn off the Lower parts. Play a few notes on the keyboard. You will hear the sound(s) assigned to the Lower part and the bass sound assigned to the M.Bass Part.

*Note: When both the Lower 1 and/or 2 and the M.Bass parts are active, the M.Bass part is monophonic. In this case, it will sound the root note of the chord you play. You could, however press the [BASS INVERSION] button (to the right of the [FADE] button) so that the M.Bass part plays the lowest note of your chords. If only the M.Bass Part is active, it is polyphonic, which means that you can play chords with the Tone assigned to M.Bass.*

## Split and split point

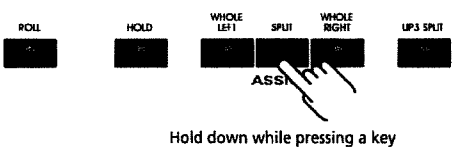
The ASSIGN [SPLIT] button allows you to split the keyboard, thereby assigning the Lower 1/2 and/or M. Bass parts to the lower half (left) of the keyboard, while the Upper 1/2 parts are assigned to the upper half (right). Press this button now and play with both hands.




The split point is currently located at the C more or less in front of you (C4). This note is the lowest note of the Right (Upper1 + Upper2) section.

### Setting the split point on the keyboard

The easiest way to change the split setting is to hold down the ASSIGN [SPLIT] button, wait until its indicator starts flashing, and press a key on the keyboard. Then release the [SPLIT] button.

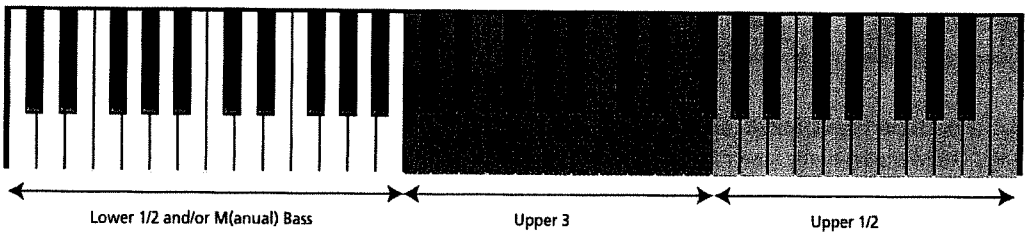



That note becomes the lowest note of the Right section. Your are free to set the split point anywhere within the C3~C6 range. This may look like a limitation, but it is actually a clever way of avoiding that either the Left or Right section doesn't sound if the Split point is set too low or too high.

Feel free to use Layers (Lower 1/2 + M.Bass and Upper1 + Upper2) to the left and right of the split point.

### Upper 3 Split

But the EM-2000 does not stop there. You can indeed program a second split between Upper1/2 and Upper 3. To do so, press [UP3 SPLIT]. The default split point is located at the G5 (lowest note of the Upper1/2 part).




In effect, the EM-2000 allows you to play at least three sounds assigned to three separate keyboard areas. On top of that, you can select the Arranger's chord recognition area, i.e. the notes that feed the Arranger (see page 42).

Setting the UP3 split point works the same as setting the main split point: hold the [UP3 SPLIT] button, wait until the indicator starts flashing, and press a key on the keyboard. Next, release the [UP3 SPLIT] button.

*Note: Upper 3 Split only works if either the Upper 1 or the Upper 2 part is active. If you turn off Upper 1 and 2, you will neither hear the Tone assigned to Upper 1 or 2 nor the one assigned to Upper 3. In other words, it is impossible to program an Upper split without using the Upper 1 or 2 Tone. That is why the [UP3 SPLIT] indicator starts flashing as soon as you switch off Upper 1 and 2 while the UP3 SPLIT mode is active.*

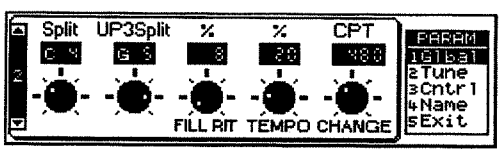
### Setting the split points via the display

If you'd rather see which note becomes the split point, you can set the main and Upper 3 split points using a display function:

**1. On the Master page, press [F2] (Param) to select the Parameter menu.**

*Note: You probably do not need to press [F1] (Glbal) at this point. Remember, though, that the EM-2000 has a page memory function, so that it is a good idea to press [F1] anyway.*

**2. Press [PAGE] ▼ to select the second Global page:**



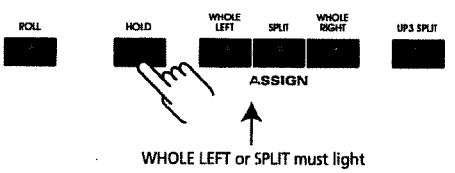

**3. Using the [DRUMS/PART] knob, specify the main split point (*Split*, the one between the Left and Right zones). Use the [ACCOMP/GROUP] knob to specify the UP3 Split point (the one between Upper 1/2 and Upper 3). The setting range is C#3~C#6, i.e. a semitone higher than the main Split point setting range.**

**4. Press [F5] (Exit) to return to the Master page.**

*Note: If you are satisfied with your split points, you should save them to a User Program (see p. 49).*

## Keyboard Mode Hold

The EM-2000 is an instrument that allows you to change many settings in realtime. Because you can trigger the Lower 1/2 parts and the Arranger simultaneously, selecting another Music Style pattern usually means that you have to lift your left hand from the keyboard. If the Keyboard Mode Hold function is not active in Whole Left or Split mode, the Lower parts stop sounding as soon as you release all keys in the Left area.




If you press [HOLD], however (indicator lights), the notes of the Lower parts go on sounding until you play other notes in the Left keyboard area. It is probably a good idea to leave Hold on at all times.

If both the Lower and M.Bass parts are active, the Hold function sustains both the Lower and M.Bass notes.

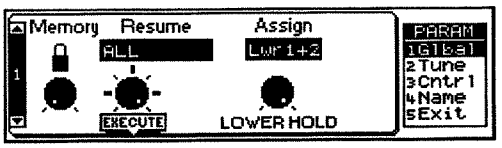
### Assigning the Lower Hold function

As the EM-2000 provides two Lower parts (1 and 2), there is also a parameter that allows you to select whether the Keyboard Mode HOLD function should apply only to the Lower 1 or the Lower 1 *and* 2 parts:

**1. On the Master page, press [F2] (Param) to select the Parameter menu.**

**2. Press [F1] (Glbal) to select the Global level.**

3. Use [PAGE] ▲▼ to select the first Global page:



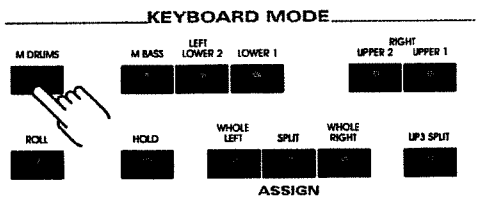

4. Use the [LOWER/NUMBER] knob to select either Lwr1 (Hold applies to the Lower 1 part only) or Lwr1+2.

*Note: The Lower Hold function can also be switched on and off by foot. In that case, it is also possible to sustain only the Lower 2 part (which is not possible when you press the KEYBOARD MODE [HOLD] button). See page 29 in the Reference Manual for details.*

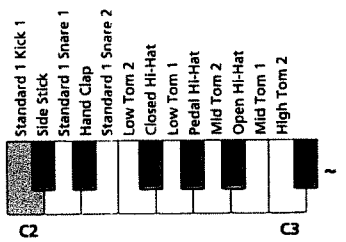
5. Press [F5] (Exit) to return to the Master page.

## Selecting the Manual Drums part

Press the Keyboard Mode [M.DRUMS] button to assign a series of drum and percussion sounds (called *Drum Set*) to the entire keyboard, thereby overriding any Keyboard Mode setting you may have made beforchand. In other words, whenever you activate the M.Drums part, the other Realtime parts (Upper 1/2/3, Lower 1/2, and M.Bass) cannot be used. This is indicated by a flashing indicator of any part button in the Keyboard Mode section you may have pressed (or that was on) before selecting the M. Drums Part.

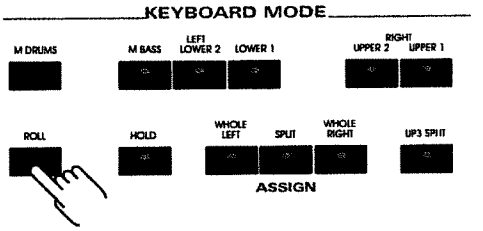



The M.Drums part differs from the other Realtime parts in that it assigns different sounds to every key. By pressing the C2 (first C from the left), you trigger a bass drum sound. Press the D2 key (the D to the right of the C2) to trigger a snare drum sound, and so on. Consequently, you won't be able to play melodies in Manual Drums mode. Consider the following illustration:




## Roll

The Roll function allows you to play perfect drum rolls. Press the [ROLL] button now (indicator lights) and hold any key for about five seconds to see what we mean. You can change the resolution of the Roll function (see below). Rolls will always be played in time with the tempo displayed in the Tempo window. Try this out by changing the tempo using the [TEMPO] dial.

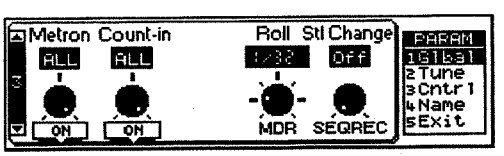



Using the Modulation lever (press the lever away from you), you can modify the volume of the drum roll. Try this out now.

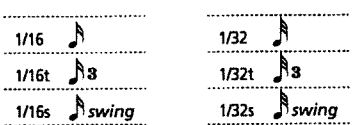
### Setting the Roll resolution (speed)

As stated above, you can specify the number of notes per beat for the Roll function. This is called the *resolution*. Here is what you need to do:

1. On the Master page, press [F2] (Param) to select the Parameter menu.
2. Press [F1] (Glbal) to select the Global level.
3. Use [PAGE] ▲▼ to select the third Global page:




4. Use the [LOWER/NUMBER] knob to select the desired Roll resolution. It can be set to:




The default value is 1/32. Selecting shorter values may result in machine-gun type rolls at high tempo values. Always specify the resolution after setting the Style or Song tempo, or change it to a more usable value if your setting turns out to be too optimistic to produce natural rolls.

# 4.2 Selecting Tones for the Real-time parts

Your EM-2000 is shipped with 1161 sounds, or Tones, to choose from. These Tones are divided in the following way:

- **Groups** (A~F): The highest ranking unit. Each Group contains all of the following elements.
- **Banks** (1~8): Banks are "instrument families" (such a Brass, Chromatic Percussion, etc.). Each Bank contains the following elements.
- **Numbers** (1~8): Numbers are instruments of a given family (i.e. trumpet, trombone, etc., of the Brass bank).
- **Variations** (1~...): Variations are usually other or related sounds of a given instrument (i.e. muted trumpet).

*Note: The difference between A/B, C/D, and E/F is that groups A and B contain the EM-2000 sounds. Groups C and D contain G-800 compatible Tones, and Groups E and F contain SC-55, MT-32/CM-64 sounds. There are three versions of practically every Tone.*

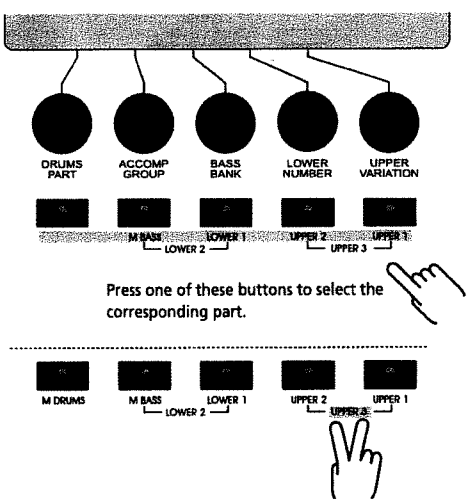
## Choosing a part for Tone selection

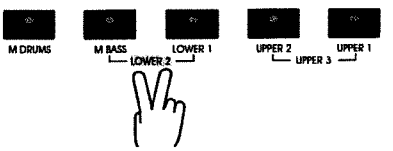
*Note: See "Selecting a sound for the right hand (Upper 1)" on page 19 for how to select Tones using the TONE/USER PROGRAM buttons.*

To select Tones for Realtime parts first press the corresponding Part Select button and then use the buttons of the TONE/USER PROGRAM section. Hold down Part Select [UPPER1] and press [UPPER2] to have access to the Upper 3 Part.

Hold down Part Select [LOWER1] and press [M.BASS] to select the Lower 2 Tone.

Hold down Part Select [M.DRUMS] and press [M.BASS] to select the MI Tone.




If you still hear the Upper1 part when you play on the keyboard, see "Selecting Realtime parts for playing" on page 27.

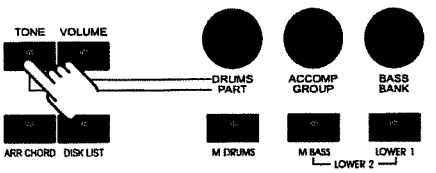
*Note: You are free to select whichever Tone you like for the above parts (Upper 1/2/3, Lower 1/2, M.Bass). Just remember that the M.Bass part is monophonic when layered with a Lower Part.*

*Note: See "Effects and Equalizer" on page 75 for how to apply effects to the selected Tones.*

## Selecting Tones using the knobs

You can also select Tones using the knobs.

**1. Press [TONE] at the lower left of the display (indicator lights).**




**2. Select the part you wish to assign a Tone to.**
You can either use the Part Select buttons or the [DRUMS/PART] knob. The knob allows you to select both the Realtime and the Arranger parts (ADR, ABS, AC1~AC6), while the Part Select buttons only provide access to the Realtime parts.

**3. Use the [ACCOMP/GROUP] knob to select a Group.**
*Note: This time, Tone selection is carried out immediately. Rotating the [ACCOMP/GROUP] knob thus takes you to the Tone of the same Bank and Number within the newly selected Group. When selecting Tones with the TONE/USER PROGRAM buttons, the EM-2000 always waits until you specify a Tone number before selecting that Tone (or its "best" Variation).*

**4. Use the [BASS/BANK] knob to switch to another Bank.**

**5. Use the [LOWER/NUMBER] knob to select another number.**
*Note: Selecting a number with this knob always calls up the Capital of that Tone family. In other words, here the "best of" method is not active.*

**6. Use the [UPPER/VARIATION] knob to select another Variation.**
*Note: You can also use any combination of these two methods (TONE/USER PROGRAM section and knobs) to select Tones.*

**7. Press [TONE] again to return to the Master page.**
*Note: Tone selection can be automated using the User Program (see p. 49) feature.*

### Selecting Drum Sets for the M.Drums Part

Here is how to select Drum Sets for the M.Drums part:

**1. Press the Keyboard Mode [M.DRUMS] button to assign the M.Drums part to the keyboard.**

**2. Press Part Select [M.DRUMS] to select the M.Drums part for editing.**

**3. Press the Tone/User Program [SELECT] button to make the TONE indicator light.**

**4. Press a number button to select a Bank, and another or the same number button to select a number.**
Some banks contain only one or two Drum Sets. The EM-2000 is clever enough to ignore any erroneous choice you might make at this stage, however.

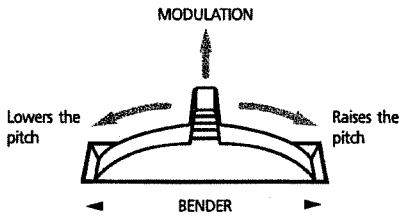
Groups B, D, and F contain one Drum Set (banks B8, D8 and F8, the CM-64/32L set).

*Note: Tone and Drum Set selection (along with a lot of other settings) can be saved to a User Program (see "Saving/loading registrations – User Programs").*

## 4.3 Realtime performance functions

Your EM-2000 also provides controllers and functions to add expression to what you are playing.

### Pitch Bend and Modulation

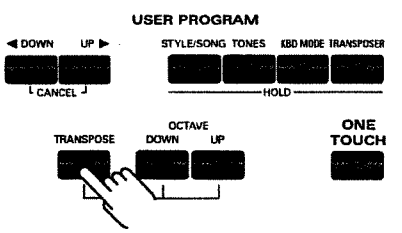



Turn the BENDER/MODULATION lever towards the right to bend the notes you are playing upwards, or to the left to lower the pitch. Release the lever to return to the standard pitch.

Push the lever away from you to add vibrato to the notes you are playing (Modulation). Release the lever to remove the vibrato. See "Pitch Bender" on page 28 in the Reference Manual for setting the Pitch Bend Interval (called "Range").

### Transpose

If you are used to playing a song in a particular key, the Transpose function will help you go on playing in that key while sounding in another one. That way, you can accompany a singer or instrument in another key than the one you usually use – without changing your fingering.




*Note: Transposition applies to all parts except the MDR (Manual Drums) and ADR (Accompaniment Drums) parts.*

#### Setting the transposition interval in realtime

To set the transposition interval in realtime, hold down the [TRANSPOSE] button (indicator lights) and press OCTAVE [UP] to raise the pitch, or OCTAVE [DOWN] to lower the pitch. Each press corresponds to one semitone.

To transpose to the key of G, hold down [TRANSPOSE] and press OCTAVE [UP] six times (or OCTAVE [DOWN] five times). You may wonder why you have to press [UP] six times rather than seven (7 semitones equal a perfect fifth). That is because the factory setting of the transpose interval is "+1". The

Transpose function does not allow you to specify "0" (i.e. no transposition), so that, when transposing down, you jump from "1" to "–1", which is why the G key can be selected by pressing [DOWN] only five times).

Pressing the [TRANSPOSE] button allows you to switch back and forth between the new key ([TRANSPOSE] indicator lights) and normal key ([TRANSPOSE] indicator goes off).

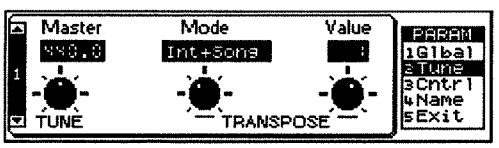
### Setting the transposition interval via the display

If you prefer to set the transposition interval the "learned" way, here is how to:

**1. On the Master page, press [F2] (Param) to select the Parameter menu.**

**2. Press [F2] (Tune).**

**3. If necessary, use the [PAGE] ▲▼ buttons to select the first Tune page.**




**4. Use the [UPPER/VARIATION] knob to set the transposition interval (Value: –11~11).**
*Note: You cannot select the transpose value "0" because that "interval" (no transposition) has no purpose. To return to the normal key, press the [TRANSPOSE] button so that its indicator goes out.*

**5. Use the [BASS/BANK] knob to select which sections should be transposed (Mode). See "Transpose Mode" on page 26 in the Reference Manual for details**
*Note: The MDR and ADR parts are never transposed. Every key (note) of the MDR/ADR parts is assigned to a different percussion sound. It is thus in your best interest to leave the Manual and Accompaniment Drums parts alone.*

**6. Press [F5] (Exit) to return to the Master page.**

## Octave Up/Down

The OCTAVE [UP] and [DOWN] buttons allow you to transpose the Realtime parts one octave up or down. Before being able to apply a positive (Up) or negative (Down) octave shift to a Realtime part, you have to select it on the Master page using its Part Select button (see page 31 for details).

To transpose the Lower 1 part one octave down, for example, first press Part Select [LOWER1] (indicator lights) and then OCTAVE [DOWN] (indicator lights).

After doing so, you can press other Part Select buttons to apply the same or a different octave shift to other Realtime parts. In other words: the selected octave will be maintained even if you select another Realtime part after activating Octave Up or Down for a part.

*Note: The MI part cannot be octave shifted.*

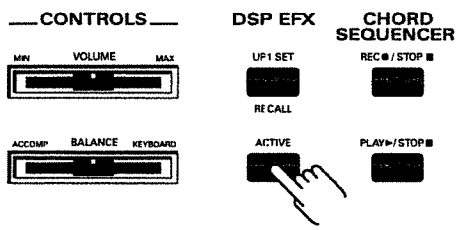
*Note: The MDR can be shifted 3 octaves down and two octaves up (the only possible values). This was done to provide access to all sounds of the Drum Sets.*

*Tip*: The selected Octave remains in effect when you assign another Tone to a given Realtime part. If you do not wish to apply the same shift to the new Tone, you must turn off Octave Up or Down for the part in question.

## Using the insertion effect (DSP EFX)

Your EM-2000 contains a multi-effect that can be assigned to the Realtime parts. You can select one algorithm and decide which Realtime should use the effect. As applying this effect to one or several Realtime parts also changes the way in which the Realtime part(s) can take advantage of the remaining effects (Reverb, Chorus, Delay, and Equalizer), this effect is called an *insertion effect* (because it is inserted into the signal path). See page 76 for details.

Press the [ACTIVE] button to turn the insertion effect on (indicator lights) and off (indicator goes dark). Doing so also changes the way in which the affected Realtime part(s) is treated by the other effects (including the Equalizer).

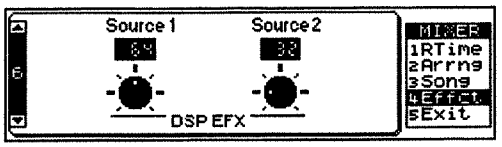



Two EFX parameters can be controlled in realtime. These parameters are indicated by an asterisk (*) in the table starting on page 114 in the Reference Manual. Let's have a look at how you can modify the two DSP EFX parameters and add even more expression to your music:

**1. On the Master page, press [F1] (Mixer).**

**2. Press [F4] Effect.**

3. Use the [PAGE] ▲▼ buttons to select the sixth Mixer\Effect page.




4. Use the [ACCOMP/GROUP] knob to set the value for the first controllable DSP EFX parameter (Source 1).
The parameter being controlled depends on the currently selected DSP effect. See page 114 in the Reference Manual for details.

5. Use the [LOWER/NUMBER] knob to set the value for the second controllable DSP EFX parameter (Source 2).
*Note: The current settings will also be written to a User Program (along with all the other panel and parameter settings).*

*Note: One Source parameter can also be assigned to an optional Expression pedal. See page 30 in the Reference Manual for details.*

The Upper1 part is considered to be the most important part, which is why the insertion effect is linked to it. If you press the [*UP1 SET RECALL*] button, the EM-2000 automatically loads the insertion effect algorithm that is linked to the Tone you assigned to the Upper1 part (see the list on page 23 in the Reference Manual). This is a very convenient way of selecting another algorithm without using the menu functions. Bear in mind, though, that there is no way back. After pressing [UP1 SET RECALL] once, you cannot return to the previously selected insertion effect algorithm (unless you select the User Program in question again).

## Velocity sensitivity and velocity switching

Of course, the EM-2000's keyboard is also velocity sensitive. This allows you to control the timbre and volume of the Realtime parts by varying the force with which you strike the keys. See page 43 for how control the Arranger via the velocity.

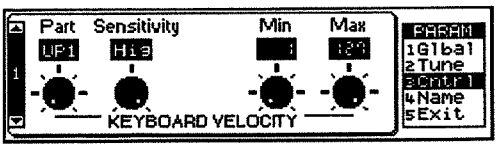
The following velocity settings are only available for the Realtime parts (Upper1/2/3, Lower1/2, M.Bass, and M.Drums). They are used to specify the velocity sensitivity and the velocity range of the selected part.

### (Keyboard) Velocity sensitivity

1. On the Master page, press [F2] (Param) to select the Parameter mode.

2. Press [F3] (Cntrl).

3. Use the [PAGE] ▲▼ buttons to select the first Control page.




4. Start by selecting the Realtime part whose velocity settings you wish to change ([DRUMS/PART]).

5. Use the [ACCOMP/GROUP] knob to select a velocity curve (called *Sensitivity* here).
**High:** Select this setting for maximum expressiveness: even small variations of the force with which you strike a key produce audible changes. The trade-off is, however, that you have to strike the keys forcefully to achieve the maximum volume. Nevertheless, this is the default setting.

**Medium:** Medium velocity sensitivity. The part still responds to velocity changes, but the maximum volume can be obtained easier than with High.

**Low:** Select this setting if you are used to playing on an electronic organ or if you do not want velocity changes to bring about major volume changes.

### Velocity switching (Min and Max)

The [LOWER/NUMBER] and [UPPER/VARIATION] knobs allow you to specify the smallest (Min) and highest (Max) velocity value with which you can trigger the selected part.

This is probably only useful when applied to the Upper1 and Upper2 parts. *Do not change these values if you have no intention of using a "complementary" part* because, otherwise, you may start wondering why the Lower1 part, for instance, only sounds at high or low velocity values. Min and Max can be used effectively for the Upper1 and Upper2 parts, though, provided you layer these parts. Consider the following example:

| Part | Min | Max | Sound |
|---|---|---|---|
| Upper1 | 1 | 85 | Mute trumpet |
| Upper2 | 86 | 127 | Trumpet |

Both parts must be on. The above settings allow you to trigger the Mute Trumpet sound with velocity values between 1 and 85 (low to medium velocity), while any velocity value above 86 only triggers the Tone assigned to Upper2. In other words, the above settings mean that only Upper 1 or 2 will be audible at any one time.

6. Press [F5] (Exit) to return to the Master page.

## Channel Aftertouch

The EM-2000 is equipped with an Aftertouch sensitive keyboard. Like most instruments supporting Aftertouch, the EM-2000 generates channel Aftertouch messages, which means that one Aftertouch value will be transmitted by each MIDI channel (or part).

Aftertouch is generated when you press a key even further down after playing a note. The effect obtained is usually similar to the one you can achieve with the BENDER/MODULATION lever: you can change the pitch, modify the volume, intensify the modulation, etc.

In the EM-2000's case, however (and this is one of the "firsts" we mentioned in the introduction), you can also control the Arranger with Aftertouch data (see page 41).

Aftertouch data will only be received by the following parts: Upper 1/2 and Lower 1/2 (and, of course, the Arranger). See page 30 in the Reference Manual for how to select what the Aftertouch does.

## Pad buttons

[PAD1] and [PAD2] are freely assignable buttons you can use to perform subtle or even dramatic changes at the press of a button. At first, these buttons are set control the Rotary S/F function (PAD1) and KBD Exc Upp1/2 (PAD2). See also page 31 in the Reference Manual.


*Note: You can check these PAD functions by pressing [ARR CHORD] at the lower left of the display. Watch the Arr Chord parameter as well as the function menu as you press the PAD button in question.*

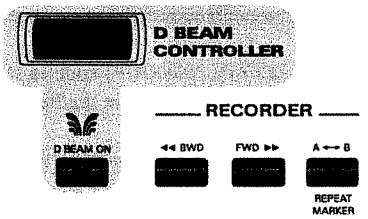
## Sustain pedal (Hold)

The Hold function can be used for the following parts in isolation or in combination: Upper 1/2/3, Lower 1/2, and M.Bass, on condition that you select the WHOLE LEFT or WHOLE RIGHT keyboard mode. In SPLIT mode, the sustain pedal's Hold function only works for the right-most part. When Upper 1 and 2 are layered, the Hold effect will work for both of them. In UP3 Split mode (see page 29) the Hold effect will also apply to the Upper 3 part.

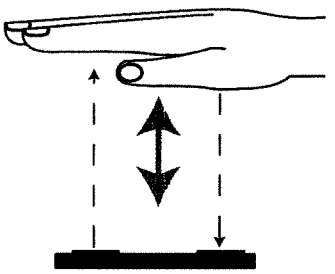
*Note: Do not forget to connect an optional DP-2, DP-6, or BOSS FS-5U footswitch to the SUSTAIN FOOTSWITCH jack.*

## Using the D Beam Controller

The D Beam Controller is no doubt one of the most exciting features of your EM-2000. You can use it to modify various aspects of your Arranger Workstation, such as for Pitch Bend, Modulation, for filtering effects (Cutoff and Resonance), and even to play arpeggios or chords.




The D Beam Controller has two sensors that detect motion (such as your hand or body movements) in front of it. These "sensed" positions are translated into MIDI messages that can be assigned to a variety of parameters. See also page 32 in the Reference Manual.



**1. Press the [D BEAM ON] button (indicator must light) to activate the D Beam Controller.**

**2. Move your hand over the "eyes" while playing something.**

Depending on the selected parameter, the tempo slows down or increases, the Realtime parts are modulated, etc.

*Note: The values generated by the D Beam Controller can be recorded using the Recorder and are transmitted to the EM-2000's MIDI OUT port on the MIDI channel that is being controlled (if any).*

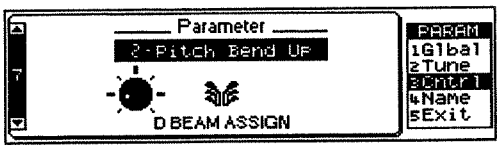
### D Beam Assign

**1. On the Master page, press [F2] to select the Parameter mode.**

**2. Press [F3] to jump to the Param level.**

**3. Use [PAGE] ▲▼ to select the seventh Parameter page.**

Instead of performing these three steps, you could also press and hold the [D BEAM ON] button until this page appears.




**4. Use the [ACCOMP/GROUP] knob to select the desired function. See page 32 in the Reference Manual for details.**

*Note: If you plan to use the D Beam Controller while controlling the Arranger, it is probably a good idea to activate its Hold function (see page 43). This function can also be activated using a PAD button (see page 32 in the Reference Manual).*

**5. Press [D BEAM ON] again (or [F5]) to leave the D Beam Assign page.**

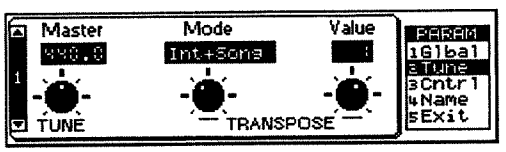
## Master Tune

This is not really a performance function, but it allows you to tune your EM-2000 to acoustic instruments that cannot be tuned.

**1. On the Master page, press [F2] (Param) to select the Parameter menu.**

**2. Press [F2] (Tune).**

**3. Use the [PAGE] ▲▼ buttons to select the first Tune page.**




**4. Use the [DRUMS/PART] knob to tune your EM-2000 to the acoustic instrument (415.3Hz~466.2Hz).**

The displayed value (440.0Hz) is the standard pitch for the A4 note.

*Note: The Master setting can be saved to a User Program along with the other panel settings, so that you can instantly return to your "recorder" tuning (recorders are instruments notorious for their "off" tuning, but also oboes are extremely difficult to tune).*

**5. Press [F5] (Exit) to return to the Master page.**

## Assignable footswitch

An optional DP-2, DP-6, or BOSS FS-5U footswitch connected to the FOOTSWITCH jack can be used to perform various functions. If you do not change the factory setting, this footswitch allows you to start and stop Arranger playback.

The Footswitch assignment can be saved to a User Program. See page 28 in the Reference Manual for how to assign the desired function to the footswitch.

## Expression (Foot Pedal)

An optional EV-5 or BOSS FV-300L expression pedal connected to the FOOT PEDAL jack allows you to control the volume of all parts by foot. You can reverse the expression pedal's effect and specify that certain parts are not to be controlled by the expression pedal.

Furthermore, you can use this pedal for controlling EFX parameters, in which case the expression function is no longer available for other Realtime parts.

## Metronome

The EM-2000 is equipped with two metronome functions. The first is the "regular" metronome. This metronome will be audible every time you use the Arranger or the Recorder (for playback).

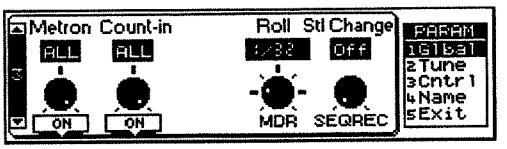
If you want to hear the metronome, here is what you need to do:

### Metronome output (Metron)

**1. On the Master page, press [F2] (Param) to select the Parameter menu.**

**2. Press [F1] (Glbal).**

**3. Use the [PAGE] ▲▼ buttons to select the third Global page.**




*Note: The User Style metronome can be programmed separately.*

**4. Use the [DRUMS/PART] knob to select the output.**

MDR: The metronome uses the Stick sound of the M.Drums part.

MIDI: The metronome transmits MIDI note messages to the EM-2000's MIDI OUT connector (using the MDR Part's MIDI channel). This allows you to use an external MIDI instrument as "metronome".

*Note: If the external instrument doesn't receive the metronome's note messages, check which MIDI circuit (A or B) the MDR Part is assigned to (see page 67 in the Reference Manual). Then use the MIDI Port function to connect that circuit with the EM-2000's MIDI ports (see page 97).*

ALL: The metronome transmits note messages via MIDI and to the current MDR Drum Set.

**5. Use the Part Select [M.DRUMS] button to switch the "general" metronome On or Off.**

### Count-In

This parameter specifies the output the count-in clicks are sent to. Count-ins can be used in Arranger and Recorder modes (to count in one bar before playback starts) and are always used in User Style record mode. The options are the same as for *Metron*.

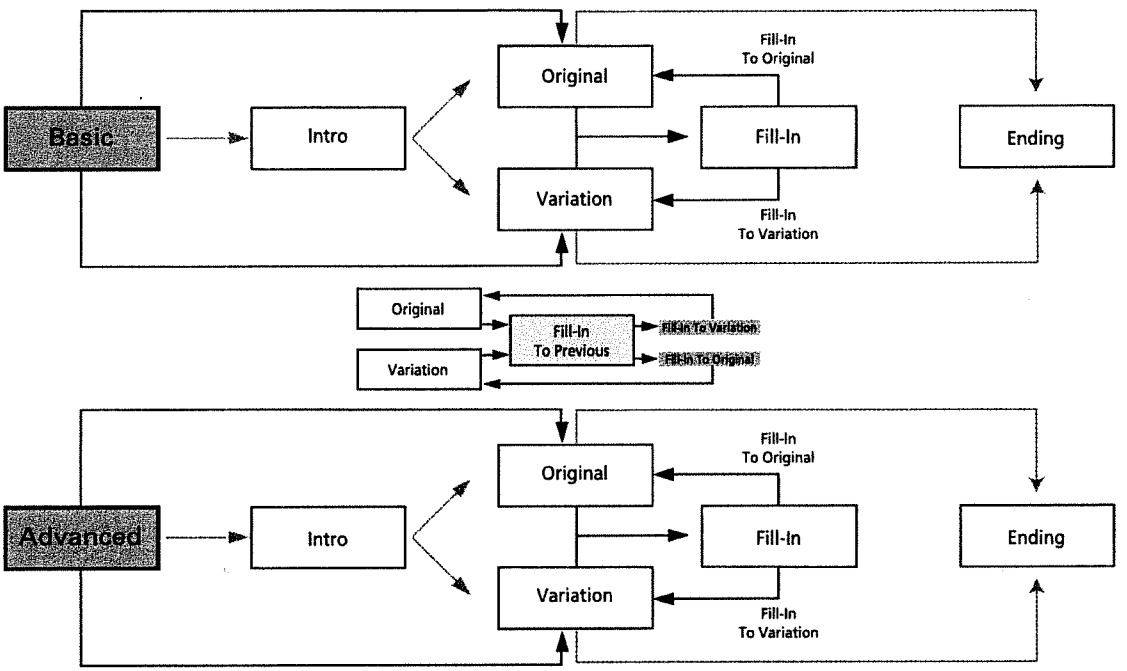
**6. Use the [ACCOMP/GROUP] knob to select the count-in mode and the [M.BASS] button to switch the count-in function On or Off.**

**7. Press [F5] (Exit) to return to the Master page.**

# 5. Playing with accompaniment – Arranger

## 5.1 Arranger and Music Styles

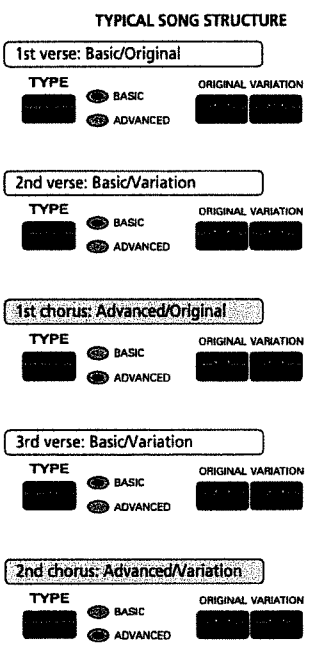
Think of the Arranger's Music Styles as your backing band. Your EM-2000 is indeed capable of playing several "versions" of a given accompaniment. All you have to do is make up your mind about the kind of music you want to play and to select a Music Style that complements it. You can choose how many bars there are to each song part and how the melody and/or solo should be accompanied.




Every white square in the above illustration is called a Division. Though you may not need the word here, it will help you understand how to program your own Styles. A Division is one version of the selected accompaniment (or Music Style). As you see, there are two levels (called Types): Basic and Advanced, each consisting of two divisions called Original and Variation.

As its name implies, Basic is the "normal" accompaniment level, with the basic ingredients of a professional sounding accompaniment. The Advanced level, on the other hand, may contain another version of the selected Music Style or just a more elaborate one. On either level (Basic and Advanced) you can choose between the Original accompaniment and an alternative (called Variation). The latter usually adds one or two parts to the current accompaniment, for example power trumpets instead of muted ones.

If you want the accompaniment to become more complex as the song evolves, here is a useful sequence:



Other elements help you refine the accompaniment. Instead of abruptly changing to Advanced/Original, you may want to play a short transition to announce a new part of the song. That is what Fill In [TO VARIATION], [TO ORIGINAL], and Fill In [TO PREVIOUS] are for.

See "Music Style (Arranger) functions" for other Music Style divisions and functions you can use to create a professional sounding accompaniment.

### Arranger parts

Each accompaniment (or Music Style) can consist of up to eight parts:

A. Drums (or ADR): Accompaniment Drums. This part takes care of the rhythm. It triggers the drum and percussion sounds of the Drum Set assigned to the ADR part.

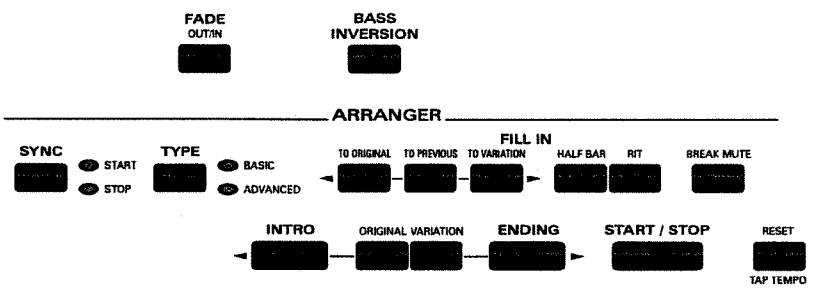
A. Bass (or ABS): Accompaniment Bass. This part plays the bass line of the Music Style you selected.

Ac1~Ac6: These are the melodic accompaniment parts. Depending on the Music Style you selected, only a few of them actually play something, which can be anything from a piano line, a guitar line, an organ line to a synth pad line. Not all Accompaniment parts play chords.

The ABS and Ac parts rely on the chord or note information you play in the chord recognition area (see p. 42), i.e. the keyboard zone you assign to the Arranger on the Arranger Chord (ARR CHORD) page.

If you start the Arranger without playing a chord in the chord recognition area, you will only hear the drums of the selected Music Style. In most cases, however, the EM-2000 has already memorized a chord, so that you will hear the full accompaniment.

## 5.2 Music Style (Arranger) functions




See also "Selecting Music Styles" on page 18 and "Take it away" on page 21 for additional information.

### Starting a Music Style

Music Styles can be started in several ways:

**1. Press the [START/STOP] button (indicator lights) to start the Arranger right away.**
OR:

**2. Stop playback of the current Style (see below), press the [INTRO] button (indicator lights) and then the [START/STOP] button to start Style playback with a musical introduction.**
The length of the Intro depends on the Style you selected. At the end of the Intro, the Arranger starts playing the Music Style division you select while the Intro is being played. In other words, you can select whichever Type (Basic, Advanced) and Division (Original, Variation) you like to be played upon completion of the Intro.

OR:

**3. Press the [SYNCHRO] button to make the START indicator light and play a chord (or just one note in Intelligent mode, see page 42). The Arranger starts as soon as you play a note in the chord recognition area (see page 42).**
*Note: Do not play chord changes while the Intro is running. Unlike the "normal" patterns (Basic, Advanced, Original, Variation), Intro patterns usually contain chord changes. Chord recognition is not deactivated during Intro playback, so that the beginning of a song may jump from one key to another.*

*Note: You can also start and stop the Arranger with the D Beam Controller (see page 33 in the Reference Manual).*

**4. Yet another way of starting playback would be to use the Fade In function (see page 45).**

### Stopping a Music Style

There are three ways to stop Style playback:

**1. Press the [START/STOP] button to stop playback right away.**

**2. Press [ENDING] (indicator flashes) to activate the Ending function. The Ending (or coda) pattern will start at the beginning of the next measure (next downbeat).**

*Note: Do not play chord changes while the Ending is running. Unlike the "normal" accompaniments (Basic, Advanced, Original, Variation), Ending patterns usually contain chord changes. Chord recognition is not deactivated during Intro or Ending playback, so that the ending of a song may jump from one key to another.*

**3. Press [SYNCHRO] to make the STOP indicator light (either with or without the START indicator) and release all keys in the chord recognition area of the keyboard. The accompaniment stops immediately.**

There is no need to restart Style playback manually if you also activate Sync Start (START indicator must light).

*Note: Another way to end a song would be to use the Fade Out function (see page 45).*

## Selecting another Style division

As stated above, you can "professionalize" your performance with the Arranger by selecting different accompaniment patterns. The TYPES and DIVISIONS you can select are:

### Basic, Advanced, Original, and Variation

To select the Basic version, press the [TYPE] button to make the BASIC indicator light. Press it again to select ADVANCED (indicator lights).

*Note: Only one of these levels can be active at a time. Selecting BASIC will switch off ADVANCED and vice versa.*

Press the [ORIGINAL] button to select the "normal" accompaniment. As stated above, Basic/Original is the simplest of the four possible accompaniment patterns. The second accompaniment level is Variation while Basic mode is active (press [VARIATION]). The same system also applies to the Advanced level, giving you a total of four accompaniments per Music Style (multiplied by three, see the next paragraph).

## Major, minor, seventh (M, m, 7)

This is an "invisible" Style division function of your EM-2000. In time you will notice that the Intro and Ending patterns of a Music Style change according to the chord you play. There are three possibilities:

Before going any further, select Music Style A44 8B Pop4 (see page 18 for full details about Style selection). Press [INTRO] and [SYNCHRO] to make the START indicator light. Select the ADVANCED level. Start by playing a major chord, stop Arranger playback, then play a minor chord, stop Arranger playback, and play a seventh chord. You will have to press [INTRO] each time.

**Major** (M): Calls up the first (major chord) accompaniment level.

**Minor** (m): Calls up the second accompaniment level. After playing a C major chord and stopping the Arranger, press [INTRO] again and play a C minor chord.

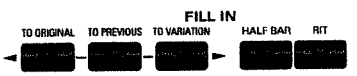
**Seventh** (7): By playing a seventh chord, you activate yet another accompaniment level. Try this out by first playing a major and then a seventh chord.

In other words, the number of certain divisions (such as the Intros and Endings) is in fact multiplied by three!

*Note: The EM-2000 is equipped with a function that allows you to freely assign various chord types (7/5, dim etc.) to one of these levels (see page 80).*

## Complementary Fill functions: Fill In Half Bar and Fill In Rit

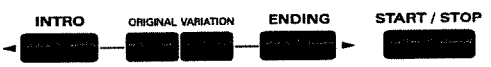
See "Musical transitions" on page 21 for how to use the FILL IN buttons. Certain pop songs in 4/4 contain bars that only last two beats. The usual place for such a bar is between the first and the second verse. Another favorite position of "halved" bars is at the end of a chorus or the bridge. Your EM-2000 allows you to faithfully reproduce these "anomalies". Press Fill In [HALF BAR] (indicator lights) to activate the Half Bar function. This does not change Style playback right away. Only when you press [TO ORIGINAL] or [TO VARIATION] will the Half Bar function be active and play half the number of beats of the fill you selected.




The [RIT] button, on the other hand, is probably more suitable for ballads. It causes the next fill (To Original, To Variation or To previous) to slow down ("ritardando"). Try using this function now: press [RIT] (indicator lights) and [TO ORIGINAL], [TO VARIATION], or [TO PREVIOUS]. Watch the tempo window.

The tempo will slow down during the fill. At the end of the fill, the Style will return to the previously set tempo (this is called "a tempo"). See "Fill Rit value" on page 80 for how to specify the amount of slowdown or accelerando.

## Intro and Ending




While the selected Style is stopped, press the [INTRO] button (indicator lights) to cause Style playback to start with a musical introduction. Do not forget to press the [START/STOP] button (or activate [SYNCHRO] START) to start Style playback.

The length of the introduction depends on the Style you selected. Some Intros are two measures long, oth-

ers eight, and so on. It is also possible to use the Intro function along with Sync Start.

During playback of the Intro, the indicator of the selected Division (Original or Variation) flashes to indicate that this Division will be selected upon completion of the Intro. During playback of the Intro, you can press [ORIGINAL]/[VARIATION] or [TYPE] to select another division that will be launched upon completion of the Intro.

*Note: You can also press [INTRO] in the middle of a song. In that case, the indicator will flash until the end of the current bar and then light on the next downbeat to indicate that the Arranger is playing the introductory pattern.*

*Tip*: The Intro is "renewable", i.e. you can press the [INTRO] button again while the Intro is playing. Doing so on the fourth beat of the first Intro bar, for instance, will retrigger the beginning of the Intro in the second bar. Even though this is only musically useful for certain Intro patterns (those that do not start with a drum roll etc.), you could combine this feature with the Fade Out function (see page 45) to further "customize" the ending of your songs.

If you press [ENDING] during Style playback, its indicator will flash until the end of the current bar and then light on the next downbeat to indicate that the Arranger is playing the Ending pattern. The Ending function supplies a musical ending for your songs. Again, the length of the Ending patterns depends on the Style you selected.

Style playback will be stopped at the end of the Ending pattern.

## Using Aftertouch to select other Arranger patterns

Another way of switching between Types, Divisions, and Fills is to use the EM-2000's Aftertouch. Obviously, only one of the following options can be selected because multi-purpose assignments like for the Realtime parts (see page 35) would send the Arranger haywire.

*Note: Selecting "12-Arranger" does not cancel the Aftertouch settings you may have made for the Realtime parts (see page 35).*

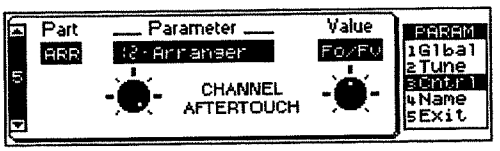
Here is how to activate the a switching function for the Arranger:

**1. On the Master page, press [F2] (Param) to select the Parameter menu.**

**2. Press [F3] (Cntrl) to select the Control (Cntrl) level of the Parameter mode.**

**3. Use the [PAGE] ▲▼ to select the fifth Parameter Control page.**

**4. Use the [ACCOMP/GROUP] knob to set Parameter to 12-Arranger. The display should now look like this:**




Note that the Part field now reads ARR because the Arranger assignment only applies to the Arranger. Furthermore, the [ON] switch disappears. If you do not want to control the Arranger via the Aftertouch, select the "Off" setting for Value.

**5. Use the [UPPER/VARIATION] knob to select the switching function you wish to trigger via the Aftertouch:**

**Off**: The Aftertouch cannot be used to trigger the Arranger.

**B/A**: Switches between the Basic and Advanced levels.

**O/V**: Switches between Original and Variation.

**FO/FV**: Triggers the Fill-In To Original the first time around, and the Fill-In To Variation the second time.

**To Prev**: Same function as the [TO PREVIOUS] button.

**Int and End**: Same function as the [INTRO] or [ENDING] button. If Arranger playback is stopped, using the Aftertouch will trigger the Intro. If used during Arranger playback, the Aftertouch will launch the Ending.

*Note: Even Aftertouch messages generated outside the chord recognition area (see below) will trigger the selected switching function.*

**6. Press [F5] (Exit) to return to the Master page.**

# 5.3 Arranger-related settings

## Selecting the chord recognition area

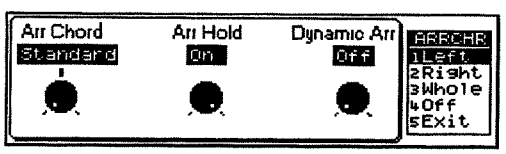
The EM-2000's Arranger is interactive. It is a processor that uses a short "pattern" (the selected Music Style Division) that is transposed in realtime according to the notes you play in the chord recognition area (see below), so that the accompaniment always sounds in the key you specify.

You must tell the EM-2000 which part of the keyboard it is to scan for usable chords. Though Assign Left is probably the mode you will usually use, you could select **Right** to have the Arranger scan the right half of the keyboard. Note that it is possible to select **Whole** so that you can feed the Arranger anywhere on the keyboard. If you don't want the Arranger to scan your chords, choose **Off**.

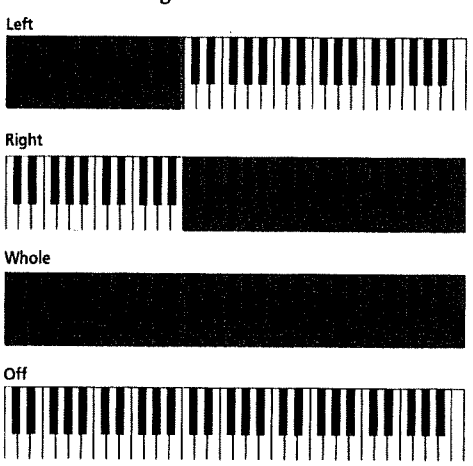
*Note: Off can also be assigned to a PAD button (see page 35) and/or an optional footswitch (see page 36).*

The range of the Left or Right keyboard area can be set using the Keyboard Mode Split parameter (see page 28). In other words, the split point you set for the Realtime parts will also be used by the Arranger to determine the upper (Left) or lower (Right) limit of the chord recognition area.

**1. Press the [ARR CHORD] button to the left of the display to call up the following page:**




**2. Use the function keys [F1]~[F4] to select the desired chord recognition area.**




**3. To return to the Master page, press [ARR CHORD] again or [F5] (Exit). But don't do so right away because we need the Arranger Chord page for the following:**

## Selecting the Arranger Chord mode

Another important choice is how you want to transmit note information to the Arranger so that it plays the Music Style in the right key. There are three modes to choose from:

**4. Use the [DRUMS/PART] knob to select the desired "Arr Chord" setting.**

**Standard:** This is the normal chord recognition mode. In Standard mode, the melodic accompaniment plays the chords you play in the chord recognition area of the keyboard. If you play only one note in that area, the accompaniment plays only that note, i.e. it assumes that you deliberately chose to omit the third and the fifth of your "chord".

To have the Music Style sound a major, minor or seventh chord, you can suffice to play three notes, by the way. Other, more complex, chords require that you press four keys.

**Piano Stl:** Piano Stl means that you can play on your EM-2000 as you would on a piano. In this mode, it is probably a good idea to activate only the Upper 1 part (Whole Right mode) so that you can play one Realtime part on the entire keyboard.

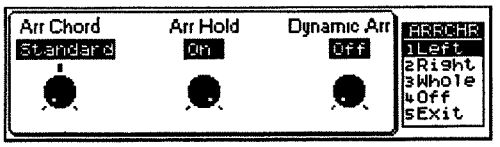
The Piano Style mode works as follows: the Arranger decodes every chord you play – no matter where you play it. Causing the Arranger to play another chord requires that you play at least a triad (i.e. the three notes that make up a chord). You are free to play more than three chord notes but remember that two notes won't cause the Arranger to play another chord. Feel free to select Whole (see above) for a piano-style control of the Arranger.

**Intellig:** Select Intellig when you want the Arranger to supply the missing notes of the chord you want to play. See page 117 in the Reference Manual for a chart of intelligent chords and the way to play them. The EM-2000 can handle virtually any chord you can think of – and playing them requires no more than three (for minor and seventh chords only two, and for major chords only one) finger(s)! This is probably the mode you will select most of the time.

*Note: The choice you make here also affects the "Arpeg" and "Chord" options of the D Beam Controller. See "Arpeg 1/2/3 Octv" on page 33 in the Reference Manual.*

## Arr(anger) Hold

**5. Use the [BASS/BANK] knob to switch Arr Hold On or Off. "On" will keep the Arranger playing even if you don't press any keys in the chord recognition area.**




As soon as you play another chord, the accompaniment changes, but as long as you don't, the melodic accompaniment keeps playing the previously specified chord. If you do not activate the Hold function, the melodic accompaniment stops as soon as you release the note(s) that feed the Arranger. This function can also be switched on/off using the Pad buttons (see page 32 in the Reference Manual).

## Dynamic Arranger

**6. Use the [UPPER/VARIATION] knob to switch the Dynamic Arr parameter On or Off.**
Select On when you want to control the volume of the Arranger parts via the way you strike the keys in the chord recognition area (velocity).

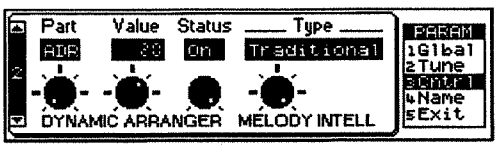
**7. To return to the Master page, press [ARR CHORD] again or [F5] (Exit).**
*Note: This function can also be switched on and off in realtime using a PAD button (see page 35) or an optional foot switch (see page 36).*

The Dynamic Arranger parameter on the Param\Cntrl page allows you to specify the velocity sensitivity of the Arranger parts. These settings make the Dynamic Arranger function really meaningful.

**1. On the Master page, press [F2] (Param) to select the Parameter menu.**

**2. Press [F3] (Cntrl).**

**3. Use the [PAGE] ▲▼ buttons to select the second Parameter Control page.**




**4. Select the Arranger part whose velocity sensitivity you wish to change with the [DRUMS/PART] knob (ADR, ABS, ACC1~ACC6).**

**5. Specify the velocity sensitivity Value with the [ACCOMP/GROUP] knob.**

You can specify positive and negative sensitivity values. Positive values mean that the volume of the part in question increases when you strike the chord recognition area keys harder, while negative values mean that the volume of the part in question increases as your velocity becomes softer.

*Tip*: You could use extreme positive/negative ACC pairs (i.e. Value 127 and –127) to alternate between those two lines simply by varying your velocity. One part would then only be audible when you strike the keys softly, while the other would only be audible at high velocity values.

Subtler settings (i.e. 20 and –20 for a pair) can also be effective, of course. Set the Value to 0 for those parts whose volume should not be affected by your velocity values.

**6. Press [F5] (Exit) to return to the Master page.**

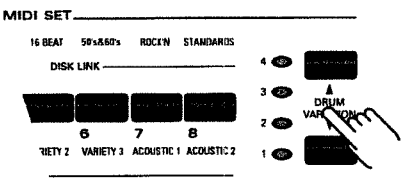
## Bass Inversion

Press the [BASS INVERSION] button (indicator lights) to change the way the Arranger reads the chords you play.

If the indicator does not light, the A.Bass (ABS) part plays the root of the chords that feed the Arranger, while the chords of the Accompaniment 1~6 parts are voiced in such a way as to avoid semitone intervals (for complex chords).


Activating Bass Inversion gives you more artistic license because *you* specify the note played by the ABS part. Switch on Bass Inversion for songs that rely on bass rather than on chord patterns (for example C – C/B – C/Bb, etc.).

## Realtime changes of the drum accompaniment



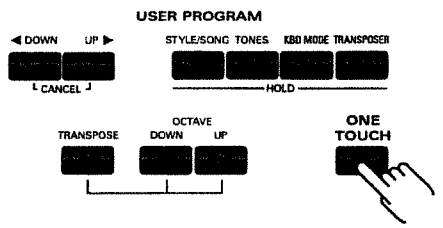

Your EM-2000 allows you to "modify" the drum accompaniment in realtime. DRUM VARIATION ▲/▼ allow you to remove (or add) drum and percussion instruments played by the ADR (Accompaniment Drums) part. The changes (i.e. the sounds that are added or removed) are preset.

Selecting Drum Variation 4 will call up all drum and percussion parts of the selected Style. If you select Drum Variation 3, you will notice that one or two percussion sounds (the congas, for example) disappear. Select Drum Variation 1 for the simplest drum accompaniment of the current Style, or 2 for a slightly more stuffed drum part.

# 5.4 Other useful Style playback functions

## One Touch

You may find yourself using the One Touch function at regular intervals because it automates quite a few tasks:



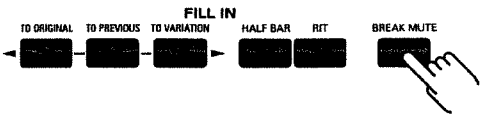

Press [ONE TOUCH] to activate the One Touch function. The display responds with placing an arrow (◄) next to the Style name (e.g. A11◄ HardRock). If you select a Music Style while One Touch is active, the EM-2000 automatically makes the following settings:

- Arr Chord STANDARD and HOLD
- Preset Style tempo
- [SYNCHRO] START (lit)
- A Tone for Upper1 and Upper2 that are suitable for the selected Style
- Keyboard Mode [SPLIT]
- Suitable Reverb, Chorus, and Delay settings for Upper1 and Upper2. (The EFX settings are linked to the Tone you select for the Upper1 part, see also page 22 in the Reference Manual).

One Touch is useful for situations where you have to respond to song requests, knowing that none of your User Programs contains suitable settings. For your own "repertoire", using User Programs (see page 49) is more efficient.

*Note: The One Touch function will be cancelled as soon as you select a User Program.*

## Break Mute




Break Mute is a great function for rock'n'roll songs and ballads. Press [BREAK MUTE] to cause the Arrangement to stop either for the remainder of the current bar or for an entire bar (when pressed on the last beat of a bar). Usually, the melody or solo continues during such a silent (tacet) bar. Break Mute allows you to achieve the breaks in "Great Balls Of Fire", for example.

Your timing is critical for determining when the break is carried out.

*Note: The Break Mute function also works for 3/4 and 2/4 time signatures. Pressing [BREAK MUTE] on the last beat will trigger a one-bar mute that starts at the beginning of the following measure.*

*Note: Break Mute cannot be combined with the Half Bar function, i.e. Breaks cannot be halved. Use Reset (see page 45) to achieve a similar effect.*

## Melody Intelligence

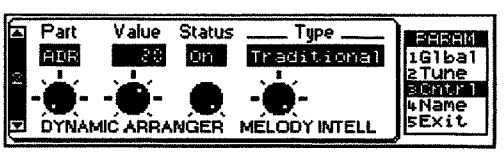
The Arranger of your EM-2000 can not only play chords but also a counter-melody based on the chords you play in the chord recognition area (see p. 42). This counter-melody will be played by the MI part (also referred to as M.INT) and added to the Upper1 part. As soon as you press [MELODY INTELLIGENCE] (indicator lights), the MI part will be activated. You can assign whichever Tone you like to the MI part.

Furthermore, there are 18 harmony types to choose from. Here's how to select one:

**1. On the Master page, press [F2] (Param) to select the Parameter menu.**

**2. Press [F3] (Cntrl) to select the Control (Cntrl) level of the Parameter mode.**

**3. Use the [PAGE] ▲▼ buttons to select the second Control page:**




**4. Use the [LOWER/NUMBER] knob to select the desired Harmony Type. The options are:**

| | |
|---|---|
| Duet | Broadway |
| Organ | Gospel |
| Combo | Romance |
| Strings | Latin |
| Choir | Country Guitar |
| Block | Country Ballad |
| BigBand | Waltz Organ |
| Country | Octave Type 1 |
| Traditional | Octave Type 2 |

Selecting a Harmony Type also means that the EM-2000 automatically assigns a suitable Tone to the MI (and sometimes also the Upper1) part (e.g. a trumpet sound for *Big Band*, etc.). You can, however, override this automatic setting (see page 31) and save your own sound choice to a User Program.

*Note: For "Traditional", "Latin", "CntryBallad", "OctaveType1", and "OctaveType2", only the Upper1 part is used. All other Melody Intelligence Types, however, use both the Upper1 and the MI part.*

## Fade In/Out


Fade In is a function you may want to use occasionally. Fading in means that the volume of both the Arranger and Realtime parts gradually increases, giving the impression that you have been playing for a long time before what you play becomes audible. To fade in, press and hold the [FADE] button until the IN indicator starts flashing. Then release the button. The volume is automatically set to zero and then gradually increased to the value specified with the CONTROLS [VOLUME] slider. When the Fade In is completed, the indicator of the [FADE] button will go off.

Fade Outs are extremely popular in pop music, and the EM-2000 allows you to end a song just like the original. To do so, press [FADE] once (don't hold it down) to initiate the Fade Out procedure. The volume then gradually decreases until it reaches zero (indicator lights steadily).

To reset the master volume after a Fade Out, press [FADE] once more. Style playback will be stopped automatically at the end of a Fade Out.

## Reset

As a performing artist, you know there is always someone in the audience who, at some point, wants you to accompany him while he sings his favorite song. Accompanying such a person can be a real challenge because most amateur singers (no offence), no matter how well they sing, have one serious problem: timing.


Enter the Reset function. Press the [RESET/TAP TEMPO] button during Arranger playback whenever you are hopelessly out of sync with the singer (or vice versa). This will immediately restart Style playback on the first beat.

*Note: Be sure to press this button while Arranger playback is running. Otherwise, this button serves to specify the tempo (Tap Tempo, see also page 46).*

# 5.5 Style Tempo

## Tempo dial and indicators

Every Music Style contains a preset tempo setting that you are free to override using the [TEMPO] dial. If you think the tempo of the selected Style is too fast or too slow, you can change it right away. Again, the tempo value you specify manually will be saved to a User Program.

The TEMPO indicators will flash in the rhythm of the selected tempo. The first indicator flashes red to indicate the downbeat (the beginning) of a new bar. For time signatures like 6/8, etc. the fourth indicator flashes repeatedly to supply the "missing" beats.

There are a few things to remember about Style tempo:

- Every Style has a preset tempo that will be set every time you select that Style – unless you saved another tempo to a User Program and select the Style via that User Program.
- Auto and Lock allow you to specify what happens when you select another Style while the current one is playing. See "Auto Tempo and Tempo Lock".

## Tap Tempo

Tap Tempo is a musical way of specifying the playback tempo: stop Arranger playback by pressing the [START/STOP] button press the [RESET/TAP TEMPO] button the way a drummer would do when counting in.


After the second tap, the tempo display already indicates a new tempo value. Most of the time, however, you should press it four times for a 4/4 bar, three times for a 3/4 bar, and so on.

## Auto Tempo and Tempo Lock

The [AUTO/LOCK] button, located to the left of the [TEMPO] dial allows you to specify if and how the tempo changes when you select another Style:

| AUTO indicator | LOCK indicator | If Arranger playback is stopped at the time you select another Style | If a Style is running at the time you select another Style |
|---|---|---|---|
| ● | ○ | The Arranger loads the preset tempo of the new Style. | The new Style will be played back at the tempo of the previous Style. |
| ○ | ● | The preset tempo of the new Style is not loaded. Instead, the Style will be played back at the tempo that appears in the Tempo window. | |
| ○ | ○ | The Style's preset tempo is loaded. | The Style's preset tempo is loaded, so that the playback tempo changes. |

In most cases, you will probably select the Auto mode (AUTO indicator lit), yet the other options can be useful, too. The AUTO/LOCK status, for example allows you to play medleys at the correct Style tempo.

## Tempo Rit and Tempo Acc

The Tempo [RIT] (ritardando) button works more or less the same as the Fill In [RIT] button, except that it applies to Style playback in general, while Fill-In [RIT] only applies to fills. Press [RIT] to cause the playback tempo to slow down (indicator flashes). As soon as the ritardando is completed, the [RIT] indicator goes off. Depending on what you do before pressing [RIT], this function does one of two things. Press both [RIT] and [ACC] (accelerando) to return to the previous tempo value.

| Action before pressing [RIT] | Tempo |
|---|---|
| You did not press [ACC] | The tempo slows down by the preset amount. EXAMPLE: if the Style tempo is currently ♩= 120, it will drop to ♩= 96. |
| You pressed [ACC] and waited until the indicator went off. | The tempo returns to the original value (i.e. ♩= 120 in the above example). |

*Note: The EM-2000 allows you to set the ritardando (or Rit) and accelerando (Acc) speed.*

Tempo [ACC] does the opposite: it speeds up the Style tempo by the specified amount (see below). Depending on what you do before pressing [ACC], this function does one of two things:

| Action before pressing [ACC] | Tempo |
|---|---|
| You did not press [RIT]. | The tempo slows down by the preset amount. EXAMPLE: if the Style tempo is currently ♩= 120, it will rise to ♩= 140. |
| You pressed [RIT] and waited until the indicator went off. | The tempo returns to the original value (i.e. ♩= 120 in the above example). |



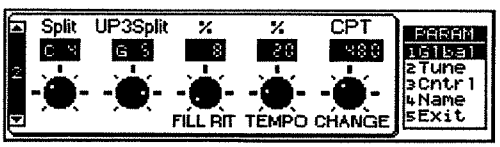
### Rit/Acc value: Tempo Change

The Tempo Change values you specify here apply both to ritardandos (Rit) and accelerandos (Acc).

**1. On the Master page, press [F2] (Param) to select the Parameter mode.**

**2. Press [F1] (Glbal).**

**3. Use the [PAGE] ▲▼ buttons to select the second Global page.**




**4. Use the [LOWER/NUMBER] knob to specify the tempo change ratio. Again, higher values mean that the tempo change will be stronger.**

**5. Use the [UPPER/VARIATION] knob to specify the speed of the tempo change.**
To simulate the effect of a band that is gradually slowing down, you should consider higher CPT values.

CPT is short for *Clock Pulse Time*. It refers to the resolution of a crotchet (quarter note, ♩), i.e. the number of steps between one quarter note and the next. The resolution of your EM-2000 is ♩= 120CPT, so that the second quarter note of a bar is located at 120 clocks from the first.

If you want the tempo change to be completed at the end of four beats (or one 4/4 bar), you must specify the value 4 (beats) x 120 (clocks) = 480CPT (default). The next measure will then be played back at the new tempo (faster if you press [ACC], or slower if you press [RIT]).

**6. Press [F5] (Exit) to return to the Master page.**

## 5.6 Assigning other Tones to the Arranger Parts

You can select other Tones for the Arranger parts of the currently selected Music Style. Assigning another Drum Set to the A. Drums part may already dramatically change the Music Style's character. Likewise, replacing the acoustic piano by an electric one is an easy way of adapting a preset Music Style to your specific needs.

Tone selection for the Arranger Parts works the same as Tone selection for the Realtime Parts, except that you cannot call up the Arranger parts using the Part Select buttons below the display. You have to select the desired Part using the [DRUMS/PART] knob in Tone mode.

See "Selecting Tones using the knobs" on page 31 for how to select Tones.

### Source

Its is up to you to decide whether the EM-2000 should remember which Tones you assigned to the Arranger parts. If you do not modify the Source setting, you will notice that after a while, the Music Style returns to the original, preset, Tones.

Thanks to the Source switches, however, you can ensure that the preset Tone selection will be overridden by your own choices.

USR: Your own Tone selection remains in effect until you select another Tone or another User Program.

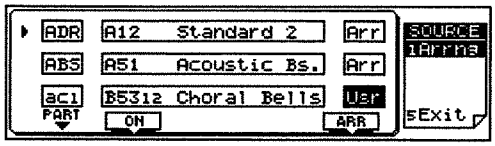
ARR: Your own Tone selection for the Arranger parts is modified by the settings contained in the Music Styles.

*Note: The Source switches only apply to "internal" messages. Program changes received via MIDI IN will always be executed, no matter how you set the Source switches.*

Here is how to set the Source parameter:

**1. Press [TONE] to select the Tone mode.**

**2. Hold down [SHIFT] and press [F1] (Arrng).**



**3. Use the [DRUMS/PART] knob to select the Part whose Source setting you wish to modify.**
The name of the Part you select is indicated by an arrow ("ADR" in the above example).

*Note: If you're not sure what the PART abbreviations stand for, see "Arranger parts" on page 39.*

**4. Using the Part Select [UPPER1] button, set the Source switch to Usr or Arr.**
If you like, you can also switch on and off the selected Arranger part by pressing [M.BASS]. The name of a part you switch off is displayed in lowercase ("ac2", for example).

**5. Press [F5] (Exit) to return to the Master page.**
*Note: Style and Tone selection (along with a lot of other settings) can be saved to a User Program.*

*Note: See also "Your settings or those of the Music Styles?" on page 78 for other Source switches.*

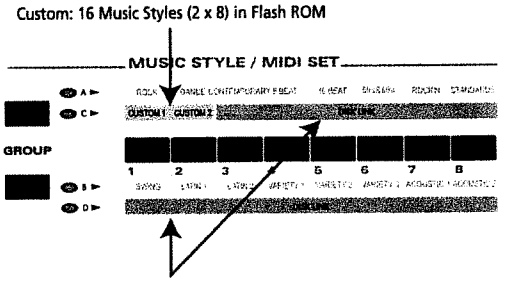
# 5.7 Additional information for selecting Music Styles

The EM-2000's internal Music Styles are divided into two Groups: A and B. Each Group contains 8 banks of 8 Styles.

Group C contains two banks of eight Custom Style memories (C11~C28). These are Flash ROM memories (ROM memories whose contents can be replaced) that actually contain Music Style data.

The remaining banks of Group C (C31~C88) as well as all banks of Group D (D11~87) are memories that only contain references to Music Styles on floppy, Zip, hard disk, etc. On a computer, these memories would be called "keyboard shortcuts" (or "macros"): they perform several tasks you would otherwise have to carry out step by step. In other words, the Disk Link memories are even more convenient than the Database function on page 23.

Custom: 16 Music Styles (2 x 8) in Flash ROM




Disk Link: 111 references to Music Styles on floppy, Zip, etc.
13 banks x 8 memories (C31-D78) + one bank x 7 memories (D81-D87)
D88 is the EM-2000's Style RAM memory.

The D88 memory (Group D, bank 8, number 8) is the only RAM memory available for Music Styles. Whenever you select a Music Style (internal, Custom, or Disk Link), the data in question are copied to this memory. If you edit an existing or program a new Music Style, these data reside in this memory and should be saved externally. The contents of this memory will be erased when you switch off the EM-2000.

See page 19 for how to select Custom Music Styles.

# 6. Saving/loading registrations – User Programs



The EM-2000 is equipped with 192 User Programs that allow you to store almost all settings (or registrations) you make on the front panel. These User Programs are compatible with the G-1000's Performance Memories, meaning that you can also load Performance Memory setting of this G series instrument. All parameters not available on the EM-2000 will be ignored, while parameters that have changed on the EM-2000 will be adapted. Before taking a closer look at the EM-2000's User Programs, there is one thing we have to point out, though. *All settings relating to MIDI must be saved to a MIDI Set* (see page 102).

MIDI settings are not saved to a User Program. The reason for this is simple: You probably need a lot more memories for your performance settings than you do for your MIDI settings. Saving the MIDI settings to the User Program would slow down the loading process.

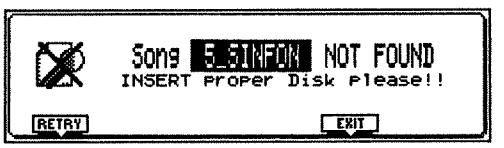
Your EM-2000 also memorizes the name of the Music Style you use in a given situation. If, at the time you load such a User Program, that disk Style is not accessible, the display will respond with:

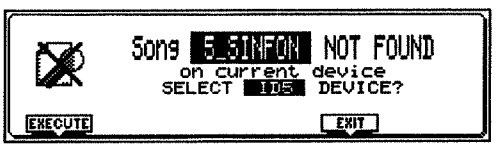

Insert the disk and press Part Select [M.DRUMS] to try again. If you are sure you don't have the disk with you, press Part Select [UPPER2]. In that case, the EM-2000 will go on using the last Style you selected.

If the required device is not available, the EM-2000 will suggest an alternative:

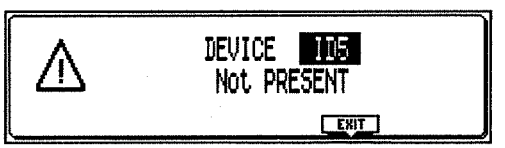

Here, you can press Part Select [M.DRUMS] to change to the suggest drive. If you are sure that drive doesn't contain the Style in question, press Part Select [UPPER2] instead.

A similar system applies to Songs. A User Program can indeed be programmed to automatically prepare the desired song, so that all you have to do is press Recorder [PLAY►/STOP■] to start playback. The two possible error messages are:




See above for what to do in those cases. If the suggested device is not available either, the display responds with:




Press Part Select [UPPER2] (Exit) and select another User Program, or load the Style or Song by hand.

# 6.1 Writing your settings to a User Program

It is a good idea to save your settings frequently even if you still need to do some editing afterwards. Those intermediary saves allow you to return to the previous stage whenever you do not like your last modifications. In other words, you could (and probably should) use the User Programs as "recall buffers" to be able to return to the previously edited settings, discarding only the latest modifications.

Try to save your settings after...

- ...selecting Tones for the Realtime parts;
- ...selecting a Style, the first division, and after setting the tempo;
- ...assigning other Tones to the Arranger parts;
- ...modifying the volume balance and the effect settings;
- ...editing the switch settings (see page 78);

In short, every time you like the settings you just made. That way, every subsequent modification can be undone by loading the "provisional" User Program settings you do not want to lose.

## Memory Protect

Your EM-2000 is equipped with a Memory Protect function that is activated every time you power on your instrument. Memory Protect does what its name implies: it protects your User Programs and MIDI Sets from accidental erasure.

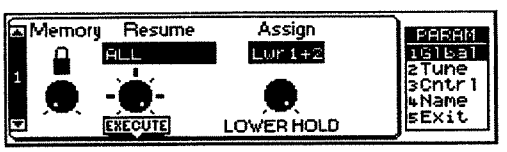
You will be given the opportunity to turn off Memory Protect before writing your settings to a User Program (see below).

There is another way to turn off Memory Protect, which you might use after powering on your EM-2000:

**1. On the Master page, press [F2] (Param) to select the Parameter mode.**

**2. Press [F1] (Glbal) to select the Global level.**

**3. Press [PAGE] ▲▼ to select the first Global page:**




**4. Use the [DRUMS/PART] knob to "unlock" the EM-2000's memory.**

**5. Press [F5] (Exit) to return to the Master page.**
At a later stage, you could return to this display page to turn the Memory Protect function back on.

## User Program name

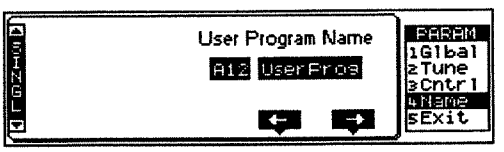
One final step before writing your settings to a User Program is to assign a name to your settings. Note that you only have to do this the first time you save new settings to a User Program, and that you can also name your User Program after saving it. If you do it now, you do not have to worry about renaming your User Program.

Use a name that somehow summarizes the memory's content. The name of the song you will use these settings for is probably the most explicit name you can think of.

Here is how to name your User Program:

**1. On the Master page, press [F2] (Param) to select the Parameter mode.**

**2. Press [F4] (Name) and use [PAGE] ▲▼ to select the "SINGL" page.**



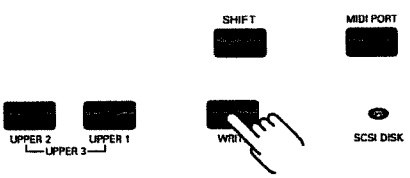

**3. See page 25 for how to enter names.**

**4. Press [F5] (Exit) to return to the Master page.**
*Note: Do not forget to write your settings (including the name) to a User Program after naming them.*

## Saving your settings

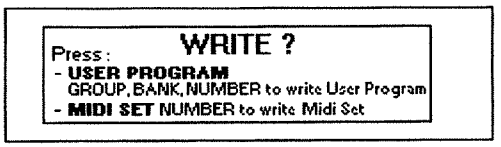
The EM-2000 sports 192 User Programs. These allow you save almost all settings you can make on the EM-2000 (and there are a lot more than we have covered so far).

**1. Press and hold down the [WRITE] button below the display.**

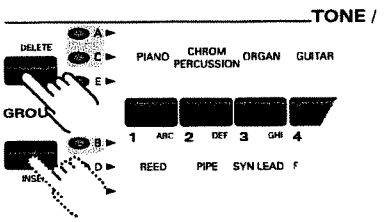



The [SELECT] button in the TONE/USER PROGRAM section is automatically set to USER PROGRAM (because you can only write User Programs or MIDI Set settings) so that you don't have to worry about the [SELECT] button.

You may wonder why you have to keep [WRITE] depressed. We did that so that it is impossible to accidentally overwrite an existing User Program.




2. Press a Tone/User Program [GROUP] button to select a Group (A, B, or C, the other Groups cannot be selected here).



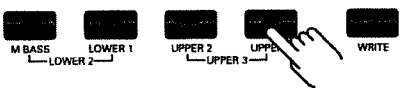

3. Press a numeric button (1~8) to specify the bank number.

4. Press a number button to select a memory within that Bank.
The display briefly confirms that your settings have been written to the memory you selected:


5. Release the [WRITE] button.

If the EM-2000's memories are protected, the display responds with:


6. Press Part Select [UPPER1] (Yes) to turn off the Memory Protect function.

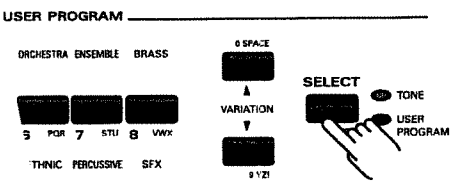



If you do not want to turn off the Memory Protect function press Part Select [M.DRUMS] (No) instead. In that case, your settings cannot be written to a User Program (and will be erased when you select another User Program or switch off the EM-2000).

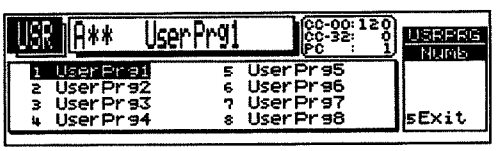
It is perfectly possible to program several User Programs for one song. Selecting a User Program is a lot faster than calling up one of the EM-2000's menu pages, modifying the settings, etc., while playing. In other words, you could program one User Program for the first part of a song, another one for the bridge, and a third one for the closing section. Doing so allows you to "play" with the effect settings of the Realtime and/or Arranger parts, for example.

## 6.2 Selecting a User Program

1. Press the TONE/USER PROGRAM [SELECT] button to make the USER PROGRAM indicator light.

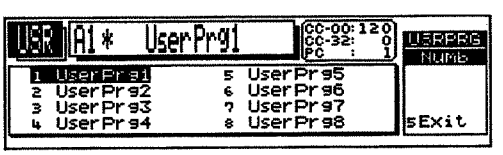



2. Press a [GROUP] button to select a User Program Group A~C (indicator lights). Again, you can only select Groups A~C (the other Groups are only available for Tone selection).



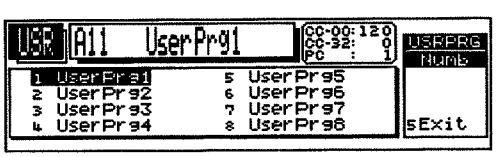

(In this example, we selected Group A.)

3. Press a numeric button (1~8) to specify the bank number.




*Note: You can perform these steps a little ahead of the song part where you want the new settings to take effect. Only when you specify the User Program number will the corresponding settings be recalled.*

4. Press a number button to select a User Program.



The settings of the selected User Program will be recalled.

*Note: You do not need to recall all User Program settings. See "Selectively loading User Program settings (User Program Hold)" on page 52 for more information.*

## Selecting 00 FreePanl

For Recorder song playback, you should always select the factory User Program 00 FreePanl that contains the default settings of your EM-2000. You may remember that is what we did before listening to the demo songs.

The 00 Free Panl settings can be changed and selected any time, i.e. even after selecting a "regular" User Program. The contents of this memory is, however, initialized when you power off the EM-2000.

**1. Simultaneously press User Program [◄DOWN] and [UP►] to select the 00 FreePanl settings.**
*Note: This User Program is read-only. You cannot write data to this memory.*

## Resume

The Resume function loads the factory set 00 FreePanl settings, thereby erasing any modifications you may have made since powering on your EM-2000. Resume allows you to specify which settings of the factory-set User Program 00 are to be loaded:

**Tone:** Only Tone selection and the Source Tone Change settings (for Arranger parts) of User Program 00 will be loaded. See "Source" on page 47.

**Mixer:** Only the Mixer settings of User Program 00 will be loaded. (See pages 72 and 73.)

**Param:** Only the settings of the Parameter mode will be loaded. (That is, all settings you can make after pressing [F2] on the Master page.)

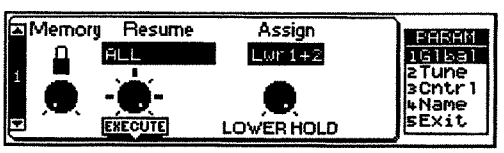
**All:** All settings of User Program 00 will be loaded.

Here is how to load User Program 00 using the Resume function:

**1. On the Master page, press [F2] (Param) to select the Parameter mode.**

**2. Press [F1] (Glbal) to select the Global level.**

**3. Press [PAGE] ▲▼ to select the first Global page:**




**4. Use the [ACCOMP/GROUP] knob to select the settings you want to load (see above).**

**5. When you are ready to load these settings, press [M.BASS] (Execute) to load the settings.**

**6. Press [F5] (Exit) to return to the Master page.**

*Note: You can also load the 00 FreePanl settings by powering off your EM-2000 and turning it back on again. This, however, is the same as selecting All.*

## Selecting a User Program using the [◄DOWN][UP►] buttons

The following method is especially useful if you programmed two or more User Program for a song or if the User Program sequence corresponds exactly to the song sequence you are about to play (i.e. settings of the first song or song part in memory A11, settings of the second song or song part in A12, etc.). Pressing [◄DOWN] or [UP►] immediately selects the following or preceding User Program so that you don't have to worry about pressing the right TONE/USER PROGRAM buttons.

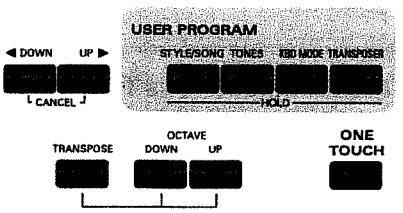
[UP►] Selects the following User Program (for example A13 if you selected A12 before pressing this button).

[◄DOWN] Selects the preceding User Program (for example A11 if you selected A12 before pressing this button).

*Note: If you press [UP►] after selecting A88, your EM-2000 will call up B11. Like wise, if you press [◄DOWN] after selecting B11, your EM-2000 will call up A88, and so on.*

User Programs can also be selected using the footswitch connected to the FOOT SWITCH jack on the rear panel. See "Usr Up" and "Usr Down" on page 29 in the Reference Manual for details.

## Selectively loading User Program settings (User Program Hold)




The EM-2000 is equipped with a function that works more or less the same way as Resume for User Program 00 (see above). This function is called *User Program Hold* and it applies to the "regular" (i.e. programmable) User Programs.

User Program Hold allows you to keep certain settings of the previous User Program while selecting another User Program. Selectively loading User Program settings allows you to quickly assign other Tones to the Realtime and/or Arranger parts *without* loading the Style parameters contained in the new User Program, for example.

Let's have a look at the possibilities. The desired User Program Hold mode can be set using dedicated buttons on the front panel.

**[STYLE]/[SONG]:** Press this button (indicator lights) to load all User Program settings except those related to the Arranger (Style and Division) or the Song (see page 46 in the Reference Manual).

**[TONES]:** Press this button (indicator lights) to load all User Program settings except Tone selection for the Realtime parts.

**[KBD MODE]:** Press this button (indicator lights) to load all settings except the Assign (Whole Left, Split, Whole Right, etc.) and Arranger Chord settings (Standard, Piano Style, Left, Right, etc.).

**[TRANSPOSER]:** Press this button if all User Program settings except the Transpose (value and mode) and Octave Down/Up settings should be loaded.

Pressing a User Program Hold button without selecting a User Program afterwards has no effect. Only when you select another User Program will the selected data filter (because that is what User Program Hold is) start working.

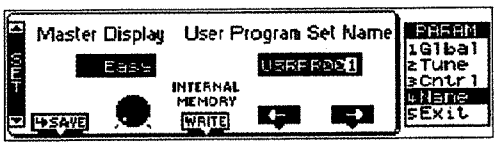
In this case, Hold is thus taken to mean "keep the settings of the previously selected User Program". To load all settings of the new User Program, press the User Program Hold button whose indicator lights (i.e. all indicators must be off).

## 6.3 Archiving your User Programs

For archiving purposes, User Program settings can be saved to disk as User Program *Sets*. In that case, all 192 memories are saved in one go. You can also name such Sets for easy identification at a later stage. Here's how to:

**1. On the Master page, press [F2] (Param) to select the Parameter mode.**

**2. Press [F4] (Name) and use [PAGE] ▲▼ to select the "SET" page.**




**3. See page 25 for how to enter names.**

**4. You can now press Part Select [M.DRUMS] to save your User Program "Set" (i.e. all 192 User Programs) to disk.**
This takes you to the Save User Program Set page (see page 75 in the Reference Manual). This jump may be convenient, because there is also a "return jump".

**5. Press [F5] (Exit) to return to the Master page.**
*Note: See page 15 for details about the Master Display function and the WRITE button (Part Select [LOWER1]).*

# 6.4 User Program Song Recall

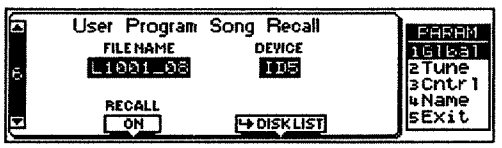
User Program Song Recall is a function that allows you to link a Song to every User Program, so that by recalling the User Program, you also prepare the song in question. Songs reside on disk, which means that the disk (floppy, Zip, etc.) must be inserted and accessible (mounted) for this system to work.

All you need to do then, is hit the Recorder [PLAY►/STOP■] button to start playback of that song.

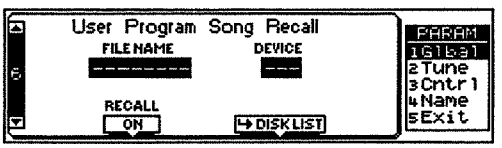
**1. On the Master page, press [F2] (Param) to select the Parameter mode.**

**2. Press [F1] (Glbal) to select the Global level.**

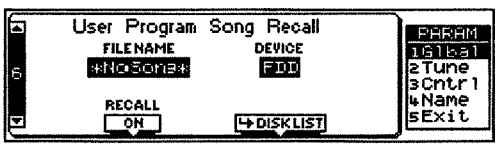
**3. Use [PAGE] ▲▼ to select the sixth Global page.**




**4. Press [M.BASS] below the display to select ON if the selected song should be prepared every time you select this User Program.**
Press it again to select OFF. In that case the display looks as follows:




If the selected disk doesn't contain Song data, the display will look like this:




**5. On the Disk List page, use List ([BASS/BANK]) to select a Song, and Capture to load it and to return to the User Program Song Recall page, where the name of the Song appears.**
*Note: To select a Song on another device, use the [F4] (Device) function on the Disk List page.*

# 7. Chord Sequencer



The Chord Sequencer of your EM-2000 is a very powerful tool that allows you to record a chord sequence to be repeated several times while you concentrate on the melody or solo, or to prepare the accompaniment of an entire song before recording it with the Recorder (see page 57).

A Chord Sequence is a series of instructions telling the Arranger when to play other chords. Some musicians refer to a chord sequence as "the changes" of a song. Chord sequences also tell the Arranger when to select another division. In short: they automate Arranger operation.

## 7.1 Recording a Chord Sequence for an entire song

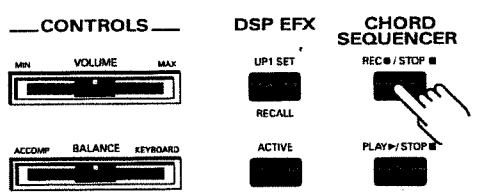
The EM-2000's Chord Sequencer allows you to record the accompaniment of an entire song from start to finish. You could (and probably should) use this technique to prepare a recording using the Recorder (see p. 57). That way, you don't have to worry about selecting Styles, divisions, and so on, while playing the melody.

**1. Select the Style, the division, and the level (Advanced or Basic) of the Music Style you want to use (see page 40). (Alternatively, you can recall a User Program, see page 23.)**

**2. Set the tempo if you do not want to use the preset Style tempo.**
If you want to be absolutely sure that the tempo you set will be used, see "Auto Tempo and Tempo Lock" on page 46. The tempo value you set here will also be recorded.

**3. Activate the [SYNC] START function if that is how you want to launch Style playback.**

**4. Press Chord Sequencer [REC●/STOP■] (indicator flashes).**




**5. Play the first chord in the chord recognition area (see page 42) or press the [START/STOP] button to manually start Music Style playback, and do everything you would do during a normal performance involving Music Styles.**

**6. At the end of the song, press the [START/STOP] button (Arranger section).**
*Note: There is no need to press the [START/STOP] button if you end the song with the Ending or Fade Out function.*

**7. Press the Chord Sequencer [REC●/STOP■] button (indicator flashes).**
Playback of the Chord sequence can be performed in the same ways as playback of a Music Style. See "Starting a Music Style" on page 39. You can also use the [PLAY▶/STOP■] button, however.

## 7.2 Two Chord Sequencer modes

The EM-2000 is equipped with a function that allows you to choose what should be recorded by the Chord Sequencer. First, you should understand the concept *Note To Arranger.*

### NTA (Note To Arranger)

The Arranger responds to note and chord changes you perform in the chord recognition area of the keyboard (see page 42). The notes that cause the Arranger to switch to another chord are called Note To Arranger (or NOTEs used TO feed the ARRANGER).

The Note To Arranger notes are precisely the notes the Arranger "reads" to decide which chord should be played next. Any chord change will cause all Arranger parts (except the drum part) to play in another key.

The advantage of the NTA (or Note to Arranger) system is that it is easy on the memory of the Chord Sequencer or an external sequencer because the accompaniment patterns themselves and the notes and instructions that go with them are not recorded. Using this feature, however, requires that you select exactly the same Style settings as the ones that were active at the time you recorded the NTA notes – and above all that the NTA notes be sent to an instrument equipped with an Intelligent Arranger.

*Note: The EM-2000's Recorder (see p. 57) does not record NTA notes. Instead, it records the entire Style and realtime performance. Playback of a Standard MIDI File recorded with the EM-2000's Recorder thus only requires a GM/GS compatible sound module.*

### Style Change

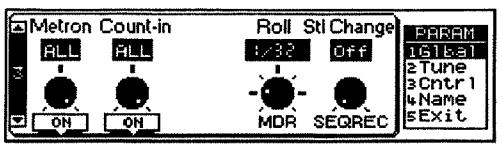
The EM-2000 allows you to specify what exactly the Chord Sequencer should record. This function is called Style Change (or *Stl Change* for short).

Here is what that function does and how to set it:

**1. On the Master page, press [F2] (Param) to select the Parameter menu.**

**2. Next press [F1] (Glbal) to go to the Global page.**

**3. Press [PAGE]▼ as many times as necessary to select the following page:**




**4. Use the [UPPER/VARIATION] knob to select On or Off.**

**On:** All actions relating to the Arranger are recorded by the Chord Sequencer. That includes:

- Style selection
- Division changes (i.e. whenever you press [ENDING], [TYPE], etc.)
- Tempo settings (including AUTO and LOCK) and changes
- Playback volume of the Accompaniment parts (controlled by the Dynamic Arranger function)
- All User Program settings relating to the Arranger.
- NTA notes

**Off:** In this case, the Chord Sequencer records only the NTA notes. That way, you are free to choose another Music Style etc. when playing back the Chord Sequence.

In most cases, you will probably use the On setting to ensure that everything relating to the Arranger is recorded by the Chord Sequencer. That is why On is the default setting. If you only want to record the NTA information, select Off.

**5. Press F5 (Exit) to return to the Master page.**

*Tip*: Use the Chord Sequencer function as "backing track" for your recordings using the actual Recorder, so that you only need to play the melody at that time.

## 7.3 "Realtime" chord sequencing

Recording and playing back in realtime means that the Arranger is already running when you start recording your Chord Sequence. But this also requires that you set Stl Change to Off.

**1. Start playback of the Arranger (see page 39).**

**2. Press Chord Sequencer [REC●/STOP■] a little (one or two beats) ahead of the bar where the EM-2000 is to start recording.**

The indicator of the [REC●/STOP■] button will flash until the next downbeat and then light steadily to indicate that the Chord Sequencer is recording.

**3. At the end of the chord pattern press Chord Sequencer [PLAY►/STOP■].**

On the next downbeat, the Chord Sequencer returns to the beginning of the pattern and plays it back again and again until you press the [PLAY►/STOP■] button once more.

*Note: The realtime record feature and Chord Sequencer loop function are only available in Stl Change Off mode.*

If you do not want to play back the Chord Sequence right after recording it, press the Chord Sequencer [PLAY►/STOP■] button.

*Note: The last Chord Sequence you record before switching off your EM-2000 will remain in memory until you record another Chord Sequence.*

*Tip*: Chord Sequences can be saved to and loaded from disk. Before recording another Chord Sequence you could save the current one to disk and load it some other time.

## 7.4 Playing back a Chord Sequence

To play back a Chord Sequence, you have to press the Chord Sequencer [PLAY►/STOP■] button (indicator lights) and start Music Style playback in one of the possible ways (see page 39).

Press Chord Sequencer [PLAY►/STOP■] to stop playing back the Chord Sequence. Note that this does not stop the Arranger. See page 39 for ways of stopping the Arranger.

# 8. Recorder (GM/GS mode)



The Recorder of your EM-2000 is a Standard MIDI File player/recorder.

The Chord Sequencer allows you to prepare the accompaniment to such an extent that you can concentrate on the solo parts without having to worry about pressing buttons and selecting Styles. See "Chord Sequencer" on page 55.

The EM-2000's Recorder reads GM/GS compatible Standard MIDI files and Roland "i"* files. The "i"* format is a proprietary Roland song format with set part-to-track assignments for educational purposes.

*Note: You may be confused by the words "song" and "Standard MIDI File" we use in this chapter. There is absolutely no difference. Thus, all playback functions explained below also apply to commercially available Standard MIDI Files.*

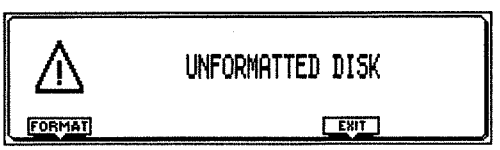
## 8.1 How to record a song

### Formatting a disk

Before using the EM-2000's Recorder, you may need to prepare a floppy or Zip disk. If you prefer to use a floppy disk, choose a reliable 2HD (high density) disk.

If the disk (floppy or Zip) you are about to use is IBM PC formatted, there is no need to format it, though disk access is faster with EM-2000 formatted disks. Otherwise proceed as follows:

**1. Insert the disk into the disk drive. If the floppy disk is not yet formatted or formatted for a computer or sequencer other than the EM-2000 (or an IBM PC or compatible computer), the display will respond with a message similar to the following:**

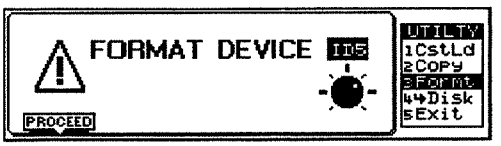



Here, you are given two options: you can either press the Part Select [M.DRUMS] button to format the disk or hit Part Select [UPPER2] (Exit) to leave this display page without formatting the disk.

This function allows you to format the disk in the selected drive. It would be a good idea to also format floppy disks formatted for MS-DOS® because that speeds up disk access. All other disk types must be formatted by the EM-2000 to be usable.

If the "Unknown Disk Format" message is displayed, you can only leave this display page (Exit). Remove the disk from the drive and insert another one. If, however, you are sure that the "Unknown" disk contains no material you want to keep, you can format it using the Format function:

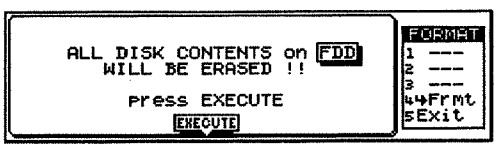
- Press [F5] (Disk) on the Master page.
- Hold down [SHIFT] while pressing [F3] (Utlty).
- Press [F3] (Formt). The display now responds with:



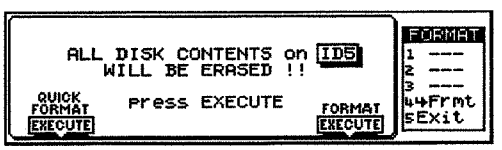

- Use the [UPPER/VARIATION] knob to select the disk you want to format. ("FDD" means floppy disk, and "ID5" refers to the Zip drive.)

  *Note: Be careful not to format the Zip disk supplied with your EM-2000. It would be a pity to lose all the precious material it contains.*

- Press Part Select [M.DRUMS] (Proceed). For security reasons, you must confirm this command:




The name of the device and the display depend on the one you selected above. If you selected ID5 (or another SCSI device), the display now looks as follows:




Press Part Select [M.DRUMS] to launch the **Quick Format** function. Choose this option to "initialize" new (usually PC formatted) disks. This is a lot quicker than using the full-blown **Format** (Part Select [UPPER1]) option. The latter is only necessary for disks you used on platforms with a different data and formatting structure before deciding to format it for the EM-2000. As a rule, always start with Quick Format. If that doesn't work, try Format.

You can exit this display page without interrupting the formatting process by pressing [F5] (Exit). That allows you to do something else while the EM-2000 is formatting. While the EM-2000 is formatting in the background, the message FORMATTING will appear

in the right-hand corner of the display page you exit to.

### Before recording

Though you can record without using the Arranger, that is probably not what you want to do. Here are a few things you should do before starting to record:

**1. First record the Chord Sequence if you'd rather not control the Arranger in Realtime (see page 55).**

**2. Stop playback of the current Style.**

**3. Assign the desired Tones to the Realtime parts you want to use for recording.**

**4. Select the desired KEYBOARD ASSIGN mode (pages 27~28).**

**5. Select the desired Arranger Chord mode (see page 42).**
Steps (4) and (5) are only necessary if you do not want to use your Chord Sequence as backing track.

**6. Select the Style, the division etc. you want to use.**

**OR:**

**Hit the [PLAY►/STOP■] button of the Chord Sequencer (indicator flashes).**

**7. Press [SYNCHRO] to make the START indicator light.**
*Note: Instead of going through all these steps (except for hitting the [PLAY►/STOP■] button of the Chord Sequencer), you can also select the User Program that contains all the settings you need for the song you are about to record (see page 23).*

## 8.2 You're on...

**8. Press the [REC●] button of the Recorder section.**

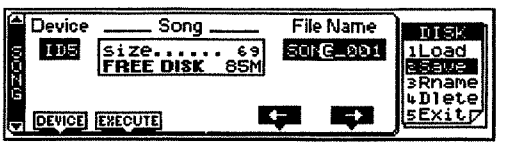
**9. Press the [START/STOP] button (Arranger section) or play one note in the chord recognition area (Assign) of the keyboard (if you activated the Synchro START function).**

**10. Start playing.**

**11. At the end of the song, press the [PLAY►/STOP■] button again to stop recording.**
The EM-2000 now displays the following page:


*Note: You do not need to save your song right away because it also resides in the EM-2000's song memory. It would, however, be a good idea to do so anyway. That way, there will always be something to return to if you don't like your subsequent modifications (because 16-track Songs can be edited, see page 38 in the Reference Manual).*

**12. If you want to save your Song to disk, press Part Select [UPPER1] (otherwise press Part Select [M.DRUMS]).**
If you press Part Select [UPPER1], the EM-2000 now jumps to the following page:



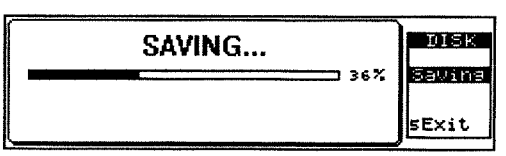

**13. If necessary, press the Part Select [M.DRUMS] button to jump to the display page where you can select another drive (ID5= internal Zip drive, FDD= floppy disk drive).**

**14. Use Part Select [UPPER2] (◄) and [UPPER1] (►) to move the cursor within the File Name field.**
*Note: For MS-DOS® compatibility reasons, only the first eight characters will be saved to disk (it's impossible to enter more than 8 characters for the File Name). Furthermore, you cannot use the same name twice on the same disk.*

**15. Enter the desired characters. You can use the [LOWER/NUMBER] and [UPPER/VARIATION] knobs; and you can also use the buttons of the TONE/USER PROGRAM pad (see page 25 for details).**

**16. Press the Part Select button assigned to EXECUTE.**
All songs are saved in Standard MIDI File format, which has the advantage that you can play them back using any MIDI instrument, computer, or sequencer capable of reading Standard MIDI Files.

The display now responds with:




(You can leave this page by pressing [F5] (Exit). Remember that your EM-2000 is multitasking.) After saving is complete, the display will tell you so (*OK Save Complete*), after which the display returns to the previously selected page.

You can now add new material on a track-by-track basis or edit your song (see page 64 for details). If you are unhappy with certain settings, see "Header Post Edit" on page 46 in the Reference Manual for how to correct them. This saves you the trouble of redoing the song.

# 8.3 Song playback

Playing back a standard MIDI File requires that you insert a disk containing song files into the corresponding drive and that you select the desired song. See "Quick access to Music Styles and Songs on the supplied Zip disk" on page 23 for details.

*Note: In some cases, inserting a floppy disk will call up a display page that allows you to directly select the floppy disk drive (FDD) as CURRENT DEVICE. See "Inserting floppy disks" on page 107 for details.*

Recorder song playback transforms the EM-2000 into a GM/GS sound module, thereby deactivating the Arranger section of your instrument. To avoid accidental mode changes while you are performing on stage, the GM/GS mode will only be selected when you start Recorder playback or press the [GM/GS MODE] button. Just remember that the Recorder is ready to play back the songs on disk as soon as you want it to.

The Realtime parts remain active in Recorder mode, and you can mute any part of the song you are playing back. That way, you can also use Standard MIDI Files as backing tracks.

Simultaneously press User Program CANCEL [◄DOWN] and [UP►] to select the factory User Program (Free Panl).

The 00 Free Panl User Program contains the default settings for all parts and is the only guarantee that the songs on disk will sound exactly the way the recording artist wanted them to.

Note, however, that the EM-2000 allows you to modify the way Standard MIDI Files are played back. Doing so allows you to "customize" Standard MIDI File playback so that, instead of using the Arranger, you can perform with an accompaniment coming from a Standard MIDI File. We'll tell you how in a minute. Let us first look at how to start song playback.

## Playback of a specific song on disk

If you like to know what you're doing, press the [GM/GS MODE] button (indicator lights and all indicators related to the Arranger go off) to select the GM/GS sound module mode.

*Note: There is actually no real need to specifically select the GM/GS mode as pressing Recorder [PLAY►/STOP■] will do that automatically.*


*Note: GM/GS selection is an exception to the multitasking rule. Pressing [GM/GS MODE] will have no effect as long as the Arranger is running. You have to stop the Arranger before being able to select the GM/GS mode. Likewise, you cannot start Arranger playback when the [GM/GS MODE] indicator lights.*

The display now shows the complete name of the first (or any other) song on disk on the bottom line and the MS-DOS® (i.e. the actual file) name in the "Music Style or song address and name" window.

**1. See "Quick access to Music Styles and Songs on the supplied Zip disk" on page 23 for how to select the desired song.**

**2. Press the Recorder [PLAY►/STOP■] button to start playback of that song.**
Playback will continue until the end of that song and then stop. You can stop the Recorder before the end of the song by pressing the [PLAY►/STOP■] button.

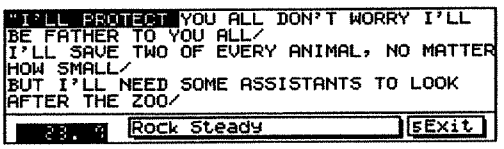
*Note: The EM-2000 also allows you to program song chains. See "Song Sets" on page 14 in the Reference Manual for details.*

*Note: Songs on floppy, Zip, etc., can be linked to a User Program, so that selecting such a User Program automatically prepares the desired song. All you have to do is start playback. See "User Program Song Recall" on page 54.*

# 8.4 Useful Recorder playback functions

## Lyrics function

After selecting the GM/GS mode, the fourth option on the Master page no longer reads UsrSt but [F4] Lyrcs. Press that function key to call up the Lyrics page.

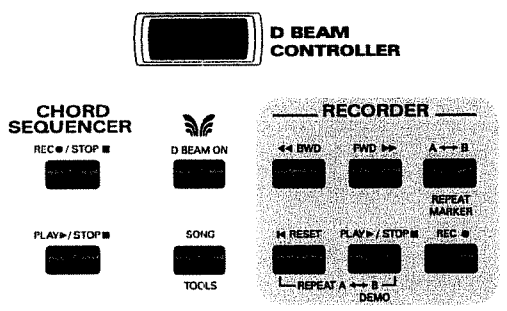



This function was provided to allow you to read the lyrics of the song the Recorder is playing back in a karaoke fashion: the words to sing will be highlighted at the right time. Note that this function is only available for Standard MIDI Files that contain lyrics. Ask your dealer for details.

To return to the Master page, press [F5] (Exit).

## Fast Forward, Rewind, and Reset

To fast forward or rewind within the current song, first press Recorder [PLAY►/STOP■] and then [FF►►] to fast forward, or [◄◄REW] to rewind. Pressing [FF►►] takes you to the next measure of the current song, while [◄◄REW] takes you to the measure before the current one. You can hold down either button to accelerate the fast forward or rewind process. The measure indication in the display will help you locate the measure you need.



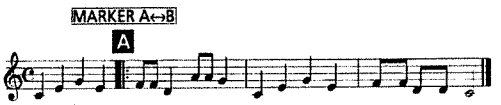

Press [|◄ RESET] to jump back to the first measure of the song. Again, you need to stop playback before being able to use the [|◄ RESET] button.

*Note: These buttons only work in GM/GS mode. You cannot use them while the Arranger mode is active.*

## Loop playback

Another clever feature of the Recorder is that you can program playback loops. Again, you can do so during playback or while the Recorder is stopped.

**1. Press [MARKER A↔B] where you want the loop to begin (indicator flashes).**




**2. Fast forward to the measure where you want the loop to end and press [MARKER A↔B] again (indicator goes off).**


You can also program loops on the fly. Remember, however, that the Recorder always memorizes the beginning (downbeat) of the next measure.

**3. To play back the loop you have just programmed, hold down Recorder [|◄ RESET] and press [PLAY►/STOP■].**

At the end of the B measure, the Recorder immediately jumps back to the beginning of measure A.

**4. To stop playback, press the Recorder [PLAY►/STOP■] button.**

# 8.5 Live performance with Standard MIDI File backing (Minus One)

Your EM-2000 allows you to mute any given part of the song you are currently playing back. You could use this feature to mute the solo part on disk so that you can play it yourself. This is called Minus One playback (because one part of the original song will not be played back).

But your EM-2000 can do more than that: you can solo whichever part you like and mute several parts simultaneously.

All Realtime parts remain active in Recorder (or, should we say, GM/GS) mode. In other words, you are free to use the Upper1/2/3, Lower 1 & 2, and Manual Bass parts in whichever split or layer combination (see p. 27) you like. The Manual Drums part is also available but, as you remember, selecting the M.Drums part means that the other Realtime parts are temporarily deactivated.

*Note: Whenever you start playing back a new song or return to the beginning of the current song (using [|◄ RESET]), all Realtime parts, except Upper1, will be switched off and the EM-2000 will select the Whole Right keyboard mode. This is the case if you select 00 Free Pnl using the CANCEL [◄DOWN] and [UP►] buttons.*

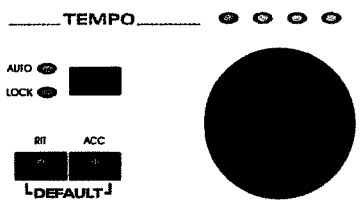
*Note: Do not select the 00 Free Pnl User Program if you wish to be in control of the Keyboard Mode and Tone selection. Select any other User Program, set the Realtime parts the way you want to use them and write the settings to a User Program beforehand.*

Tone selection works exactly like in Arranger (normal EM-2000) mode. See "Selecting Tones for the Realtime parts" on p. 31. There is, however a function that allows you to link Tone selection to the parameter settings of the song parts, so that the Realtime parts you use during a Minus One performance will sound exactly the same as the original part (see "Tone Change: Old, G-800 and EM" on page 62).

## Changing the song tempo

You can change the (programmed) song tempo with the [TEMPO] dial. Such changes are only temporary, however, and will be overridden by tempo change messages contained in the song data. Furthermore, every time you jump back to the beginning of the song using [|◄ RESET], the preset song tempo will be recalled.

To avoid undesirable tempo changes based on tempo data, use the [TEMPO] AUTO/LOCK button. It works in much the same way as in EM-2000 (or Arranger) mode:




**AUTO on:** The Recorder does not load the preset song tempo when you play back a Standard MIDI File from the beginning. Tempo changes, however, will be executed in a relative way, based on the tempo you set.

Example: A given song programmed to playback at ♩= 100 contains a message that changes the tempo to ♩= 120 (+20%). You set the tempo to ♩= 80. The tempo change message will thus cause the tempo to rise to ♩= 96.

**LOCK on:** The Recorder does not load the preset song tempo when you play back a Standard MIDI File. Tempo changes will not be executed.

**Both off:** The Recorder loads the preset song tempo whenever you jump back to the beginning of a song using [|◄ RESET] or whenever you start playing back a new song. All tempo changes will be executed as programmed.

*Note: Every time you select the GM/GS mode by pressing [GM/GS MODE] (indicator lights) or starting song playback (Recorder [PLAY►/STOP■]), the EM-2000 automatically sets the Tempo function to Auto Off/Lock Off (default). When you return to the Arranger mode by pressing [GM/GS MODE] (indicator goes off), the EM-2000 sets the Tempo function to Auto On/Lock Off.*

## Soloing and muting parts

Before deciding which part you want to mute, you have to know which part (MIDI channel/track) plays the notes you do not want to hear. Unfortunately, the Standard MIDI File format, specific though it may about certain aspects, still leaves a considerable amount of liberty for programmers. Finding the part you want to mute is not always easy, though the EM-2000 can help you find it.

See also "Tracks and MIDI channels" on page 64.

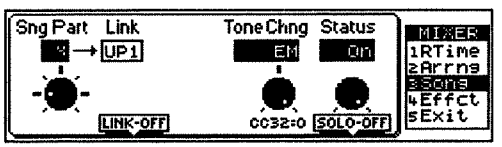
Complex songs may use all 16 MIDI channels. In such cases, the Solo function may be of invaluable help:

### Soloing Song parts

To find out which part is assigned to which MIDI channel, you can use the Solo function. This function mutes all other parts except the current one. Here is how to solo a part:

**1. On the Master page, press [F1] (Mixer). You can do this while the Recorder is playing back.**

**2. Press [F3] (Song) to go to the following display page:**




**3. Press the Part Select [UPPER1] button to solo the first song track (SOLO= ON).**

By doing so, you mute all other Song Parts – and you may end up hearing nothing at all. Be patient, though, play the song once trough and listen. If you hear nothing, that track is not being used. Sometimes, a track starts halfway into the song, which is why you'd better wait before deciding that the current part is not being used.

**4. Using the [DRUMS/PART] knob, select Song Part 2.**

**5. Again, press Part Select [UPPER1] to solo that track.**

This time, you will most probably hear the bass line. If you return to the previous track using [DRUMS/PART], you will notice that it is still in solo mode and that you hear the piano line (if available) instead of the bass. Going back to the second song part will solo the bass again. In other words, you can solo all parts

and then scroll through them using the [DRUMS/PART] knob.

*Note: If you return to the Master page after soloing one or more song parts, you will only hear the song part you selected last. It is not possible to solo two or more tracks.*

**6. Go back to step (4) to select and solo the remaining Song Parts.**

**7. Finally, exit the Mixer\Song page by pressing [F5].**

### Muting Song parts (Status)

The Mixer\Song page also allows you to mute Song parts. Obviously, muted Song Parts do not sound during playback.

**1. Select the Mixer\Song page (see "Soloing Song parts").**

**2. Select the song part you wish to mute using the [DRUMS/PART] knob.**

**3. Mute that part using the [UPPER/VARIATION] knob (Status= Mute).**

*Note: The Solo status takes precedence over the Mute status. To mute a soloed part, you must turn off the Solo function (SOLO-OFF).*

**4. Exit the Mixer\Song page by pressing [F5] (Exit), or go on the next section.**

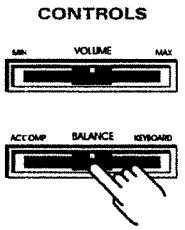
## Overriding song settings

On the Mixer\Song page (see above), there are two other settings you can change. These settings apply to the song part you select with the [DRUMS/PART] knob.

*Note: See also "Header Post Edit" on page 46 in the Reference Manual for some interesting parameters you can change and save along with the song itself, as well as "Editing functions of the 16-track Sequencer" on page 38 in the Reference Manual.*

### Song/Realtime part balance

Use the CONTROLS [BALANCE] slider on the front panel to modify the volume balance between the Standard MIDI File and the Realtime parts. Slide it to the left to increase the Standard MIDI File volume (ACCOMP), and to the right to increase the Realtime part volume (KEYBOARD).




More refined balance settings can be carried out in Volume mode (see page 72).

### Tone Change: Old, G-800 and EM

The Tone Change parameter allows you to specify which Tone (or sound) level can be selected by the currently active Standard MIDI File part. You probably remember (see page 31) that the EM-2000 has six Tone Groups: A~F, two of which contain new Tones (groups A and B), while groups C and D contain G-800 sounds, and groups E and F contain Roland SC-55 and CM-64 sounds. Groups E and F are called Old here.

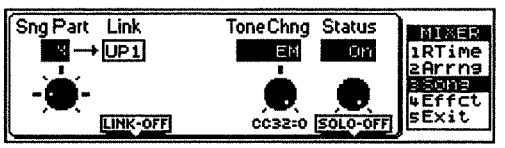
The reason why the Tone level is selectable is that, starting with the SC-88 Sound Canvas module, Roland's GM/GS MIDI bank selection has been revamped to include two control change numbers: CC00 and CC32. True to the SC-55 standard, however, quite a few Standard MIDI Files only contain CC00 bank select messages. The second bank select message (CC32), is used to choose between the new (CC32= 3), the G-800 Tones (CC32= 2), and "old" Tones (CC32= 1). Whenever CC32 is set to 0 or missing, the EM-2000 assumes that you do not wish to leave the current Tone level (A/B, C/D or E/F) and thus selects the Tone that corresponds to the program change and bank select CC00 messages of the current level.

The Tone Change parameter on the Mixer\Song page allows you to override this default setting and to specify that the EM-2000 should select its own Tones (EM), the G-800 Tones, or the SC-55 Tone level (Old).

*Note: This only works if the Standard MIDI File you play back using the Recorder contains no CC32 message or a CC32 message whose value is set to 0. The CC32= 0 prompt should therefore be interpreted as "what do I (= EM-2000) do when control change #32 is set to 0 or missing?"*

**1. On the Master page, press [F1] (Mixer).**

**2. Press [F3] (Song) to go to the following display page:**

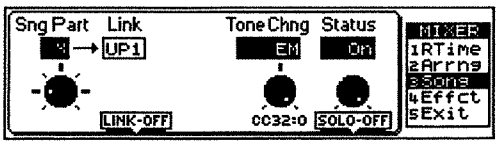



**3. Use the [LOWER/NUMBER] knob to select EM, G-800, or Old.**

## Link

The Link parameter on the Mixer\Song page is used to specify whether (Link On) or not (Link Off) the corresponding Realtime part will select the same settings as the song part it is assigned to.

**1. Select the Mixer\Song page (see above).**




**2. Use the [DRUMS/PART] knob to scroll through the 16 Song Parts and watch the Link box.**
As soon as you select song part 2, the Link box will read MBS, indicating that the Manual Bass part is assigned to song part 2. Note that you can only link song parts that are assigned to Realtime parts of the EM-2000.

**3. Use the Part Select [M.BASS] button to select Link On or Link Off.**
*Note: The song part-to-Realtime part assignment is fixed and in no way connected with the MIDI channel number you assign to a Realtime part in MIDI mode. Thus, Upper1 can only be linked to Song Part 4, etc.*

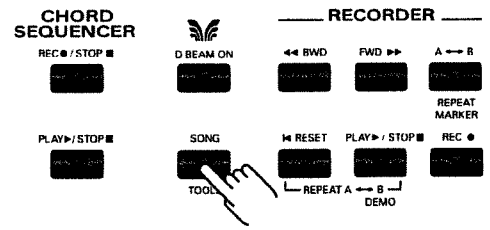
*Note: The Link function also works when the corresponding Song part is muted. In fact, that is when Link is most useful because it allows you to play the muted part yourself using the Tone selection contained in the Standard MIDI File.*

# 9. 16-track Sequencer

The Recorder of your EM-2000 is linked to a 16-track sequencer with full-fledged editing functions that allows you to refine your recordings in great detail, and to record on a track-by-track basis. The Recorder (see p. 57), on the other hand, uses a "global" approach, which means that it records (or overwrites) all tracks simultaneously. Use the 16-track sequencer to add additional parts to an existing song, or to replace/edit a specific track of such a song (the bass line, for example).

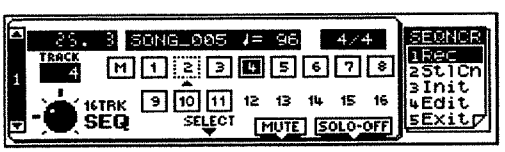
## 9.1 Selecting the 16-track Sequencer

**1. Press the Recorder [SONG TOOLS] button (indicator lights).**



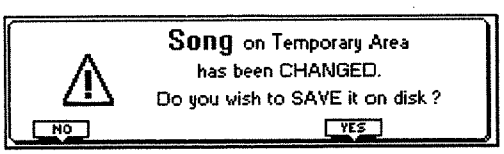

The display now responds with:


**2. Press Part Select [M.DRUMS] to select the 16-track sequencer. The display may now look like this:**




### Saving your song

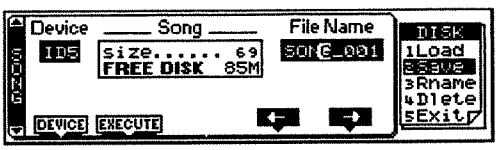
The 16-track sequencer uses a special portion of the EM-2000's RAM memory where all editing takes place. This is the same RAM memory that the Recorder uses. To ensure that you do not forget to save your song after recording and/or editing it, you are given the opportunity to do so upon leaving the Song Tools mode (by pressing [F5] Exit):




*Note: The Song RAM memory is erased when you switch off your EM-2000.*

*Note: If necessary, format your disk (see "Formatting a disk" on page 57).*

**1. Press Part Select [UPPER2] to save your changes (and the entire song). This will take you to the following display page:**




**2. See page 58 for details about saving your song.**

### General considerations

The 16-track sequencer can be used to record sequentially onto 16 tracks. That is, you can record one track after the other. Since the 16-track sequencer and the Recorder share the same RAM memory, you can lay down your first tracks using the Recorder (with or without Chord Sequencer or Arranger), and then select the 16-track sequencer to add new tracks or change existing ones. The Recorder indeed allows for simultaneous multitrack recording, which is not possible with the 16-track sequencer where you can only record one track at a time, and where the Arranger is not available since the 16-track sequencer is only accessible in GM/GS mode.

#### Tracks and MIDI channels

Tracks are assigned to MIDI channels on a 1:1 basis (i.e. Track 1= MIDI channel 1,... Track 12= MIDI channel 12, etc.). Since the Realtime parts have been assigned to the MIDI channels in such a way as to allow for easy Minus-One playing using the Recorder (see page 60), you should take a minute to study the table below. That is especially useful for the Link function (see page 63).

Obviously, if you recorded a song with Arranger backing, the respective parts (ADR, ABS, etc.) are recorded onto the tracks that are assigned to their MIDI channels. The grayed rows refer to Links supported by the EM-2000.

| Track (SMF Part) | MIDI channel | EM-2000 part | |
|---|---|---|---|
| | | GM/GS | ARRANGER |
| 10 (Drums) | 10 | *M. Drums* | A.Drums |
| 1 (Piano) | 1 | | Accomp 1 |
| 2 (Bass) | 2 | *M. Bass* | A.Bass |
| 3 (Chord Backing) | 3 | | Accomp 2 |
| 4 (Solo/Melody) | 4 | *Upper1* | *Upper1* |
| 5 (Not specified) | 5 | | Accomp 3 |
| 6 (Counter-melody) | 6 | *Upper2* | *Upper2* |
| 7 (Not specified) | 7 | | Accomp 4 |
| 8 (Not specified) | 8 | | Accomp 5 |
| 9 (Not specified) | 9 | | Accomp 6 |
| 11 (Not specified) | 11 | Lower 1 | Lower 1 |
| 12 (Not specified) | 12 | | M. Bass |
| 13 (Not specified) | 13 | Upper3 | Upper 3 |
| 14 (Not specified) | 14 | Lower 2 | Lower 2 |
| 15 (Not specified) | 15 | M. Int | M. Int |
| 16 (Not specified) | 16 | | M. Drums |

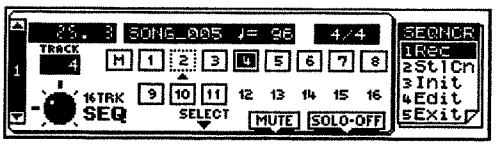
There is yet another track, called M, that is used for recording the time signature, the tempo, as well as general SysEx messages.

As you see, there are two Realtime parts (M. Bass, M. Drums) whose MIDI channel (and track) assignments depend on whether you use the Recorder for recording a song with Arranger or not. In other words, depending on the mode that was active during recording ("GM/GS" or "Arranger"), some data may be committed to different tracks. The audible result will be exactly the same, however. If you are used to working according to a given system, you could use Track Exchange to transfer the data to the desired track. See page 45 in the Reference Manual for details.

# 9.2 Recording a track

**1. After pressing [SONG TOOLS] and selecting the 16-track sequencer mode, press [F1] (Rec) to jump to the recording level of the 16-track sequencer.**
*Note: By pressing [SONG TOOLS], you automatically select the GM/GS mode, so that the Arranger is no longer available.*

**2. Use the [PAGE] ▲▼ buttons to select page 1:**




This page informs you about the current measure, the song name and tempo, the time signature, and the status of the tracks. You can use [◄◄REW] and [FF►►] to jump to another measure, or [|◄ RESET] to return to the beginning of the song.

**3. Use [DRUMS/PART] to select the track you wish to record.**
You can select a "music track" (1~16) or the Master track (M). Use the latter to record tempo changes. The name of the selected track appears in the TRACK window above the knob, and is indicated by a black box (in the above example, track 4 has been selected).

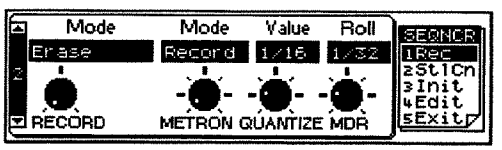
Here is what the track icons mean:

- 1 — This track contains data
- 2 — This track contains data, but has been muted.
- 4 — This track contains data, and has been selected for recording (TRACK).
- 4 — This track is empty, and has been selected for recording (TRACK).
- 9 — This track is empty.

## Preparations

### Selecting the Recording Mode and the first measure

**4. Use [PAGE] ▲▼ to select the second REC page.**




**5. Use the [DRUMS/PART] knob to select how new data should be recorded.**

Select *Erase* if a track contains data you wish to replace with new data. This erases all data of the selected track from the place where you start recording until the end. (Erase is selected by default for empty tracks.)

Select *Merge* to add new notes to the ones already recorded on the track you selected on page 1. This recording mode is particularly useful for recording the rhythm track (10) because you can first record the bass and snare drums, then add a few tom hits here and there, and record the HiHat, for example.

*Punch In/Out* allows you to re-record part of a track. Select this mode to replace a phrase you do not like with a new version. Doing so has the advantage that only the area where you punch in and out will be overwritten.

**6. Use Recorder [FF►►] or [◄◄REW] to select the measure where you want to start recording. For Punch In/Out recording, select a measure that lies a little before the place where you wish to punch in.**

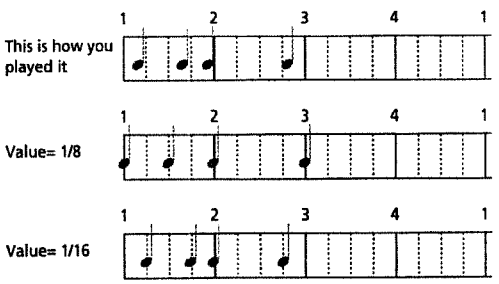
### Setting the metronome and Quantize value

**7. Use the [BASS/BANK] knob to specify when the metronome should sound.**

The default setting is *Record*, which means that the metronome is only audible during recording. Select *Play* if you only need the metronome during playback. *Rec&Ply* means that the metronome will be used during playback and recording, while *Always* means that the metronome even sounds when playback is stopped.

**8. Use the [LOWER/NUMBER] knob to set the Quantize value.**

Quantize corrects the timing of your notes by shifting them to the nearest grid mark. Use Value to specify the number of grid marks per measure (i.e., the Quantize resolution). Here is an example:

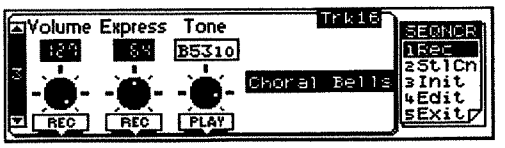



The setting range is: 1/8, 1/8t, 1/16, 1/16t, 1/32, 1/32t, 1/64t, and Off. As this Quantize function changes the way in which your notes are recorded, you may want to select Off here. The 16-track sequencer has a second Quantize function that you can use more selectively (i.e., for notes that are definitely late/early). See "Track Quantize" on page 43 in the Reference Manual.

## Additional settings

**9. Use [PAGE] ▲▼ to select the third or fourth REC page.**

These two pages allow you to specify the initial settings for the selected track, or to modify/replace existing settings. If the Trk window does not display the number of the desired track, go back to REC page 1 ([PAGE] ▲▼) and select the track.




**PLAY/REC buttons:** In Record Merge mode (see page 34 in the Reference Manual), you can specify for each parameter whether or not to record the settings made on these pages. In *Record Erase* and *Punch In/Out* modes, all parameters are set to REC.

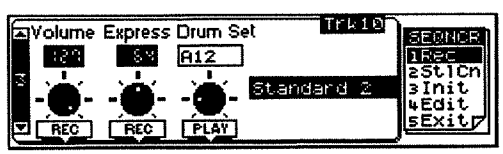
**10. Use the knobs ([DRUMS/PART]~[UPPER/VARIATION] to set the values.**

**11. Use the Part Select buttons to select PLAY (not recorded) or REC (recorded).**

**Volume:** (0~127) Allows you to set the track volume (CC07). Use this parameter to specify the initial volume. You can use Express to program temporary volume changes during the course of the song.

**Express:** (0~127) Allows you to program relative volume changes (CC11). The value "127" means that the resulting volume will be equal to the volume set with the Volume parameter above. All other Express values reduce the Volume value.

**Tone/Drum Set:** For all tracks except track 10 (and another track that also uses a Drum Set), this parameter is called *Tone*. For track 10 (and any other drum track), this parameter is called *Drum Set*. You can either select the Tone/Drum Set using the [LOWER/NUMBER] knob or via the TONE/USER PROGRAM pad.




*Note: See "Using two drum tracks (Init)" on page 68 for how to select a second Drum track.*

**Panpot:** Use this parameter to specify the stereo position of the selected track. "64" means dead center, values between 0 and 63 shift the sound to the left, while values between 65 and 127 shift the sound to the right.

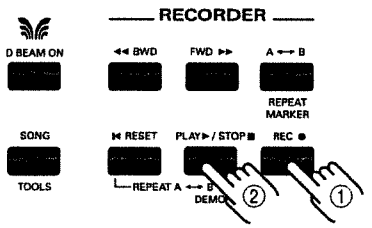
**Reverb, Chorus, Delay:** Specify the Send level for the effect in question, i.e. the volume of the track signal that is sent to the effect, and consequently how much

effect should be added to the track. See page 75 for how to set the effects. Those "overall" effect settings are part of the general SysEx settings of the "M" track and must be set before recording the first track.

*Note: The Delay effect is not available for drum tracks (10, and any other track that uses a Drum Set).*

### Recording in Erase or Merge mode

Press Recorder [REC●] and [PLAY►/STOP■]. After a 1-measure count-in, recording will begin.




### Recording in Punch In/Out mode

- To record in Punch In/Out mode, press [REC●] and [PLAY►/STOP■] (the REC indicator flashes) to start *playback.*
- As soon as the EM-2000 reaches the point where you want to punch in, press [REC●] again, or use a [PAD] button or an optional footswitch to start *recording.* See "Punch I/O" on page 29 and "Punch In/Out" on page 31 in the Reference Manual.

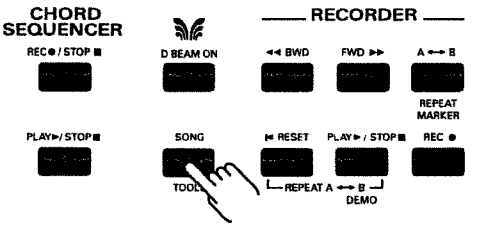
**12. To stop recording, press [PLAY►/STOP■] again.** During Punch In/Out recording, you could also press [REC●] or the [PAD] button or footswitch. In that case, recording is deactivated, while playback continues.

## 9.3 Other recording aspects

### Recording a song from scratch

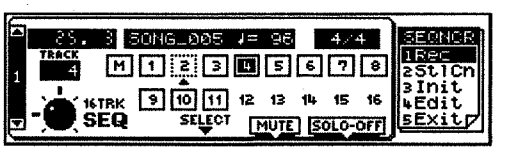
Let us now record a Song from scratch using the 16-track sequencer.

**1. Press the Recorder [SONG TOOLS] button (indicator lights).**




The display now responds with:


**2. Press Part Select [M.DRUMS] to select the 16-track sequencer. The display may now look like this:**




Let us suppose that you already played back a Song. That means that the EM-2000's Song RAM memory already contains Song data we need to erase. Here is how to:

**3. Press [F3](Init) to initialize the Song memory.** The display now looks as follows:


Carefully read the warning message and ask yourself whether you really want to erase the current Song. If you do...

4. ...press Part Select [UPPER1] (Proceed).


5. Use the [DRUMS/PART] knob to set the time signature (1/2~32/16), and the [BASS/BANK] knob to specify the initial tempo of the new song (♩ = 20~250).

If your new Song uses the 4/4 time signature, there is no need to change the TIME SIGN settings.

Choose a tempo which is comfortable for recording. You can set the final tempo using the Song Header Edit function (see page 46 in the Reference Manual).

6. Press Part Select [UPPER2] (Execute) to initialize the song memory.

7. See "Recording a track" on page 65 for the remaining steps.

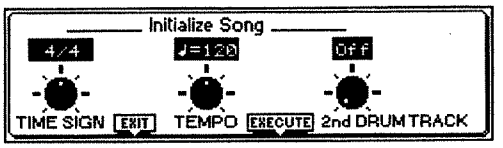
## Using two drum tracks (Init)

An additional advantage of the Init function is that you can define a second track as drum track. This allows you to use two Drum Sets: the one assigned to track 10 (fixed, in accordance with the GM/GS standard/format), and another one assigned to the track you define here. This allows you to use a "standard" drum kit alongside a "beat box", or add orchestral percussion to a song that also requires the use of a "regular" drum kit.

Since your Song data (Recorder and 16-track Sequencer) are saved in the Standard MIDI File (SMF) format, you can play them back using your computer (with suitable software) and any GM/GS compatible module or synthesizer. Bear in mind though, that not all modules accept two Drum Sets. Roland instruments that *do* are: the SC-55MkII, SC-88 Pro, SC-88, SC-880, and G-1000. You cannot define a second drum track for existing songs. The choice of a second drum track is only possible after initializing the Song RAM memory. (Songs programmed on other instruments that already contain two drum tracks can be used like EM-2000 songs with a "2nd drum track", though.)

1. After pressing [SONG TOOLS] and selecting the 16-track sequencer mode, press [F3] (Init) to select this page.


2. Press Part Select [UPPER1] (Proceed).




3. Use the [DRUMS/PART] knob to set the time signature (1/2~32/16), and the [BASS/BANK] knob to specify the initial tempo of the new song (♩ = 20~250).

4. Use the [UPPER/VARIATION] knob to select a 2nd Drum Track

Select Off if you don't need a second Drum Set, or set the number of the desired track. "10" is not available here because it always functions as Drum track.

5. Press Part Select [UPPER2] (Execute) to really initialize the song memory (which you haven't done so far). The message "Executing" appears, after which the EM-2000 automatically jumps to the REC 1 page.

All tracks will be initialized as follows: *Volume* 100, *Expression* 127, *Tone* Piano 1 (Standard 1 Kit for track 10 as well as the 2nd Drum track), *Panpot* 64, *Reverb* 40, *Chorus* 0, *Delay* 0 (not available for drum tracks).

*Note: If you do not wish to initialize the song memory after all, press Part Select [M.BASS] (Exit) instead to return to the "3 Init" page.*

## 9.4 Editing a 16-track song

The Edit level of the 16-track mode provides eight functions. See "Editing functions of the 16-track Sequencer" on page 38 in the Reference Manual for details. For reasons of simplicity, we will give you a concrete example of how to use these functions and leave the other functions and parameters for the Reference Manual. Let us quantize the melody (track 4) of a song recorded with the Recorder. (See page 64 for details.)

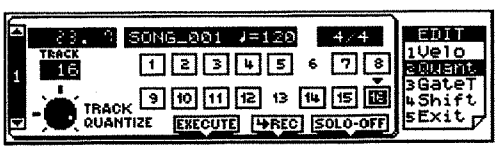
*Note: Before continuing with the next step, you may want to save your song to disk. The EM-2000 has no Undo function, so that your quantization cannot be undone. Saving your song to disk now, has the advantage that you can return to the data in their current state if it turns out that your settings do not yield the desired result (see page 58 for details).*

**1. If you wish to quantize another song than the one currently in the EM-2000's Song RAM memory, play it back once (or load it using the Load function).**
Playing the song once through is probably faster, so do that.

**2. Select the 16-track sequencer mode by pressing [SONG TOOLS] and Part Select [M.DRUMS].**

**3. Press [F4] (Edit) to select the Edit mode.**

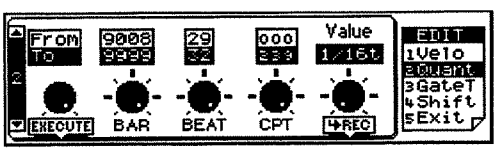
**4. Hold down [SHIFT] while pressing [F2] (Quant).**




**5. Use [DRUMS/PART] to select the track you wish to quantize.**
We want to quantize the melody (Upper 1). According to the table on page 65, that is track/MIDI channel 4, so select "TRACK 4". You could also select "All", though, to quantize all tracks.

**6. Press [PLAY►/STOP■] to start playing back the sequence and Part Select [UPPER1] to solo the selected track.**
By doing so, you can check whether you selected the right track. If the track you hear now is not the one you want to quantize, use the [DRUMS/PART] knob to correct your setting.

**7. Press [PAGE]▼ to select the following page:**




**8. Use the [DRUMS/PART] knob to select the "To" or "From" level.**
"From" refers to the position where the edit operation is to begin. That position is specified in a Bar-Beat-CPT format. "To" designates the position where the edit operation is to end (Bar-Beat-CPT value). Always check whether you have selected the right level (From or To) before setting the following parameters.

**9. Use [ACCOMP/GROUP], [BASS/BANK], and [LOWER/NUMBER] to set the bar, beat, and CPT value of the position where quantization should start (From) and stop (To).**
If you want to quantize the entire track, there is no need to change the default values.

**10. Use the [UPPER/VARIATION] knob to set the quantization resolution. See also page 66.**
The available values are: 1/8, 1/8t, 1/16, 1/16t, 1/32, 1/32t, 1/64t.

Be sure to always select the value that equals the shortest note you recorded. Otherwise, your part no longer sounds the way you played it.

**11. Check your settings again and press Part Select [M.DRUMS] to execute the Quantize function.**

**12. Press [|◄ RESET] or [◄◄REW] to return to the beginning of the song.**

**13. Press [PLAY►/STOP■] to start playback and listen.**
If you like the new (quantized) version, save your song to disk (see page 64 for details). If you don't, either load the song again (by playing it back in Recorder mode, see page 59) or switch your EM-2000 off and on again to clear the Song RAM memory, and then play back the song from disk using the Recorder.

### Remarks about the edit functions

The remaining edit functions of the 16-track Sequencer can be used in much the same way as Quantize. They are usually spread over two (or even three display pages and remarkably flexible. See "Editing functions of the 16-track Sequencer" on page 38 in the Reference Manual for details.

Furthermore, they are very similar to the edit functions of the User Style mode. That has the advantage that mastering the 16-track edit features will also help you understand the User Style functions, and vice versa. See the Reference Manual for in-depth information about these functions.

# 9.5 Style Converter

The EM-2000's Style Converter is an easy and intuitive tool for creating your own Music Styles based on one of your own songs or a Standard MIDI File. In either case, it is enough to playback the song or Standard MIDI File once to transfer its data into the EM-2000's Song RAM memory where you can use the Style Converter. You may want to edit the song before converting parts of it into a Music Style. See "Editing functions of the 16-track Sequencer" on page 38 in the Reference Manual for details.

## General considerations

Here are a few guidelines for converting song parts to a User Style:

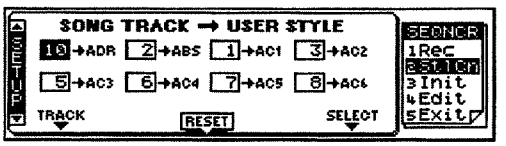
- See "Concept" on page 83 and "Looped vs one-shot" on page 84 for details about User Styles.
- The resulting Music Style can be used in Arranger mode (not in Recorder or 16-track mode).
- Music Styles are accompaniment patterns. If the new Style should be generally usable (i.e., also for other songs), try to avoid chord changes in the "basic" patterns (that can be selected via [TYPE] and [DIVISION]). You can transpose your Styles in realtime by playing different chords in the chord recognition area. Also, avoid including the melody in your conversion.
- Try to isolate the parts that are really typical for the song.
- Transitions, etc., should be converted to Fill-Ins. The intro should be converted to an Intro pattern.
- For a really professional result, you will also have to take advantage of the EM-2000's User Style mode to ensure that your new Style also "works" for minor and seventh chords. See "Programming User Styles" on page 83.
- Though pattern length (and memory capacity) is no issue, try to work in small but meaningful units. Here's an example: most songs rely on a structure based on 4-measure blocks. Converting 6 measures is thus a bit odd (though perfectly possible).
- Be sure to prepare a simple pattern for Basic\Original and more complex accompaniments for the remaining patterns. That will allow you to vary the accompaniment using [TYPE] and [DIVISION].
- Always set the right Key (see page 37 in the Reference Manual). Only then will the Style really work as expected when used in the EM-2000's Arranger mode.
- Your new Style resides in the EM-2000 Style RAM memory (D88). Do not forget to save it to disk *before* selecting another Style (in Arranger mode) or switching off the EM-2000.
- *Commercially available Standard MIDI Files are protected by a copyright. Please note that the Style Converter should only be used for creating Music Styles for private use. Roland assumes no responsibility for copyright infringements that may result from the use of the Style Converter.*

## Using the Style Converter

**1. If necessary, start playback of a Standard MIDI File to load the data into the EM-2000's Song RAM. See "Song playback" on page 59 for details.**
*Note: The data can also be loaded using the Database or Load Song functions.*

**2. Select the 16-track sequencer mode by pressing [SONG TOOLS] and Part Select [M.DRUMS].**

**3. Press [F2] (StlCn) to jump to the *Setup* page of the Style Converter level.**




This page allows you to assign the desired Song tracks to User Style tracks. A song can contain up to 16 tracks, while a User Style "only" provides eight. Be sure to select the tracks you want to include in the resulting accompaniment.

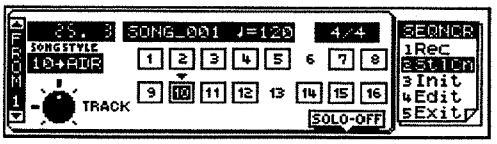
**4. Use the [DRUMS/PART] knob to select a User Style track (ADR, ABS, Ac1~Ac6). The track number to the left of the arrow (→) will be displayed white-on-blue.**

**5. Use the [UPPER/VARIATION] knob to assign a song track to that User Style track.**
You can press Part Select [UPPER1] (Reset) to load the following default settings:

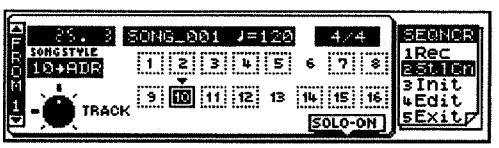
| Track (SMF Part) | EM-2000 part | |
|---|---|---|
| | Display | Style Part |
| 10 (Drums) | *ADR* | A.Drums |
| 1 (Piano) | *AC1* | Accomp 1 |
| 2 (Bass) | *ABS* | A.Bass |
| 3 (Chord Backing) | *AC2* | Accomp 2 |
| 5 (Not specified) | *AC3* | Accomp 3 |
| 6 (Counter-melody) | *AC4* | Accomp 4 |
| 7 (Not specified) | *AC5* | Accomp 5 |
| 8 (Not specified) | *AC6* | Accomp 6 |

Please note that these defaults are only based on common sense and may not yield the desired accompaniment pattern. As a rule, you should always listen carefully. But you may have noticed that track 4 (the melody) is automatically omitted. You should keep it that way.

**6. Press PAGE ▼ to go to the next page.**

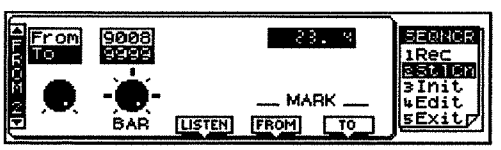



**7. Use the [DRUMS/PART] knob to select the tracks you wish to convert (ADR, ABS, Acl~Ac6, or All).**
If you solo a track by pressing Part Select [UPPER1], all other track boxes will be indicated by means of a dotted line (here track 10, ADR, has been soloed):




*Note: When you select All, the solo option is no longer available (because you can only solo one track at a time).*

**8. Press PAGE ▼ to go to the next page.**

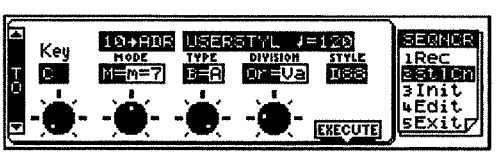



**9. Use the [DRUMS/PART] knob to select the To or From level. *From* refers to the beginning of the excerpt, and *To* designates the last measure.**
If you don't remember the measure numbers, here is a convenient way to set the From and To points:

Use [◄◄REW] to rewind to a measure that lies before the presumed beginning. Press [PLAY►/STOP■] to start playback.

Press Part Select [UPPER2] (From) at the first measure to be converted and Part Select [UPPER1] when the EM-2000 has reached the last measure to be converted. Alternatively, you can stop playback, use [◄◄REW] and [FF►►] to rewind/fast forward to the desired measures, and set the points while the sequencer is stopped.

**10. Press PAGE ▼ to go to the next page.**




**11. Use the [DRUMS/PART] knob to set the key of the excerpt to be converted. (C, C#, D, Eb, F, F#, G, Ab, A, Bb, B)**
This parameter allows you to tell your EM-2000 what key the track (or tracks) is in. The chord recognition system of the Arranger is indeed based on the assumption that all patterns are in the key of C.

Thus, whenever you play a C (in Arranger Intelligent mode) or C chord in the chord recognition area, the Arranger will use the original notes of the pattern (no realtime transposition). If that pattern is in F# and if you forget to tell the EM-2000 that it is, F# is what you will hear when you play a C or C chord in the Arranger mode.

*Note: There is no need to specify the key for ADR tracks.*

**12. Use the [ACCOMP/GROUP] knob to set the mode of your pattern to be Maj (major), min (minor) or 7 (seventh).**
Mode determines *when* the pattern in question will be used. It does not change the note information. See also "Major, minor, seventh (M, m, 7)" on page 40 for more information about modes, and "Major, minor or seventh accompaniment? – Chord Family Assign, Alteratn" on page 80.

**13. Use the [ACCOMP/GROUP] knob to select the pattern Type: Bsc (Basic), or Adv (Advanced). See page 38 for details.**

**14. Use the [LOWER/NUMBER] knob to select the Division of the pattern: Or (Original) or Var (Variation), FO (Fill-In To Original), FV (Fill-In To Variation), In (Intro), or Ed (Ending).**
By selecting an option indicated by "=", you create several patterns at once. That is what we call "cloning", see also page 85.

**15. Press Part Select [UPPER1] to launch the conversion. As you see in the right-most field, your User Style will be temporarily stored in the EM-2000's Style RAM memory (D88).**
If that memory doesn't yet contain data, the new Style will use the current time signature and tempo. If D88 already contains data, the new Division(s) will have the same time signature and tempo as the Style data in the D88 memory.

*Note: Do not forget to save your new User Style to floppy or Zip disk etc.*

**16. Press [PAGE]▲ to return to the "Song Track →User Style" page, and continue with step (4) on page 70.**

# 10. Editing

Editing is a term used to describe any action that changes the settings that are currently in effect. Selecting other Tones for the Realtime parts (see page 31) is already a form of editing.

The settings of all parameters in this chapter can be written to a User Program and recalled whenever you need them (see "Writing your settings to a User Program" on page 50).

## 10.1 Part Balance (Volume & Mixer)

Part balance is the single most important editing operation because the volume of the parts you play determines the sound mix. If a part is too soft, you don't hear it, and if it is too loud, the sound image will seem out of balance.

*Note: We strongly recommend that you first assign the Tones you need to the parts you intend to play because the character of the sounds you use affects the balance. Thus, a trumpet sound will be perceived louder than a flute because the former contains more harmonics (overtones).*

There are two ways to select the EM-2000's Volume page:

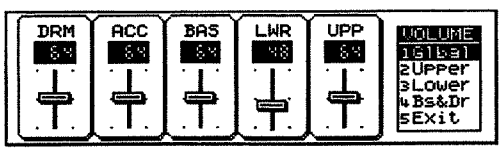
- Use any knob while on the Master page (see page 6 in the Reference Manual for details about the Master page).

  OR:

- Press the [VOLUME] button to the lower left of the display.

### Volume in Arranger mode

If your EM-2000 is currently in Arranger mode (the [GM/GS MODE] indicator does not light), the display now looks like this:




Note that when called up using any of the knobs, the Volume page will disappear after a few seconds of inaction. For now, it is probably wiser to press the [VOLUME] button.

### Grouped and bus faders

What you see is a five-channel mixer, which is not enough to cover all Realtime and Arranger parts. That is because the ACC fader represents a group of six parts that controls the volume of the ACC1~ACC6 parts. Let's agree to call all display controls that affect several elements *bus controls*. That way, we can use the term *group* for something else without confusing you.

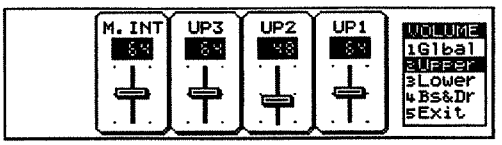
*Note: Bus faders or buttons always indicate the setting of the highest value of that bus. If the volume of five ACC parts is set to 60, while the remaining ACC part is set to 79, the ACC bus slider on the Volume page will indicate the value 79. In other words, even though it is a bus master fader, it cannot be set to 127 without setting at least one part of that bus to 127 (unlike on a mixing console).*

Let us now modify the volume of the Upper parts (Upper1/2/3):

### Upper & Melody Intelligence parts

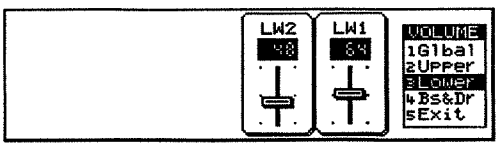
Rotate the [UPPER/VARIATION] knob. This changes the volume of four parts: Upper1, 2, and 3 as well as M. INT (Melody Intelligence, also referred to as "MI"). Use this display slider to increase the volume of all right-hand parts in one go.

If you only want to set the volume of a specific Upper (1/2/3) or the Melody Intelligence part, press [F2] (Upper). The display now looks like this:




### Lower parts

This system also applies to the Lower 1 & 2 parts: To set them both, return to the Volume 1Global page by pressing [F1], and use the [LOWER/NUMBER] knob. Otherwise, press [F3] to select the Volume Lower page:

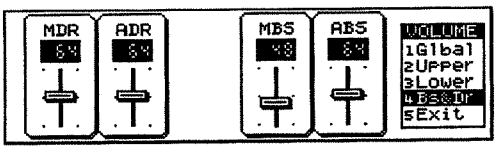



Here, you can use [LOWER/NUMBER] to set the volume of the Lower 2 part, and [UPPER/VARIATION] for the Lower 1 part.

### Bass & Drum parts

The same is true of the MDR (Manual Drums) and ADR (Accompaniment Drums), and MBS (Manual Bass) and ABS (Accompaniment Bass) faders. Rotate the [DRUMS/PART] or [BASS/BANK] knob to check this.

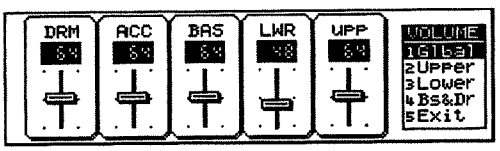
If you need to fine-tune the balance between the M.Bass and A.Bass parts (or the M.Drums and A.Drums parts), press [F4]:



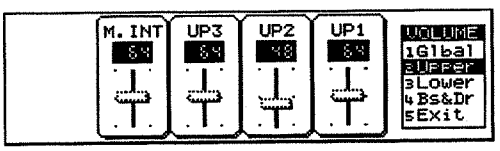

*Note: The ACC (melodic accompaniment parts) are always set together in Volume mode. You can, however, use the Mixer mode to specify their volume (along with some other settings). See page 73 for details.*

*Note: The relative balance between two grouped faders is only maintained as long as you do not decrease (or increase) the volume of the parts in question once one of the faders has reached the value 0 (or 127). If you increase the volume of a group beyond the point where one of them has reached 127, only the volume of the part(s) whose volume hasn't yet reached 127 will change. The same is true when you decrease the volume of a grouped pair after one part has reached the value 0. There is no way to restore the relative balance that was in effect before you destroyed it.*

Whenever a given section has been turned off on the front panel (using the KEYBOARD MODE pad or the Mixer page), the slider names are indicated in lowercase letters. The following display means that the Upper section (1/2/3 & Melody Intelligence) is currently not available. You can still modify the group and individual volumes, but you won't hear the difference.




If you pressed [F2] now to select the individual Upper faders, the fader backs would look like this:

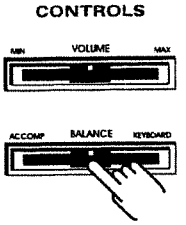



These parts have been switched off.

Note that obtaining the right balance is not always a matter of increasing the volume of one section. In many instances decreasing the volume of the part or section that is too loud with respect to the others, is more effective.

### Section balance

The EM-2000 provides a [BALANCE] slider that allows you to modify the global volume of the Realtime (KEYBOARD) and Arranger (ACCOMP) sections. Use it when you like the part balance you have set but think that either the Realtime or Arranger section is too loud as a whole.

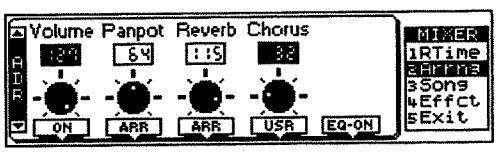



## Modifying the volume of the ACC parts

Let's assume that you selected a Style and find that the ACC2 part of the Basic/Original division is a bit too prominent in this style. Start playback of the Style and play a chord in the chord recognition area.

**1. On the Master page, press [F1] (Mixer) to select the Mixer mode.**

**2. Press [F2] (Arrng) to select the Arranger Mixer page.**




**3. Press the [PAGE] ▲▼ buttons until the page scroll bar on the left reads ACC2.**

**4. Rotate the [DRUMS/PART] knob (assigned to Volume) to the left to decrease the volume of the ACC2 part.**

In the same way, you could now modify the volume of the other ACC parts: select them with the [PAGE] ▲▼ buttons and use the [DRUMS/PART] knob to modify the volume setting.

*Note: See "Your settings or those of the Music Styles?" on page 78 for details about the ARR and USR functions.*

## Muting parts

On the Mixer page you can press Part Select [M.DRUMS] to mute the selected part, in which case the On prompt below the display knob will read Off, while the part name in the scroll bar will be displayed in lower case letters (e.g. acc2).

**1. Press [F1] (RTime) or [F2] (Arrng), depending on whether you wish to mute a Realtime or Arranger part.**

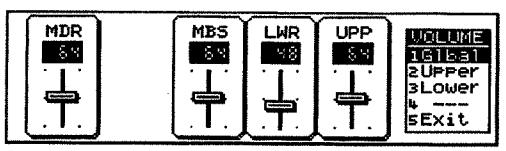
**2. If necessary, use the [PAGE] ▲▼ buttons to select the display page corresponding to the part you wish to mute.**

**3. Press the Part Select [M.DRUMS] button to select Off.**

**4. Press [F5] (Exit) to return to the Master page.**
*Note: See below for the remaining functions on the mixer pages.*

## Volume in GM/GS mode

The slider system of the Volume mode is also used in the Song mode, i.e. when the [GM/GS MODE] indicator lights, during playback of a Recorder song, or while working with the 16-track sequencer. If you then press [VOLUME] (indicator lights), the Volume Global page looks like this:




You can now press [F2] to jump to the individual Upper faders (and M.INT), or [F3] to have access to the Lower 1 & 2 faders.

*Note: There is no page for the M.Drums part because there is no need for it. Set its volume on the Volume Global page.*

Use the [BALANCE] slider on the front panel to set the balance between the Song parts (ACCOMP) and the Realtime parts (KEYBOARD).

*Note: Use "Mute" on page 47 in the Reference Manual to mute Song Parts.*

# 10.2 Panpot (stereo position)

The EM-2000 allows you to specify the pan setting of every part individually. One sensible way of using the Panpot parameter could be to move the Upper1 part to the left output, while the Upper2 part is moved to right output. If you then layer Upper1 and Upper2 (by pressing either SPLIT or WHOLE RIGHT, as well as [UPPER1] and [UPPER2]), the Upper1 sound will come from the left speaker, while that of the Upper2 part will come from the right speaker.

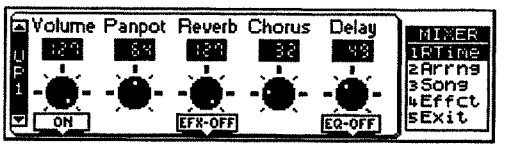
*Note: See "(EFX) Type" on page 22 in the Reference Manual for another interesting use of Pan in combination with an Insertion EFX.*

Here is how to specify the Panpot setting of a part:

**1. On the Master page, press [F1] (Mixer) to call up the Mixer page.**

**2. Select the part group (Realtime or Arranger) by pressing either [F1] (RTime) or [F2] (Arrng).**

**3. Select the part whose Pan setting you wish to change by pressing [PAGE] ▲▼.**




**4. Use the [ACCOMP/GROUP] knob to set the desired Pan position.**
Set a value between 1 and 63 to move the part further to the left, or 65~127 to move the part further to the right. Note that you can also select Rnd (random), which means that the part will alternate between the left and right channels in a random way. To do so, turn the [ACCOMP/GROUP] knob all the way to the left.

*Note: The knobs are velocity sensitive. The faster you turn them, the bigger the change you obtain. A swift turn from left to right thus allows you to jump from Pan 1 to Pan 127. The slower your movement, the smaller the increments/decrements.*

**5. Do not exit the Mixer page because we need it for the following:**

# 10.3 Effects and Equalizer

The EM-2000 is equipped with three programmable effects (Reverb, Chorus, and Delay), a multi-effector (called Insertion EFX) and a parametric two-band equalizer.

*Note: Any changes to the effects programs apply to all parts as there is only one Reverb, one Chorus, one Delay, and one Equalizer (EQ). What can be specified for every part individually, though, is the amount of effect to be applied (effect depth).*

*Note: The Insertion effect is only available for the Real-time parts.*

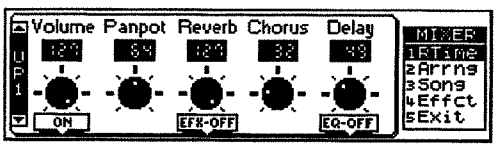
## Applying Reverb, Chorus, or Delay to a part

**1. On the Mixer page –see "Panpot (stereo position)", steps (1)~(3)– select the part group and part whose effect send setting you wish to change.**

The effect send settings on the Mixer page specify the part volume for the signal that is fed to the Reverb, Chorus, and Delay effect respectively. Setting high Reverb, Chorus, and Delay values on this page means that you effectively increase the effect volume.

It works much the same way as a cathedral: the louder you sing, the more Reverb you hear. In the case of the cathedral, singing louder means that you increase the effect send level, ie, the level of the signal (your voice) that will be processed by the acoustic environment.

**2. Use the [BASS/BANK] knob to modify the Reverb send level (Reverb).**




**3. Use the [LOWER/NUMBER] knob to modify the Chorus send level.**

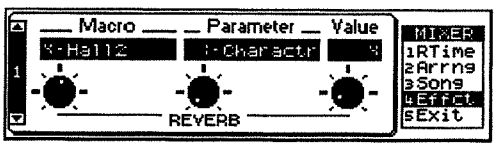
**4. Use the [UPPER/VARIATION] knob to modify the Delay send level.**

## Effect settings

Three of the EM-2000's effects are editable, thus allowing you to tailor them to your needs.

**1. On the Master page, press [F1] (Mixer).**

**2. Press [F4] (Effct) to select the Effect level.**



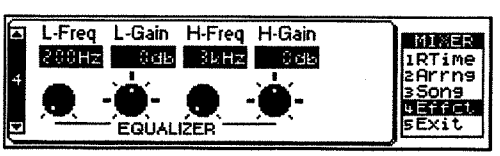

"Reverb" is the first in a series of six pages (notice the "1" on the scroll bar). The sixth page allows you to set the desired values for the two DSP EFX parameters that can be controlled in realtime.

**3. Press [PAGE] ▲▼ to call up the display page of the effect you wish to edit. The sequence is as follows:**

| Effect (or function) | Page number |
|---|---|
| Reverb | 1 |
| Chorus | 2 |
| Delay | 3 |
| Equalizer | 4 |
| Insertion EFX | 5 |
| DSP EFX Source 1 & 2 | 6 |

On the effects pages (Reverb, Chorus, Delay, and Insertion EFX), the left-most knob ([DRUMS/PART]) allows you to choose an effect type. Different types are available for every effect. Thus, the "Chorus" effect also provides a Flanger, for example. The [BASS/BANK] knob, is used to select a parameter whose value can be edited with the [UPPER/VARIATION] knob. See "Mixer\Effect pages" on page 20 in the Reference Manual for details about the parameters.

## Equalizer




This is where you can program the two-band equalizer. This equalizer works the same way as the Treble and Bass knobs on an amplifier. It allows you to boost or cut the high and/or low frequencies of the Tones. By boost we mean that the volume of a certain frequency band is increased, while cut means that the volume is decreased. The Low and High frequencies to be boosted or cut are selectable.

**1. Rotate the [DRUMS/PART] knob to select the low frequency (L-Freq) to be boosted or cut.**

2. Using the [ACCOMP/GROUP] knob, enter a positive (boost) or negative value (cut) for the L-Gain parameter.

3. Repeat these steps for the high frequency band using the [BASS/BANK] (H-Freq) and [LOWER/NUMBER] (H-Gain) knobs.

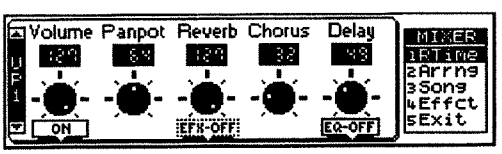
### Choosing the parts to be processed by the equalizer

When you power on the EM-2000, all parts are set to be processed by the equalizer, so that you can use the equalizer as master tone control that modifies the bass and treble response of your instrument.

An equalizer is usually only effective when used to correct the frequency response of one sound that is in the way of other sounds. Therefore, we now need to switch the equalizer off for all parts that don't require tone correction.

1. On the Master page, press [F1] (Mixer).
Let us first switch off the equalizer of the Realtime parts.

2. Press [F1] (RTime) to jump to the Mixer\RTime page.




3. Select the part whose equalizer status you wish to change using the [PAGE] ▲▼ buttons.

4. Press Part Select [UPPER1] below the display to select EQ-ON or EQ-OFF.

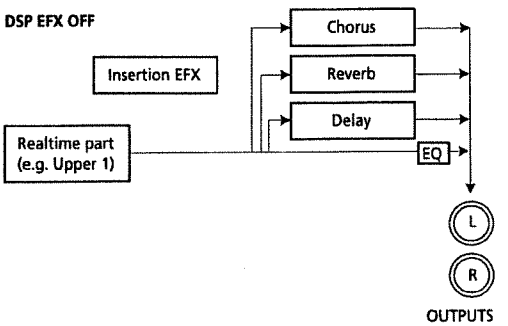
5. Go back to step (3), select the other parts, and specify their equalizer status.

6. Press F5 (Exit) to leave Mixer mode and return to the Master page.

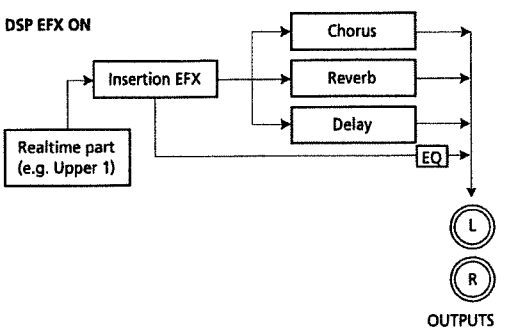
## Insertion effect (DSP EFX)

The above display page also contains an EFX ON/OFF switch that allows you to activate or deactivate the Insertion effect for the selected Realtime part. It is called *Insertion* effect because this processor is located between the Realtime parts and the other effects.

When the Insertion effect is off, the connection between a given Realtime part, and the effects is as follows:



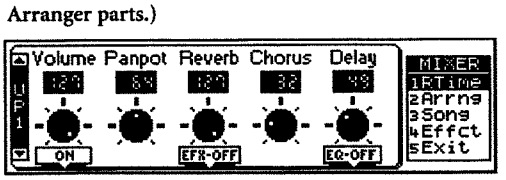

When the Insertion effect is on, the Realtime part is no longer directly connected to the Outputs or the other effects:




In this case, the Reverb, Chorus, and Delay effects process the output signal of the DSP EFX. And since there is only one EFX, all parts will use the same Reverb, Chorus, and Delay amount.

1. On the Master page, press [F1] (Mixer) to select the Mixer mode.

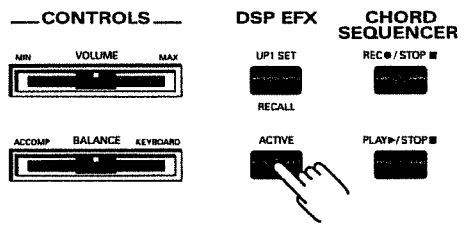
2. Press [F1] (RTime) to select a page similar to the following. (The DSP EFX is not available for Arranger parts.)




3. Use [PAGE] ▲▼ to select a Realtime part.

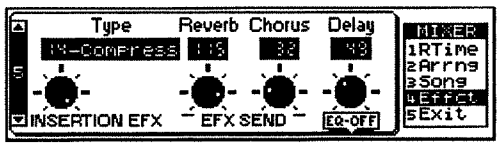
4. Use the Part Select [LOWER1] button to select EFX OFF or EFX ON.

If the EFX switch icon is indicated by means of a dotted line, you need to activate the DSP EFX using the [ACTIVE] button in the DSP EFX section:




5. Press [F4] (Effct) to select the Effect level.

6. Use [PAGE] ▲▼ to select the Effect 5 page:




7. Use the [DRUMS/PART] knob to select the desired EFX Type.
See page 114 in the Reference Manual for an explanation of the effects Types and the controllable parameters.

Press [UP1 SET RECALL] on the front panel to load the EFX Type that is factory-assigned to the currently selected Upper1 Tone. See also the table on page 23 in the Reference Manual.

8. Use the [BASS/BANK] knob to specify the EFX's send level to the Reverb effect.

9. Use the [LOWER/NUMBER] knob to specify the EFX's send level to the Chorus effect.

10. Use the [UPPER/VARIATION] knob to specify the EFX's send level to the Delay effect.

11. Press Part Select [UPPER1] to specify whether the Insertion EFX should be EQ'd (ON) or not (OFF).

12. Press [F5] (Exit) to return to the Master page.

## Setting the two Source parameters

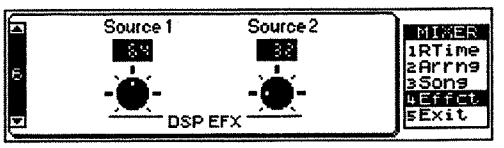
As explained earlier, two of the selected EFX's parameters can be set to your liking. These setting can be saved to a User Program along with all the other parameter settings. You could also use the Source parameters for realtime changes of the two parameters.

The assignments of the DSP EFX parameters to the Source controls is preset and depends on the selected DSP Type. See "EFX Types & controllable parameters" on page 114 in the Reference Manual for details. Here is an example: If you select the "15 SpFlangr" type, the controllable parameters are *Feedback* (Source 1) and *Step Rate* (Source 2).

1. On the Master page, press [F1] (Mixer) to select the Mixer mode.

2. Press [F4] (Effct) to select the Effect level.

3. Use [PAGE] ▲▼ to select the sixth Effect page.




4. Use the [ACCOMP/GROUP] knob to setthe Source 1 parameter

5. Use the [LOWER/NUMBER] knob to set the Source 2 parameter.
*Note: The last values you set here will be written to a User Program, so be sure to set the selected DSP EFX the way you want it to sound when you select the User Program in question.*

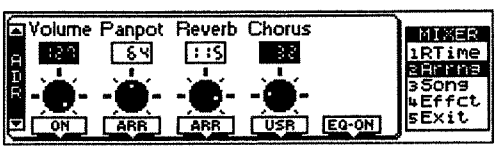
## 10.4 Your settings or those of the Music Styles?

The switches below the effect send parameters allow you to choose whether the effect settings for the Arranger parts will be used or not.

Here is how to set these switches:

**1. On the Master page, press [F1] (Mixer) to select the Mixer mode.**

**2. Press [F2] (Arrng) to jump to the Arranger level.**




**3. Press Part Select [M.BASS], [LOWER1], or [UPPER1] to select ARR or USR.**
This setting only applies to the parameter above the switch in question (Pan, Reverb, or Chorus). Here is what the two options mean:

**USR:** The settings remain in effect until you change them again or until you select another User Program. (USR is short for *User Program*).

**ARR:** In this case, the Arranger part settings are affected by settings contained in the Music Style patterns you use.

Music Styles not only contain notes (i.e. the drum, bass and accompaniment parts) but also a series of settings that specify how the parts are to be played back. These settings include program change messages, Panpot, volume, etc. Music Styles are accompaniment patterns that are repeated every so often (usually after four bars). The non-note information is located at the beginning of a pattern, so that, when you select ARR, the Mixer page settings of the Arranger parts will be reset as soon as the pattern restarts from bar 1 or whenever you select another division (for example "Fill-In To Variation").

If you do not want your own changes to be overwritten by the information contained in a Music Style, use the knobs to select USR.

*Note: A similar system is also available for Recorder songs. Those settings, however, must be saved to disk because they are not stored internally. See "Header Post Edit" on page 46 in the Reference Manual for details.*

*Note: The switch settings have no effect on the reception of MIDI messages via the EM-2000's MIDI IN port. However, the EM-2000 is also equipped with MIDI filters that allow you filter out certain messages received via MIDI IN.*

## 10.5 Part editing

Your EM-2000 allows you to edit certain parameters that affect the way a part sounds when you play it. These parameters will help you "customize" the parts by adjusting their brilliance, their modulation speed (Vibrato Rate), and so on.

Please bear in mind that the parameters discussed in this chapter always apply to parts (Upper1/2/3, Lower1/2, etc.). Assigning another Tone to a part does not reset the part parameters discussed below. In other words, if you modify the envelope of the piano sound assigned to the Upper1 part, you might be inclined to think that you have changed the envelope of the piano *Tone* and that selecting another Tone for Upper1 will load other envelope settings. Though that is partly correct, the part parameter settings are added to the settings of the Tone you assign to a part.

Parts are in fact containers in which you can "put" a Tone and whose sound can be modified using the parameters described below.

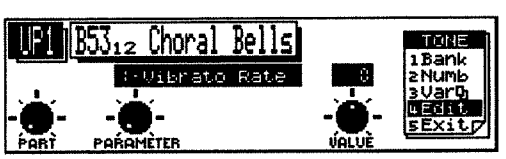
*Note: All Part parameters are relative parameters that will be added to or subtracted from the preset Tone parameter values. That is why you can specify both positive ("more") and negative ("less") values.*

### Editing the Part parameters

Like most other parameters, you can edit the Part parameters via the display using the display controls:

**1. On the Master page, press the [TONE] button at the lower left of the display.**

**2. Press [F4] (Edit) to select the Edit page.**




**3. Rotate the [DRUMS/PART] knob to select the part you wish to edit.**
*Note: You can only edit Realtime parts.*

**4. Use the [ACCOMP/GROUP] knob (Parameter) to select the parameter (see below) whose value you want to modify.**

**5. Use the knob assigned to VALUE to specify the value of the selected parameter.**

**6. Continue with step (3) to select another Part for editing.**
See "Tone Edit (Part parameters)" on page 17 in the Reference Manual for details. The aspects you can edit are:

#### Modulation (Vibrato)

Vibrato is an effect created by modulating the pitch. Applying vibrato makes the sound more expressive. Pitch modulation adds a pleasant "wobble" to the

notes you play. Use the following three parameters if you think the part in question has too much (or could use a little more) vibrato.

### Timbre (Filter)

By modifying the filter settings, you can control the timbre (tone) of the sound. The EM-2000 uses Low Pass Filters (LPF) that allow only frequencies lower than the specified frequency to pass. The frequency where the filter starts "cutting off" harmonics (or overtones) is called the Cutoff Frequency. By modifying the setting of the Cutoff Frequency you can make the sound brighter or darker. The Cutoff Frequency can change over time, controlled by the "envelope". By adjusting the filter and envelope settings, you can create sounds that have movement and expression.

### Envelope

The volume of an instrument changes with time, from the moment the note begins to sound to when it disappears. This change can be indicated on a graph. By modifying the values of the envelope you can simulate the characteristics of many different instruments.

The envelope parameters affect both the volume (or amplitude) and the filter. If the cutoff frequency has been lowered, it will rise as the envelope rises, and will fall as the envelope falls.

## 10.6 Upper2 settings

### Tuning Upper2: Coarse and Fine

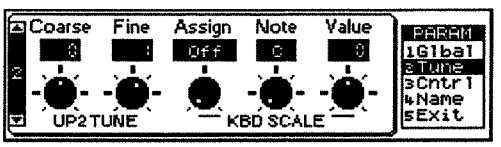
The Upper2 part can be used as full-fledged solo or melody sound or to "fatten" the sound of Upper1. Note that the latter only works when you layer Upper2 and Upper1. By layering we mean that every time you press a key in the right half of the keyboard (assuming that you selected the Assign Split mode, page 28) or anywhere on the keyboard (Whole Right mode), you trigger two Tones: the one assigned to Upper1 part and the one assigned to Upper2. See also "Layering and selecting Upper2" on page 27.

The following parameters allow you to transpose (Coarse) or to detune (Fine) the Upper2 part relative to the Upper1 part.

You could use Coarse to program an interval of a fifth (7 semitones) for Upper2, which is especially effective for brass sounds and guitar power chords. Do not forget to activate both the Upper1 and Upper2 parts when you want to take advantage of the Upper2 Coarse and Fine parameters. If only the Upper2 part is active, the solos you play either sound off (oops, wrong key) or flat.

The Fine parameter works well when you assign the same or similar Tones to Upper1 and Upper2. In those cases, Fine creates a kind of natural chorus effect that you could enhance by panning Upper1 to the left and Upper2 to the right (or vice versa, see page 74).

1. On the Master page, press [F2] (Param) to select the Parameter mode.
2. Press [F2] (Tune).
3. Use [PAGE] ▲▼ to select the second Tune page:




4. Use the [DRUMS/PART] knob to specify the Coarse interval for Upper2.
5. Use the [ACCOMP/GROUP] knob to specify the Fine tune value for Upper2.
6. Press [F5] (Exit) to return to the Master page.

# 11. Advanced parameters

The settings of all parameters in this section can be written to a User Program and loaded whenever you need them (see "Quick access to Music Styles and Songs on the supplied Zip disk" on page 23).

## 11.1 Settings relating to the Arranger

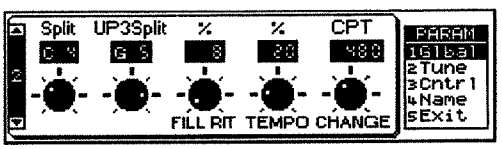
### Fill Rit value

The Fill Rit value allows you to specify the degree of the ritardando during playback of a fill (To Original or To Variation). The Fill Rit value is only used when the FILL [RIT] indicator lights. See also "Complementary Fill functions: Fill In Half Bar and Fill In Rit" on page 40.

**1. On the Master page, press [F2] (Param) to select the Parameter mode.**

**2. Press [F1] (Glbal).**

**3. Use the [PAGE] ▲▼ buttons to select the second Global page.**




**4. Use the [BASS/BANK] knob to specify the Fill Rit value.**
The higher the value, the more pronounced the ritardando of the Fill Rit function will be.

**5. Press [F5] (Exit) to return to the Master page.**

### Major, minor or seventh accompaniment? – Chord Family Assign, Alteratn

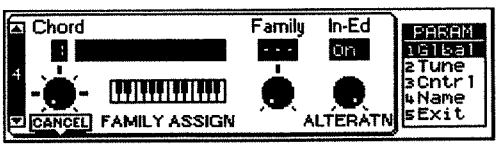
On page 40, we told you about there being three complete sets of Style divisions: one for major, one for minor, and one for seventh chords. If you listen very carefully to the internal Styles of your EM-2000, you will notice that the accompaniment for minor chords sometimes differs from that for major and seventh chords. That is because these accompaniments can be programmed separately.

The Chord Family Assign function allows you to specify which mode (major, minor or seventh) should be used for the chords you play. For instance, if you want the Arranger to use the minor accompaniment for "6" chords, you should use the Chord Family Assign function to assign the "6" chord family (for instance C6, A6 etc.) to the minor accompaniment level.

**1. On the Master page, press [F2] (Param) to select the Parameter mode.**

**2. Press [F1] (Glbal).**

**3. Use the [PAGE] ▲▼ buttons to select the fourth Global page.**




**4. Start by selecting one of the 8 available Chord memories by rotating the [DRUMS/PART] knob.**
If you haven't yet programmed any assignments, Chord memory 1 will be selected. If all memories are already assigned (which is indicated by the chord name to the right of the memory number), you can erase an existing assignment by pressing Part Select [M.DRUMS] (Cancel).

**5. Play the chord you want to assign to another Family. The name of that chord appears to the right of the chord memory number.**

**6. Use the [LOWER/NUMBER] knob to select the Family –Major (M), Minor (m), or Seventh (7)– for the chord you have just played.**
Now suppose you like the *accompaniment* you assigned your chord to, but you find that the Intro and Ending sound odd when you start a song with that chord (for instance C4). Consider the following example: you assigned the C4 chord to the major family and the Intro of the Style you are using contains the following progression:

C→Am→F→G

Starting the Intro with the C4 chord memorized would transform this progression into the following:

C4→F→F→G

Note that the outcome is not really predictable. That is precisely why you can turn the Alteration function off. Doing so allows you to memorize the C4 chord but have the Intro or Ending play the normal progression (e.g. C, Am, F, G), and cause the Arranger to switch to the C4 chord when the Intro/Ending is finished.

**7. Use the [UPPER/VARIATION] knob to activate (On) or turn off (Off) the Alteration (Alteratn) function.**

**8. Press [F5] (Exit) to return to the Master page.**

### Musical Style playback: Wrap

The Wrap function is used to specify how the bass line and accompaniment parts should be played. If the bass, for instance, is programmed to play ascending scales, some notes may be too high or too low to sound natural in a given situation. Though perfectly possible for the built-in tone generator, playing the scales the way they were programmed affects the quality of your accompaniment.

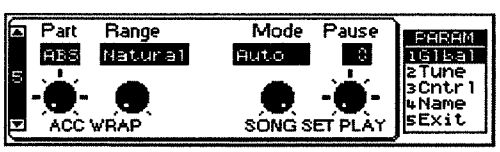
So far, you may not have noticed the difference because the default setting for the Wrap function is "natural", meaning that all parts are played in their natural range. If set to **Natural**, the Wrap function transposes all accompaniment notes that are too low (for piccolo etc. sounds) or too high (for bass sounds, etc.) one octave up or down. The Wrap point is preset for each Tone and cannot be changed.

The Acc Wrap parameter allows you to activate (Natural) or cut (**Full**) the Wrap function. In most cases, Natural is probably a sensible setting for Styles. Full is a good choice for recording songs using the User Style function.

**1. On the Master page, press [F2] (Param) to select the Parameter mode.**

**2.** Press [F1] (Glbal).

**3. Use the [PAGE] ▲▼ buttons to select the fifth Global page.**




**4. Use the [DRUMS/PART] knob to select the accompaniment part (ABS, Acc1~Acc6) whose Wrap setting you want to change.**

**5. Use the [ACCOMP/GROUP] knob to specify Natural or Full.**

**Natural**

All notes played by the corresponding part will sound in a "natural" range for the selected Tone, i.e. neither too low nor too high.

**Full**

All notes of the corresponding part will be played the way you (or Roland) programmed them. Select Full if the chord progression you are playing requires ascending or descending lines or consistent chord voicings (such as when the User Style function is used for sequencing).

**6. Press [F5] (Exit) to return to the Master page.**

## 11.2 Settings relating to the Realtime parts

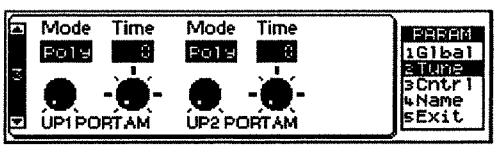
### Mode: Mono/Poly

The EM-2000 also allows you to set the Upper1 and Upper2 parts to mono(phonic) mode. *Monophonic* means that you can only play one note at a time. You could select the Mono mode to play a trumpet or woodwind part in a more natural way. *Poly*, on the other hand, means that you can play chords using the selected part.

**1. On the Master page, press [F2] (Param).**

**2. Press [F2] (Tune) to select the Tune level.**

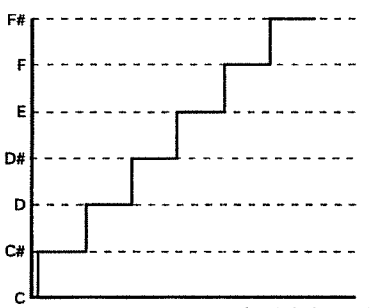
**3. Use the [PAGE] ▲▼ buttons to select the third Tune page.**



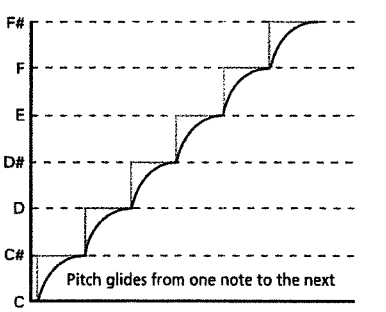

**4. Use the [DRUMS/PART] or [BASS/BANK] knob to select the Upper1 or Upper2 mode.**

### Portamento time

Portamento is a realtime effect that produces smoother transitions between the notes you play:




Portamento time= 0 — "Rough" pitch changes in semitone steps (normal)




Portamento time> 0 — Smooth pitch changes

Instead of jumping in semitone steps (as you would expect), the pitch glides from one note to the next

whenever the Portamento time is higher than 0. The higher the value you set, the slower the glide. This effect is particularly useful for synthesizer or gypsy violin parts.

**5. To specify the Portamento time, rotate the [ACCOMP/GROUP] knob (for Upper1) or the [LOWER/NUMBER] knob (Upper2).**

**6. Press [F5] (Exit) to return to the Master page.**

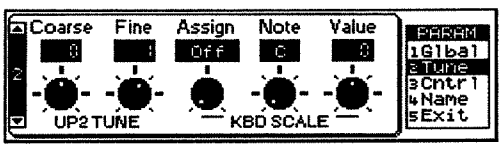
## Playing in other scales: Keyboard Scale

The following parameter allows you to modify the temperament of several or all parts to another tuning, so that you could play Arabic scales etc.

**1. On the Master page, press [F2] (Param) to select the Parameter mode.**

**2. Press [F2] (Tune) to select the Tune level.**

**3. Press [PAGE] ▲▼ to select the second Tune page.**




The first Kbd Scale parameter, **Assign**, allows you to activate (UP1-2, All) or deactivate (Off) the alternative tuning.

**4. Use the [BASS/BANK] knob to select UP1-2, All, or Off for the Assign parameter.**
If you want to set the tuning now, select UP1-2 (only Upper1 and Upper2 as well as the Melody Intelligence [MI] part) or All (all Realtime and Arranger parts) because otherwise you won't hear the changes you make.

**5. Use the [LOWER/NUMBER] knob to select the note whose tuning you are about to change.**
You will notice that every note can only be selected once. That is because the Value you specify applies to all notes of the same name. In other words, if you change the tuning of the C, that value will be added to or subtracted from all Cs (C1, C2, C3, etc.).

**6. Use the [UPPER/VARIATION] knob to specify the tuning Value. The value "0" represents the original (equal) tuning.**
Negative values mean that the note in question will be lower than for equal temperament, while positive values raise the note's pitch. The value range is –64~+63 cent. Since 100 cent equal one semitone, you can lower or raise the pitch up to a little more than a semitone.

**7. Repeat steps (5) and (6) to tune the other notes of the scale (C#, D, D#, E, etc.).**

**8. Press [F5] (Exit) to return to the Master page.**

# 12. Programming User Styles



You can program your own accompaniments, or *Styles* as we have come to call them, on the EM-2000. Styles you program do not reside in ROM, which is why we call them *User Styles*, or Styles created by a user (either you or someone else).

## 12.1 Concept

There are three ways of creating new Styles:

- By converting portions of a Standard MIDI File into an accompaniment to be played by the Arranger (see page 70).
- By creating new accompaniments from scratch (see page 85).
- By editing existing Styles, which requires that you copy them and then alter the settings or notes you do not like (see page 91).

The latter is much faster than the former because you only need to substitute those parts that, in one way or another, do not "work" for the song you want to play. Programming Styles from scratch is a lot faster than you may think because the EM-2000 is equipped with a number of functions that allow you to cut down programming time to the absolute minimum.

### Patterns

User Styles and internal Styles are short sequences or *patterns* (usually only four, sometimes eight measures long) you can select in realtime. That is precisely what we showed you in the chapter "Playing with accompaniment – Arranger" on page 38. If you have ever worked with a rhythm programmer (the Roland R-8MkII, for example), the pattern concept may sound familiar. You program a pattern only once and then use it at several points in a song. In other words, one short musical phrase can go a long way.

Pattern-based accompaniments usually consist of the following elements:

- The basic *groove*, i.e. the rhythm that is the backbone of the song
- Several alternatives for the basic groove that keep the accompaniment interesting and suggest some kind of "evolution" or "variation"
- Fill-Ins to announce the beginning of new parts
- The beginning and ending of a song

As a rule, programming four to eight drum patterns for a three-minute song is enough. Just use them in the right order to make them suitable for your song, and you're ready to play. In fact, what is called a "song" on a drum machine, is called Arranger on the EM-2000. Drum machine songs have to be programmed beforehand, while the Music Style patterns can be selected on the fly by pressing the Arranger buttons.

The EM-2000 allows you to program 36 different patterns per Style, some of which are selectable via dedicated buttons ([TYPE], [DIVISION], etc.), while others are selected on the basis of the chords you play in the chord recognition area of the keyboard (major, minor, seventh).

### Tracks

Unlike on a drum machine, a Style not only contains the rhythm part (drums & percussion) but also a melodic accompaniment consisting of two to three musical parts, such as piano, guitar, bass, and strings. That is why the EM-2000's divisions work with tracks – eight to be precise:

**1 ADR:** Accompaniment drums. The drum and percussion line of an accompaniment.

**2 ABS:** Accompaniment bass. The bass line of the accompaniment.

**3 ACC1~8 ACC6:** Accompaniments 1~6. Melodic parts (chord backings, riffs, etc.).

The part-to-track assignment is fixed. You cannot assign the ADR part to track 6, for example.

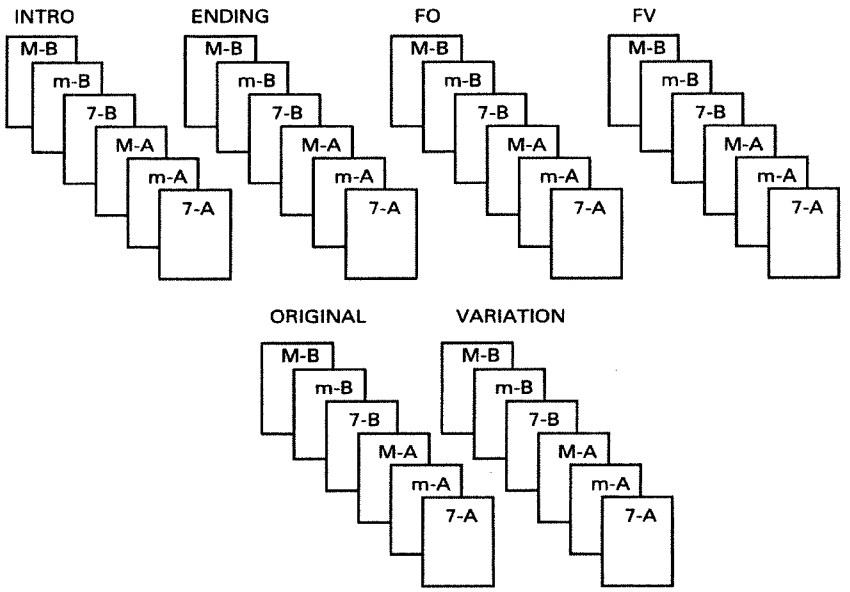
The reason why the ADR part is assigned to track 1 and the ABS part to track 2 is that most programmers and recording artists start by laying down the rhythm section of a song.

There are exceptions to this rule, however, so feel free to start with any other part if that is easier for the Style you are programming.

*Note: Though there are six ACC parts, most Styles only contain two or three melodic accompaniment lines. In most cases, less means more, i.e. do not program six melodic accompaniments just because the EM-2000 provides that facility; too many accompaniment lines tend to blur the arrangement. If you listen very carefully to a pop record, you will discover (perhaps to your surprise) that it is not the number of instruments you use that makes a song sound "big" but rather the right notes at the right time.*

## Looped vs one-shot

There are two kinds of patterns on the EM-2000: looped divisions and one-shot divisions.




**Looped divisions:** Looped divisions are accompaniments that are repeated for as long as you do not select another division or press [START/STOP] to stop Arranger playback. The EM-2000 provides four looped divisions with three variations each. Let us agree to call the variations *modes*:

| Division | Mode | Explanation |
|---|---|---|
| Basic/Original | Major<br>Minor<br>Seventh | As the name implies, this is the simplest accompaniment. |
| Basic/Variation | Major<br>Minor<br>Seventh | Basic/Variation is an alternative for the Basic accompaniment. |
| Advanced/Original | Major<br>Minor<br>Seventh | An alternative for the Basic level. Usually contains more instruments but could also be another kind of accompaniment for a given style. |
| Advanced/Variation | Major<br>Minor<br>Seventh | Variation of the Advanced/Original accompaniment. |

Looped divisions do not select other divisions when they are finished: they keep playing until you select another division by hand (or by foot with an optional FC-7).

**One-shot divisions:** One-shot divisions are accompaniments that are only played once and then select a looped division or stop the Arranger.

| Division | Modes | Explanation |
|---|---|---|
| Intro<br>(Basic or Advanced) | Major<br>Minor<br>Seventh | Introduction. Selects the Original division of the level you selected (Basic or Advanced). |
| Ending<br>(Basic or Advanced) | Major<br>Minor<br>Seventh | Ending (or coda). As soon as the Ending is finished, the Arranger stops. |
| Fill-In To Original | Major<br>Minor<br>Seventh | A musical transition that selects the Original division of the currently active level. |
| Fill-In To Variation | Major<br>Minor<br>Seventh | A musical transition that selects the Variation division of the currently active level. |

The type of division (looped or one-shot) affects the way in which the respective tracks are played back. The Arranger will insert the required number of rests for any one-shot track that is shorter than the longest one.

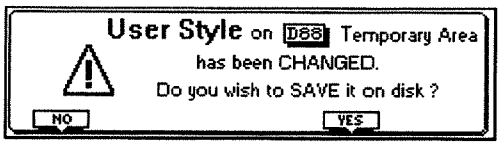
Any track of a looped pattern that is shorter than the longest track, however, will be repeated until the longest track is finished. In other words, a repetitive phrase of a looped division needs to be recorded only once because it will automatically be repeated until the longest track is finished, after which the entire division (including the "sub-loops") will be repeated. For instance, if the ADR part is only four measures long, while the ABS line is eight measures in length, the ADR will be repeated once while the Arranger plays measures 5~8 of the bass line.

# 12.2 Recording User Styles from scratch

*Note: The following sections also contain comments on what we are doing and possible options. If all you want to do is program a Style, just read everything that appears in bold. You can come back to the related explanations whenever there is something you do not understand.*

### Important remark

User Style recording and editing is carried out in the EM-2000's Style RAM memory (D88). Whenever you leave the User Style mode after recording or editing a Style (by pressing [F5] Exit), the display will warn you that you need to save your Style to disk. If you haven't yet done so, you should take advantage of this security system.




Press Part Select [UPPER1] to save your Style to disk (see page 89 for details), or Part Select [M.DRUMS] if you think that is not necessary.

## Selecting the User Style mode

**1. On the Master page, in Arranger mode, press [F4] (UsrSt) to activate the User Style mode.**

### Deleting the Style in the D88 memory

The first thing we need to do is clear the EM-2000's Style RAM memory. That memory is indeed also used when you select an internal, a Custom, or a Link Style. In other words: this memory will not be empty when you select the User Style mode. On the other hand, this "RAM sharing" system also allows you to prepare the Style you want to edit in no time: all you need to do is select it while in Arranger mode, then activate the User Style mode.

To record a new User Style, however, you must first clear the D88 memory:

**2. Press [F4] (Utility).**

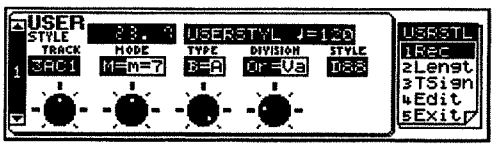
**3. Hold down [SHIFT] while pressing [F2] (Dlete).**


**4. Press Part Select [UPPER1] below the display to delete the Style that is currently in the D88 memory.**

### Preparations

**5. Press [F1] (Rec) if the 1Rec menu option is not selected.**

**6. Press [PAGE] ▲▼ to select the first User Style\Rec page.**




*Note: Let us call this page "the first User Style\Rec page" because, depending on the function you activate, the message in the lefthand corner can be User Style, Play, Record Erase, or Record Merge. The highlighted menu function, on the other hand, clearly reads Rec.*

The message in the lefthand corner currently reads User Style, meaning that the EM-2000 is waiting for you to launch playback or recording.

## Selecting the track, the Mode, the Type and the Division

To keep things easy, let's start with the drums of the Basic/Original pattern.

**7. Use the [DRUMS/PART] knob to select 1ADR (first track, accompaniment drums).**

Now select a pattern. Start with the Basic/Original division.

**8. Use the [LOWER/NUMBER] knob to select Or for the Division parameter.**

### Working with clones

On this page, you can activate three clone functions that allow you to record one part and copy it to up to three divisions and three modes each. The "=" sign means that more than one pattern will be recorded.

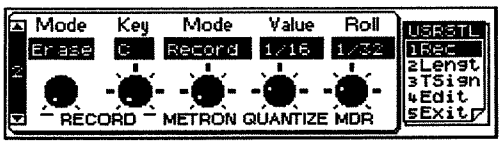
**9. Use the [ACCOMP/GROUP] knob to select the mode(s), and the [BASS/BANK] knob to select the type(s).**

Let us use the above display settings, which mean "record the Basic/Original/Major pattern and copy it to all looped divisions". Thus, by programming one pattern, you will obtain 3 (M, m, 7) x 2 (Bsc, Adv) x 2 (Or, Va) = 12 identical drum patterns!

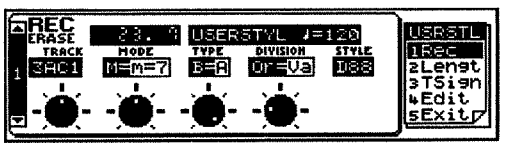
*Note: You can only clone five patterns for one-shot divisions because there is no Original/Variation level for Intro, Ending, To Original, or To Variation: only Basic and Advanced levels (see the illustration on page 84).*

## Record mode

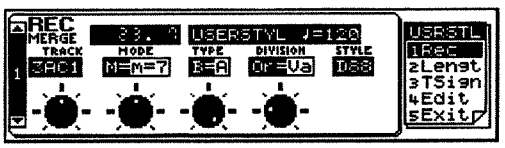
**10.** Press [PAGE]▼ to select the second User Style Rec page:




The first parameter (Mode) allows you to select the Record mode. Depending on the mode you select here, the first User Style\Rec page will look like this...




...or like this...




... when you press the Recorder's [REC●] button.

**Record Erase:** Everything you record will replace the data on the selected track. This mode is automatically selected when you activate the Record function for a track that does not yet contain data. If you select a track that already contains data, the message in the lefthand corner will read Record Merge.

**Record Merge:** The music or data you are going to record will be added to the existing data of the selected track.

**11.** Use the [DRUMS/PART] knob to select Erase or Merge.

## Specifying the key

If you want to use the accompaniment in a musically meaningful way (see "Remarks" on page 90), you have to tell the EM-2000 what key you are recording in. That way, everything you play will be automatically transposed to C during Arranger playback, so that when you play a C (major, minor, or seventh) chord in the chord recognition area of the keyboard, you hear a C chord rather than an D chord.

The EM-2000 allows you to play in the original (or your favorite) key of the song. But do set the Key parameter to the right value before recording.

**12.** Use the [ACCOMP/GROUP] knob to set the Key. If you want to play in F#, set this value to F#; to play in A, you must set this value to A, etc.
*Note: There is no need to specify the key for the ADR part since that part is never transposed.*

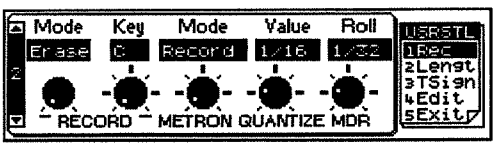
## Quantize

Quantize is a function that corrects minor timing problems. See the illustration under "Setting the metronome and Quantize value" on page 66 for details.

Quantize shifts the notes whose timing is not exactly right to the nearest "correct" unit.

Always select a resolution value that is fine enough to accept all note values you play, yet not finer than the shortest note. If the shortest notes of your accompaniment are 1/16th note triplets, set the Quantize value to 1/16t.

Here is how to set the Quantize function:




**13.** Use the [LOWER/NUMBER] knob to specify the quantize Value.
The preset value, 1/16, is OK for most situations. If you do not want quantize your music while recording, set this parameter to Off.

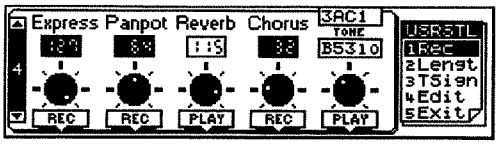
*Tip:* Off is a good choice here because you can also quantize the part after recording it (see page 58 in the Reference Manual). If you quantize all parts, your User Style may sound too perfect. Remember that music is all about tiny imperfections, one of which is a somewhat "loose" timing.

Let us skip the User Style\Rec\3 page because it allows you to mute parts that have already been recorded, which is not the case here. See "Muting parts while recording others (Status)" on page 90 for more information on how to mute parts in User Style mode.

**14.** Press [PAGE]▼ twice.

## Tone selection

Another important aspect is Tone selection because the address (Group, Bank, Number, Variation) of the Tones and Drum Set you select is recorded at the beginning of every division.




We are about to program the drums using the ADR part. The ADR part works the same way as the MDR part, so we now have to select a *Drum Set* rather than a Tone.

There are two ways to select Drum Sets (and Tones):

- Use the buttons of the TONE/USER PROGRAM section to select a Drum Set for the ADR part.

  Or:

- Use the [UPPER/VARIATION] knob on this display page to select a Drum Set (or Tone).

  It is a good idea to play a few notes on the keyboard to check whether the sounds of the selected Drum Set are suitable for the accompaniment you are going to record. Try other Drum Sets until you find the one that sounds "right".

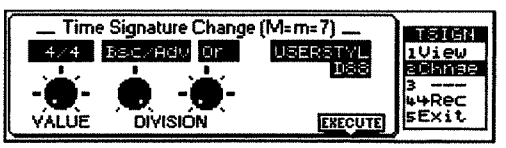
  *Note: Just ignore the Expression, Panpot, Reverb, and Chorus settings for now. We will come back to them later (see page 95).*

## Time signature

Before you start recording, you must specify the time signature of your accompaniment. Select 4/4 for 8- or 16-beat patterns, 3/4 for waltzes, 2/4 for polkas and 6/8 (or 4/4) for marches. Note that it is also possible to select 5/4, 7/4 etc. time signatures.

**15.** Press [F3] (TSign).

**16.** Press [F2] (Change).




As you see in the leftmost window, 4/4 is already selected, so there is no need to change it. To specify another time signature, use the [DRUMS/PART] knob.

**17. If the division you need (Basic) is not yet selected, use the [BASS/BANK] and [ACCOMP/GROUP] knobs to do so.**

Since you are going to clone 11 patterns while recording, you could select Bsc/Adv and Or/Va here to specify the time signature for the four looped divisions. But even Bsc and Or do the trick because your material will be copied anyway.

The USERSTYL entry tells you that your User Style resides in the EM-2000's Style RAM memory (D88). This memory is shared by all Music Styles, so do not forget to save your User Style to disk. As a rule, you should do so at regular intervals (see "Saving your Style to disk" on page 89).

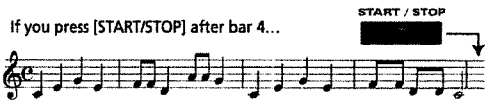
**18. Confirm the (new) time signature by pressing Part Select [UPPER1] (Execute).**

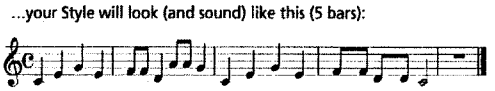
*Note: If you do not want to specify the length of the pattern you are about to record, you can press [F4] at this point to jump back to the first User StyleRec page. But let us go through the motions.*

## Length: specifying the pattern length

User Styles are patterns, i.e. short musical phrases, some of which will be continuously repeated during Arranger playback. Every pattern must therefore have a set length. A 5-bar Intro, for instance, is no good for a song that has only four introductory bars. Setting the length now will help you avoid a lot of confusion once you start recording.

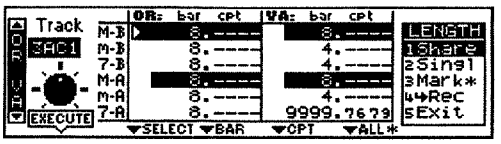
The reason why we suggest you specify the length now rather than cutting the pattern to size after recording it (using the same Length function) is that the Arranger tends to add blank bars at the end of a track, which is usually due to the fact that you stopped the recording a little late (i.e. after the last bar you played). In such a case, the Arranger adds a blank measure, so that you actually "record" five measures instead of 4:




Furthermore, in User Style Record mode, all patterns are *looped*, so that the EM-2000 keeps playing them back until you press the [START/STOP] button. A wrong number of measures (5 instead of 4, for example) is very likely to put you off, so do take the time to set the pattern length before you start recording.

**19. Press [F2] (Lengt). To select a Length page from another page, hold down the [SHIFT] button and press [F2]. The display now looks like this:**




It is perfectly possible to specify a different length value (and time signature) for each track and division. Remember, however, that the Basic and Advanced (Original and Variation) tracks are looped during "real-life" use, so that a 64CPT phrase will be repeated for as long as another track of the current division contains data.

*Note: Even one-shot patterns are looped in User Style mode. That is not the case, however, during Arranger playback (i.e. everyday use of the Styles).*

**20. Use [PAGE] ▲▼ to select the length page corresponding to the division whose length you wish to set.**

**21. Start by selecting the Track whose length you wish to set (using [DRUMS/PART]).**
Rotating the knob fully clockwise will call up the ALL option. Select ALL to set the length for all tracks (1~8).

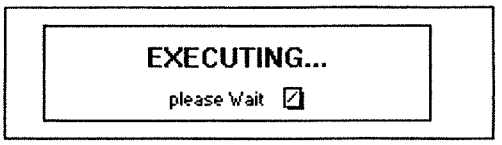
**22. Use [UPPER/VARIATION] (All) to select all Style divisions.**
*Note: Selecting All using [UPPER/VARIATION] means that you can specify the length of all divisions that appear on this page.*

To specify the length of only one pattern, move the Select cursor to that pattern using the [ACCOMP/GROUP] knob. To specify the length of several patterns in one pass, select them using [ACCOMP/GROUP] and press [F3] (Mark) for every pattern whose length you wish to set. Selected patterns will be indicated by an asterisk (*).

**23. Use the [BASS/BANK] (Bar) knob to specify the number of bars. Our pattern should be 4 measures long, so enter the value "4".**
*Note: You could also specify a CPT value using [LOWER/NUMBER]. That CPT value (♩ = 120CPT) will be added to the Bar length. Though possible, length values like 4 (bars): 96 (CPT) are probably not what you want to use every day.*

**24. Press Part Select [M.DRUMS] (Execute) to confirm the length you specified.**

The display now reads:




Next, the OK Function Complete message is displayed to signal that the Length value has been successfully set.

The name of the 1adr track now appears in uppercase letters (1ADR) because that track contains data (i.e. the length setting, or, more specifically, the equivalent number of rests).

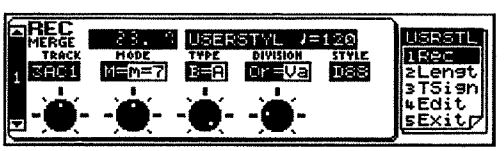
**25. Press [F4] to return to the first User StyleRec page if you like.**
This is not really necessary because you can start recording on any User Style page.

## Tempo

**26. The tempo (currently set to ♩=120) is probably a bit fast for recording, so change it using the [TEMPO] dial.**
The tempo value you set here will be recorded and regarded as preset tempo. You can change the preset tempo at any stage in User Style mode, so start by selecting a tempo that allows you to record the music the way you want it to sound. When all tracks and divisions are programmed, you can record the desired tempo value.

## Recording

**27. Return to the first User Style\Rec page and press the Recorder [REC●] button (indicator lights).**
Note that, when you return to the first User Style\Rec page, the message in the lefthand corner looks like this (because the track already contains data, namely the length value):




**28. Press [START/STOP] (Arranger section) or [PLAY▶/STOP■] (Recorder section). The metronome counts in one measure (4 beats if you selected the 4/4 time signature), and recording starts on the next downbeat.**
*Note: You can also start recording using an optional footswitch connected to the FOOTSWITCH jack. See "Start/Stop" on page 28 in the Reference Manual for how to select the Arranger Start/Stop function.*

You could start by playing only the bass drum part. If you specified the track length (see above) before recording, the Arranger jumps back to the beginning of the pattern after four measures. The second time around you could add the snare drum, the third time the HiHat, and so on. – But you can also play the drum part in one go, of course.

When recording another part (ABS~AC6), do everything you would do during a live performance. Feel free to add modulation and pitch bend and use the hold pedal connected to the SUSTAIN FOOTSWITCH jack.

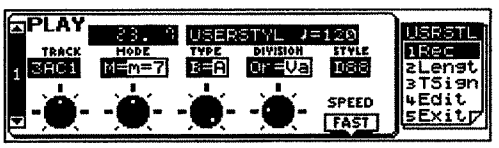
*Note: You may notice a short delay before the Arranger jumps back to the beginning of the pattern. That delay is due to the fact that the data you record are "being processed". During playback, the loop will be perfect, however.*

**29. Press the [START/STOP] button again to stop recording.**

*Tip*: If the above Mode, Type, and Division settings you selected for recording do not include all the patterns you wanted to clone, set the Mode, Type, and Division parameters to the desired values to supply the missing drum lines. Next, press [REC●] and [START/STOP] or Recorder [PLAY►/STOP■] to start recording. Stop recording after the first or second beat (wait until the count-in is finished before you start counting). Note that this function only *adds* clones. It does not allow you to erase existing patterns.

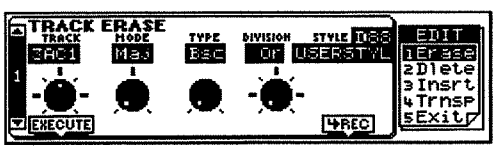
## Playback, and then keep or redo?

**1. Press the [START/STOP] or Recorder [PLAY►/STOP■] button again to listen to your performance. The first User Style\Rec page looks like this (if selected):**




If you like your drum part, continue with "Saving your Style to disk". If not, you probably want to give it another try.

**2. Press [F4] (Edit) and then [F1] (Erase).**




We'll use Track Erase to erase the data because that way, the Length settings do not change. See "Track Erase" on page 55 in the Reference Manual for more information about this function. The 1ADR Track is already selected, as is the pattern that is used for cloning other tracks.

**3. Press Part Select [M.DRUMS] (Execute) to erase the pattern.**

**4. Press Part Select [UPPER1] to jump back to the first User Style\Rec page.**

**5. Continue with step (28).**

## Saving your Style to disk

If you are serious about programming your own Styles, make it a habit to save them as frequently as possible. After all, if someone decided to turn off your EM-2000 now, you would lose everything you have programmed so far.

That disk can also serve as backup whenever you erase or change something you actually wanted to keep.

### Naming your User Style

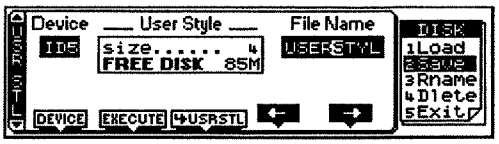
**1. Hold down [SHIFT] and press [F3] (Name).**


Before saving a Style to disk, you should name it. Choose a name that tells you something about the nature of the Style. Use the [ACCOMP/GROUP] knob to select the character position and the [BASS/BANK] knob to assign a character to the selected position.

*Note: You can also use the TONE/USER PROGRAM keypad for entering names. See page 25 for details.*

### Saving your Style

2. Press Part Select [M.DRUMS] to jump to the Save User Style page:




You have just specified the Style name, so there is no need to do so on this page. But you could do so. See above for details.

3. Insert a floppy or Zip (or Mo, etc.) disk into the desired drive and (if necessary) press Part Select [M.BASS] (Device) to jump to the Device page. See page 17 for how to select another drive (called *Device* here).

4. Press Part Select [M.BASS] (Execute) to save your Style to disk.
Remember that your EM-2000 is multitasking, so that you can leave this page as soon as the EM-2000 starts saving the Style to disk:

5. Press Part Select [LOWER1] (➥UsrStl) to return to the User Style mode.

6. Press [SHIFT]+[F1] to return to the first User Style\Rec page.

## Programming other parts and divisions

You can now record the second part – probably the bass. If you'd like to do the guided tour again, go back to page 85. Do not forget to set the key for the bass part (see page 86).

You probably know how to record other parts (ACC1~ACC6), so we'll leave you to it (see "Recording User Styles from scratch" on page 85).

Once the first division is finished, you can record other divisions. Use the clone function (see page 85) to record several patterns in one go.

Do not forget to record the fills and the Ending(s) to complete your User Style.

*Note: The ABS part is monophonic. You will not be able to program two-note patterns.*

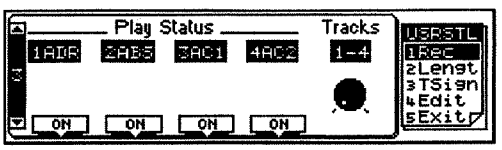
## Muting parts while recording others (Status)

After programming a few tracks, you may find that certain tracks tend to confuse you. Playing a steady organ part while listening to a previously recorded syncopated part may indeed be difficult. That is why the EM-2000 allows you to mute those parts that you do not want to hear during recording.

*Note: The Status function only applies to the User Style mode. In normal Arranger playback mode, all tracks will be played. In other words, this is a help function. To mute a part in Arranger mode, see page 74.*

Here is how to mute tracks in User Style mode:

1. On the User Style\Rec page, press [PAGE]▼ until the following display page appears:




2. Select the track/part group (1~4, 5~8) you wish to mute using the [UPPER/VARIATION] knob.

3. Use the Part Select buttons to set the Status of the currently accessible Arranger parts to On or Off (mute).

## Remarks

### Working from top to bottom – programming hints

If you listen carefully to the factory Styles, you will notice that most divisions are very similar to one another and that the element of "evolution" or "amplification" between the Original/Variation and Basic/Advanced levels is usually derived from adding instruments to otherwise identical parts. The Advanced/Original division may for instance add an electric guitar to the drums, bass, and organ lines of the Basic level, but the drum, bass, and organ lines of the Advanced level are usually identical to those of the Basic level.

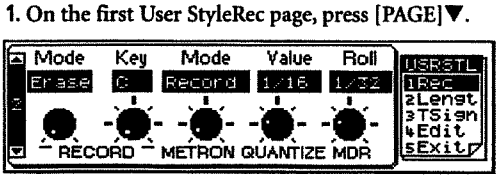
In other words, start by recording the most complex accompaniment while cloning all other looped divisions (see page 85). If you then move to the Advanced/Original level and delete the bells and whistles (see page 55 in the Reference Manual), that division is already simpler than "the works".

The next step would then be to select the Basic/Original pattern and delete both the bells and whistles and the distorted guitar.

### Metronome

In User Style mode, the metronome sounds during recording. If you also need the metronome when listening to what you have just recorded, select another metronome mode. Here is how to:

1. On the first User StyleRec page, press [PAGE]▼.



2. Use the [BASS/BANK] knob to set the Mode parameter to one of the following values:
**Record:** The metronome only sounds during User Style recording.

**Play:** The metronome only sounds during User Style playback in User Style mode.

**Rec&Ply:** The metronome sounds both during recording and playback.

**Always:** The metronome even sounds while the User Style is not playing.

### Empty tracks

After recording a few accompaniment parts, you may not remember which tracks already contain data. There is an easy way to find out: for tracks that contain data, the corresponding part name will appear in uppercase letters (e.g. ADR). For tracks that don't contain data, the corresponding part name will appear in lowercase letters (e.g. adr).

Furthermore, if a track already contains data, the User Style function will switch to Record Merge (see page 88) whenever you press the Recorder's [REC●] button.

### Playback in Arranger mode

As stated on page 83, the Arranger of your EM-2000 is very similar to a drum machine, except for one thing: you do not need to program the pattern sequence beforehand. Just select the division you need while playing and feed the Arranger with the right chords so that all the lines you programmed sound in the right key. In short: use your own Styles the way you use the internal Styles.

*Note: If, during playback in Arranger mode (i.e. normal EM-2000 mode), the Arranger stops unexpectedly, try different chord modes. Chances are that you only programmed the major division, so that the Arranger selects an empty pattern when you play a minor or seventh chord. Remember to always set the Mode parameter to M=m=7 until you have come to grips with the possibilities of the EM-2000's Arranger. That way, those three patterns will sound alike, but at least you are sure that the Arranger does not stop when you play a minor or seventh chord.*

## 12.3 Copying existing Styles

Another way of programming User Styles is to use parts from internal Styles in ROM or User Styles on (floppy, Zip, etc.) disk. The EM-2000 allows you to:

- Copy entire Styles to the Style RAM memory (D88)
- Copy the selected division of one or all tracks
- Copy just a few notes of an existing part
- Copy tracks or notes between divisions
- Create new Styles by using tracks from different existing Styles (the drums of Style B34, the bass of Style A63, etc.)

*Note: You cannot copy an ADR (drum) track to another track (ABS~ACC6). Likewise, the bass part (ABS) can only be copied to an ABS track. As far as the ACC tracks are concerned, you are free to copy them to whichever ACC track you like.*

*Note: If the Style RAM memory already contains new data, save it to disk before copying. The EM-2000 has no Undo function. Saving a Style to disk before copying will allow you to load the previous version in case something goes wrong. See "Saving your Style to disk" on page 89.*

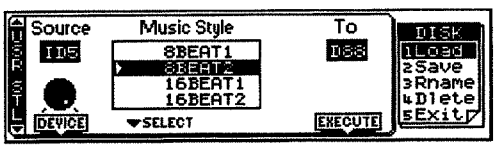
### Copying entire Styles using Load (all tracks)

1. Press [F5] (Exit) to return to the Master page.

2. Press [F5] (Disk) to select the Disk mode.

3. If the 1 Load option is not highlighted, press [F1] (Load) to select it.
The message in the scroll bar (left-hand side) should read USR STL. If that is not the case...

4. ... press [PAGE] ▲▼ until the scroll bar reads USR STL.




5. Using the [ACCOMP/GROUP] knob, select Int for the Source parameter.
Int allows you to select any internal Music Style (A11~C28). If you wish to copy a Style from disk, set Source to FDD, ID5, etc.

The Music Style info window displays a list of Styles in the internal memory (Int) or on the disk.

*Note: If the desired disk is inserted but not available, press Part Select [M.DRUMS] (Device) to mount the drive in question. See page 17.*

6. Use the [ACCOMP/GROUP] knob to scroll through the list of available Styles. The highlighted (white-on-blue) Style will be loaded.

7. Press Part Select [UPPER1] (Execute) to load the Style.

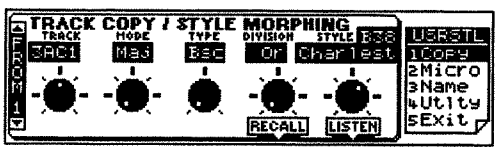
8. Press [F5] (Exit) to return to the Master page.

**9. Press [F4] (UsrStl) to return to the User Style mode.**
*Note: This procedure is not really necessary because selecting a Style in the EM-2000's Arranger mode has exactly the same effect as this function. Here, however, you know exactly what you're doing.*

## Copying individual Style tracks (Style Morphing)

While the previous function allows you to copy entire Styles, the Track Copy function can be used to copy individual tracks, modes, types, and divisions. You can thus create new Styles by combining Parts from various existing Styles into a new accompaniment, a technique called "morphing".

**1. On the first User Style\Rec page, hold down [SHIFT] and press [F1] (Copy).**



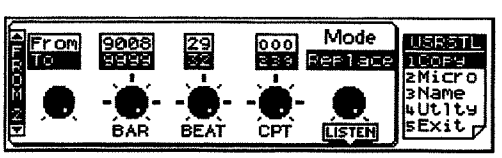

**2. Use the [DRUMS/PART] knob to select the track to be copied.**

**3. Use the [ACCOMP/GROUP], [BASS/BANK], and [LOWER/NUMBER] knobs to select the Mode (Maj, Min, 7th), the Type (Bsc, Adv), and the Division (Or, Va, Fo, Fv, In, Ed).**

**4. Next, select the Style (internal banks A~D, or on any currently mounted disk device) that contains the track(s) to be copied using the [UPPER/VARIATION] knob.**
*Note: You can also use the Music Style buttons as well as the Disk List function (see page 23) to select the Style to be copied. If you use the knob, you need to press Part Select [UPPER2] below the display to temporarily transfer the selected data to the EM-2000's Style RAM memory for listening purposes.*

**5. Press Part Select [M.DRUMS] (Listen) to listen to the excerpt you are about to copy.**
*Note: Listen is not available when you select All for one of the above entries, or when the selected Style hasn't been recalled yet (see above).*

**6. Press [PAGE]▼ to select the From 2 page:**




### From

Start by specifying the position of the first event (or note) of the source track to be copied.

**7. Activate the From level using the [DRUMS/PART] knob.**
The word From and the related values (upper line) must be displayed white-on-blue.

**8. Use the [ACCOMP/GROUP], [BASS/BANK], and [LOWER/NUMBER] knobs to set the Bar, Beat and CPT units respectively.**
By default, the From parameters are set to Bar 1, Beat 1, CPT 0.

You can also choose to copy only those notes that you need, in which case, the Beat and CPT parameters will help you select a starting point that lies behind the first beat of the track you wish to copy.

### To

**9. Use the [DRUMS/PART] knob to select the To level (second line).**
The To position indicates the end of the excerpt to be copied. By default, the To values are set to include the entire track.

**10. Use the [ACCOMP/GROUP], [BASS/BANK], and [LOWER/NUMBER] knobs to set last Bar, Beat and CPT units respectively.**
If you wish to copy an entire bar, select the Bar-Beat-CPT "0" value of the next bar, i.e. to copy bars 1~4 specify "From 1-1-0/To 5-1-0".

**11. Press Part Select [M.DRUMS] (Listen) to listen to the excerpt again.**

### Copy mode

Copying can be carried out in one of two modes:

**Replace:** The data in the selected range will be copied and overwrite all data of the destination track in the selected source track range.

**Mix:** The data in the selected range will be added to any existing data on the destination track.

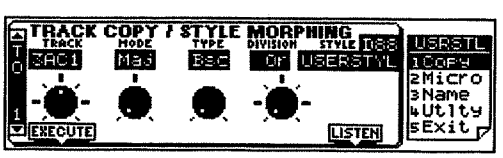
In either case, the length of the destination track may change to include all data of the source track.

*Note: If the Style RAM memory already contains new data, save it to disk before copying. The EM-2000 has no Undo function. Saving a Style to disk before copying will allow you to load the previous version in case something goes wrong. See "Saving your Style to disk" on page 89.*

**12. Use the [UPPER/VARIATION] knob to select the copy mode (Replace or Mix).**

### Destination (To 1)

**13. Press [PAGE]▼ to select the To 1 page:**




This page looks similar to the From 1 page (see above). Here, however, you start specifying the place

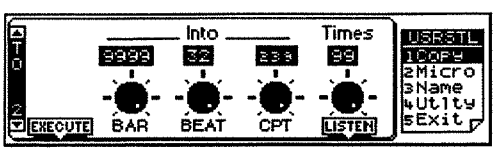
the data you selected will be copied to, ie, the destination.

**14. Use the [DRUMS/PART] knob to select the track you wish to copy the data to.**
*Note: It is impossible to copy ADR data to other tracks than ADR tracks. Likewise, you cannot copy ABS data to other tracks than ABS tracks. Feel free to copy AC data to any AC track (but they cannot be copied to ADR or ABS tracks).*

**15. Use the [ACCOMP/GROUP], [BASS/BANK], and [LOWER/NUMBER] knobs to select the Mode (Maj, Min, 7th), the Type (Bsc, Adv), and the Division (Or, Va, Fo, Fv, In, Ed).**
*Note: It is impossible to copy between looped and one-shot divisions. See "Looped vs one-shot" on page 84 for more information about these two division types.*

**16. Press Part Select [UPPER1] (Listen) to listen to the track you are about to copy to.**

**17. Press [PAGE]▼ to select the To 2 page:**



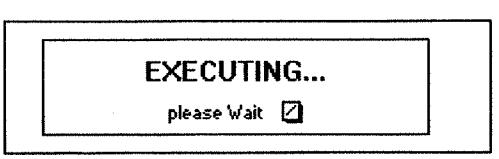

The Into position indicates the beginning of the excerpt you are about to copy. If you wish to copy the source data to the beginning of the selected track, select Bar= 1, Beat= 1, and CPT= 0.

**18. Use the [ACCOMP/GROUP], [BASS/BANK], and [LOWER/NUMBER] knobs to set the Bar, Beat and CPT units respectively.**

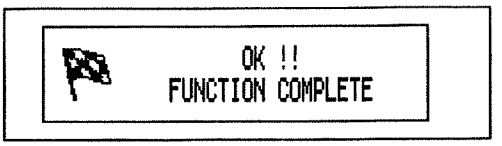
**19. Press Part Select [UPPER1] (Listen) to listen to the destination track again.**

**20. Use the [UPPER/VARIATION] knob to specify the number of copies (Times) to be made. Select "1" if the excerpt is to be copied only once.**
Before copying the data, check whether all settings are correct. Use the [PAGE] ▲▼ buttons to select other Copy pages. Then return to this page.

**21. Press Part Select [M.DRUMS] (Execute) to copy the data.**
The display now responds with the following message:




When the data are copied, the display will tell you:




You can press Part Select [UPPER1] to listen to the new data on the destination track (and the selected division).

# 12.4 Editing User Styles

## Editing on the fly by recording

### Adding notes in realtime

To add notes to an existing part, select Record Merge (2nd User Style page), select the part, and start recording by pressing [REC●] (Recorder section) and [START/STOP] (Arranger section) or [PLAY►/STOP■] (Recorder section). Play the notes where you want them to sound.

*Note: Do not forget to select the desired Division, Mode, and Type (see page 85).*

### Adding controller data in realtime

To add controller data (modulation, Pitch Bend, Hold, expression) to an existing part, select Record Merge (2nd User Style page), select the part and division, and start recording by pressing [REC●] (Recorder section) and [START/STOP] (Arranger section) or [PLAY►/STOP■] (Recorder section). Operate the controller (Pitch Bend lever, modulation lever, optional DP-2, DP-6, or FS-5U footswitch for Hold data, optional EV-5 or BOSS FV-300L or EV-10 foot controller for expression data) where needed.

*Note: Do not forget to select the right Division, Mode, and Type (see page 85).*

### Adding or changing settings of existing parts

The following operations require that you record in Record Merge mode without touching the keyboard or controllers, select the track and division whose settings you wish to change, activate Record Merge, and start recording. Unless you wish to program continuous value changes (Panpot data, for example), you can stop recording after the first beat. Static settings are always written at the beginning of the track in question, so there is no need to record an entire cycle.

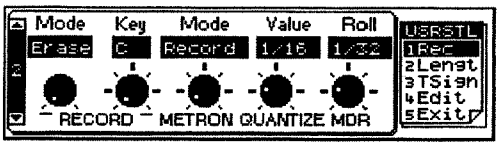
**Tone/Drum Set selection**

To select another Tone or Drum Set for an existing User Style part, proceed as follows:

**1. On the first User Style\Rec page, select the Track you wish to assign another Tone or Drum Set to using the [DRUMS/PART] knob.**

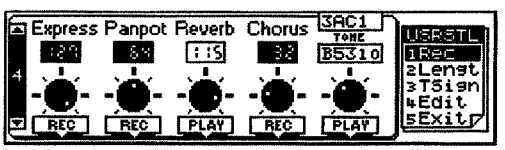
**2. Select the division whose settings you wish to change, and possibly also all clones (see page 85).**

3. Press [PAGE]▼ to select the following page:



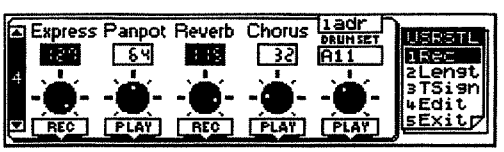

4. Use the [DRUMS/PART] knob to set Mode to Merge. (Let us assume that your part already contains data, though the following works the same for empty tracks.)

5. Press [PAGE]▼ until the following display page appears:




Look at the display before selecting another Tone. The Expression, Panpot, and Chorus values in the above illustration are reversed. As you see in the bottom row of the display, the corresponding Play/Record switches are set to REC, meaning that these values will be recorded next time around. The Reverb and Tone values, on the other hand, are displayed blue-on-white. If you look at the corresponding Play/Record switches, you will see that they are set to PLAY, meaning that the corresponding settings will not be recorded.

The abbreviation 3AC1 appears in uppercase, which means that the track in question already contains data. Now look at the following illustration that tells you that the ADR track of the currently selected division doesn't yet contain data:




6. Press the Part Select [M.DRUMS], Part Select [M.BASS], Part Select [LOWER1], and Part Select [UPPER2] buttons to set the Play/Record switch of all settings you do *not* wish to record to PLAY.

7. Press Part Select [UPPER1] to set the Tone Play/Record switch to REC.

8. Select the new Tone to be assigned to the currently selected track and division using either the [UPPER/VARIATION] knob or the TONE/USER PROGRAM section buttons.

9. Press the Recorder [REC●] button.

10. Press [START/STOP] or Recorder [PLAY►/STOP■] to start recording.

11. Press [START/STOP] again after the first or second beat (but wait until the one-bar count-in is finished).

This completes Tone selection. The new Tone address (Group, Bank, Number, Variation) automatically replaces the old one.

*Tip*: You could use different Tones for every division of a User Style. Thus, the 3AC1 Basic/Original track may contain an electronic piano line that is played by an acoustic piano in the Basic/Variation division etc. Beware of too much "artistic license", though. Using another ACC track for the acoustic piano will avoid a lot of confusion.

**Customizing drum sounds – Drum Set Note Pitch:**
The fifth User Style\Rec page allows you to modify the pitch of certain sounds of the selected Drum Set. The eligible sounds and corresponding note numbers are:

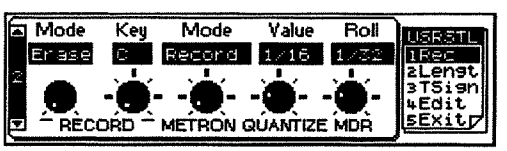
| Note | Sound |
|---|---|
| C#2/37 | Side Stick |
| D2/38 | Stand. 2 Snare 1 |
| E2/40 | Stand. 2 Snare 2 |
| F2/41 | Low Tom 2 |
| E3/52 | Chinese Cymbal |
| G#3/56 | Cowbell |
| A3/57 | Crash Cymbal 2 |
| F4/65 | High Timbale |

*Note: The User Style\Rec\5 display page only appears if you selected the 1ADR track before calling up this function.*

1. On the first User Style\Rec page, select the 1ADR track.

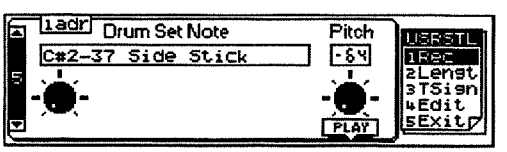
2. Select the division whose settings you wish to change, and possibly also all clones (see page 85).

3. Press [PAGE]▼ to select the following page:




4. Use the [DRUMS/PART] knob to set Mode to Merge. (Let's assume that your part already contains data, though the following also works for empty tracks.)

5. Press [PAGE]▼ repeatedly until the following display page appears:



**6. Select the drum sound whose pitch you wish to change with the [DRUMS/PART] knob.**

**7. Use the [UPPER/VARIATION] knob to set the desired pitch (-64~+63).**
You can play on the keyboard to listen to the result.

**8. Press Part Select [UPPER1] to set the Play/Record switch to REC.**

**9. Press the Recorder [REC●] button.**

**10. Press [START/STOP] or Recorder [PLAY►/STOP■] to start recording.**

**11. Press [START/STOP] again after the first or second beat.**

**Expression, Panpot, Reverb, Chorus**

Setting or modifying the Expression, Panpot, Reverb (Send), and Chorus (Send) parameters is similar to selecting another Tone for existing tracks. See "Tone/Drum Set selection" on page 93 for details.

The Reverb and Chorus settings represent send values (see page 75). The effect settings (Type, Character, etc.) can only be saved to a User Program. In other words, a Music Style's character may change depending on the User Program you select.

*Tip*: You can create interesting panning effects by slowly shifting the selected track from left to right (or vice versa) in the course of a pattern. This is especially effective for synthesizer or guitar riffs. Continuous changes mean that you have to keep recording until the end of the pattern.

Expression (control change CC11) is a subsidiary volume message that works relative to the volume (control change CC07) message. Whenever you set Expression to "127" the resulting part volume will be equal to the value specified for Volume (CC07).

The Volume values of the Arranger parts can be set in Mixer (see page 73) or Volume (see page 72) modes.

Use the [DRUMS/PART], [ACCOMP/GROUP], [BASS/BANK], and [LOWER/NUMBER] knobs to set the value you wish to record.

### Setting the preset tempo

The preset tempo is the tempo the Arranger selects in One Touch mode. By now, you know that the [TEMPO] dial and [AUTO/LOCK] button allow you to override the preset Style tempo and save the new tempo value to a User Program. Setting the right preset tempo is useful for those occasions where you wish to use One Touch Program (see page 44).

To program another preset tempo, set it using the [TEMPO] dial, select any part on the first User Style\Rec page, activate Record Merge mode and record one or two beats.

*Do not play on the keyboard or use any controllers connected to the EM-2000, though!*

*Note: The last tempo value you record automatically becomes the Style's preset tempo.*

## 12.5 Programming User Styles via MIDI

A third way of programming User Styles is to use an external sequencer (computer with sequencer software or an MC-50MkII) and transmit the MIDI data in realtime while the User Style function is recording. Using an external sequencer has two advantages:

- You can program your music in Step time (on the external sequencer) before turning it into an interactive Style.
- You can copy Styles of older Intelligent Arranger models that are not equipped with a disk drive.

*Note: If you use commercially available Standard MIDI Files as a starting point for your User Styles, remember that the material is copyright protected.*

*Note: Delete the GM System On or GS Reset message of the GM or GS Standard MIDI File you intend to use before sending MIDI data to your EM-2000. These two messages are SysEx messages (System Exclusive) found at the beginning of a sequence that cause the EM-2000 to switch to GM/GS mode, thereby deactivating the Arranger. See your sequencer's manual for how to delete MIDI messages.*

### Data that can be recorded

Apart from note on/off and velocity data, the EM-2000's Arranger also accepts the following MIDI messages:

| MIDI message | Number | Name |
|---|---|---|
| Control Change | CC00 | Bank Select MSB |
| Control Change | CC01 | Modulation |
| Control Change | CC06 | Data Entry |
| Control Change | CC10 | Pan |
| Control Change | CC11 | Expression |
| Control Change | CC32 | Bank Select LSB |
| Control Change | CC64 | Hold [a] |
| Control Change | CC91 | Reverb Depth |
| Control Change | CC93 | Chorus Depth |
| PC | | Program change |
| PB | | Pitch Bend |
| Control Change | CC98 | NRPN MSB |
| Control Change | CC99 | NRPN LSB |

Hold on/off messages will be converted to the equivalent note duration values. The Arranger tracks never contain Hold messages but the duration of the affected notes will be set in accordance with the length obtained by using the Hold pedal.

Unless the sequences you use are GM/GS compatible, we recommend you filter out all data except modulation (CC01), Pitch Bend, and Hold (CC64). Specify the other settings manually on the EM-2000 (see "Editing User Styles" on page 93). After all, the EM-2000 contains lots of new sounds that you should take advantage of to enhance your Styles.

## Connection and synchronization

**1. Connect the MIDI OUT port of your sequencer or computer to the MIDI IN port of your EM-2000.**
The next step is to synchronize the EM-2000 to your sequencer – or the sequencer to your EM-2000. Here, it is probably best to use the sequencer as synchronization Master and the EM-2000 as slave (see page 101).

## Preparation of your sequence

**2. Isolate the measures you wish to record. This usually means that you have to copy the required number of bars to a new song.**
For instance, if the User Style division is to be 4 measures long, you have to reduce the sequence (or rather a copy of it) to the four measures you wish to record. These measures have to be copied to the very beginning of the new song.

**3. Check the track-to-MIDI channel assignment and modify the MIDI channels of your sequence accordingly.**

**4. Check the MIDI Port setting. It must be set to "◀A" (see also page 97.**

### MIDI channels

Every Arranger part/track is assigned to a MIDI channel. The factory settings are as specified on page 65.

## Preparation on the EM-2000

**5. Press [F4] (UserStl) to call up the User Style mode.**

**6. Press [F1] (Rec) if the 1Rec menu option is not selected.**

**7. Set the parameters for the part you are about to record. See page 85 and following for details.**

## Recording

**8. Solo the first part to be recorded on your sequencer or computer (or mute the other parts).**

**9. Press the [REC●] button in the EM-2000's Recorder section.**

**10. Start playback on your sequencer or computer.**

**11. Wait until the pattern is finished and then stop playback on your sequencer.**

**12. Return to step (7) to record the other parts of the current division.**

**13. To record other divisions, return to step (2).**

**14. When you are finished, press [F5] (Exit) to return to the Master page and set the Style Sync parameter back to Auto or Internal (see page 101).**
*Note: Do not forget to save your Style to disk at regular intervals (see page 89).*

*Note: If your User Style needs some touching up, see "Editing User Styles" on page 93.*

## Recording using external controllers

Most of the aspects covered in the "Programming User Styles via MIDI" section also apply to programming User Styles using external controllers – except synchronization, of course.

- You could ask a drummer to play the drum tracks of your Styles using a TD-10, TD-7, TD-5, SPD-20, SPD-11, or PAD-80 (Octapad II), i.e. a device fitted with a trigger-to-MIDI convertor.
- If you know a guitarist who owns a GR-30 or GR-09 Guitar Synthesizer or a GI-10 pitch-to-MIDI convertor, you should ask him to play the guitar and bass parts.
- The GI-10 also allows you to use a microphone and sing a line that is too difficult to play on a keyboard. The GI-10 can indeed convert your singing (pitch) to MIDI note messages.

Using "specialists" for recording your User Styles will add to the realism of your accompaniments.

The only thing to worry about when recording User Styles using external MIDI controllers is the MIDI channel of your external controller (see page 65).

*Note: Set the guitar-to-MIDI controller so that it sends MIDI messages on one channel rather than six.*

Connect the MIDI OUT port of the external controller to the MIDI IN A port of your EM-2000 and you are ready to go. See "Recording User Styles from scratch" on page 85 for how to record User Styles.

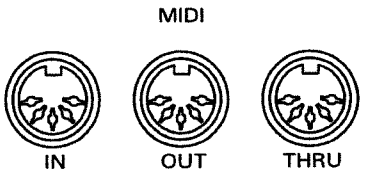
The EM-2000 also provides numerous in-depth editing functions for fine-tuning your User Styles. See "User Style Edit mode" on page 55 and "User Style Microscope mode" on page 59 in the Reference Manual for details.

# 13. MIDI mode

## 13.1 MIDI in general

### MIDI connectors

MIDI messages are transmitted and received using three connectors and special MIDI cables:




**MIDI IN:** This connector receives messages from other MIDI devices.

**MIDI OUT:** This connector transmits MIDI messages generated on your EM-2000

**MIDI THRU:** This connector "echoes back" all MIDI messages received via MIDI IN

### Channels

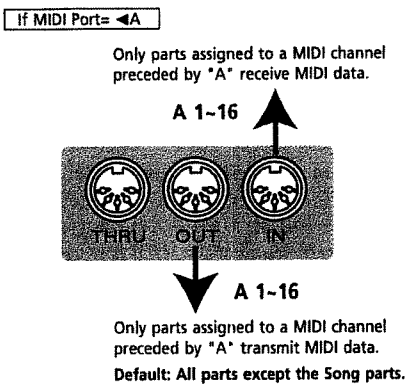
MIDI can simultaneously transmit and receive messages on 16 channels, so that up to 16 instruments can be controlled. Nowadays, most instruments –like your EM-2000– are multitimbral, which means that they can play several musical parts with different sounds.

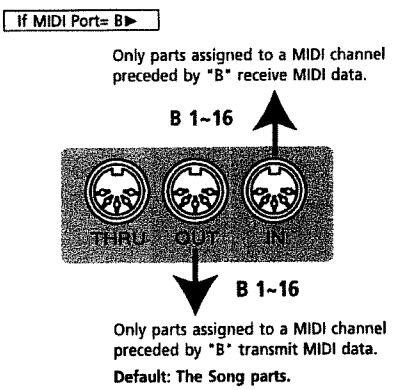
That concept is not difficult to understand. Just think of your EM-2000: it is equipped with an Arranger capable of playing the drums, the bass, and up to six accompaniment part, while at the same time allowing you to play up to seven Realtime parts. An instrument capable of playing all those parts using different Tones or sounds is called *multitimbral*. The same is true of sound modules such as the Sound Canvas series.

## 13.2 Selecting the MIDI Port

Your EM-2000 is fitted with one set of MIDI connectors (IN, OUT, THRU), so that you can control 16 MIDI channels simultaneously.

The EM-2000, on the other hand, provides two internal MIDI circuits, called "A" and "B". That explains why all MIDI channel numbers are preceded by a letter ("A" or "B"), see below.




If you do not change the MIDI Port setting, only the Realtime and Arranger parts as well as a few "general" parameters transmit and receive MIDI data.

Let us briefly come back to the EM-2000's part structure: it provides eight Realtime parts (Upper 1/2/3, Lower 1/2, M.Bass, M.Drums, and MI), and six Arranger parts (A.Drums, A. Bass, and ACC1~6). They all receive on separate MIDI channels, so that 14 channels are already taken.

The Recorder and 16-track sequencer control 16 additional parts you cannot select via the EM-2000's front panel. These are called the *Song parts*. And even though they have been "set aside" for the Recorder and 16-track sequencer, they are always available for MIDI control using an external instrument. In other

words: your EM-2000 contains a 16-part multitimbral tone generator that can be used alongside the Arranger and Realtime parts.

It is thus perfectly possible to use the Realtime parts for playing the melody and the Arranger to take advantage of the automatic accompaniment, while, at the same time, adding additional parts by playing on an external MIDI controller (sequencer/computer, MIDI master keyboard, MIDIfied guitar, PK-5 MIDI pedal board, etc.). Here is how to make this work:

**1. Connect the external MIDI controller to the EM-2000's MIDI IN port.**

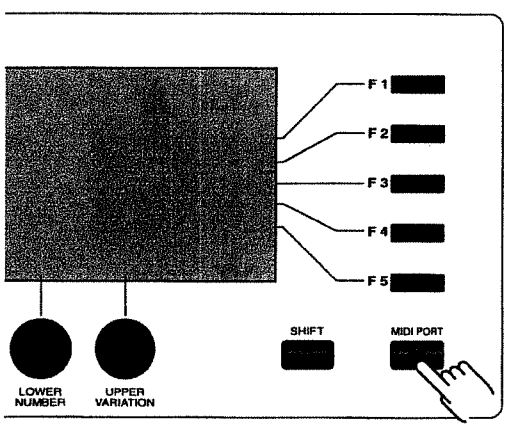
**2. Set the MIDI Port parameter to "B►" (see below).**
*Note: In that case, the Realtime and Arranger parts no longer transmit or receive MIDI data because they are assigned to "A" channels (unless you change that assignment). By selecting "B►", you indeed deactivate the MIDI A circuit.*

*Note: If you are experiencing problems with the MIDI transmission/reception of certain EM-2000 parts, always start by checking the MIDI channel assignments of the parts in question and of the MIDI Port setting.*

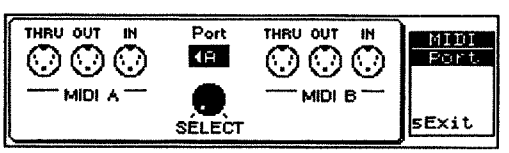
### Reception/transmission of "A" or "B" channels? – MIDI Port

Here is how to select which MIDI circuit should be connected to the EM-2000's MIDI ports:

**1. Press the [MIDI PORT] button (indicator lights).**




The display now looks like this:




**2. Use the [BASS/BANK] knob to select either "◄A" or "B►", depending on whether the parts assigned to an "A" or "B" channel should receive/transmit MIDI data.**

Just as a reminder: by default, the Realtime and Arranger parts are assigned to "A" channels, while the Song parts are assigned to "B" channels.

**3. Press [MIDI PORT] again (or [F5]) to leave this display page.**

## 13.3 Receiving MIDI messages

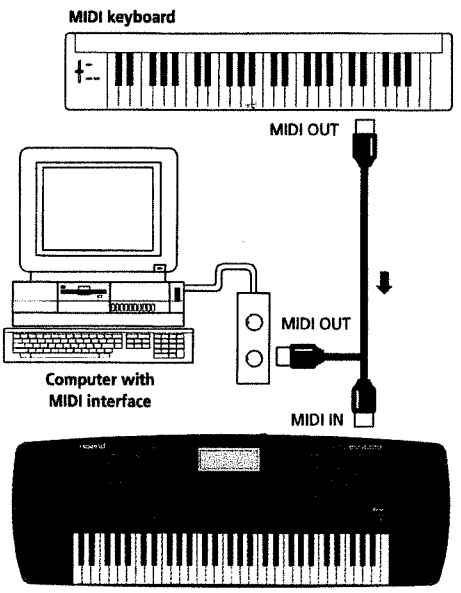
Your EM-2000 features an impressive number of MIDI parameters, some of which are used to set the MIDI receive (RX) or MIDI transmit (TX) channels, while most of them are related to enabling or disabling reception or transmission of certain MIDI messages. Do not change the MIDI parameter settings unless you know what you are doing, in order to maintain the highest possible degree of compatibility with other MIDI devices.

After setting your MIDI parameters, you may wish to write them to a MIDI Set (see page 102), so that they can be recalled when required. Selecting another MIDI Set may have a drastic effect on the way your EM-2000 behaves in a MIDI setup.

*Note: See also "MIDI mode" on page 64 in the Reference Manual for details.*

### Connections

To take advantage of the EM-2000's sounds while playing on an external keyboard or using a computer or sequencer, you must make the following connections:



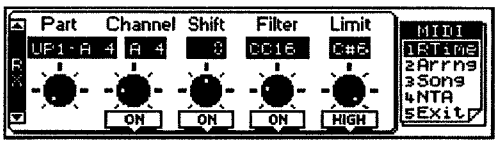
### Example: modifying the MIDI receive channel of the Upper 1 part

By way of example of how to use the EM-2000's MIDI parameters, let us have a look at what you need to do to ensure that the Upper 1 part (MIDI channel "A4") receives on MIDI channel "B16".

**1. On the Master page, press [F3] (MIDI).**
The Upper 1 part is a Realtime part, so we need to select the Realtime (or *RTime*) level:

**2. Press [F1] to select the Realtime level.**

**3. Use the [PAGE] ▲▼ buttons to select "RX" in the scroll bar.**
"RX" is short for "receive".




**4. Use the [DRUMS/PART] knob to select "UP1 A4".**
This is the part you can assign another MIDI channel to. As you see, the default setting ("A4" for "UP1") is specified for all parts, so that you won't even need the MIDI Implementation chart to set the channel number back to the default value.

**5. Use the [ACCOMP/GROUP] knob to set the *Channel* parameter to "B16".**
The Upper 1 part now receives MIDI data on MIDI channel "16" – but only if you set the MIDI Port parameter to "B►". (That, in turn, means that the remaining Realtime parts or the Arranger parts can no longer be controlled via MIDI, because they are still assigned to an "A" channel.)

*Note: If you want the EM-2000 to "remember" this setting, you must write it to a MIDI Set (see p. 102).*

If you do not want the Upper 1 part to receive MIDI messages, press the [M.BASS] button to change the ON message below *Channel* to OFF.

**6. Press [F5] (Exit) to return to the Master page.**

### Other MIDI RX parameters

The EM-2000 also provides a number of parameters that allow you to alter or filter incoming MIDI messages. Most of these parameters can be set for each Part individually, so be sure to select the part in question using the [DRUMS/PART] knob before setting the remaining parameters on the above display page. See page 69 in the Reference Manual for details about these parameters.

#### Shift

This parameter allows you to transpose the received note messages before sending them to the EM-2000's tone generator.

#### Filter

This parameter allows you to select several MIDI messages and to specify for each of them whether (On) or not (Off) the selected message should be received.

#### Limit (High, Low: C-1~G9)

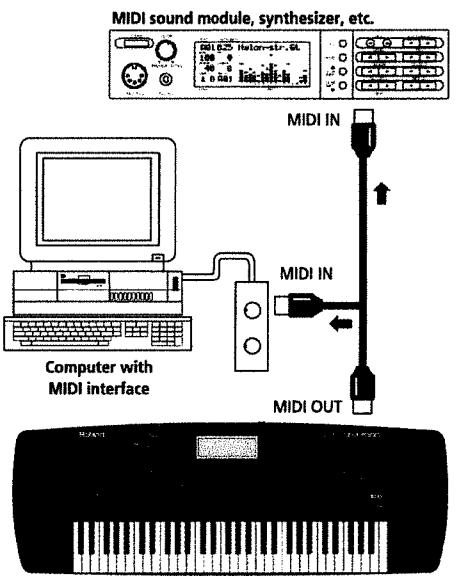
These parameters (High and Low) allow you to set the note range to be received. If not all note messages on the selected MIDI channel should be received by the selected part, set the range to the desired values.

## 13.4 Transmitting MIDI messages

*Note: See also "Selecting the MIDI Port" on page 97.*

### Connections

To have another instrument sound in response to the notes you play on the EM-2000, or to have a computer or external sequencer record what you are playing, you must make the following connections:




The transmit parameters of the various parts are located on the "TX" pages (short for "transmit"). Again, let us look at an example:

### Example: Transposing the MIDI note messages of the ACC 3 part one octave down

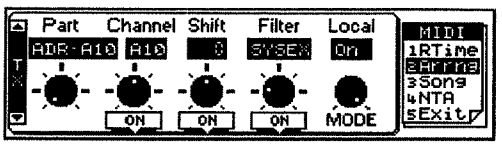
To find out how to select another transmit channel for this part, see "Example: modifying the MIDI receive channel of the Upper 1 part" on page 99 but select the "TX" instead of the "RX page.

**1. On the Master page, press [F3] (MIDI).**
The Upper 1 part is a Realtime part, so we need to select the Realtime (or *RTime*) level:

**2. Press [F1] to select the Realtime level.**

3. Use the [PAGE] ▲▼ buttons to select "TX" in the scroll bar.
"TX" is short for "transmit".

Press [F2] (Arrg) to select the Arranger level. The ACC 3 part is indeed an Arranger part, which is why we need to select the "Arrg" level.




The Shift parameter on this page allows you to transpose the MIDI note messages of the selected part. This only applies to the information transmitted to the EM-2000's MIDI OUT port and has no effect on the notes the EM-2000 itself plays.

4. Use the [DRUMS/PART] knob to select the ACC 3 part (*Part*= ACC3 A5).

5. Use the [BASS/BANK] knob to set "Shift" to "–12".
"–12" represents a downward shift of twelve semitones (=one octave), which is exactly what we need here.

*Note: If you want the EM-2000 to "remember" this setting, you must write it to a MIDI Set (see p. 102).*

6. Press [F5] (Exit) to return to the Master page.

## Other MIDI TX parameters

### Part, Channel, Shift, Filter

Except for the fact that these parameters apply to the transmission of MIDI messages (i.e. messages sent whenever you play on the EM-2000, select Tones, etc.), these parameters are identical to the RX parameters.

*Note: Unless you have a very good reason to do otherwise, we suggest you always select the same TX (transmit) and receive (RX) channel numbers for a part. That will help you spot the problem whenever the part in question does not receive MIDI messages or whenever it sends MIDI data on the "wrong" channel.*

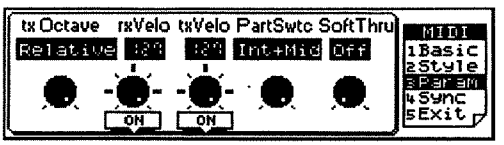
### Local (On, Off)

Set Local to On (default setting) whenever you want the EM-2000 respond to the notes you play on the keyboard. Setting Local to Off means that the part in question no longer controls the internal tone generator.

# 13.5 MIDI parameters (Param)

1. On the Master page, press [F3] (MIDI).

2. Hold down [SHIFT] while pressing [F3] (Param) to select the following display page:




This page contains several parameters that are not related to each other (the other MIDI pages always concentrate on one aspect). See "MIDI parameters (Param)" on page 100 in the Reference Manual for details.

### Meaningful transposition for MIDI note messages

The TX Octave parameter applies to Tone selection. You may have noticed that whenever you assign a bass sound to the Upper1 part in Split Keyboard Mode, the notes are transposed in such a way that you can play a meaningful bass line using the Upper1 part. *Relative* then means that this internal (and automatic) transposition is translated into note numbers, so that playing a C4 (note number 60) may actually result in note number 36 being played and sent to the MIDI OUT port. This, of course, depends on the Tone you assign to the Upper1 part.

In *Absolute* mode, however, the MIDI note number sent to the MIDI OUT port will be the one assigned to the key you press (e.g. note number 60). The advantage of being able to choose between Absolute and Relative is that you can play a bass line using the EM-2000's Upper1 part and double it with a trumpet of an external instrument.

*Note: If you decide not to use the TX or RX Shift values, you can set the corresponding switch to Off. That is quicker than setting all Shift values back to "0".*

### Receiving and transmitting velocity messages

Your EM-2000 is equipped with a velocity-sensitive keyboard and a tone generator capable of responding to velocity messages. Velocity messages are an important element for musical expression because the way you strike a key results in a loud/bright or soft/round note, telling the listener something about your feelings.

In some cases, however, it may be wiser not to convey the velocity aspect of music making to emulate instruments that are not velocity sensitive (such as organs, for example). The EM-2000 allows you to activate or deactivate the transmission and/or reception of velocity messages.

If you select the Off position, you have to tell your EM-2000 which velocity value to use instead of the continuous flux normally received (in this case, the

word *receive* applies to both incoming MIDI data and the messages received from the EM-2000's keyboard). See "rxVelo, txVelo, On/Off switches" on page 71 in the Reference Manual for details.

### Part mute for MIDI transmission

The Part Switch parameter on this display page allows you determine what happens when you mute a part on the first Realtime or Arranger Mixer page (see "Muting parts" on page 74). One thing you *know* will happen is that the part in question no longer sounds when you play on the keyboard – even though its Keyboard Mode indicator lights, or even though the Arranger is playing. What you do *not* see, however, is whether a muted part still sends MIDI data. PartSwtc allows you to specify whether or not a muted part should go on sending MIDI messages. See "PartSwtc" on page 71 in the Reference Manual for details.

### Soft Thru (On, Off)

This function actually overrides the MIDI specifications according to which the MIDI OUTput of an instrument only sends messages generated on the instrument itself (e.g. your EM-2000). See "Soft Thru (On, Off)" on page 71 in the Reference Manual for details.

## 13.6 Synchronizing the EM-2000

In some cases, it may be necessary to synchronize the EM-2000 to external MIDI equipment (or external MIDI equipment to the EM-2000). A few examples that spring to mind are:

- When you use the EM-2000 along with an MC-303 or MC-505 Groovebox.
- When you want to use an external drum computer, or a device such as the Roland PM-5 or DR-5 (i.e. sequencers that have no disk drive).
- When you want to use a sequence as raw material for your Music Styles and record the data via MIDI (see page 95).

Synchronization is necessary to ensure that both devices (the EM-2000's Arranger or Recorder and the external MIDI instrument) start at the same time and use the same tempo.

Without synchronization, your EM-2000 and the external device are like two watches lying side by side. No matter how hard you try to set them to the exact same time, you will notice that after a while, one is a little ahead of the other. This is not acceptable for recording MIDI data because it means that after a while, a note supposed to fall on the first beat of a bar will actually be located on the second beat. That is why MIDI instruments provide a function that allows you to select which of the two (or more) instruments is to be used as timing (clock) source. In that case, only one "watch" actually runs independently while, at the same time, sending signals to the other "watches" that inform the receivers about the position where they are supposed to be.

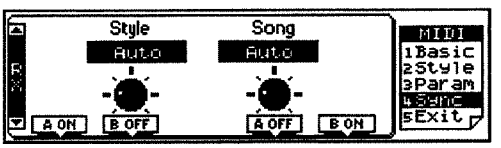
The Remote option allows you to start and stop Arranger or Song playback without synchronizing playback. That is useful if you wish to use a MIDI controller (footswitch, button, or PK-5) of an external master keyboard to start Arranger playback, for example.

You can also select the MIDI IN (RX pages) or MIDI OUT (TX) circuit to be used for receiving or transmitting Start/Stop/Continue, and Clock messages (A On, B Off, etc.).

Note that the Recorder also sends and receives Song Position Pointer messages.

**1. On the Master page, press [F3] (Midi), then hold down [SHIFT] and press [F4] (Sync) to select a Sync page.**

**2. Use [PAGE] ▲▼ to select the RX or TX pages.**




The Style Sync and Song Sync parameters on the RX pages are used to specify whether and how the Arranger or Recorder should be synchronized to external sequencers or drum machines. There are several options (see the Reference Manual). The one you will select most of the time are probably **Internal** (no synchronization with external instruments) and **MIDI** (synchronisation with an external MIDI instrument). Though **Auto** may appear to be a useful setting (incoming MIDI Clock signals are detected automatically), it may lead to confusion at times because the Recorder/Arranger could suddenly start or stop in response to incoming MIDI Clock messages even though you don't want it to. That is why "Internal" is probably a better choice.

### A On/Off, B On/Off

Use these switches to select the MIDI circuit for receiving or transmitting MIDI data. A Off/B Off obviously means that the EM-2000 does not send (or receive) MIDI Sync data. Be careful, though: selecting "B On" has no effect when MIDI Port is set to "◀A" and vice versa. See page 97 for details.

# 13.7 MIDI Sets

MIDI Sets are in fact memories for the settings you make in MIDI mode. The EM-2000 has eight MIDI Set memories on board that you can use to change your MIDI configuration. You can also save your MIDI Sets to disk and load them whenever necessary.

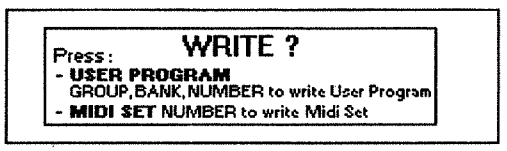
## Saving a MIDI Set

### Memory Protect

The Memory Protect function is activated every time you switch on your instrument. Memory Protect does what its name implies: it protects your User Programs and MIDI Sets from accidental erasure. See page 50 for details.

### Writing your settings to a MIDI Set

**1. Press and hold down the [WRITE] button (the [MIDI SET] indicator in the MUSIC STYLE/MIDI SET pad lights).**
The display asks you whether you are sure you want to write your settings to a MIDI Set. If you are, go on. Otherwise, release the [WRITE] button.

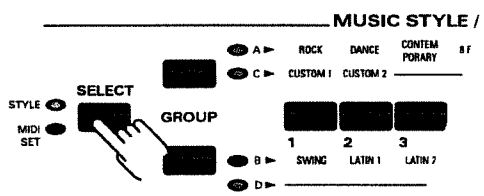



**2. Press a Music Style number button to save your MIDI settings to the corresponding MIDI Set.**
The display briefly confirms that your settings have been written to the memory you selected:


**3. Release the [WRITE] button.**

## Selecting a MIDI Set

**1. Press the [SELECT] button (MUSIC STYLE/MIDI SET section) so that the MIDI SET indicator lights.**




**2. Press a Music Style number button to select the corresponding MIDI Set.**

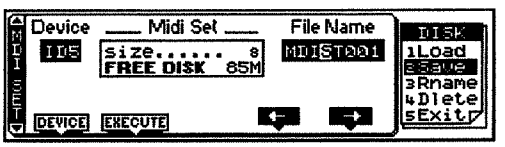
## Saving MIDI Sets to disk

After programming 8 MIDI Sets, you may find that you need a few more and that you have to make room for the new MIDI Sets. To do so without losing the previously saved MIDI Sets, you must save the "old" set to disk. Even if you do not program more than 8 MIDI Sets, it is a good idea to make a backup copy of your MIDI Sets in case someone else starts fiddling around with your settings.

**1. On the Master page, press [F5] (Disk).**

**2. Press [F2] (Save) to select the Disk\Save level.**

**3. Use the [PAGE] ▲▼ buttons to select the Save\MDI Set page:**




Before saving a MIDI Set to disk, you should name it. Choose a name that tells you something about the contents. Use the [LOWER/NUMBER] knob to select the character position and the [UPPER/VARIATION] knob to assign a character to the selected position. You can also enter the name with the TONE/USER PROGRAM pad. See page 25 for details.

**4. Insert a formatted floppy disk into the desired drive.**

**5. If necessary, press Part Select [M.DRUMS] to jump to the page where you can select the drive you wish to save the data to (Device, page 10).**

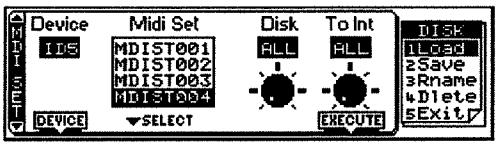
**6. Press Part Select [M.BASS] (Execute) to save your MIDI Set to disk**
Remember that your EM-2000 is multitasking, so that you can leave this page as soon as the EM-2000 starts saving the MIDI Set to disk.

**7. Press [F5] (Exit) to return to the Master page.**
*Note: When saving, the term "Set" is used to refer to all 8 MIDI Set memories. In others words, when you save "a" MIDI Set to disk, you save in fact the contents of all eight MIDI Set memories. Loading, on the other hand can be carried out selectively.*

## Loading a MIDI Set from disk

As stated in the above note, you are free to load just one MIDI Set container of a given MIDI Set on the selected disk. Feel free to only load MIDI Set container 3 from a given MIDI Set if you do not need the other 7 settings of that Set.

1. On the Master page, press [F5] (Disk).
2. Press [F1] (Load) to select the Disk\Load level.
3. Use the [PAGE] ▲▼ buttons to select the Load\MDI set page:




4. If necessary, press Part Select [M.DRUMS] to jump to the page where you can select the drive you wish to save the data to (Device, page 10).
5. Use the [ACCOMP/GROUP] knob to select the MIDI Set (group) if your disk (floppy, Zip, etc.) contains more than one MIDI Set.
6. Use the [LOWER/NUMBER] knob to select the MIDI Set container you wish to load.
You can also select ALL, which means that all eight containers of the selected MIDI Set will be loaded. In that case, you cannot select the destination memory (see below).
7. Use the [UPPER/VARIATION] knob to select the internal MIDI Set memory you wish to load the selected settings to.
You can select Int= 1, =2, =3..., =8.
8. Press Part Select [UPPER1] (Execute) to load the MIDI Set data.
9. Press [F5] (Exit) to return to the Master page.

*Tip*: The possibility to selectively load MIDI Set containers allows you to compile "Best Of" MIDI settings by loading them to different internal MIDI Set memories. After loading your 8 favorite MIDI settings, use the Save function to save the "Best Of" MIDI Set to disk.

# 14. Housekeeping

## 14.1 General remarks

A very important aspect of working with an instrument like the EM-2000 is to make backup copies of all important data.

No musician in their right minds would ever dream of going on the road without at least one copy of every cartridge or floppy he or she needs to perform. Therefore, do take the time to backup all your data. See "Disk Copy" on page 81 in the Reference Manual.

Do not forget to save all your settings in RAM-backed memory (User Programs, MIDI Sets, and Chord Sequence) before hitting the road. There is absolutely no excuse for not being able to perform because you forgot to save your internal settings to disk. After backing up your internal settings to disk, you should make a backup of that floppy.

See to it that you have all settings you need on at least two disks that are stored in different locations. If one of these disks becomes corrupted, immediately back up the other one.

## 14.2 Copy functions

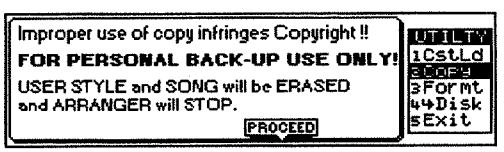
### Copying an entire floppy disk floppy to another floppy

WARNING: Copying entire floppy disks means that the EM-2000's Style RAM and Song RAM memories are erased. If you haven't yet saved your last song to disk, you should do so before proceeding. See page 64 for details.

**1. On the Master page, press [F5] Disk.**

**2. Hold down [SHIFT] and press [F3] (Utlty).**

**3. Press [F2] (Copy).**
The display now responds with "Improper use of copy infringes copyright". The indicator of the Part Select [UPPER2] button flashes.



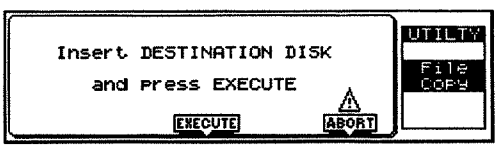

**4. Press Part Select [UPPER2] (Proceed).**

**5. Use the [PAGE] ▲▼ buttons to select "DISK" (left scroll bar of the display.**

**6. Press Part Select [LOWER1] (Execute).**
The display now responds with *Insert Source Protected Disk*. This message means that you can now copy the contents of an entire floppy disk to another one.

**7. Slide the Protect Tab of the disk you wish to copy in the Protect position and insert the floppy into the floppy disk drive (upper drive on the left-hand side).**
*Note: It will be impossible to copy the desired floppy disk if you do not write-protect it. In that case, the message "Source Disk unprotected" appears and the display returns to the above page.*

**8. Press Part Select [LOWER1].**
The display now displays a "Reading" page to signal that some (or all) data are being copied to the EM-2000's RAM memory. Once the first chunk of data has been loaded, following message appears:




**9. Remove the original floppy (the SOURCE disk) and insert the one (DESTINATION) you wish to copy the data to.**
*Note: Be careful to set the PROTECT tab of the Destination disk to the WRITE (or OFF) position.*

*Note: You need to use the same disk type as the one of the Source disk. If that was a 2DD disk, insert a 2DD disk. If the Source disk is a 2HD disk, use a 2HD disk.*

**10. Press Part Select [LOWER1] (Execute) again.**
This time, the data in the EM-2000's RAM memory are copied (saved) to the destination disk. If all data were copied in one go, the "Function complete" message appears and you're done. If only part of the data was loaded from the source disk, the "Insert SOURCE Protected Disk" message appears again. In that case, go back to step (7) and continue until the message "OK Function Complete" is displayed.

**11. Press [F5] (Exit) to return to the Master page.**

### Copying single files from floppy to floppy

WARNING: Copying entire floppy disks means that the EM-2000's Style RAM and Song RAM memories are erased. If you haven't yet saved you last song to disk, you should do so before proceeding. See page 64 for details.

**1. On the Master page, press [F5] Disk.**

**2. Hold down [SHIFT] and press [F3] (Utlty).**

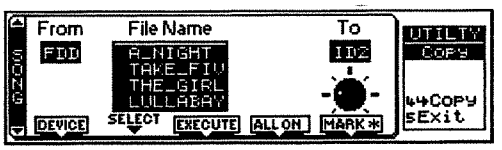
**3. Press [F2] (Copy).**
The display now responds with "Improper use of copy infringes copyright". The indicator of the Part Select [UPPER2] button flashes.

**4. Press Part Select [UPPER2] (Proceed).**

**5. Use the [PAGE] ▲▼ buttons to select "SONG" (left scroll bar of the display.**
The easiest way to select the floppy disk as copy source is as follows:

**6. Insert the floppy disk into the floppy disk drive.**
The display now asks "Floppy disk has been inserted, select FDD device?".

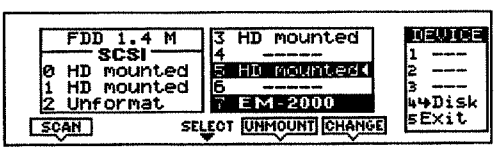
**7. Part Select [M.DRUMS] (Execute) to make the floppy disk the "Current Device" (the media you can copy data from).**
(If, for some reasons, you do not wish to use the floppy disk after all, press Part Select [UPPER1] (Exit) instead.)




## Selecting a drive using "Device"

Instead of performing steps (6) and (7) above, you can also select the floppy disk drive in a slightly more elaborate way:

• Press Part Select [M.DRUMS] (Device) to go to the DEVICE page.




- Switch on the SCSI device you want to use and insert the disk you wish to copy a Song from. In the case of the internal Zip drive, you just need to insert the desired Zip disk.
- Press Part Select [M.DRUMS] to scan the SCSI chain (to allow the EM-2000 to check which drives are currently connected and accessible).
- Use the [BASS/BANK] knob to position the ◀ arrow next to the drive that contains the disk you want to copy from. Here, you need to select "FDD".
- Press Part Select [UPPER1] (Change) to change to the floppy disk drive (make it the CURRENT DEVICE). The name of this drive is now displayed white-on-blue.
- Press [F4] ➥Disk to return to the previous display page.

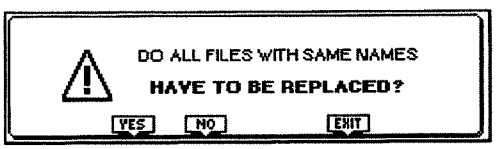
**8. Use the [UPPER/VARIATION] knob to select the device you want to copy the Song to.**
As we want to copy a Song from one floppy to another, you need to select FDD for "To".

**9. Use the [ACCOMP/GROUP] knob (SELECT) to select the file you want to copy.**

**10. Press Part Select [UPPER1] (Mark) to mark this Song.**
If you like, you can now return to step (9) and select another Song. Then proceed with step (10) to mark that. You could even "Mark" all Songs on the floppy disk if you like.

*Note: Pressing Part Select [UPPER1] (Mark) again for an already marked Song will "unmark" it. Files whose name is not preceded by an asterisk (*) are not copied.*

**11. Press Part Select [LOWER1] (Execute) to start the copy operation.**
You are now asked whether it is OK to overwrite all files on the Destination disk that have the same file names as the Songs you are about to copy.




**12. Press Part Select [M.BASS] (YES) if it is OK to overwrite any Song with the same file name on the destination disk.**
Press Part Select [LOWER1] (NO) if files on the source disk that have the same name as existing files on the destination disk should not be copied (only files with "original" names will be copied in that case). Press Part Select [UPPER1] (EXIT) to abort the Copy operation.

If you press [M.BASS] or Part Select [LOWER1], the EM-2000 copies the first chunk of data to its RAM memory, after which the display asks you to insert the destination disk.

*Note: If the display tells you "Disk busy, can't execute", you should stop Arranger or Recorder playback. This message means that the function cannot be executed because that RAM memory (Style or Song) is being accessed for playback, which is why it is impossible to copy the Song.*

**13. Remove the original floppy (the SOURCE disk) and insert the one (DESTINATION) you wish to copy the data to.**

**14. Press Part Select [LOWER1] (Execute) again.**
The Song file is now transferred from the EM-2000's internal memory to the Destination floppy disk, after which the Song Copy page reappears.

### Copying Styles from Zip (or another SCSI device) to floppy disk

You can also copy Styles (and other file types) from a Zip disk to a floppy or an external SCSI device (and vice versa). It is not possible, however, to copy from one Zip disk in the internal drive to another Zip disk in the internal drive. That explains why the "ID5" cannot be selected for "To" when the Zip drive (ID5) is selected under "From". Let us copy a Music Style from the supplied Zip disk to a floppy disk.

WARNING: Copying entire floppy disks means that the EM-2000's Style RAM and Song RAM memories are erased. If you haven't yet saved you last song to disk, you should do so before proceeding. See page 64 for details.

**1. On the Master page, press [F5] Disk.**

**2. Hold down [SHIFT] and press [F3] (Utlty).**

**3. Press [F2] (Copy).**
This once again calls up the Copyright message.

**4. Press Part Select [UPPER2] (Proceed).**

**5. Use [PAGE] ▲▼ to select STYLE.**

**6. Press Part Select [M.DRUMS] (Device) to go to the DEVICE page.**

**7. Press Part Select [M.DRUMS] to scan the SCSI chain (to allow the EM-2000 to check which drives are currently connected and accessible).**

**8. Use the [BASS/BANK] knob to position the ◄ arrow next to the drive that contains the disk you want to copy from.**
Here, you need to select "ID5" (or the ID number that corresponds to the desired SCSI device).

**9. Press Part Select [UPPER1] (Change) to change to the floppy Zip drive (make "ID5" the CURRENT DEVICE).**
The name of this drive is now displayed white-on-blue.

**10. Press [F4] ➥Disk to return to the previous display page.**

**11. Use the [UPPER/VARIATION] knob to select the device you want to copy the Style to.**
As we want to copy to floppy disk, you need to select FDD for "To".

**12. Continue with step (9) on page 105.**
*Note: See the Reference Manual for additional copy functions.*

## 14.3 Saving a Chord Sequence to disk

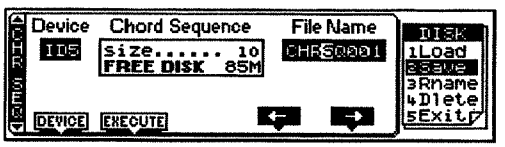
By way of example of how to save files in the EM-2000's internal memory to a Zip, floppy, etc. disk, let us have a look at what you need to do to save the Chord Sequence in the internal memory. See page 55 for details about the Chord Sequencer.

The principle is the same for the other Save (and Load) functions. The important thing to remember is to use [PAGE] ▲▼ to select the desired file type in the scroll bar.

**1. On the Master page, press [F5] Disk.**

**2. Press [F2] (Save).**

**3. Use the [PAGE] ▲▼ buttons to select CHR SEQ.**




**4. Name the Chord Sequencer file you are about to save.**
Use Part Select [UPPER2] and [UPPER1] to position the cursor, and [LOWER/NUMBER] or [UPPER/VARIATION] to specify a character for the selected position. You can also use the TONE/USER PROGRAM pad for entering names (see page 26).

**5. Select the drive you want to save the Chord Sequence to by pressing Part Select [M.DRUMS] (Device).**
This takes you to the Device page. See "Selecting a drive using "Device"" on page 105 for what to do next.

**6. Press Part Select [M.BASS] to confirm your settings and save the data to disk.**

**7. Press [F5] (Exit) to return to the Master page.**

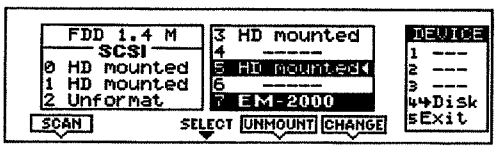
So much for the Player's Guide. We do hope you now have an idea about what your EM-2000 is capable of. Use the index to locate the functions you want to know more about, and be sure to read the explanations in the Reference Manual for full details about the EM-2000's functions. Have fun!

# 15. Miscellaneous

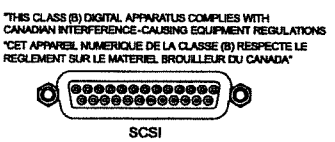
## 15.1 Handling SCSI devices

The internal Zip drive of your EM-2000 is a SCSI device. SCSI is short for *Small Computer System Interface*. SCSI allows for fast data transfer to and from the G-1000. A maximum of eight devices can be used. Every device needs to have a unique number (the *SCSI ID*).

In the case of the EM-2000 (i.e. the instrument itself) and the internal Zip drive, these IDs are fixed: "7" for the EM-2000, and "5" for the Zip drive. You can thus add up to six external SCSI devices.




To add other SCSI devices (Jaz drives, HD drives, etc.):



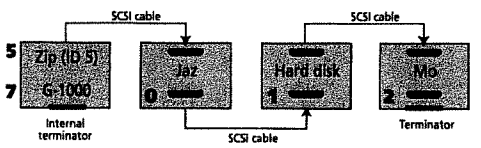

**1. Switch off the EM-2000 and all SCSI devices.**

**2. Connect either SCSI port of the new device to the EM-2000's SCSI port using a 25-pin/50-pin cable that came with your SCSI device.**
*Note: Such cables are also available in any computer shop. Be sure to purchase high-quality cables (preferably with double shielding).*

**3. Set the SCSI ID of the external device to any number except "7" or "5".**
Most SCSI devices are fitted with two switches on the rear panel that allow you to set a number. See also the manual of the external SCSI device for how to set its SCSI ID.

**4. Terminate the external SCSI device using either a hardware terminator or its DIP switches (see the manual of the SCSI device for details).**
Termination is necessary to signal where the SCSI chain ends. Failure to terminate the last device in your chain will at best result in faulty data transfer. The EM-2000 is already internally terminated (to signal the other end of the SCSI chain).

You can also add other SCSI devices. In that case, you need to assign them a SCSI ID that is not yet being used by other devices. See the steps above and connect the devices as follows:




Be sure to *only terminate the last device in your chain* and to assign every SCSI ID only once.

**5. Switch on the external SCSI devices.**

**6. Switch on the EM-2000.**
*Note: The EM-2000 can format hard disks up to 1GB (giga-byte). Any additional MBs on your hard disk cannot be accessed by the EM-2000.*

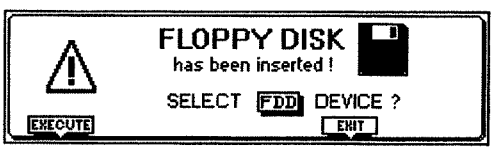
### Mount & Unmount

The EM-2000 does not automatically detect when you insert a disk into the internal Zip drive or an external SCSI device. Use the Device function of the Disk List or Disk mode to scan the SCSI chain *after* inserting a new disk to "mount" it. See "Device" on page 10 in the Reference Manual.

That page also allows you to *unmount* a disk, i.e. to signal that you no longer want to use it. Only after unmounting a device will you be able to eject the disk (for removable media). *Never switch off a mounted SCSI device without unmounting it first* as doing so may block the entire SCSI chain and cause the EM-2000 to "freeze".

## 15.2 Inserting floppy disks

Sometimes, when you insert a floppy disk into the EM-2000's disk drive, the following message is displayed.




This message informs you that the EM-2000 is aware that you have inserted a floppy disk, and it allows you to make it the CURRENT DEVICE (the device that is automatically selected for loading and saving data).

Press Part Select [M.DRUMS] if you wish to access the floppy disk, or Part Select [UPPER2] if you prefer to use the currently selected SCSI device as active drive.

Please note that this message only appears in certain cases, namely:

- when you are neither saving data to nor loading settings from a SCSI drive
- when the Recorder is neither recording, nor playing back
- when you're not in Disk List mode
- when you're not in Disk mode
- when you're not in Song Tools mode
- when you're not in User Style mode.

So please do not count on this message, and use [F4] (Dvice) in Disk List mode to make the floppy drive CURRENT DEVICE whenever you need to access it.

# 16. Index

# Notes

Roland

# EM-2000

## CREATIVE KEYBOARD

# Reference Manual



Welcome to the Reference Manual of your EM-2000. Before telling you what to expect from this manual, here are a few points that are not covered: Tone, Performance Memory, MIDI Set, Music Style, and User Style selection. See the Player's Guide for hands-on operations (such as how to record Songs, write your settings to a User Program, use the Chord Sequencer, etc.) The Reference Manual does, however, also contain more elaborate explanations of functions that you are probably not going to use right away, which is why they were not covered in the Player's Guide.

As its name implies, the present manual is only for your reference: it explains the available parameters and their setting ranges, and gives you some hints about the way certain parameters are related to one another. That is why it may seem far more "technical" than the Player's Guide. The Reference Manual manual is typically a document you turn to whenever you come across a parameter you'd like to know more about – or to discover what else the EM-2000 can do for you.

One final thing: we chose to indicate the addresses of the various display pages using backslashes (\). You probably know that symbol is used by computer users to indicate the hierarchy of various directories (or folders). The lefmost entry is always the most important one – and in the case of your EM-2000 designates the mode.

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# Contents

# 1. User interface

Your EM-2000 has been designed to provide everything you may need on stage or at home, and to allow you to access all functions and parameters as quickly as possible. That is why most actions can be performed using the display and the commands related to it.

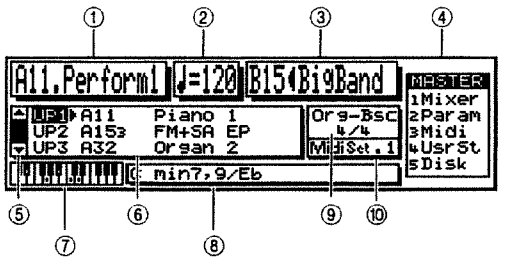
See page 15 in the Player's Guide for how to select the amount of information you want to see in the display.

## 1.1 [F5] Exit

The Exit function is usually assigned to the [F5] function key. Pressing [F5] once or twice always takes you back to the Master page.

## 1.2 Master page

The Master display page is what you see after powering on your the EM-2000. Let's agree to call it the *Master page* since the menu heading clearly says MASTER here:




In the GM/GS mode, the Master page looks slightly different. The fourth option, [F4] UsrStl, is replaced by the *Lyrics* option. Note also the GS MODE message in the lower right-hand corner:


The Style address window next to the Tempo window no longer specifies a memory address (e.g. "B15") but the drive that contains the song (*FDD* means "floppy disk drive").

**1. User Program address and name**
This where the address (Group, Bank, and Number) and the name of the currently selected User Program appear.

**2. Tempo window**
The tempo window indicates the playback tempo for the currently selected Music Style (see page 46 in the Player's Guide) or Standard MIDI File. You are free to override the preset tempo using the TEMPO dial and buttons.

**3. Music Style or song address and name**
This part of the display shows the address (Group, Bank, and Number) and name, or the number and name of the currently selected Music Style (see page 17 in the Player's Guide) or song.

**4. Function menu**
The function menu tells you what the five function keys (F1~F5) allow you to do. The function menu on the Master page allows you to select one of five EM-2000 modes (Mixer, Param, MIDI, UsrStl, or Disk). Pressing a function key will take you to the corresponding mode menu, where the function keys are used to select options related to that mode.

The EM-2000 modes are as follows:

**Mixer:** The Mixer mode allows you to modify the volume balance, effect send levels and various other functions related to the way the EM-2000 produces sound.

**Param** (Parameter): The Parameter mode is used to edit general parameters, effects parameters and various other functions.

**MIDI:** As the name implies, this is where you find the MIDI functions (channel settings and MIDI filters) of your EM-2000.

**UsrStl** (User Style): Select this mode when you want to create your own accompaniments.

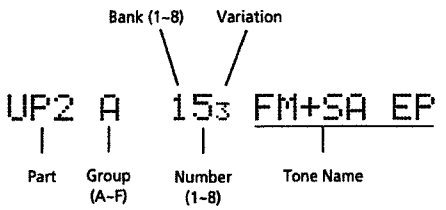
**Disk:** The Disk mode is used to save data to and load data from floppy disk, Zip disk or an external SCSI device. It also allows you to format disks and to make backups of your disks.

There are four other modes you can access via dedicated buttons: the Tone mode (page 31 in the Player's Guide), the Volume mode (page 16), the Disk List mode (page 10), and the MIDI Port mode (that is part of the EM-2000's MIDI settings, page 97 in the Player's Guide).

**5. Page scroll bar**
The two arrows are actually a graphic representation of the [PAGE] ▲▼ buttons. Since the display can only show three parts at any given time, you have to use the [PAGE] ▲▼ buttons to call up information on the currently invisible parts.

*Note: The black cursor (currently on UP1) shows which part is active for Tone selection. It is perfectly possible to scroll to a currently invisible part without selecting it. To select a part, you must use the left-most knob below the display (called [DRUMS/PART]) or the Part Select buttons.*

**6. Part Information window**
This window keeps you posted about the Tones that are currently assigned to the Realtime parts. The display format is as follows:




(The Variation number is not always displayed.) The reason why your EM-2000 also uses the Variation format is that it contains far more sounds than the MIDI standard can handle. A Variation is usually another kind of sound within a given group (hence the name *Variation*). The "St. FM EP" Tone assigned to Upper 2, for example, is another kind of electronic piano sound, which is why it is not considered a Capital by the EM-2000.

**7. Graphic Chord display**
This display shows which keys you pressed in the chord recognition area. The chord information is used to "feed" the Arranger (see "Selecting the chord recognition area" on page 42 in the Player's Guide).

**8. Chord Symbol window**
This window indicates the name of the last chord you played. The information displayed here may be helpful for the guitarist of your band.

*Tip*: This display can be invaluable when you start improvising and then find the changes you played were so nice that you would like to turn them into a song. Your EM-2000 is equipped with a function that helps you remember the changes. We suggest you activate the Chord Sequencer (see page 55 in the Player's Guide) whenever you start improvising. That way, you can play back the changes and write them down by copying the information that appears in the Chord Symbol window.

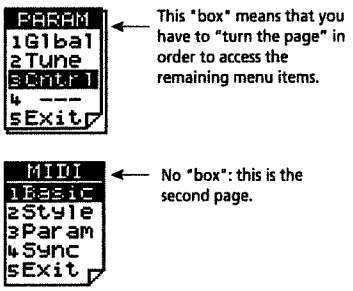
**9. Style/Song Information window**
This window either displays the current Style division and time signature or the current bar/beat and time signature of the Recorder song you are playing back.

**10. MIDI Set window**
This window displays the number of the MIDI Set that is currently active.

# 1.3 Navigating through the display pages

## Function keys and [SHIFT] button

Every function key is assigned to a specific line of the function menu. The function itself may vary, but the second item on the menu can always be accessed using [F2]. Certain menus are too large to fit on one display page. In that case, the lower right of the function menu will look like this:

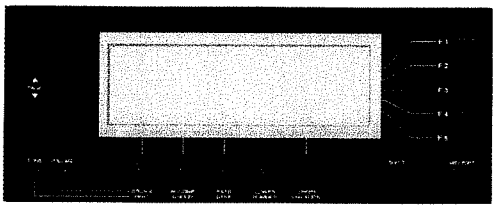



**1. To select the second page, press and hold down [SHIFT]...**

**2. ... and press the function key that is assigned to the item you need.**
But let's get back to the Master page.

**3. Press [F5] (Exit) until the Master page reappears:**

## Knobs, [TONE], and [VOLUME] buttons



As stated above, the EM-2000 has nine levels, five of which can be accessed via the function keys. Four levels can be selected via dedicated buttons:

TONE: Calls up the Tone select page. Here, the knobs allow you to select a, Part, Tone group (A~F), Bank (1~8), Number (1~8), and Variation. To leave this level, either press TONE again or [F5] (EXIT).

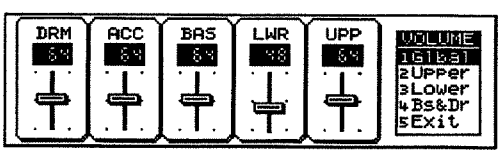
VOLUME: Calls up the mixer, where you can set the balance of all EM-2000 parts (both Realtime and Arranger parts). Note, however that only the Realtime parts can be selected via dedicated buttons (see below). Press [VOLUME] or [F5] (Exit) to exit this level.

DISK LIST: Calls up the Disk List mode, where you take advantage of the Database, and the Play & Search functions. Press [DISK LIST] or [F5] (Exit) to exit this level.

MIDI PORT: Calls up the MIDI Port page where you can choose which parts of the EM-2000 are connected to the MIDI ports. Your EM-2000 is 32-part multitimbral, which means that it can receive and transmit MIDI data for 32 channels. This may seem impossible, because the MIDI standard can only handle 16 channels. The EM-2000, however, uses two independent MIDI circuits. See "Selecting the MIDI Port" on page 97 in the Player's Guide for details.

The knobs are always assigned to an item that appears on the display. They usually work from left to right, i.e. the left-most knob controls the left-most item in the display, etc.

*Note: If you did not select any specific function level nor press the [TONE] button, using one of the knobs will take you to the Volume mode:*




Rotating the same knob again, or another knob, will modify the setting of the corresponding volume slider on the display.

*Note: The knobs are velocity sensitive. Turning them slowly will produce small value increments or decrements, while turning them fast will result in more substantial changes.*

## Reversed/positive value display

You will find that there is a reason why certain values appear on a blue background, while others appear on a light background. The EM-2000 contains a series of switches for selecting which volume, pan, etc., parameter values to use in a given situation:

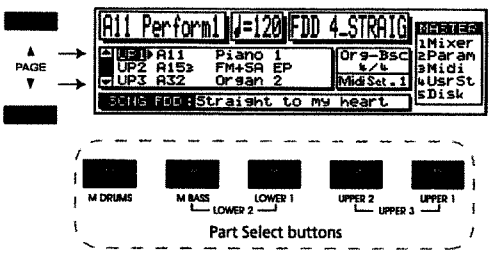
Reversed (white on blue): The part in question uses your own settings or the ones contained in the active User Program.

Positive (blue on white): The part in question uses the Music Style settings.

The system of white-on-blue characters is used consistently to point out that a certain part uses either your settings or those of the selected Music Style.

## [PAGE] ▲▼ and Part Select buttons

On the Master page, the [PAGE] ▲▼ buttons are used to cycle through the EM-2000's Realtime parts to see which Tones are assigned to them.




Cycling through the parts with the [PAGE] ▲▼ buttons does not mean that the part on the top line of the Part Information window is automatically selected. That explains why the black cursor and right arrow are not always visible.

Only one part will be highlighted at any one time. That part is active for Tone selection and other edit operations. The indicator of the Part Select [UPPER1] button is currently lit. It duplicates the cursor function in the Part Information window to indicate that the Upper1 part is currently selected.

Some Realtime parts need to be selected by pressing two buttons: Lower 2 ([M.BASS] + [LOWER1]), Upper 3 ([UPPER1] + [UPPER2]), and MI ([M.DRUMS] + [M.BASS]). Pressing one or two Part Select buttons will do three things:

**1. Activate the indicator(s) of the button(s) you pressed.**

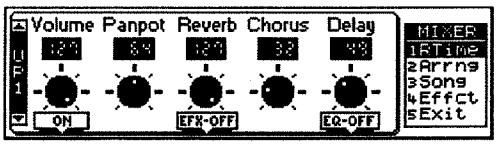
**2. Place the cursor (and the right arrow) on the corresponding Part in the Part Information window.**

**3. Place the selected part on the first line of the Part Information window.**

*Tip*: Instead of using the [PAGE] ▲▼ buttons to check the Tone assignment, you can also press the Part Select button that corresponds to the Part whose assignment you wish to check. That has the advantage that the part in question is automatically activated for editing, which is not the case when cycling with the [PAGE] ▲▼ buttons.

*Note: While the Easy Master page is displayed (see page 15 in the Player's Guide), the [PAGE] ▲▼ buttons allow you to directly select the desired Realtime part. This is possible because only one Realtime part is displayed.*

In the Mixer mode, the Part Select buttons, located below the knobs, function as On/Off switches. For instance, on the following display page, Part Select [UPPER1] allows you to turn the equalizer on or off.




Whenever one of the Part Select buttons functions as On/Off switch, you can no longer select parts using these buttons. In that case, part selection has to be carried out using the [PAGE] ▲▼ buttons. That explains why the page scroll bar then specifies the name of a part (Upper1 here).

# 2. Disk List Edit: programming Database information

On page 23 in the Player's Guide, we showed you how to use the Disk List functions for locating the desired Music Styles and Songs.

The EM-2000 also allows you to program Database information for your own Styles and Songs, and to enter the notes of the main theme for the Play & Search function (see page 26 in the Player's Guide for details about how to use Play & Search). In short: we still owe you an explanation of the Disk List Edit functions.

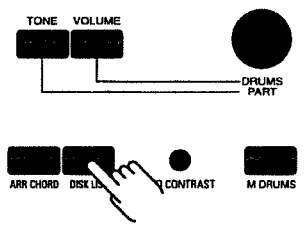
## 2.1 Selecting the Disk List Edit mode

The functions described below are available in Disk List mode. Here is how to select it:

**1. Switch on the EM-2000 and insert the supplied Zip disk if you intend to work with it.**
*Note: Be sure to INSERT THE ZIP DISK AFTER SWITCHING ON THE EM-2000.*

*Note: It would be a good idea to make a backup copy of the supplied Zip disk before continuing. See "Copy functions" on page 104 in the Player's Guide.*

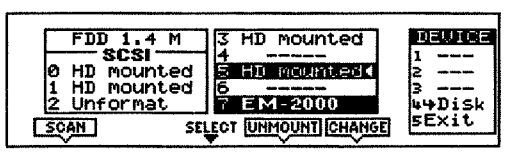
**2. Press the [DISK LIST] button.**




**3. If necessary, continue with step (4) to select the disk that contains the file(s) you wish to edit. Otherwise skip to step (7):**

### Device

**4. Press [F4] (Dvice) to select the following display page:**




**Scan:** Press Part Select [M.DRUMS] to scan the SCSI chain. This function allows you to check which devices are present. Do not forget to switch on the device you intend to use prior to scanning the SCSI chain. If you intend to work with the internal Zip drive, be sure to insert the Zip disk *after* switching on the EM-2000.

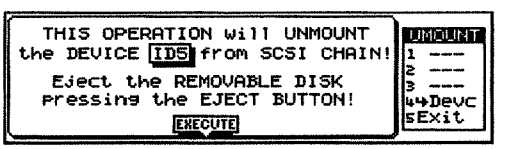
During the scan, the "EXECUTING" message will be displayed.

**Select:** Use the [BASS/BANK] knob (Select) to put the arrow next to the mounted disk you wish to use. Blank numbers (SCSI ID's that are not being used) cannot be selected.

*Note: Files on floppy disk cannot contain Database information. You can, however, rename them using the Rename function, or delete them with Delete.*

**Change:** Press Part Select [UPPER1] to make the selected item the "current" (active) device, i.e. the device the EM-2000 will load from and save to.

**Unmount:** Press Part Select [UPPER2] to jump to a display page where you can unmount a SCSI device:




Unmounting ID5 (the internal Zip drive), for instance, is necessary when you notice that the Zip drive does not contain the desired disk. You cannot eject a Zip disk without unmounting it first (even if you press the EJECT button on the internal Zip drive). Use this command prior to ejecting any removable media (magneto-optical disks, Jaz disks, etc.).

*Note: You do not need to unmount floppy disks (i.e. the FDD device).*

*Note: You can only unmount disks that are indicated as "HD mounted".*

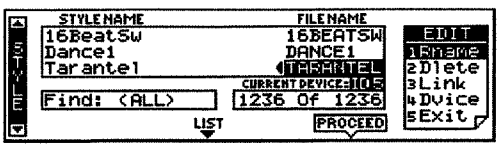
**5. Press Part Select [UPPER2] to unmount the selected SCSI device.**

**6. Press the EJECT button of the unmounted device, remove the disk, insert another one, and press [F4] ➥Devc to return to the Device page.**
This will take you back to the display page shown below step (4).

**7. Hold down [SHIFT] while pressing a function key:** [F1] for Rename (new name and/or Database info for Songs and Styles), [F2] for Delete (erasing a file from disk), or [F3] for "♩ Input" (note input for Play & Search).

## 2.2 Rename: Database information/file names

After pressing [SHIFT]+ [F1], the display looks like this:

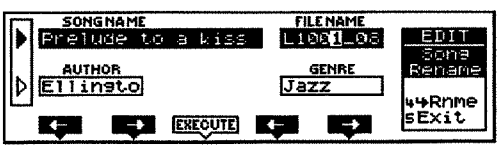



**1. Use [PAGE] ▲▼ to select STYLE or SONG (in the scroll bar).**
This obviously depends on whether you wish to change the name or Database information of a Music Style or Song on the selected disk.

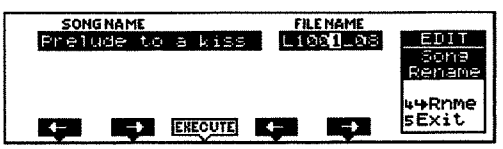
*Note: You can use the Find functions to locate the desired file on any CONNECTED DEVICE except for the FDD. See "Quick access to Music Styles and Songs on the supplied Zip disk" on page 23 in the Player's Guide for details. Here, it may be a good idea to select "Find ALL".*

**2. Use the [BASS/BANK] knob (List) to select the file you wish to edit.**

**3. Press Part Select [UPPER1] (Proceed) to jump to the following page:**

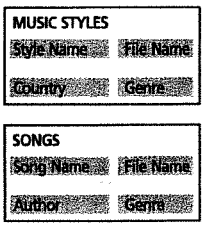



*Note: If the floppy disk drive (FDD) is the CURRENT DEVICE, the display looks as shown below. In that case, Rename works exactly like the Rename functions in Disk mode (see page 76), i.e. you will not be able to program Database information. Furthermore, sorting is always carried out by File Name.*




**4. Use [PAGE] ▲▼ to select the upper (Style/Song Name and File Name) or the lower (Country/Author and Genre) row of entry fields.**

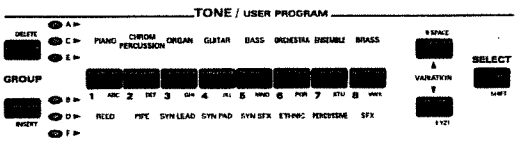
Here are the available Database entries for Music Styles and Songs:




The fields in the lower row (Country, etc.) are only available if the CURRENT DEVICE is not FDD.

**5. Use Part Select [M.DRUMS] and [M.BASS] to move the cursor in the left field (upper or lower row), and enter the desired character using the TONE/USER PROGRAM pad.**

**6. Use Part Select [UPPER2] and [UPPER1] to move the cursor in the right field (upper or lower row), and enter the desired character using the TONE/USER PROGRAM pad.**

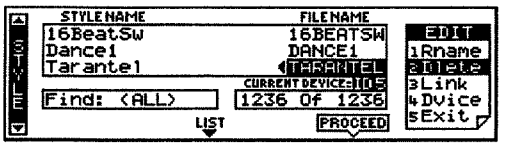



*Note: See page 25 in the Player's Guide for details about using the TONE/USER PROGRAM pad for entering names.*

**7. Press Part Select [LOWER1] to save the selected file with the new information (or name) and to return to the Rename page.**
You could also press [F4] (➥Rnme) to return to the first Rename page. In that case, the new information/name is not saved to disk. Alternatively, you can press [F5] (Exit) to return to the Master page.

## 2.3 (Disk List) Delete

After pressing [SHIFT] + [F2] (see page 10), the display looks like this:



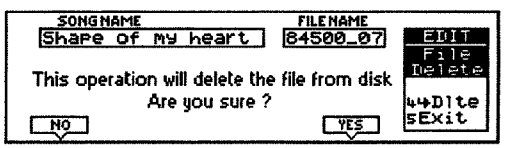

**1. Use [PAGE] ▲▼ to select STYLE or SONG (in the scroll bar).**

*Note: You can use the Find functions to locate the desired file on any CURRENT DEVICE except for the FDD. See page 23 in the Player's Guide for details. Here, however, File Name is the only item that can be sorted. After all, a file is what you want to delete.*

**2. Use the [BASS/BANK] knob (List) to select the file you wish to delete.**

**3. Press Part Select [UPPER1] to go to the following page.**

Here, the name of the selected file is displayed.




**4. Press Part Select [UPPER1] to delete the selected file.**

Press Part Select [M.DRUMS] if you'd rather not get rid of that file.

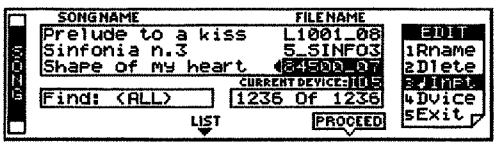
You could also press [F4] (➥Dlte) to return to the first Delete page. In that case, the file is not deleted. Alternatively, you can press [F5] (Exit) to return to the Master page.

*Note: Be careful not to delete a Music Style or Song that is used in a Custom Set (see page 78) or a Song Set (see page 14).*

## 2.4 Note (♩) Input

This function allows you to program the theme that should allow you to find the Song using the Play & Search function (see page 26 in the Player's Guide).

After pressing [SHIFT] + [F3] (see page 10), the display looks like this:




**5. Use the [BASS/BANK] knob to select the Song file you wish to input the main theme for.**

*Note: You can use the Find functions to locate the desired file on any CONNECTED DEVICE except for the FDD. See "Quick access to Music Styles and Songs on the supplied Zip disk" on page 23 in the Player's Guide for details. Here, it may be a good idea to select "Find ALL".*

**6. Press Part Select [UPPER1] (Proceed).**


**7. Play the notes.**

The rhythm is of little importance. The squares fill up with every note you play. Try to enter a theme you are likely to search for. That will allow you to put Play & Search to good use.

*Note: If you make a mistake, press Part Select [M.DRUMS] to cancel the notes you've input and start again.*

**8. Press Part Select [UPPER1] (Execute) to save the file (and the note information) to disk.**

Songs that contain Play & Search information are recognizable by the note symbol (♩) to the left of their names.

*Note: The Play & Search function is Database information that is not part of the Songs themselves.*

## 2.5 Disk Link: establishing links to external Music Styles

You can program your own links to Music Styles on the desired device(s), so that when you select a Group/Bank/Number while playing, you actually tell the EM-2000 to copy the desired Music Style data from the specified disk to memory D88.

The data will be used automatically, by the way, so you do not need to select the D88 memory after entering a Disk Link address.

Here's how to establish links:

*Note: Disk Link assignments are saved internally but they are not part of the User Programs. Thus, you can "only" program 111 links in all (rather than 111 per User Program).*

*Note: Disk Link settings are saved to a global memory whose contents is saved together with all User Program Set data (Save User Program Set function, page 75). When you transfer such a Set back to the EM-2000 using the "All" option of the User Program Set Load function, the internal Disk Link settings will be replaced by the settings you have just loaded. Be sure to save your settings to disk before loading an entire User Program Set. Use "Save User Program Set" on page 75 for saving the settings.*

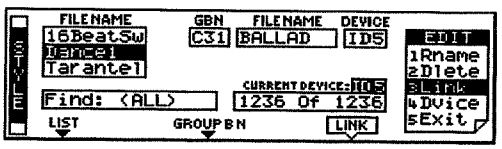
**1. Press the [DISK LIST] button.**

**2. Press [F4] (Dvce) to the right of the display. See page 10 for how to select the disk (device) you want to use (the "Current Device").**

*Note: You can also select the Current Device after jumping to the [F3] (Link) page. Just press [F4] and proceed as specified above.*

*Note: When you insert a floppy disk, you are given the opportunity to define it as CURRENT DEVICE without selecting the Device page. See "Inserting floppy disks" on page 107 in the Player's Guide.*

**3. Press [F1] (Style) to switch to the Style level, next hold down [SHIFT] while pressing [F3] (Link).**

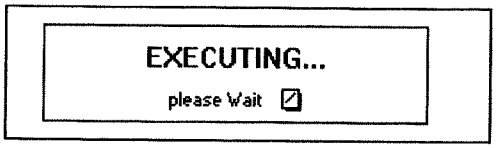



**4. Use the [DRUMS/PART] knob (List) to select the Music Style on disk you wish to assign to a Disk Link memory.**

*Note: If you don't find the desired Style, you may have to change the Find mode. See "ALL: sorting files in alphabetical order" on page 24 in the Player's Guide for details.*

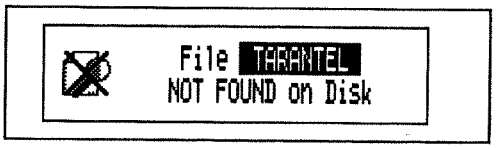
**5. Use the [BASS/BANK] knob to select the Disk Link memory (C31~D87) you wish to assign the Music Style to.**

**6. Press the flashing Part Select [UPPER1] button (Link) to establish the link. The display now tells you that the link is being registered:**




Please note the following for Disk Link Styles:

- You need to select Group C, and a memory between C31 and C88, or Group D.
- Disk Link only works if the disk a memory is linked to can be accessed by the EM-2000, and that the Style in question is still available. References are made by file name, so if you rename a Music Style, Disk Link can no longer find it. Thus, you may sometimes encounter the following error message when trying to access a linked Music Style:




In that case, insert the disk, use the Scan function on the [F4] (Dvice) page and try to select the Disk Link memory again.

# 3. Miscellaneous

## 3.1 Song Sets

Song sets are another useful feature for performing artists because they allow you to take a break without leaving the audience without music. Song Sets are in fact little sequences that specify the order in which the Standard MIDI Files on a given disk are to be played back.

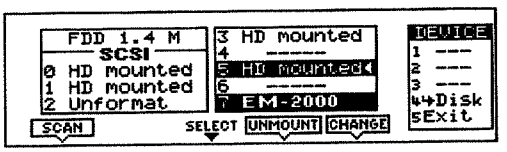
Song Sets can either produce continuous playback of up to 99 songs on disk (floppy, Zip, hard disk, etc.) or be programmed to stop at the end of each song, which means that you have to start playback of next song manually.

### Compiling a Song Set

**1. Insert the disk that contains the songs you wish to combine to a Set into the appropriate drive.**
*Note: Do not use commercial Standard MIDI File floppy disks. You may want to use the Song Copy or Disk Copy function before proceeding (see page 81).*

**2. On the Master page, press [F5] (Disk).**

**3. If necessary, first press [F4] (Dvice) to select the drive that contains the songs you wish to turn into a Set.**



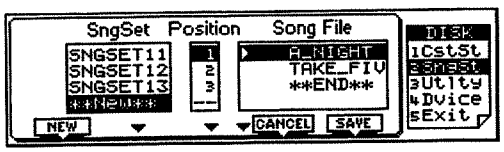

**4. To use a SCSI device that was off when you powered on your EM-2000, press Part Select [M.DRUMS] to scan the SCSI bus.**

**5. Use the [BASS/BANK] knob to position the arrow (◄) next to the device you wish to use.**

**6. Press Part Select [UPPER1] to "change" to the device. The EM-2000's now briefly reads the disk and compiles the Database information.**

**7. Press [F4] (↳Disk) to return to the Disk mode.**

**8. Hold down [SHIFT] and press [F2] (SngSt).**




The SngSt window displays the number of Song Sets already available on disk. The Position window allows you to program the song sequence, i.e. the order in which the songs are to be played back.

**9. Press Part Select [M.DRUMS] to create a new Song Set.**

**10. Use the [BASS/BANK] knob to select the song on disk that is to be played first (assigned to Position 1).**
*Note: A Song Set can only use the Standard MIDI Files that are on the same disk as the Song Set itself.*

**11. Use the [ACCOMP/GROUP] knob to select Position 2.**

**12. Assign a song to this position using the [BASS/BANK] knob.**

**13. Repeat steps (11) and (12) to compile your Song Set.**
Select End as last entry. The songs after the End marker will not be included in your Song Set.

**14. Press Part Select [UPPER1] to save your Song Set.**
Your Song Set will be saved under the first available number. You cannot name your Song Sets.

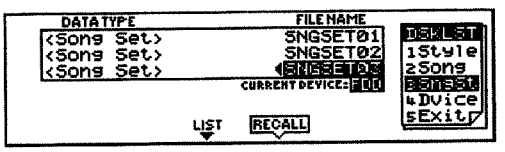
**15. Wait until the OK Save Complete message is displayed and press [F5] (Exit) to return to the Master page.**

### Loading a Song Set (Database)

Song Sets can be loaded in the same convenient way as Music Styles and Songs (Standard MIDI Files): via the Database function.

**1. Press the [DISK LIST] button.**

**2. Press [F3] SongSet.**




Look at the CURRENT DEVICE number to find out whether the desired drive has been selected. If that's not the case, press [F4] (Dvice) and select it (see "Compiling a Song Set" for details).

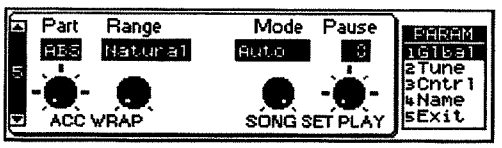
**3. Use the [BASS/BANK] knob to select the desired Song Set, and press Part Select [UPPER2] to load it.**
You can also press Recorder [PLAY►/STOP■] to start playback of the Song Set right away.

**4. Press [F5] (Exit) to return to the Master page.**

### Song Set Play

The Song Set Play functions allow you to specify how the selected Song Set should be played back.

1. On the Master page, press [F2] to select the Parameter mode.
2. Press [F1] to jump to the Global level.
3. Use [PAGE] ▲▼ to select the fifth Global page.




**Mode (Auto, Manual):** Use the [LOWER/NUMBER] knob to select **Auto** if playback of the next Song in line is to start automatically after the Pause time has elapsed (see below). Select **Manual** if you wish to be in control of when the next Song is played back.

**Pause (0~99 seconds):** The Pause value (use [UPPER/VARIATION]) specifies the blanks between two Songs of a Song Chain. Note that the Pause value is only used when you set Mode to Auto.

### Playing back a Song Set

To play back a Song Set, insert the disk into the drive, select the disk (using Device, see left), and use the Database function to select it. Press Recorder [PLAY►/STOP■] to start playback of your Song Set.

## 3.2 Using the EM-2000 with external MIDI sequencers

Song data generated by the EM-2000's Recorder and 16-track Sequencer are always saved to disk as Standard MIDI Files. That means that you can load them into any sequencer or sequencing software. Furthermore, the EM-2000 also transmits MIDI data (Real-time parts, Arranger parts, Song parts).

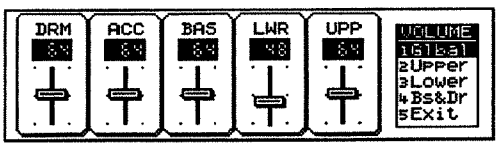
Certain sequencers and sequencer programs define note messages by means of Gate Time values (i.e. duration). Data that contain Legato/Portamento messages may therefore not play back as originally planned.

After transferring MIDI data from the EM-2000 to such a sequencer (either by loading them from disk or by transmitting them via MIDI), **increase the Gate Time value of all note messages by "+1"** before playing them back or editing them with the external sequencer. Most sequencers provide global editing functions that should allow you to do so without wasting too much time.

# 4. Volume pages and Volume mode

Master page: [VOLUME]
Or rotate one of the five knobs

On the Master page, the 5 knobs are assigned to the volume parameter of the Realtime parts. Whenever you rotate a knob, the Volume page will be selected (and the [VOLUME] indicator starts flashing).




Rotate the knob one more time to change the volume of the part assigned to that knob. The Volume page will disappear after a few seconds of inaction. If, however, you press the [VOLUME] button (indicator lights steadily), the Volume page will be displayed until you press the [VOLUME] button once more.

On this page, the Part Select buttons can be used to mute (lowercase part names) or activate (uppercase) parts.

## 4.1 Volume control (fader assignments)

The knob located below each section allows you to control the level of the corresponding part. When you press [F1], certain Realtime parts are grouped, which means that the knobs (and on-screen faders) control two or several sections (example: on the "Glbal" page, the UPP fader controls the volume of the Upper 1/2/3 and the MI part).

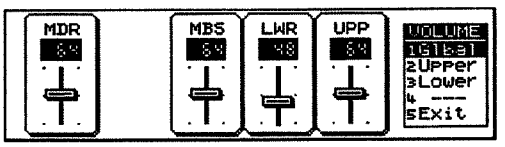
Using the function keys [F1]~[F4], you can change the knob/part assignments, thereby enabling individual control of the Volume parameters.

### Global Volume

Press [F1] to select the Global Volume page. This page allows you to set the balance of "Realtime part sections" rather than individual parts. See "Part Balance (Volume & Mixer)" on page 72 in the Player's Guide for details.

### Volume page in GM/GS mode

If you select the Volume mode while the [GM/GS MODE] indicator lights (which means that the EM-2000 is in GM/GS mode), the volume pages look as follows:




See "Volume in GM/GS mode" on page 74 in the Player's Guide for details.

# 5. Tone pages and Tone mode

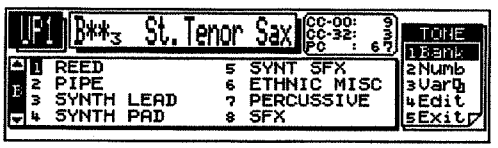
## 5.1 Tone selection

Master page: TONE/USER PROGRAM buttons
Or [TONE] + knobs

The Tone mode is similar to the Volume mode in that selecting a Tone for a Realtime part automatically calls up a Tone mode page. The indicator of the [TONE] button starts flashing, and the Tone page disappears after a few seconds of inaction.

Pressing the [TONE] button, on the other hand, activates the Tone mode (indicator lights), which you then have to leave manually by pressing [TONE] again.

Whenever you select a TONE GROUP (A, B, C, D, E, F) button, if you select this page by pressing [F1] after selecting the Tone mode, or if you rotate the [ACCOMP/GROUP] knob while the Tone mode page is displayed, the display responds with a list of the Banks that can be selected in that Group:




You could now check the contents of the banks of the other groups by pressing [PAGE]▼ or [PAGE]▲. Doing so does not activate the Group whose name appears in the scroll bar.

Also note the "MIDI address" of the currently active Tone or Variation: To select the "St. Tenor Sax" Tone via MIDI, you must transmit control changes CC00 "9", CC32 "3", and program change "67" (in that order) to the EM-2000 (either via MIDI or from a Standard MIDI File).

See the Player's Guide for details about Tone selection and the pages that are displayed.

## 5.2 Tone Edit (Part parameters)

[TONE] →[F4]


### Modulation (Vibrato)

Vibrato is an effect created by modulating the pitch.

**Vibrato Rate [-64~+63]:** This parameter adjusts the speed of the pitch modulation. Positive (+) settings make the preset pitch modulation faster, and negative (–) settings make it slower.

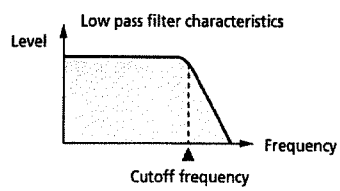
**Vibrato Depth [-64~+63]:** This parameter adjusts the intensity of the pitch modulation. Positive (+) settings mean that the "wobble" becomes more prominent, while negative (–) settings make it shallower.

**Vibrato Delay –64~+63]:** This parameter adjusts the time required for the vibrato effect to begin. Positive (+) settings increase the time before vibrato will begin, and negative settings shorten the time.

### Timbre (Filter)

By modifying the filter settings, you can control the timbre (tone) of the sound. The EM-2000 uses Low Pass Filters (LPF) that allow only frequencies lower than the specified frequency to pass.

**TVF Cutoff [-64~+63]:** Positive Cutoff Freq settings mean that more overtones will be allowed to pass, so that the sound becomes brighter. The further this value is set in the negative direction, the fewer overtones will be allowed to pass, and the sound will become softer (darker).




*Note: For some sounds, positive (+)Cutoff Freq settings will cause no noticeable change because the preprogrammed Cutoff Freq parameter is already set to its maximum value.*

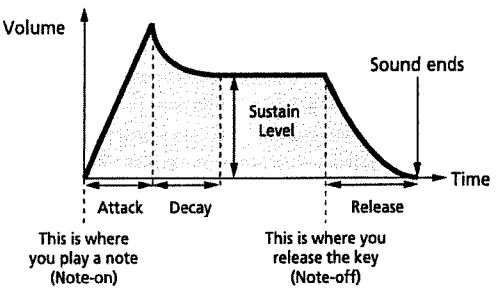
**TVF Resonance [-64~+63]:** This is a parameter one invariably associates with a synthesizer. When the Resonance value is increased, the overtones in the area of the cutoff frequency will be emphasized, creating a sound with a strong character.

*Note: For some sounds, negative (–) settings of Resonance will cause no noticeable change in the sound.*

### Envelope

The envelope shape is unique to each instrument, and is an important element in how we distinguish sounds we hear. The envelopes of musical instrument sounds can change depending on how the instrument is played. For example if a trumpet is played sharply and strongly, the attack will be quick and the sound will be sharp. But if a trumpet is played lightly and softly, the attack will be softer. In order to adjust the attack of a sound, you can modify the Attack Time of the envelope. By modifying the values of the envelope you can simulate the characteristics of many different instruments.

The envelope parameters affect both the volume (or amplitude) and the filter. If the cutoff frequency has been lowered, it will rise as the envelope rises, and will fall as the envelope falls.




**Env Attack [-64~+63]:** This parameter adjusts the onset of the sound. Negative values speed up the attack, so that the sound becomes more aggressive.

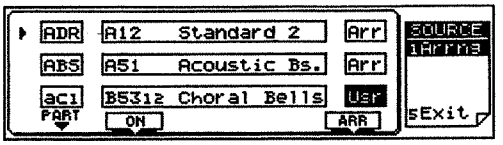
**Env Decay [-64 ~+63]:** This parameter adjusts the time over which the sound will fall from the highest point of the attack down to the sustain level.

*Note: Percussive sounds usually have a sustain level of 0. Piano and guitar sounds are in this category. Holding the keys for a long time will thus have little effect on the duration of the notes you are playing.*

**Env Release [-64~+63]:** This parameter adjusts the time over which the sound will decay after the note is released until it is no longer heard. The cutoff frequency will also fall according to this setting.

## 5.3 Source

[TONE] →[SHIFT] + [F1]




Its is up to you to decide whether the EM-2000 should remember which Tones you assigned to the Arranger parts. If you do not modify the Source setting, you will notice that after a while, the Music Style returns to the original, preset, Tones.

Thanks to the Source switches, however, you can ensure that the preset Tone selection will be overridden by your own choices.

USR: Your own Tone selection remains in effect until you select another Tone or another User Program.

ARR: Your own Tone selection for the Arranger parts is modified by the settings contained in the Music Styles.

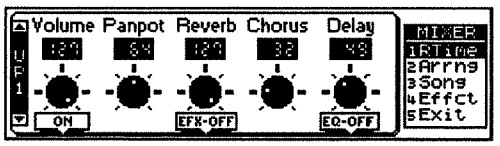
*Note: The Source switches only apply to "internal" messages. Program changes received via MIDI IN will always be executed, no matter how you set the Source switches.*

Use the [DRUMS/PART] knob to select the Part whose Source setting you wish to modify.

If you like, you can also switch on and off the selected Arranger part by pressing [M.BASS]. The name of a part you switch off is displayed in lowercase ("ac2", for example).

# 6. Mixer mode

While on the Master page, you can access to the Mixer mode by pressing [F1]. Doing so will call up a page similar to the following:




(Seeing that the EM-2000 is equipped with a page memory function, it may jump to another page when you select the Mixer mode.) The function keys [F1], [F2], and [F3] allow you to select the section of parts to be edited. After selecting the section (RTime, Arrng, or Song), choose the part you want to edit using the [PAGE] ▲▼ buttons.

Using the rotary knobs below the desired parameter you can easily change the values of the selected part.

Selectable parts: (*Realtime parts*) Upper 1/2/3, Lower 1/2, M. Bass, M. Drum, MI (M.INT), (*Arranger parts*) A.Drum, A.Bass, Acc1~Acc6, (Song parts) Sng1~Sng16.

## 6.1 Mixer\RTime and Mixer\Arrng

Master page: [F1] (Mixer)→[F1] (RTime) or [F2] (Arrng)
Part selection: [PAGE] ▲▼

**Volume (0~127):** Use the [DRUMS/PART] knob to set the volume of the selected part. The value "0" means that the part in question will not be audible, while "127" is the maximum volume.

*Note: Though polyphony is no problem on the EM-2000, bear in mind that the value "0" does not mean that the part does not use the required number of voices. If you do not need a part in a given situation, mute it using the ON/OFF switch.*

**On/Off (part mute):** Use the Part Select [M.DRUMS] button to activate (On), or mute (Off) the selected part. This mute switch works similar to the Local switch (see page 68) in the MIDI mode because the On setting means that the part in question does not sound but still sends MIDI messages to the MIDI OUTput if the Part Switch parameter (see page 71) is set to Int. The Mute setting of a part can be saved to a User Program.

When a part is on, its name, shown in the scroll bar, appears in uppercase letters (e.g. UP1). If the part is Off, its name is displayed in lowercase letters (e.g. up1).

*Note: The MIDI\Param Part Switch parameter (see page 71) allows you to specify whether muting a part also means that it no longer sends MIDI data.*

**Panpot (0~64~127, Rnd):** Allows you to set the stereo position (pan) of the selected part. See "Panpot (stereo position)" on page 74 in the Player's Guide. The value "0" means that the part will be panned hard left, "64" is the center position (same volume for the left and right channels), while "127" means that the part will be panned hard right. Select "Rnd" if the part in question is to "jump around" the stereo image in a random (unpredictable) way.

**Reverb (0~127):** The Reverb send level is assigned to the [BASS/BANK] knob. You can set a different value for each part. The value "0" means that the part in question will not be processed by the Reverb effect, while the value "127" represents the maximum Reverb level. This parameter has the same function as an AUX Send control on a mixing desk.

**Chorus (0~127):** The Chorus send level is assigned to the [LOWER/NUMBER] knob. You can set a different value for each part.

**Delay (0~127):** The Delay send level can only be set for Realtime parts. Arranger parts cannot be processed by the Delay effect.

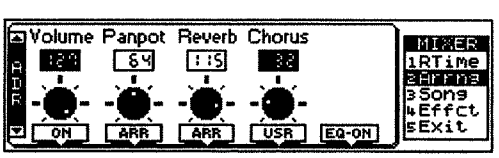
**EFX ON/OFF:** Allows you to specify whether or not the part in question should be processed by the DSP EFX. Assigning a part to the DSP EFX also means that the Reverb, Chorus, and Delay Send settings are no longer used. See also "Insertion effect (DSP EFX)" on page 76 in the Player's Guide.

*Note: The DSP EFX is only available for Realtime parts.*

**Equalizer (On/Off):** Use the Part Select [UPPER1] button to switch the equalizer On or Off for the selected part. Select Off if you do not want the selected part to be processed by the two-band equalizer.

### Source switches for the Arranger Parts

Master page: [F1] (Mixer)→[F2] (Arrng)
[PAGE] ▲▼ to select an Arranger part (ADR, ABS, ACC1-ACC6)




Press Part Select [M.BASS], [LOWER1], or [UPPER1] to select ARR or USR.

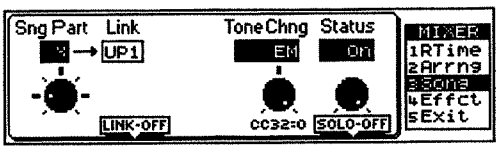
**USR:** The settings remain in effect until you change them again or until you select another User Program. (USR is short for *User Program*).

**ARR:** In this case, the Arranger part settings are affected by settings contained in the Music Style patterns you use.

## 6.2 Mixer\Song

Master page: [F1] (Mixer)→[F3] (Song)

While in the Mixer mode, press [F3] to call up the following page:




Here you can set different parameters for the Song parts played by the Recorder. Note that these parameters supplement or modify the settings contained in the Standard MIDI File. Unlike on the RTime and Arrng pages, these parameters are control parameters rather than absolute settings. Additional settings can be saved directly with the Song itself (see "Header Post Edit" on page 46).

**Sng Part (1~16):** Start by selecting the desired Song part with the [DRUMS/PART] knob before modifying the other parameters on this page.

**Link (On/Off):** The Link parameter is only available for Song parts assigned to Realtime parts. These assignments are preset and in no way selectable:

| | |
|---|---|
| 10 (Drums) | M. Drums |
| 2 (Bass) | M. Bass |
| 4 (Solo/Melody) | Upper1 |
| 6 (Counter-melody) | Upper2 |
| 11 (Not specified) | Lower 1 |
| 13 (Not specified) | Upper3 |
| 14 (Not specified) | Lower 2 |
| 15 (Not specified) | M. Int |

When Link is set to On, you can play a Realtime part on the keyboard and let the corresponding linked song part select Tones for you. This is a useful feature for Minus One performance (see "Status" below), where you mute the melody (usually Song part 4) to play it yourself. If you are happy with the Tone selection contained in the Standard MIDI File, set Link to On. If not, set Link to Off and select the desired Tone for the melody part you are playing in realtime. Tone selection for the Song parts can be saved to a User Program.

**Tone Change (Old, G-800, EM):** See "Tone Change: Old, G-800 and EM" on page 62 in the Player's Guide.

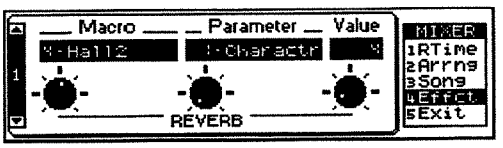
**Status (On/Off) (Minus One):** The Status parameter allows to set the status (Mute or On) of the selected Song Part. When set to Mute, the Song part no longer sounds. Selecting Mute is tantamount to activating the Minus One playback feature on other instruments. Set Status to On for all Song parts that should be played back.

**Solo On/Off:** Use the Part Select [UPPER1] button to activate (Solo On) or deactivate (Solo Off) the Solo mode for the selected part. Solo On means that only the currently selected Song Part will be audible.

## 6.3 Mixer\Effect pages

Master page: [F1] (Mixer)→[F4] (Effct)

[PAGE] ▲▼ to select the desired page (1-6)




### Reverb

Only one parameter can be set at a time. That doesn't mean, however, that the invisible parameter values are no longer valid when you select another parameter. Beware of selecting Macros after tailoring the parameters to your needs, because selecting another Macro means that all Parameter values will be reset to their default values.

**Macro:** Macro allows you to select one of the effects (called *Character*, see below) as well as suitable preset values for all Reverb parameters (Pre-LPF~RevPre DlyT). The difference between Macro and Character (see below) is that the former does what its name implies: it calls up a program Macro that includes Character selection and Parameter settings for the selected effect.

*Room1, Room2, Room3*: These Reverbs simulate the Reverberation of a room. They provide a well-defined spacious Reverberation.

*Hall1, Hall2*: These Reverbs simulate the Reverberation of a concert hall. They provide a deeper Reverberation than the Room Reverbs.

*Plate*: This effect type simulates a plate Reverb (a studio device using a metal plate to simulate natural Reverb).

*Delay*: This is a conventional Delay that produces echo effects.

*Panning Delay*: This is a special Delay in which the Delayed sounds move left and right. It is effective when you are listening in stereo.

Seeing that Delay usually only works for one part, use the dedicated Delay for echo effects. That way, the Reverb effect can be used to "deepen" the sound field.

### Reverb parameters

**Character (0~7):** Character only specifies the Reverb type you need. It does not load preset values for the Pre-LPF~RevPreDlyT parameters. As a matter of fact, Character is itself a Macro parameter. That explains why you can select the *Room 2* Macro and set *Delay* for Character. Selecting another Character thus does not reset the other Parameter values to their factory settings. A Macro, on the other hand, calls up a Reverb type and suitable settings for that effect.

**Pre-LPF (0~7):** A low pass filter can be applied to the Tone signal sent to the Reverb to cut the high frequency range before it is processed by the Reverb. Higher values will cut more of the high frequencies, resulting in a more mellow Reverberation. Note that this parameter only applies to the signal that is sent to the Reverb effect. If you want to cut high frequencies of the direct Tone signals, use the Equalizer instead (see page 22).

**Rev Level (0~127):** This parameter sets the volume of the Reverb effect (or the Master AUX Return signal if you are used to thinking in mixing console terms). Higher values result in louder reverberation.

**Rev Time (0~127):** This parameter sets the time over which the reverberation will continue. Higher values result in longer reverberation.

**Rev Delay Fb (0~127)**

This parameter is only available when you select Rev Charac 6 Delay, or 7 Panning Delay. It sets the way in which Delays repeat. Higher values result in more repeats.

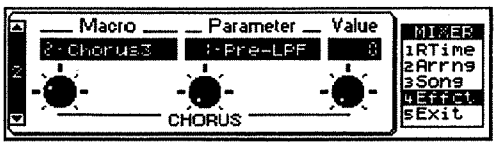
**RevPreDlyT (0ms~127ms):** This parameter sets the time interval between the original ("dry") signal and the onset of the selected Reverb effect. Higher values result in a longer pre-Delay time, simulating a larger Reverberant space.

### Value

Use the [UPPER/VARIATION] knob to specify a value for the selected Parameter. For clarity's sake, we put the parameter range next to the respective parameters (see above).

*Note: Please bear in mind that any changes you make here apply to all parts that use the effect. Therefore always check what the settings sound like when you play other parts.*

## Chorus




**Macro:** Chorus broadens the spatial image of the sound, adding richness. You can choose from 8 types of Chorus.

*Chorus 1~4*: These are conventional Chorus effects that add spaciousness and depth to the sound.

*Feedback Chorus*: This is a Chorus with a Flanger-like effect and a soft sound.

*Flanger*: This is an effect sounding somewhat like a jet airplane taking off and landing.

*Short Delay*: This is a Delay with a short Delay time.

*Short Delay (FB)*: This is a short Delay with many repeats.

Seeing that Delay usually only works for one part, use the dedicated Delay for echo effects. That way, the Chorus effect can be used to fatten the stereo image.

### Chorus parameters

**Cho Pre-LPF (0~7):** A low pass filter can be applied to the sound sent to the Chorus to cut the high frequency range. Higher values will cut more of the high frequencies, resulting in a more mellow Chorus sound.

**Cho Level (0~127):** This parameter sets the overall volume of the Chorus effect. If only one Tone contains too much Chorus, reduce its Chorus Send value (see page 21) rather than the Cho Level value.

**ChoFeedback (0~127):** This parameter sets the level at which the Chorus sound is re-input (fed back) into the Chorus. By using feedback, a denser Chorus sound can be created. Higher values result in a greater feedback level.

**Cho Delay (0~127):** This parameter sets the Delay time of the Chorus effect. Higher values will cause greater deviation in pitch of the Chorus sound.

**Cho Rate (0~127):** This parameter sets the speed (frequency) at which the Chorus sound is modulated. Higher values result in faster modulation.

**Cho Depth (0~127):** This parameter sets the depth at which the Chorus sound is modulated. Higher values result in deeper modulation.

**Cho → Reverb (0~127):** This parameter sets the amount of Chorus sound that will be sent to the Reverb. Higher values result in more sound being sent. The value "127" effectively allows you to connect the Chorus and Reverb effects in series (Chorus before Reverb). If you don't wish the Chorus signal to be processed by the Reverb effect, set this value to "0".

**Cho→Dly (0~127)**

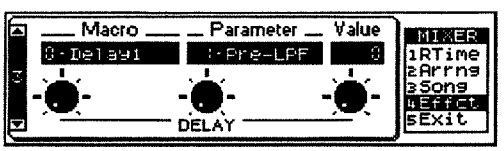
This parameter sets the amount of Chorus sound that will be sent to the Delay. Higher values result in more sound being sent. The value "127" effectively allows you to connect the Chorus and Delay effects in series (Chorus before Delay). If you do not wish the Chorus signal to be processed by the Delay effect, set this value to "0".

*Tip*: Use this parameter whenever you want to process an Arranger part using the Delay effect (see below). If all you are interested in is Delay, set the Chor Delay, Cho Rate and Cho Depth parameters to 0. Bear in mind, though, that doing so means that a "proper" Chorus effect is no longer available.

### Value

Use the [UPPER/VARIATION] knob to specify a value for the selected Parameter. For clarity's sake, we put the parameter range next to the respective parameters (see above).

## Delay




**Macro:** Delay creates echoes. It is also possible to give depth and width to a sound by adding a short Delay to the original sound (a technique often used for rock-'n'-roll songs and in Karaoke bars). You can choose among 10 types of Delay.

*Delay 1~3*: These are conventional Delays. 1, 2 and 3 have progressively longer Delay times.

*Delay 4*: This is a Delay with a rather short Delay time (kind of "slap back" effect).

*Pan Delay 1~3*: The Delay sound moves between left and right. This is effective when listening in stereo. 1, 2 and 3 have progressively longer Delay times.

*Pan Delay 4*: This is a rather short Delay with the Delayed sound moving between left and right. It is effective when listening in stereo (kind of stereo "slap back" effect).

*Dly To Rev*: Reverb is added to the Delay sound which moves between left and right. It is effective when listening in stereo.

*PanRepeat*: The Delay sound moves between left and right channels, but the pan position is different from the effects listed above. It is effective when listening in stereo.

### Delay parameters

**Dly Pre-LPF (0~7):** A low pass filter can be applied to the sound coming into the Delay to cut the high frequency range. Higher values will cut more of the high frequencies, resulting in a more mellow Delay sound.

**Dly Time C (0.1ms~1.0s):** The Delay effect of the EM-2000 allows you to set three Delay times, which is only useful when listening in stereo: center (C), left (L), and right (R). Delay Time Center sets the Delay time of the Delay located at the center.

**DlyTRatioL/R (4%~500%):** This parameter sets the Delay time of the Delay located at the left or right as a percentage of the central Delay. The value "100%" means that the left or right Delay repeats at the same speed as the center Delay.

**Dly Level C/L/R (0~127):** These parameters set the volume of the central, left, and right Delays. Higher values result in a louder Delay.

**Dly Level (0~127):** This parameter sets the overall volume of the three Delays (center, left and right). Higher values result in a louder overall Delay.

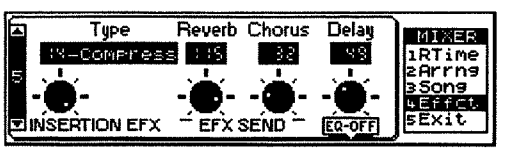
**Dly Fback (–64~ 0 ~+63):** This parameter specifies the number of times the Delay will repeat. With a value of "0", the Delay will not repeat. With higher values there will be more repeats. With negative (–) values, the center Delay will be fed back with inverted phase. Negative values are effective with short Delay times.

**Dly→Rev (0~127):** This parameter sets the amount of Delay sound that is sent to the Reverb. Higher values mean that the Reverb portion will be more prominent in the Delay signal. Be careful not to overdo this effect because it tends to blur the sound image.

## Equalizer

See page 75 in the Player's Guide for details.

## DSP EFX parameters




**(EFX) Type:** Allows you to select the desired EFX algorithm. The Type is loaded with suitable preset settings that cannot be edited on the EM-2000 itself. You can, however, modify two parameters per Type via the two source parameters (see page 77 in the Player's Guide). See page 114 for an explanation of the effects Types and the controllable parameters.

When combined with a parallel EFX algorithm (see page 116), the Panpot parameter on page 19 allows you to choose which effect the part in question should be processed by. Select "1" (hard left) to send the part signal in question to one effect, or "127" (fully right)

to send it to the other effect. Such parallel EFX algorithms allow you to use two different insertion effects simultaneously.

*Note: Press [UP1 SET RECALL] on the front panel to load the EFX Type that is factory-assigned to the currently selected Upper1 Tone. DO NOT press this button if you have already selected another Insertion EFX you do not wish to change. Here are the factory assignments (to program change numbers, which means that they apply to all CC00 and CC32 banks that are linked to these program change numbers):*

| PC | EFX # | EFX |
|---|---|---|
| 1 | 38 | Reverb |
| 2 | 01 | Enhancer |
| 3 | 11 | Phaser |
| 4 | 30 | StChorus |
| 5 | 78 | RhodMlt1 |
| 6 | 01 | Enhancer |
| 7 | 38 | Reverb |
| 8 | 12 | Auto Wah |
| 9 | 34 | Mod Dly |
| 10 | 37 | TmCtrDly |
| 11 | 39 | GteRevNr |
| 12 | 29 | Trem Cho |
| 13 | 31 | Space D |
| 14 | 46 | 3D Auto |
| 15 | 38 | Reverb |
| 16 | 39 | GteRevNr |
| 17 | 62 | RotarMlt |
| 18 | 13 | Rotary |
| 19 | 62 | RotarMlt |
| 20 | 38 | Reverb |
| 21 | 38 | Reverb |
| 22 | 01 | Enhancer |
| 23 | 01 | Enhancer |
| 24 | 01 | Enhancer |
| 25 | 01 | Enhancer |
| 26 | 01 | Enhancer |
| 27 | 46 | 3D Auto |
| 28 | 60 | FL→Delay |
| 29 | 14 | StFlangr |
| 30 | 04 | Overdrv2 |
| 31 | 10 | Distort4 |
| 32 | 10 | Distort4 |
| 33 | 31 | Space D |
| 34 | 14 | StFlangr |
| 35 | 89 | PH/AtWah |
| 36 | 34 | Mod Dly |
| 37 | 14 | StFlangr |
| 38 | 32 | 3Dchorus |
| 39 | 14 | StFlangr |
| 40 | 46 | 3D Auto |
| 41 | 38 | Reverb |
| 42 | 38 | Reverb |
| 43 | 38 | Reverb |

| PC | EFX # | EFX |
|---|---|---|
| 44 | 38 | Reverb |
| 45 | 38 | Reverb |
| 46 | 39 | GteRevNr |
| 47 | 38 | Reverb |
| 48 | 38 | Reverb |
| 49 | 38 | Reverb |
| 50 | 38 | Reverb |
| 51 | 30 | StChorus |
| 52 | 60 | FL→Delay |
| 53 | 38 | Reverb |
| 54 | 35 | 3Tap Dly |
| 55 | 37 | TmCtrDly |
| 56 | 38 | Reverb |
| 57 | 39 | GteRevNr |
| 58 | 39 | GteRevNr |
| 59 | 39 | GteRevNr |
| 60 | 39 | GteRevNr |
| 61 | 38 | Reverb |
| 62 | 39 | GteRevNr |
| 63 | 01 | Enhancer |
| 64 | 01 | Enhancer |
| 65 | 36 | 4Tap Dly |
| 66 | 39 | GteRevNr |
| 67 | 01 | Enhancer |
| 68 | 39 | GteRevNr |
| 69 | 38 | Reverb |
| 70 | 38 | Reverb |
| 71 | 38 | Reverb |
| 72 | 38 | Reverb |
| 73 | 38 | Reverb |
| 74 | 38 | Reverb |
| 75 | 36 | 4Tap Dly |
| 76 | 33 | St Delay |
| 77 | 36 | 4Tap Dly |
| 78 | 37 | TmCtrDly |
| 79 | 37 | TmCtrDly |
| 80 | 37 | TmCtrDly |
| 81 | 37 | TmCtrDly |
| 82 | 37 | TmCtrDly |
| 83 | 33 | St Delay |
| 84 | 37 | TmCtrDly |
| 85 | 52 | OD→Delay |
| 86 | 60 | FL→Delay |

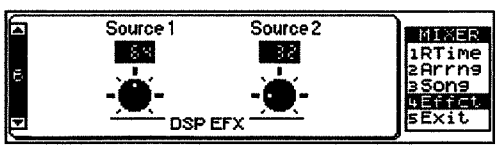
| PC | EFX # | EFX |
|---|---|---|
| 87 | 60 | FL→Delay |
| 88 | 82 | FL/Delay |
| 89 | 33 | St Delay |
| 90 | 34 | Mod Dly |
| 91 | 14 | StFlangr |
| 92 | 33 | St Delay |
| 93 | 28 | Hexa Cho |
| 94 | 81 | Cho/Dly |
| 95 | 28 | Hexa Cho |
| 96 | 32 | 3Dchorus |
| 97 | 39 | GteRevNr |
| 98 | 28 | Hexa Cho |
| 99 | 38 | Reverb |
| 100 | 38 | Reverb |
| 101 | 31 | Space D |
| 102 | 14 | StFlangr |
| 103 | 43 | 3D Delay |
| 104 | 43 | 3D Delay |
| 105 | 38 | Reverb |
| 106 | 39 | GteRevNr |
| 107 | 38 | Reverb |
| 108 | 38 | Reverb |
| 109 | 39 | GteRevNr |
| 110 | 39 | GteRevNr |
| 111 | 39 | GteRevNr |
| 112 | 39 | GteRevNr |
| 113 | 37 | TmCtrDly |
| 114 | 39 | GteRevNr |
| 115 | 39 | GteRevNr |
| 116 | 44 | 2PitchSh |
| 117 | 14 | StFlangr |
| 118 | 11 | Phaser |
| 119 | 60 | FL→Delay |
| 120 | 38 | Reverb |
| 121 | 46 | 3D Auto |
| 122 | 01 | Enhancer |
| 123 | 35 | 3Tap Dly |
| 124 | 38 | Reverb |
| 125 | 14 | StFlangr |
| 126 | 33 | St Delay |
| 127 | 43 | 3D Delay |
| 128 | 38 | Reverb |

**Reverb (0~127):** The value "0" means that the DSP EFX will not be processed by the Reverb effect, while the value "127" represents the maximum Reverb level.

**Chorus (0~127):** Use the [LOWER/NUMBER] knob to specify the level of de DSP EFX signal that will be sent to the Chorus effect.

**Delay (0~127):** Use the [UPPER/VARIATION] knob to specify the level of de DSP EFX signal that will be sent to the Delay effect.

## Source 1 & 2




See "Setting the two Source parameters" on page 77 in the Player's Guide.

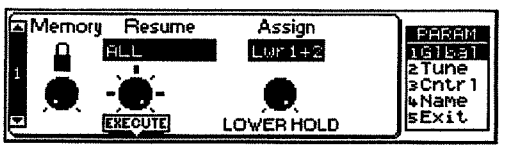
# 7. Parameter mode

As stated in the Player's Guide, the parameter mode contains parameters that apply to different aspects of your EM-2000:

1. Global parameters
2. Arranger parameters
3. Realtime parts
4. Controller parameters
5. User Program parameters
6. Source switches for some of these parameters

## 7.1 Parameter\Glbal\1

Master page: [F2] (Param)→[F1] (Glbal)
[PAGE] ▲▼ (select page 1)




**Memory locked/unlocked:** (Global parameter) This parameter allows you to activate (lock) or deactivate (unlock) the Memory Protect function. At power on, the EM-2000 always turns on its Memory protection to avoid accidental erasure of data. Note that is next to impossible to accidentally overwrite a User Program or MIDI Set because you have to keep the [WRITE] button depressed while specifying the memory number. Furthermore, you are give the opportunity to turn off Memory protection before writing data to one of the EM-2000's memories.

### Resume

(User Program parameter) The Resume function allows you to specify which settings of User Program 00 are to be loaded. User Program 00 FreePanl contains a number of default settings and, more importantly, Source switch settings that allow a Music Style to change the affected parameters in accordance with the settings it contains.

You do not need to load all settings of User Program 00 if there are parameter values you do not wish to overwrite.

**Tone:** Only Tone selection and the Source Tone Change settings (for Arranger parts) of User Program 00 will be loaded.

**Mixer:** Only the Mixer settings of User Program 00 will be loaded.

**Param:** Only the settings of the Parameter mode will be loaded. (That is, all settings you can make after pressing [F2] on the Master page.)

**All:** All settings of User Program 00 will be loaded.

### Execute

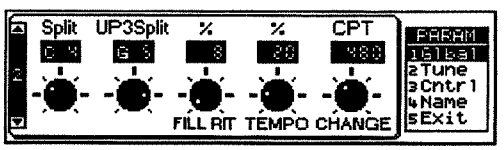
Press [M.BASS] to load the selected User Program settings.

### (Lower Hold) Assign

Allows you to specify which Lower parts will be affected by the [LOWER] setting in the KEYBOARD MODE pad. See also "Assigning the Lower Hold function" on page 29 in the Player's Guide. The possibilities are "Lower 1" and "Lwr 1 + 2".

## 7.2 Parameter\Global\2

Master page: [F2] (Param)→[F1] (Glbal)
[PAGE] ▲▼ (select page 2)




### Split (C3~C6)

(Realtime parts, Arranger parameter) This parameter specifies the split point between the Right and Left sections of the Arranger and the Split Keyboard Mode. It can be set from C3 to C6. Default value is C4.

### UP3Split (C#3~C#6)

(Realtime parts) This parameter specifies the split point between the Upper1/2 and Upper3 sections. It only takes effect when the indicator of the [UP3 SPLIT] button lights. The Upper2 split point can be set anywhere between C#3 and C#6. Default value is G5.

### Fill Rit (5%~92%)

(Arranger parameter) This parameter defines the intensity of the ritardando achieved during playback of a fill (To Original or To Variation). Note that Fill Rit only applies to fills and that the [FILL RIT] indicator must light for the ritardando to be executed.

Here is an example: if the current Style tempo is set to 100, while Fill Rit% is set to 10%, selecting a Fill In with the [FILL RIT] function On will progressively slow down the playback tempo to 90. At the end of the fill, however, the previously set tempo value (e.g. ♩= 100) will be recalled.

### Tempo Change% (5%~92%)

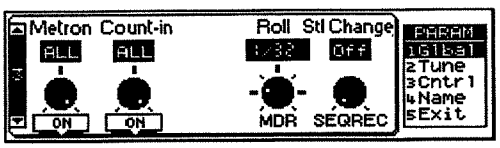
(Arranger parameter) This parameter defines the tempo change ratio during normal Style playback. This is the value that will be reached at the end of the CPT period (see below). The Tempo Change % value applies to both the [RIT] (gradual slow-down) and the [ACC] (gradual tempo increase) functions and requires that either button be pressed (corresponding indicator must light).

### Tempo Change CPT (15~3825CPT)

(Arranger parameter) The CPT value specifies the time it takes before the Tempo Change % value is reached. Seeing that one crotchet (quarter note) equals 120CPT, we strongly advise you to select multiples of 120CPT, e.g. 240 (one 2/4 bar), 360 (one 3/4 bar), 480 (one 4/4 bar), etc.

## 7.3 Parameter\Global\3

Master page: [F2] (Param)→[F1] (Glbal)
[PAGE] ▲▼ (select page 3)




### Metronome Output

(Global parameter) This parameter allows you to select the output for the general metronome, i.e. the one that sounds during Style and Song playback. The metronome may help you practise difficult parts, yet the most obvious use for the Global metronome is to supply a click for a drummer or other musician you play with. Possibilities: MDR, MIDI, ALL. See also "Metronome output (Metron)" on page 36 in the Player's Guide.

The User Style metronome (see page 49) can be programmed separately.

### Count-In

(Arranger parameter) This parameter specifies how the count-in clicks are played back. Count-ins can be used in Song mode (to count in one bar before song playback start) and are always used in User Style record mode.

### Roll Resolution

(Manual Drums part) This parameter specifies the resolution of the Roll function. It can be set to:

| | |
|---|---|
| 1/16 | 1/32 |
| 1/16t | 1/32t |
| 1/16s swing | 1/32s swing |

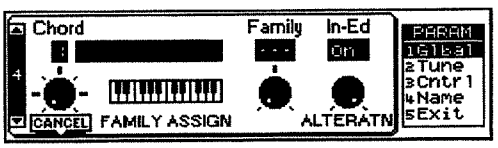
The default value is 1/16. As stated in the Player's Guide, selecting 1/32 or even shorter values may result in machine-gun type rolls at high tempo values. Always specify the resolution after setting the Style or Song playback tempo, or change it to a more usable value if your setting turns out to be too optimistic to produce natural rolls.

### Stl Change

(Chord Sequencer parameter) This parameter allows you to specify what should be recorded by the Chord Sequencer (see page 56 in the Player's Guide). Select On if you want the Chord Sequencer to record all settings relating to the Arranger (Style changes, Arranger part volume changes, tempo changes, etc.), and Off if the Chord Sequencer is to record only the NTA notes.

## 7.4 Param\Glbal\4

Master page: [F2] (Param)→[F1] (Glbal)
[PAGE] ▲▼ (select page 4)




### Chord Family Assign

(Arranger parameter) This page is entirely devoted to the assignment of more "elaborate" chords to one of the three modes (major, minor, seventh) of the EM-2000's Arranger. If the current User Program or the currently active registration does not contain any assignment, you can only assign Chord memory 1. Only after assigning a chord to Chord memory 1 can you select memory 2 etc. (and also 1 by going backwards).

**Chord:** Indicates the number of the selected Chord memory. Play a chord in the chord recognition area, whose name is then displayed to the right of the memory number.

**Family:** After specifying the chord, you must use the Family parameter to assign it to one of the three Modes: select Maj (major), min (minor) or 7th (seventh). Whenever you play the newly assigned chord in the chord recognition area of the keyboard, the accompaniment pattern corresponding to the mode you select here will be triggered. Use this parameter to assign "6", "7/11", etc. chords to a particular Mode.

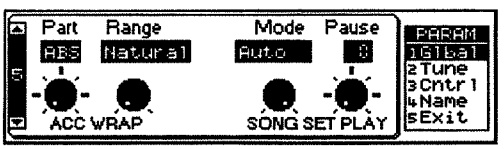
You may remember that Modes are in fact "invisible" divisions that cannot be selected on the front panel – while others, such as Basic/Original, Advanced/Variation, etc., are selectable either manually or via an optional FC-7.

**Alteratn:** The Alteration parameter allows you to specify whether your "elaborate" chords should be played during playback of an Intro (In) or Ending (Ed). In On mode, playing a complex chord at the onset of an Intro or Ending may change the chord sequence of the entire Intro or Ending pattern to a degree that you may have your doubts about the "sanity" of your EM-2000.

In most cases, you will probably select Off, so that your favorite G7b5, etc., chord only takes effect after the Intro is finished (or does not influence the chord sequence of the Ending pattern).

# 7.5 Param\Glbal\5

Master page: [F2] (Param)→[F1] (Glbal)
[PAGE] ▲▼ (select page 5)




### Acc Wrap: Part and Range

As explained in the Player's Guide, the Wrap parameter is used to change playback of the selected music Style so that all notes of a given bass line, etc. sound in a natural range. See "Musical Style playback: Wrap" on page 81 in the Player's Guide for details.

**Part (ABS, AC1~AC6):** (Arranger parameter) Use the Part parameter to select the Arranger part whose Range setting you wish to change.

**Range:** *Natural*: The Arranger sounds all notes of the part in question in a range that is natural for the Tone assigned to that part. Notes that are too high or too low are transposed down or up.

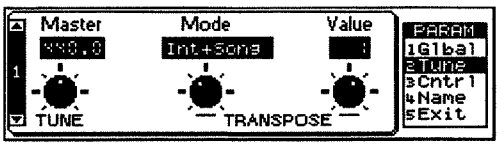
*Full*: In this case, the notes of the accompaniment track are played the way they were programmed. That may be useful when you use the User Style function for sequencing purposes.

### Song Set Play

The Song Set Play functions allow you to specify how the selected Song Set (see page 15) should be played back.

# 7.6 Param\Tune\1

Master page: [F2] (Param)→[F2] (Tune)
[PAGE] ▲▼ (select page 1)




### Master Tune (415.3Hz~466.2Hz)

(Global parameter) The Master Tune setting affects the pitch of the entire EM-2000. Use this parameter to tune your EM-2000 to acoustic instruments that cannot be tuned. In all other cases, set this parameter to 440.0Hz which is the standard pitch for most electronic instruments.

The Master Tune setting can be saved to a User Program.

### Transpose Mode

(Global parameter) The Transpose Mode parameter allows you to select which sections of your EM-2000 will be transposed when you press the [TRANSPOSE] button (indicator lights) on the front panel.

**Int:** If the [TRANSPOSE] indicator lights, only the Realtime and Arranger parts will be transposed.

**Song:** Only the Song parts will be transposed.

**MIDI:** If the [TRANSPOSE] indicator lights, only the notes received via MIDI IN will be transposed. In a way, this is the same as the Rx Shift parameter in the MIDI mode (see page 69).

**Int+Song:** If the [TRANSPOSE] indicator lights, the Realtime and Arranger parts as well as the Recorder song parts will be transposed.

**Int+MIDI:** If the [TRANSPOSE] indicator lights, the Realtime and Arranger parts as well as all notes received via MIDI will be transposed.

**Song+MIDI:** If the [TRANSPOSE] indicator lights, the Recorder song parts as well as all notes received via MIDI will be transposed.

**All:** All parts and received notes will be transposed.

As you see, the Transpose function is extremely flexible. The *Int+Song* and *All* options are probably the ones you will select most of the time. *Int* could be useful to transpose only the Realtime parts so that you can play to a Recorder song in "your" key but sound in the singer's/soloist's key.

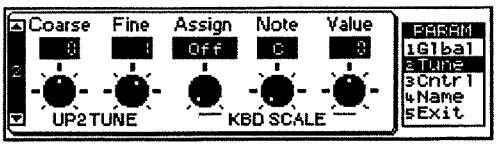
*Note: The MDR and ADR parts are never transposed. Every key (note) of the MDR/ADR parts is assigned to a different percussion sound. It is thus in your best interest to leave the Manual and Accompaniment Drums parts alone.*

### (Transpose) Value (-11~-1, 1~11)

(Global parameter) Use this parameter to specify the transposition interval to be used whenever the indicator of the [TRANSPOSE] button lights. Note that you cannot set the value "0" because that would effectively turn off the transpose function. Since that can be achieved by pressing the [TRANSPOSE] button (indicator must go off), there is little point in providing a "0" setting.

## 7.7 Param\Tune\2

Master page: [F2] (Param)→[F2] (Tune)
[PAGE] ▲▼ (select page 2)




### Coarse (-24~24), Fine (-99~99)

See "Upper2 settings" on page 79 in the Player's Guide.

### Kbd Scale

Use the Kbd Scale parameters whenever you need other tunings than equal temperament. Equal temperament means that the intervals between any two semitones are the same, which is not the case in oriental music, for example, or in baroque music.

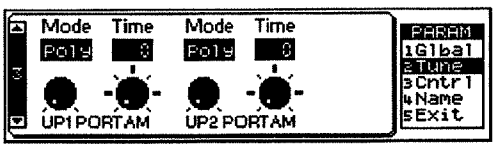
**Assign (Off, UP1-2, All):** (Global parameter) This parameter allows you to specify which parts should be assigned a different tuning. "Off" means that the Value settings (see below) have no effect on the equal temperament of the EM-2000's parts. If you select "UP1-2", only Upper 1 & 2 as well as the MI (Melody Intelligence) parts will be processed by your Value settings. Selecting "All" means that all Realtime, and Arranger parts will be tuned the way you specify with the Value parameter.

**Note (C~B):** (Global parameter) This is not really a settable parameter. "Note" allows you to select the note whose tuning you want to change. Every note (from C, C#, D, D#, etc. to B) can be selected only once, so that the Value setting applies to all notes of the same name, which makes sense, of course.

**Value (-64~+63):** (Global parameter) This is where you set the tuning of the selected Note. Since this is a relative parameter, i.e. a parameter that specifies a deviation from the preset equal temperament, the Value can be either positive or negative. Selecting "0" means that the Note's pitch corresponds to the equal temperament value.

## 7.8 Param\Tune\3

Master page: [F2] (Param)→[F2] (Tune)
[PAGE] ▲▼ (select page 3)




### Portamento and Mode

**Mode UP1 and UP2 (Poly, Mono):** The Mode parameters are used to set the corresponding Upper part to Poly (polyphonic) or Mono (monophonic). "Poly" means that the Upper part in question can play several notes at a time, so that you can play chords or two voices.

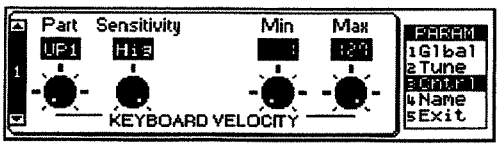
"Mono", on the other hand, means that only one note can sound at any one time. The EM-2000's Mono mode works according the "last note priority" principle, which means that, whenever you play two or more notes, only the one whose key you pressed last sounds. Select Mono for instrument sounds that cannot play chords (woodwind, solo brass instruments, etc.).

**Time (0~127):** Time specifies the Portamento speed. You may remember from the Player's Guide that the Portamento effect produces smoother transitions between the notes you play. Setting high values is effective for synthesizer sounds, especially when you play large intervals (e.g. C1 and then C6).

The value "0" means that the Portamento effect is not active. The "Portamento" footswitch function (see page 29) allows you to switch the Portamento on and off while playing, so that there is no need to set the Time value to "0" at all times. If you select the Portamento footswitch function, the Portamento effect will only be active while the optional DP-2, DP-6, or BOSS FS-5U is depressed.

## 7.9 Param\Cntrl\1

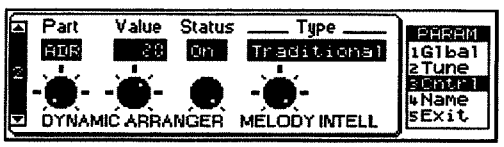
Master page: [F2] (Param)→[F3] (Cntrl)
[PAGE] ▲▼ (select page 1)




This page is entirely devoted to the velocity sensitivity settings of the Realtime parts. See "Param\Cntrl\2" for the velocity sensitivity settings of the Arranger parts. See "Velocity sensitivity and velocity switching" on page 34 in the Player's Guide for details.

## 7.10 Param\Cntrl\2

Master page: [F2] (Param)→[F3] (Cntrl)
[PAGE] ▲▼ (select page 2)




### Dynamic Arranger

**Part (ADR, ABS, AC1~AC6):** This parameter allows you to select the Arranger part whose velocity sensitivity you wish to change. As explained in the Player's Guide, you can use this parameter to alternate between two accompaniment parts by varying the force witch which you strike the keys in the chord recognition area of the keyboard.

**Value (–127~+127):** Set this value to "0" if the Arranger part in question must not respond to the force with which you strike the keys in the chord recognition area. The higher the positive value you set here, the more force is required to have the part in question sound at its maximum value. Negative settings, on the other hand, mean that the volume decreases as your velocity increases.

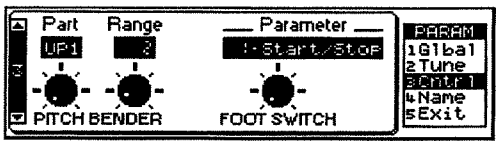
*Note: The velocity Value you specify here will only be used if you activate the Dynamic Arr function on the ARR CHR page (press the [ARR CHORD] button to select it). You can also use the PAD buttons (see page 31) or an optional foot switch (see page 28) to switch this function on and off.*

**Status:** Use the [BASS/BANK] knob to specify whether (On) or not (Off) the Dynamic Arranger Value should be used by the currently selected Arranger part.

**Melody Intell Type:** Though played by the MI (or M.INT) part, the intelligent melody is controlled by the Arranger. Using it requires that you press the [MELODY INTELLIGENCE] button on the front panel (indicator must light). See "Melody Intelligence" on page 44 in the Player's Guide for details

## 7.11 Param\Cntrl\3

Master page: [F2] (Param)→[F3] (Cntrl)
[PAGE] ▲▼ (select page 3)




### Pitch Bender

**Part** (UP1, UP2, UP3, LW1, LW2, MBS, MDR, MI): This parameter allows you to select the Realtime part whose Pitch Bend range you wish to set. Surprising though it may be, you can also specify a Pitch Bend range for the Manual Drums part. Selecting values between "2" and "7" allows you to achieve interesting effects that work well for timpani sounds (of the C71 Orchestra set), for example.

**Range** (0~24): This parameter is used to specify the maximum pitch shift that can be achieved by turning the Bender lever fully to the left or right. Since there is only one Range parameter, it applies to both upward and downward bends. Remember, however, that the Range value can be set individually for each Realtime part, so be careful to set musically useful Range values. Select "0" for Realtime parts whose pitch should not change in response to Pitch Bend messages.

*Note: The Range value you set here will only be effective when you tun the Bender lever fully to the left (downward bends) or to the right (upward bends). Intermediary positions of the lever produce the resulting intermediary bend value.*

### Foot Switch Parameter

This parameter allows you to specify the function of the optional DP-2, DP-6, or BOSS FS-5U connected to the FOOT SWITCH jack on the rear panel. The default setting is Start/Stop, which allows you to start and stop Arranger playback. Note also the Soft and Sostenuto options as well as the possibility to select Hold.

Here are the functions the optional DP-2, DP-6, or BOSS FS-5U connected to the FOOT SWITCH jack can perform:

**Start/Stop:** Starts and stops Arranger playback. Same function as the [START/STOP] button.

**Play/Stop:** Starts and stops the Recorder. Same function as the Recorder [PLAY▶/STOP■] button.

**Intro:** Selects the Intro of the current Style Type during Arranger playback. Same function as [INTRO].

**Ending:** Selects the Ending of the current Style Type (Basic or Advanced). Same function as [ENDING].

**FO/FV:** Triggers either the To Original or To Variation fill, depending on whether the Original or Variation Division is currently active. Upon completion of the Fill, the Arranger will play the Division selected by the Fill.

**Fill Prev:** Same function as the FILL IN [TO PREVIOUS] button (see "Musical transitions" on page 21 in the Player's Guide).

**Bsc/Adv:** Selects either the Basic (Bsc) or Advanced (Adv) Type, depending on which one is active at the time you press the footswitch. Same function as Arranger [TYPE].

**Org/Var:** Selects either the Original or Variation Division of the currently active Type, depending on which one is active at the time you press the footswitch. Same function as [ORIGINAL] and [VARIATION].

**Inversion:** Switches the Bass Inversion function on and off (see page 43 in the Player's Guide).

**Arr/M.Bass:** Same function as KBD Arr/MBass for the PAD buttons (see page 32 for details).

**PianoSt/Stand:** Same function as Piano/Standard for the PAD buttons (see page 32).

**Rotary Slow/Fast:** Allows you to select the slow or fast speed of the Rotary effect. This only works, if the Rotary effect is currently being used, of course.

*Note: The Rotary effect is available in the following EFX algorithms: 13 Rotary, 62 Rotar/Mlt, 85 OD/Rotar, and 88 PH/Rotar.*

**UP1/2 Scale:** Allows you to switch the Keyboard Scale function on and off (see page 27).

**ArrChr Off:** Allows you to switch chord recognition on and off. When off, the notes you play in the chord recognition area of the keyboard no longer cause the Arranger to play another chord. Works well for long piano arpeggios. See page 42 in the Player's Guide for details.

**Usr Up:** Selects the next User Program (i.e. A12 if A11 is currently active).

*Note: Seeing that the footswitch function can also be saved to a User Program, the memory you select using the footswitch in Usr Up mode may contain another footswitch assignment so that you can no longer select the next User Program (i.e. A13) by foot.*

**Usr Down:** Selects the previous Performance Memory (i.e. C88 if A11 is currently active). See also the note above.

**Punch I/O:** The footswitch can be used to start and stop punch in/out recording of the EM-2000's sequencer (see page 34).

**Fade Out:** Starts the Fade Out. Same function as [FADE OUT/IN] on the front panel.

**Portamento:** Switches the Portamento function (see page 81 in the Player's Guide) on and off.

**Soft:** In this case, the footswitch functions as Soft pedal (a pedal found on grand and digital pianos that reduces the volume).

*Note: This function only applies to the Realtime parts.*

**Sostenuto:** In this case, the footswitch functions as Sostenuto pedal (another pedal found on grand and digital pianos that allows you to sustain only those notes you played at the time you pressed the pedal).

*Note: This function applies to the Realtime parts.*

**Hold:** The footswitch has the same function as a DP-2, DP-6, or BOSS FS-5U connected to the SUSTAIN FOOTSWITCH jack.

Note the Soft and Sostenuto options as well as the possibility to select Hold. Though there is a dedicated SUSTAIN FOOTSWITCH jack that serves the same purpose, you may want to select Hold for certain User Programs as doing so allows you to save money by buying only one DP-2, DP-6, or BOSS FS-5U. The trade-off is that selecting Hold means that no other option can be assigned to the footswitch. Some functions, however, can also be assigned to a PAD button (see page 31).

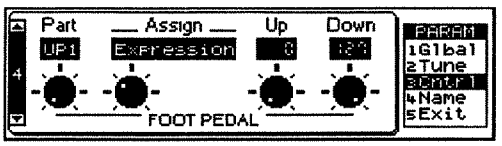
**Hold LW1:** In this case, the footswitch performs the same function as the KEYBOARD MODE [HOLD] button when it is assigned to the Lower 1 part (see also page 29 in the Player's Guide).

**Hold LW2:** The footswitch performs the same function as the KEYBOARD MODE [HOLD] button. This time, however, it only applies to the Lower 2 part, a function not available via the front panel.

**Hold LW 1–2:** The footswitch performs the same function as the KEYBOARD MODE [HOLD] button when it is assigned to the Lower 1 and 2 parts.

# 7.12 Param\Cntrl\4: Foot pedal/Expression pedal

Master page: [F2] (Param)→[F3] (Cntrl)
[PAGE] ▲▼ (select page 4)




### Part

Use the [DRUMS/PART] knob to select the desired part (including the MI part). This is only possible if you select either *Off* or *Expression* for the Assign parameter. Otherwise, *Part* is set to All and cannot be changed.

### Assign

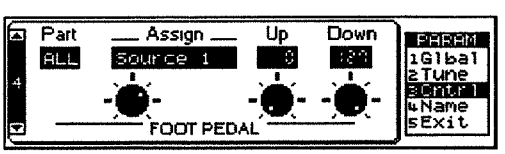
Use the [ACCOMP/GROUP] knob to select an option. Off means that the Realtime part in question cannot be controlled via the pedal connected to the FOOT PEDAL jack.

Expression: The pedal allows you to change the volume of the selected parts by foot. The default setting of the EM-2000 is that all parts are affected by the position of the optional expression pedal.

The expression function can also be used for some clever effects. Instead of alternating between Upper1 and Upper2 by varying your velocity (see page 34 in the Player's Guide), which requires a considerable amount of "striking precision", you could invert Upper2's response to the expression pedal, so that Upper1 does not sound when Upper2 does and vice versa.

*Note: The Expression function also applies to the Arranger parts. If you do not wish a given part to be affected by the pedal, set Up and Down to "127".*

Source 1 and Source 2: The foot pedal performs the same function as the Source 1 and 2 parameters (see page 33 in the Player's Guide). Source 1 and 2 apply to all Realtime parts that use the Insert effect. In that case, the display looks like this (Part= ALL, and no more screen button for *Part*):




**Up/Down (0~127):** Using the [LOWER/NUMBER] and [UPPER/VARIATION] knobs, specify the volume or effect parameter value to be obtained when the expression pedal is depressed (Down) or closed (Up).

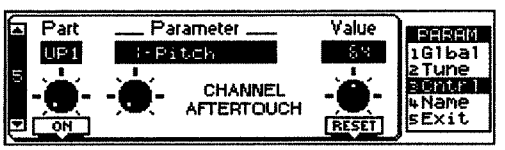
You do not need to specify "0" for the Up position. Selecting any other value will reduce the volume or effect depth of that part up to the "Up" value. Likewise, you do not need to specify "127" as maximum value.

*Note: If you select Expression, the Down and Up values represent MIDI Expression (CC11) values.*

*Note: It is perfectly possible to set the Up value to "127" and the Down value to "0", so that the corresponding part will only sound when the Expression pedal is up (closed).*

# 7.13 Param\Cntrl\5: Channel Aftertouch

Master page: [F2] (Param)→[F3] (Cntrl)
[PAGE] ▲▼ (select page 5)




**Part (UP1, UP2, LW1, LW2, ARR):** Use the [DRUMS/PART] knob to select the Realtime part you wish to assign an Aftertouch function to.

You can set the Value of several available parameters, so that the Aftertouch allows you to control several parameters simultaneously.

*Note: Aftertouch only applies to Realtime parts that are currently accessible (Keyboard Mode setting, Realtime part on/off, see page 27 in the Player's Guide).*

**Reset:** Press Part Select [UPPER1] (Reset) to set all Value settings for the currently selected Realtime part back to "0". (All options 1~11 will be reset to Value= 0, but only for the Part whose name is displayed below Part).

**On/Off:** Use the Part Select [M.DRUMS] button to specify whether (On) or not (Off) the currently selected Realtime part should execute Aftertouch messages.

Use the [ACCOMP/GROUP] knob to select a parameter, and the [UPPER/VARIATION] knob to specify the desired value.

### Parameter (for Realtime parts)

Aftertouch only works in one direction (i.e., it generates either positive or negative values).

*Note: If you select the 12-Arranger parameter, the Part field changes to ARR. This allows you to set the effect the Aftertouch can have on the Arranger (see page 41 in the Player's Guide).*

Pitch (-24~24): This parameter has the same effect as the Pitch Bend feature. It allows you to bend the notes you play even beyond the specified Pitch Bend Range value (see page 28).

TVF Cutoff (-64~63): Setting a positive or negative value for this parameter means that the cutoff fre-

quency of the Tone assigned to the selected part can be increased or decreased.

*Note: Depending on the value you set for TVF Cutoff (see page 17), high positive or negative settings may have no audible effect. That is also the case of Tones whose cutoff frequency is already preset to the maximum value.*

**Amplitude** (–64~63): Setting a positive or negative value for this parameter allows you to increase or decrease the volume of the selected part using the Aftertouch.

*Note: Again, the volume cannot be increased (or decreased) beyond "127" (or "0"). If the volume of the part is question is already set to "127" (or "0"), the Aftertouch will produce no audible effect.*

**LFO1 Rate** (–64~63): This parameter allows you to increase or decrease the modulation speed of LFO1. Use this function in combination with the Modulation axis of the Bender/Modulation lever, or to change the modulation speed of the preset automatic modulation.

**LFO1 Pitch** (0~127): This parameter allows you to add pitch modulation using the Aftertouch feature. Pitch modulation is usually referred to as vibrato.

**LFO1 TVF** (0~127): This parameter allows you to add cutoff frequency modulation via the Aftertouch. This is also known as WahWah.

**LFO1 TVA** (0~127): This parameter allows you to add amplitude modulation using the Aftertouch function. This is also known as tremolo.

**LFO2 Rate, LFO2 Pitch, LFO2 TVF, LFO2 TVA:** Same setting range and meaning as the corresponding LFO1 parameters. Note that not all Tones use a second LFO, which is why these settings do not always yield the desired effect.

*Note: Except for Rate, the LFO parameters are absolute settings that do not alter existing values. That explains why their setting range is 0~127 rather than –64~63. Use these parameters (Pitch~TVA) to add a new aspect to the selected Tone.*

*Note: Like the Part parameters (see page 78 in the Player's Guide), the Aftertouch settings apply to the Realtime part in question, so that selecting another Tone for such a part does not mean that the Value settings (see below) will be reset to "0".*

### Value (for Realtime parts)

This is where you set the value of the currently displayed parameter. As explained above, you can set the Values of all available (but currently invisible) parameters.

### Value (for Arranger control)

*Note: Selecting "12-Arranger" does not cancel the Aftertouch settings you may have made for the Realtime parts.*

Use the [ACCOMP/GROUP] knob to set **Parameter** to 12-Arranger. The display should now look like this:


Note that the Part field now reads ARR because the Arranger assignment only applies to the Arranger. Furthermore, the [ON] switch disappears.

**Off:** The Aftertouch cannot be used to trigger the Arranger.

**B/A:** Switches between the Basic and Advanced levels.

**O/V:** Switches between Original and Variation.

**FO/FV:** Triggers the Fill-In To Original the first time around, and the Fill-In To Variation the second time.

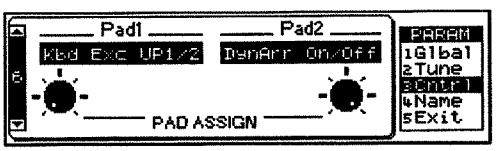
**To Prev:** Same function as the [TO PREVIOUS] button.

**Int and End:** Same function as the [INTRO] or [ENDING] buttons. If Arranger playback is stopped, using the Aftertouch will trigger the Intro. If used during Arranger playback, the Aftertouch will launch the Ending.

*Note: Even Aftertouch messages generated outside the chord recognition area (see below) will trigger the selected switching function.*

## 7.14 Param\Cntrl\6: Pad Assign

Master page: [F2] (Param)→[F3] (Cntrl)
[PAGE] ▲▼ (select page 6)




### Pad 1/Pad 2

Use the [DRUMS/PART] knob to assign a function to the [PAD1] button, and [UPPER/VARIATION] to assign a function to the [PAD2] button.

**Rotary S/F:** The PAD button can be used to alternate between the slow and fast speed of the Rotary effect.

*Note: The Rotary effect is available in the following EFX algorithms: 13 Rotary, 62 Rotar/Mlt, 85 OD/Rotar, and 88 PH/Rotar.*

**Punch In/Out:** The PAD button can be used to engage and halt Punch In/Out recording while the Sequencer is running. See page 34 for details.

**Metron On/Off:** The PAD button can be used to activate or switch off the metronome.

**ContIn On/Off:** The PAD button can be used to switch the Count In function (see page 37 in the Player's Guide) on and off.

**Tap Tempo:** The PAD button can be used to specify the tempo by pressing the button several times. This is the same function as the one assigned to the [RESET/TAP TEMPO] button (see page 46 in the Player's Guide), except that it is always available, while the [RESET/TAP TEMPO] button only performs this function while the Arranger is stopped.

**Arranger Hold:** Allows you to switch the Arranger Hold function on and off. See "Arr(anger) Hold" on page 43 in the Player's Guide.

**DynArr On/Off:** Allows you to switch the Dynamic Arranger function on and off. See page 28 for details.

**Up1/2 Scale:** Allows you to switch the Keyboard Scale function on or off (see page 82 in the Player's Guide).

**Kbd Exc UP1/UP2:** Allows you to switch off the Upper 1 part and activate the Upper 2 part, and vice versa.

**Kbd Exc LW1/LW2:** Allows you to switch off the Lower 1 part and activate the Lower2, and vice versa.

*Note: If neither LOWER 1 nor LOWER 2 are on when you first press the PAD button, one of them will be activated. The result will only be audible, however, if either the Assign WHOLE LEFT or SPLIT mode is selected. Otherwise, the Keyboard Mode LOWER indicator in question only flashes. See "Whole Left" on page 28 in the Player's Guide for an explanation.*

**Kbd Arr/Bass:** Allows you to set the Arranger Chord parameter to "Off" (chord recognition as well as ABS recognition off, see page 42 in the Player's Guide) and, at the same time, select the Assign Split mode and activate the M.Bass part (see page 28 in the Player's Guide)– and vice versa.

*Note: Pressing the PAD button you assign this function to does not mean that the Arranger stops. If you switched on the Arr Hold function (see page 43 in the Player's Guide), the last recognized chord will go on sounding, so that your M.Bass part may drown in the accompaniment. We therefore suggest you assign the "Arranger Hold" function (see above) to the other PAD button or the "Arr/MBass" function to the foot switch (see page 29). You can then switch off the Arranger Hold function, so that the Arranger only plays the drum pattern of the selected Music Style.*

**Piano/Standard:** By pressing the PAD button, you alternate between the *Standard* and *PianoStl* Arranger Chord modes. When the former is selected, the chord recognition area (see page 42 in the Player's Guide) is automatically set to *Left*. When you switch to PianoStl, the chord recognition area is automatically set to *Whole*. Furthermore, the Keyboard Mode is set to Assign WHOLE RIGHT, and the Upper 1 part is activated (if it was off).

*Note: You can check these PAD functions by pressing [ARR CHORD] at the lower left of the display. Watch the Arr Chord parameter as well as the function menu as you press the PAD button in question.*

# 7.15 Param\Cntrl\7: D Beam Assign

Master page: [F2] (Param)→[F3] (Cntrl)
[PAGE] ▲▼ (select page 7) OR: hold down [D BEAM ON]

The EM-2000's D Beam Controller is a revolutionary function that allows you to control a selectable parameter by moving your hand over two sensors to the left of the display. On page 35 in the Player's Guide, we showed you how to use the D Beam Controller. Let us now have a look at how to assign a function to it.


One final note before we get down to the available parameters: all options marked with a "o" apply to the currently active Realtime parts. Look at the indicators in the KEYBOARD MODE pad to see which Realtime parts can be controlled.

*Note: If you plan to use the D Beam Controller while controlling the Arranger, it is probably a good idea to activate its Hold function (see page 43 in the Player's Guide). This function can also be activated using a PAD button (see page 32).*

## Parameter

**Modulationo:** Select this function if you want the D Beam to duplicate the modulation function of the Bender/Modulation lever.

**Pitch Bend Upo:** By moving your hand over the D Beam, you can generate a value between "64" (no Pitch Bend) and "127" (maximum upward bend). As soon as you move your hand outside the D Beam's reach (higher than ±40cm above the "eyes" or further to the left or right), the value returns to "64" (no Pitch Bend). The extent to which a Realtime part can be controlled depends on the Range setting (see page 28).

**Pitch Bend Downo:** By moving your hand over the D Beam, you can generate a value between "64" (no Pitch Bend) and "0" (maximum downward bend). As soon as you move your hand outside the D Beam's reach, the value returns to "64" (no Pitch Bend). The extent to which a Realtime part can be controlled depends on the Range setting (see page 28).

*Note: In the case of the two Pitch Bend options, the D Beam value is added to the current setting of the Pitch Bend axis of the Bender/Modulation lever. But the sum of the D Beam and Pitch Bend value cannot exceed the Range setting).*

**Cut&Reso Upo:** (Only for Upper 1 and/or 2) By moving your hand over the D Beam, you can vary the current TVF Cutoff value (see also page 17) of the Upper 1 and/or 2 part. The Resonance parameter will be set to "+63" (maximum), while the Cutoff frequency can

be controlled between "0" (no change) and "+63" (maximum increase). This allows you to create some nifty filter effects that are particularly useful for Dance/Techno music. When you move your hand outside the D Beam's range, both Resonance and TVF Cutoff return to their original values ("0"= no change).

*Note: If TVF Cutoff is already set to "+63", you cannot increase it using the D Beam Controller. In that case, the following option is probably more useful. Also note that some Tones already use the highest possible TVF Cutoff value by default, in which case you cannot add more overtones (by opening the filter even further).*

**Cut&Reso Down⁰:** (Only for Upper 1 or 2) By moving your hand over the D Beam, you can vary the current TVF Cutoff value (see also page 17) of the Upper 1 and/or 2 part. The Resonance parameter will be set to "+63" (maximum), while the Cutoff frequency can be controlled between "0" (no change) and "–64" (lowest possible TVF Cutoff setting). When you move your hand outside the D Beam's range, both Resonance and TVF Cutoff return to their original values ("0"= no change).

*Note: See the above note. The Cutoff frequency cannot be lowered if TVF Cutoff is already set to "–64".*

**Arpeg 1/2/3 Octv:** By moving your hand over the D Beam, you cause the Upper3 part to play arpeggios (broken chords) based on the notes you play in the chord recognition area (see page 42 in the Player's Guide). Depending on the setting you select here, the notes of the chord recognition area will be arpeggiated over 1, 2, or 3 octaves.

*Note: If you select the Intell(igent) Chord mode (see page 42 in the Player's Guide), it is enough to play one note for major chords, two for minor chords, etc.*

*Note: Do not forget to assign a suitable Tone to the Upper3 part. See "Selecting Tones for the Realtime parts" on page 31 in the Player's Guide). Also, activate the Arranger Hold function (see page 43 in the Player's Guide).*

**Chord 1/2/3 Octv:** By positioning your hand inside the D Beam's range, you cause the Upper3 to sound the notes of the chords you play in the chord recognition area. You could use this function to add syncopated brass or guitar "hits" to your melody. The velocity value used for playing these notes is "100". The number (1, 2, or 3) bears on the octave of this "added chord": 1= A♭3~G4, 2= A♭4~G5, and 3= A♭5~G6. Move your hand outside the D Beam's range to stop the Upper3 from sounding the chord.

**Tempo Up/Down:** Select one of these options if you want to increase (Up) or decrease (Down) the current Arranger or Recorder tempo. By moving your hand outside the D Beam's range, you return to the previous tempo value.

**Arr Start/Stop:** Depending on the current condition of the Arranger (running or stopped), one move inside the D Beam's range stops (or starts) it. A second movement will start (or stop) it again.

**Fill To Var/Or:** Here, too, the D Beam performs two functions that depend on the currently selected Division (Original or Variation). The first time the D Beam senses your hand (or other limb), it activates the Fill-In TO VARIATION function. Upon completion of that Fill, the Arranger switches to the Variation pattern. The second time, the Fill-In TO ORIGINAL is activated.

*Note: This function is only available while the GM/GS mode is not active. In other words: during Recorder or 16-track Sequencer playback, you may get the impression that the D Beam Controller does not work. But as soon as you return to the Arranger (normal EM-2000) mode, everything will be back to normal again.*

**ADrum On/Off:** This setting allows you to switch the ADR (Accompaniment Drums) part on and off using the D Beam Controller. There are also combined on/off options (see below).

**ABass On/Off:** This setting allows you to switch the ABS (Accompaniment Bass) part on and off using the D Beam Controller.

**Accomp On/Off:** This setting allows you to switch the Accompaniment parts (ACC1~6) on and off using the D Beam Controller.

**ABs&ADr On/Off:** This setting allows you to use the D Beam for switching on and off the ABS and ADR parts.

**Acc&ABs On/Off:** This setting allows you to use the D Beam for switching on and off the ABS and ACC1~6 parts.

**Acc&ADr On/Off:** This setting allows you to use the D Beam for switching on and off the ADR and ACC1~6 parts.

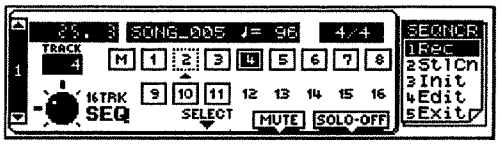
# 8. Song Tools

## 8.1 16-track Sequencer

### REC 1 page

[SONG TOOLS]→Part Select [M.DRUMS]
[F1]→[PAGE] ▲▼ (select page 1)

*Note: By pressing [SONG TOOLS], you automatically select the GM/GS mode, so that the Arranger is no longer available.*




This page informs you about the current measure, the song name and tempo, the time signature, and the status of the tracks. You can use [◄◄REW] and [FF►►] to jump to another measure, or [|◄ RESET] to return to the beginning of the song.

The parameters you can set here are:

**Track:** Use [DRUMS/PART] to select the track you wish to record (or edit, see page 38). You can select a "music track" (1~16) or the Master track (M). Use the latter to record tempo changes. The name of the selected track appears in the TRACK window above the knob, and is indicated by a black box.

During the first recording pass, and after initializing the song memory (see p. 37), the Master track memorizes the following settings: GS Reset message (that tells the receiving tone generator "this is a GM/GS compatible song, please initialize your settings"), Reverb Macro, Chorus Macro, Delay Macro, etc., tempo, and time signature.

**Select:** Use the [BASS/BANK] knob to select a track you wish to mute or solo. The selected track is indicated by a downward or upward pointing arrow.

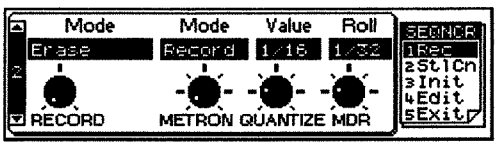
**Mute:** Press Part Select [UPPER2] to mute the selected track. Sometimes, when recording rhythmically intricate parts, it may be necessary to mute already recorded parts that might distract you.

**Solo On/Off:**

Press Part Select [UPPER1] to solo the selected track (indicated by ▲ or ▼). This mutes all other tracks.

### REC 2 page

[SONG TOOLS]→Part Select [M.DRUMS]
[F1]→[PAGE] ▲▼ (select page 2)




**(Record) Mode:** Use the [DRUMS/PART] knob to select how new data should be recorded. Select *Erase* if a track contains data you wish to replace with new data. This erases all data of the selected track from the place where you start recording until the end. (Erase is selected by default for empty tracks.)

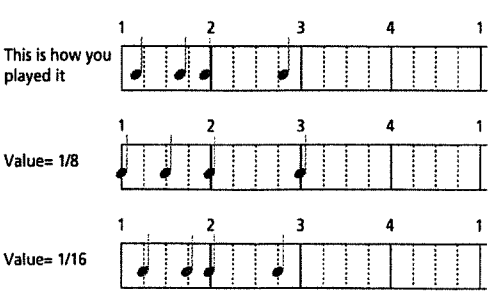
*Note: You may want to make a few initial settings before recording a new track. See "REC 3 & 4 pages".*

Select *Merge* to add new notes to the ones already recorded on the track you selected on page 1. This recording mode is particularly useful for recording the rhythm track (10) because you can first record the bass and snare drums, then add a few tom hits here and there, and record the HiHat, for example.

*Punch In/Out* allows you to re-record part of a track. Select this mode to replace a phrase you do not like with a new version. Doing so has the advantage that only the area where you punch in and out will be overwritten.

**(Metron) Mode:** This parameter allows you to select when the metronome should sound. The default setting is *Record*, which means that the metronome is only audible during recording. Select *Play* if you only need the metronome during playback. *Rec&Ply* means that the metronome will be used during playback and recording, while *Always* means that the metronome even sounds when playback is stopped.

**Quantize Value:** Quantize corrects the timing of your notes by shifting them to the nearest grid mark. Use Value to specify the number of grid marks per measure (i.e., the Quantize resolution). Here is an example:



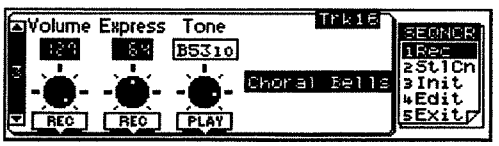
The setting range is: 1/8, 1/8t, 1/16, 1/16t, 1/32, 1/32t, 1/64t, and Off. The 16-track sequencer has a second Quantize function that you can use more selectively (i.e., for notes that are definitely late/early). See "Track Quantize" on page 43.

**MDR Roll:** Use the [UPPER/VARIATION] knob to set the Roll resolution for the Manual Drums part (MDR). Such automatic rolls are always played in sync with the selected tempo. See also page 30 in the Player's Guide.

## REC 3 & 4 pages

[SONG TOOLS]→Part Select [M.DRUMS]
[F1]→[PAGE] ▲▼ (select page 3 or 4)

These two pages allow you to specify the initial settings for the selected track, or to modify/replace existing settings. If the Trk window does not display the number of the desired track, go back to REC page 1 ([PAGE] ▲▼) and select the track.




**PLAY/REC buttons:** In Record Merge mode (see p. 34), you can specify for each parameter whether or not to record the settings made on these pages. In *Record Erase* and *Punch In/Out* modes, all parameters are set to REC.

**7. Use the knobs ([DRUMS/PART]~[UPPER/VARIATION] to set the values.**

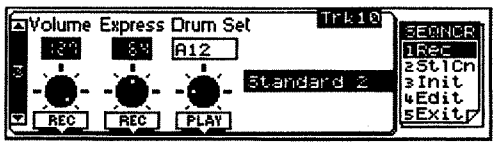
**8. Use the Part Select buttons to select PLAY (not recorded) or REC (recorded).**

*Note: These values can also be changed and recorded in realtime. Select the Record Merge mode so as not to overwrite the notes, and start recording from the position where the new settings should take effect. You can stop recording after one beat. For continuous changes, use the knob in question to set the desired values and stop recording when no further changes are required.*

**Volume:** (0~127) Allows you to set the track volume (CC07). Use this parameter to specify the initial volume. You can use Express to program temporary volume changes during the course of the song.

**Express:** (0~127) Allows you to program relative volume changes (CC11). The value "127" means that the resulting volume will be equal to the volume set with the Volume parameter above. All other Express values reduce the Volume value.

**Tone/Drum Set:** For all tracks except track 10 (and another track that also uses a Drum Set), this parameter is called *Tone*. For track 10 (and any other drum track), this parameter is called *Drum Set*. You can either select the Tone/Drum Set using the [LOWER/NUMBER] knob or via the TONE/USER PROGRAM keypad.




*Note: See "Init" for how to select a second Drum track.*

**Panpot:** Use this parameter to specify the stereo position of the selected track. "64" means dead center, values between 0 and 63 shift the sound to the left, while values between 65 and 127 shift the sound to the right.

**Reverb, Chorus, Delay:** Specify the Send level for the effect in question, i.e. the volume of the track signal that is sent to the effect, and consequently how much effect should be added to the track. See page 20 for how to set the effects. Those effect settings are part of the general SysEx settings of the "M" track and must be set before recording the first track.

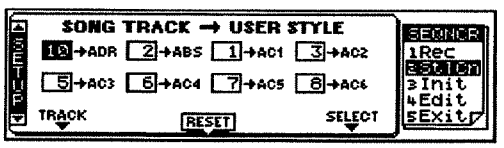
*Note: The Delay effect is not available for drum tracks (10, and any other track that uses a Drum Set).*

## Style Converter

[SONG TOOLS]→Part Select [M.DRUMS]→[F2]

The EM-2000's Style Converter is an easy and intuitive tool for creating your own Music Styles based on one of your own songs or a Standard MIDI File. You may want to edit the song before converting parts of it into a Music Style. See "Editing functions of the 16-track Sequencer" on page 38 for details. See also "General considerations" on page 70 in the Player's Guide for aspects to bear in mind.

• *Commercially available Standard MIDI Files are protected by a copyright. Please note that the Style Converter should only be used for creating Music Styles for private use. Roland assumes no responsibility for copyright infringements that may result from the use of the Style Converter.*




This page allows you to assign the desired Song tracks to User Style tracks. Remember that a song can contain up to 16 tracks, while a User Style "only" provides eight. Be sure to select the tracks you want to include in the resulting accompaniment.

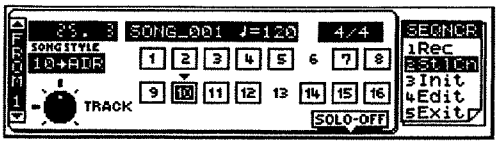
**Track:** Use the [DRUMS/PART] knob to select a User Style track (ADR, ABS, Ac1~Ac6). The track number to the left of the arrow (→) will be displayed white-on-blue.

**Select:** Use the [UPPER/VARIATION] knob to assign a song track to that User Style track. You can press Part Select [UPPER1] (Reset) to load the following default settings:

| Track (User Part) | EM-2000 part | |
|---|---|---|
| | Display | Style Part |
| 10 (Drums) | *ADR* | A.Drums |
| 1 (Piano) | *AC1* | Accomp 1 |
| 2 (Bass) | *ABS* | A.Bass |
| 3 (Chord Backing) | *AC2* | Accomp 2 |
| 5 (Not specified) | *AC3* | Accomp 3 |
| 6 (Counter-melody) | *AC4* | Accomp 4 |
| 7 (Not specified) | *AC5* | Accomp 5 |
| 8 (Not specified) | *AC6* | Accomp 6 |

*Note: Be sure to make all desired assignments before moving on to the next pages. There, you can indeed only work with the assigned tracks.*

Press PAGE ▼ to go to the next page.

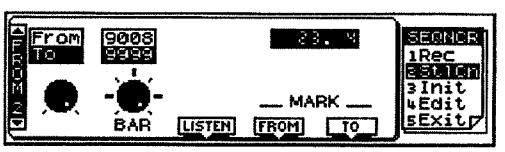



Here, you can select the tracks you wish to convert (ADR, ABS, Ac1~Ac6, or All). Use the [DRUMS/PART] knob to do so. If you select a specific track, you can solo it and listen to it by using the Recorder [PLAY►/STOP■] button. [◄◄REW] and [FF►►] are also available.

If you solo a track by pressing Part Select [UPPER1], all other track boxes will be indicated by means of a dotted line.

*Note: When you select All, the solo option is no longer available (because you can only solo one track at a time).*

Press [PAGE]▼ to go to the next page.



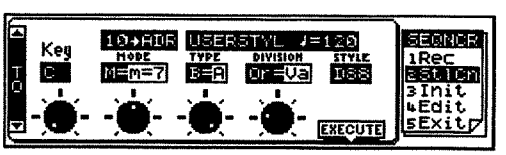

This page allows you to specify which measures should be converted. You can only use whole measures, which is why neither Beat nor CPT are available.

**From/To:** Use the [DRUMS/PART] knob to select the To or From level. *From* refers to the beginning of the excerpt, and *To* designates the last measure.

**Mark:** See page 71 in the Player's Guide for details.

**Listen:** Press Part Select [LOWER1] to listen to the excerpt you selected. The passage between the From and To points will be continuously played back (looped). This allows you to check whether the last notes of your Style-to-be allow for a smooth transition to patterns or sound natural when the pattern is repeated. Sometimes, quantizing the last few notes of an excerpt may be helpful to avoid including notes that were played a little ahead of the beat (and are part of the last beat you convert). See page 43 for details.

Press [PAGE]▼ to go to the next page.




Here, you can select the destination pattern, i.e. whether the selected excerpt should become a Basic/Original pattern, an Intro, etc. Note that you

cannot select the track here. Go back to the previous page to do so.

**Key:** (C, C#, D, Eb, F, F#, G, Ab, A, Bb, B) This parameter allows you to tell your EM-2000 what key the track (or tracks) is in. Specifying the right key before converting is crucial for realtime use of a pattern.

*Note: There is no need to specify the key for ADR tracks.*

**Mode:** Allows you to select the mode of your pattern: Maj (major), min (minor) or 7 (seventh). Choose the mode that matches the chord being used in the excerpt.

**Type:** Allows you to select the pattern Type: Bsc (Basic), or Adv (Advanced). See page 38 in the Player's Guide for details.

**Division:** Use the [LOWER/NUMBER] knob to select the Division of the pattern: Or (Original) or Var (Variation), FO (Fill-In To Original), FV (Fill-In To Variation), In (Intro), or Ed (Ending). Furthermore, by selecting an option indicated by "=", you create several patterns at once. That is what we call "cloning".

**Execute:** After setting the above parameters, press Part Select [UPPER1] to launch the conversion. As you see in the right-most field, your User Style will be temporarily stored in the EM-2000's Style RAM memory (D88).

If that memory doesn't yet contain data, the new Style will use the current time signature and tempo. If D88 already contains data, the new Division(s) will have the same time signature and tempo as the Style data in the D88 memory.

*Note: Do not forget to save your new User Style to floppy or Zip disk, etc.*

## Init

[SONG TOOLS]→Part Select [M.DRUMS]→ [F3]

Select this page to erase the song currently in the EM-2000's RAM memory and to reset all tracks to their default values. While initializing the song memory, you can also select the time signature and tempo for the new song you are (probably) about to record. Furthermore, initializing a song allows you to start from scratch – this time with two Drum tracks.


Carefully read the warning message and ask yourself whether you really want to erase the current song. If you do press Part Select [UPPER1] (Proceed).


**Time Sign:** Use the [DRUMS/PART] knob to set the time signature (1/2~32/16).

**Tempo:** Use the [BASS/BANK] knob to specify the initial tempo of the new song (♩= 20~250).

**2nd Drum Track:** This parameter ([UPPER/VARIATION] knob) allows you to define a second Drum track that will behave exactly like track 10. See "Using two drum tracks (Init)" on page 68 in the Player's Guide for details.

Select Off if you don't need a second Drum Set, or set the number of the desired track. "10" is not available here because it always functions as Drum track.

**Execute:** Press Part Select [UPPER2] (Execute) to really initialize the song memory (which you haven't done so far). The message "Executing" appears, after which the EM-2000 automatically jumps to the REC 1 page.

All tracks will be initialized as follows: *Volume* 100, *Expression* 127, *Tone* Piano 1 (Standard 1 Kit for track 10 as well as the 2nd Drum track), *Panpot* 64, *Reverb* 40, *Chorus* 0, *Delay* 0 (not available for drum tracks).

*Note: If you do not wish to initialize the song memory after all, press Part Select [M.BASS] (Exit) instead to return to the "3 Init" page.*

*Note: Do not forget to program the desired effects for the various processors (see page 20) before recording the first track.*

*Note: If your song needs to be compatible with older Sound Canvas and all GM sound sources, do not use a second drum track.*

## Editing functions of the 16-track Sequencer

The Edit level of the 16-track mode provides eight functions: Erase, Delete, Insert, Quantize, Transpose, Change Velo, Change Gate Time, and Track Shift.

If, after selecting one of these functions, you decide not to execute the transformation, press Part Select [UPPER1] (Rec) or [F5] (Exit) before pressing Part Select [M.DRUMS] (Execute).

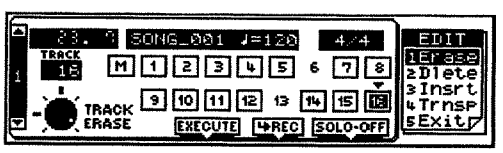
The Edit functions' parameters are spread over two or three display pages you can select using the [PAGE] ▲▼ buttons. Entering the right values to achieve the desired result may at first take some time. Here are a few guidelines:

- Select the track(s) you wish to modify. Select the range (From Bar, Beat, CPT~To Bar, Beat, CPT) for the edit operation.
- Enter what should be changed and how it should be changed.
- Execute the operation by pressing Part Select [M.DRUMS] (Execute).

*Note: Save your song to disk before continuing if you wish to keep the original song. See "Saving your song" on page 64 in the Player's Guide for details.*

### Track Erase

[SONG TOOLS]→Part Select [M.DRUMS]→[F4]→[F1]




Track Erase allows you to selectively delete data either within a specified range, or from the entire track(s). In All mode, Erase will substitute the required number of rests for the data you delete, so that you end up with the equivalent number of blank measures. If you also want to eliminate the measures themselves, use Track Delete (see below).

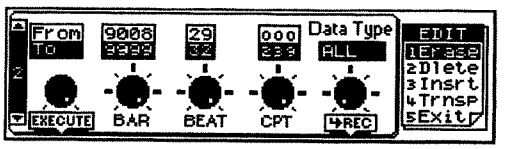
**Track (1~16, ALL, M):** Allows you to select the track you wish to edit. You can also select All here, in which case the operation applies to all tracks except the Master track (M). The M track can only be selected in isolation.

**➥REC:** Press Part Select [UPPER2] to return to the first REC page (that is usually selected via [F1]).

**Solo On/Off:** While you are setting the parameters on this page, you can press [PLAY▶/STOP■] to listen to your sequence. If you only want to hear the track you are about to edit, press Part Select [UPPER1] to solo it.

**Execute:** Press Part Select [M.DRUMS] to edit the data right away. The following parameters allow you to narrow down the scope of the edit operation. If you wish to edit the entire track, there is no need to fine-tune your settings.

Press [PAGE]▼ to select the following page:

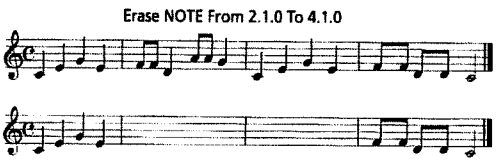



**From/To:** Use the [DRUMS/PART] knob to select the To or From level. *From* refers to the position where the edit operation is to begin. That position is specified in a Bar-Beat-CPT format. *To* designates the position where the edit operation is to end (Bar-Beat-CPT value). Always check whether you have selected the right level (From or To) before setting the following parameters.

**Bar (1~9999):** This is where you specify the bar position. By default, the From and To values are set to the beginning and end of the selected track(s). Note that the To value always refers to the end of the longest track.

**Beat (1~[number of beats per bar]):** This is where you specify the beat position. The number of selectable beats obviously depends on the time signature of the song.

**CPT:** This is where you specify the CPT position of the beginning and end. CPT is short for "Clock Pulse Time", the smallest step unit used by the EM-2000. Unless you do not need to edit all the selected data within the last bar, you should keep the default setting.




**Data Type:** Allows you to select the data to be erased:

All° . . . . .All editable parameters listed below.
Note . . . .Only note messages.
Modul . . .Only modulation messages (CC01 in MIDIese).
PBend . . .Pitch Bend data (i.e. use of the BENDER/MODULATION lever).
Volum . . .Volume (CC07) data.
Expre . . .Only Expression messages (CC11).
PanPt . . .Only pan (or Panpot) messages (CC10).
Revrb . . .Only Reverb send messages (CC91).
Chrus . . .Only Chorus send messages (CC93).
Delay . . .Only Delay send messages.

CC16 . . .Rotary Slow switch (via [PAD] buttons or optional footswitch, see pages 31 and 29).

CC17 . . .Rotary Fast switch ([PAD] buttons or optional footswitch).

*Note: The Rotary effect is available in the following EFX algorithms: 13 Rotary, 62 Rotar/Mlt, 85 OD/Rotar, and 88 PH/Rotar.*

PChng . . .Program change messages

NRPN . . .Non-registered-parameter-number parameters. These are parameter control functions of the GS format that are easier to use than SysEx messages (but have basically the same function).

RPN . . . .Registered-parameter-number parameters. They work the same as NRPN messages, except that they are also understood by GM compatible sound modules.

CAF . . . .Channel Aftertouch messages. If you don't really need them, these messages should definitely be erased because they use a lot of memory.

SysEx° . . .MIDI messages that allow you to change parameter values. For music tracks, these messages cannot be programmed on the EM-2000, but songs recorded on other devices may contain them. In the case of the M track, only SysEx messages (for Reverb, Chorus, and Delay setup, etc.) located after 1-1-0 can be erased.

Tempo° . .Tempo change messages. The initial tempo value (located at 1-1-0 of the song) will not be erased.

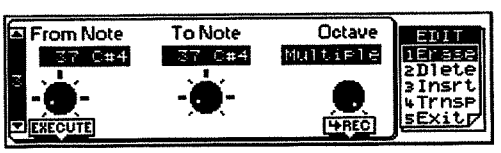
*Note: Parameters marked with (°) are selectable for the M track. Tempo is only available for the M track.*

*Note: Don't look for D Beam Controller messages because it does not generate its own MIDI messages. Instead, D Beam information is directly converted to modulation, Pitch Bend, etc.*

➥**REC:** Press Part Select [UPPER1] to return to the first REC page (that is usually selected via [F1]).

**Execute:** Press Part Select [M.DRUMS] to edit the data right away. The following parameters allow you to narrow down the scope of the edit operation. If you wish to edit the entire track, there is no need to fine-tune your settings.

Press [PAGE]▼ to select the following page:




You only need to set the parameters on this page if the selected Data Type (see above) is *Note*. That is why this page is only displayed when the selected Data Type is *Note*.

**From Note (C-1~G9):** This parameter allows you to set the lower limit of the note range to be modified within the specified From/To time range (see the second display page). If you only wish to edit one note, set the same value for From Note and To Note.

*Note: The above settings (37 C#4) are only examples. The correct note name for note number 37 is, of course, C#2.*

**To Note (C-1~G9):** This parameter allows you to select the lower limit of the note range you wish to edit.

*Note: You can also enter the From Note and To Note values by pressing the desired keys on the keyboard. The first note you play becomes the From Note, while the second note will be used as To Note.*

**Octave (Multiple, Single):** If the selected note should be edited in all octaves, select Multiple. Multiple is only possible when you assign the same value to From Note and To Note (Example From Note= 36 C2 and To Note= 36 C2 in Multiple mode would affect all Cs). If the edit operation should bear on the notes within the selected range, set this parameter to Single.

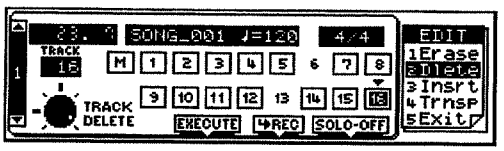
**Execute:** Press Part Select [M.DRUMS] to confirm your settings and edit the data.

➥**REC:** Press Part Select [UPPER1] to return to the first REC page (that is usually selected via [F1]).

## Track Delete

[SONG TOOLS]→Part Select [M.DRUMS]→[F4]→[F2]

Unlike the Erase function, Track Delete also erases the measures, so that all measures that lie behind the To position, will be shifted towards the beginning of the track(s). Since Delete also disposes of the measures themselves (see the illustration below), you cannot choose the data type to be erased.



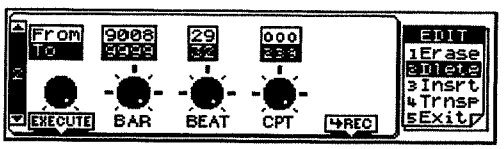

**Track (1~16, ALL, M):** Allows you to select the track you wish to edit. You can also select All here, in which case the operation applies to all tracks.

**➥REC:** Press Part Select [UPPER2] to return to the first REC page (that is usually selected via [F1]).

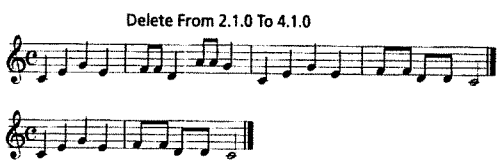
**Solo On/Off:** See page 38.

**Execute:** Press Part Select [M.DRUMS] to edit the data right away. The following parameters allow you to narrow down the scope of the edit operation. If you wish to edit the entire track, there is no need to fine-tune your settings.

Press [PAGE]▼ to select the following page:




**From/To, Bar, Beat, CPT:** See page 38.




**➥REC:** Press Part Select [UPPER1] to return to the first REC page (that is usually selected via [F1]).

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and edit the data.

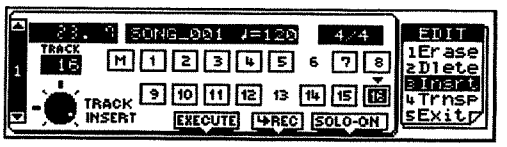
*Note: Not all settings of the M track are erased: the time signature, the GM/GS Reset message, and the initial tempo (all located at 1.1.0) remain. Lyrics events are only deleted if you selected ALL rather than the M track.*

## Track Insert

[SONG TOOLS]→Part Select [M.DRUMS]→[F4]→[F3]

Insert allows you to make an existing track longer by adding rests at the specified position. This will make room for new data and shift data that lie behind the From position further to the right. New data can either be added in realtime (do select Record Merge, though) or by copying them to the specified position (see page 44).

*Note: The Insert function does not provide a To pointer. Instead, you have to specify the length of the insert using the For value. "For 2 Bars, 2 Beats, 240 CPT" thus means "insert 2 bars, 2 beats and 2 beats" (because 120CPT= ♩).*

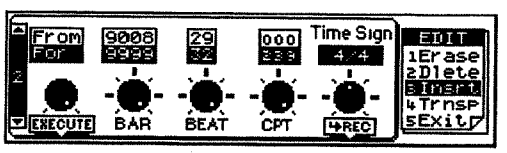



**Track (1~16, ALL, M):** Allows you to select the track you wish to edit. You can also select All here, in which case the operation applies to all tracks.

**➥REC:** Press Part Select [UPPER2] to return to the first REC page (that is usually selected via [F1]).

**Solo On/Off:** See page 38.

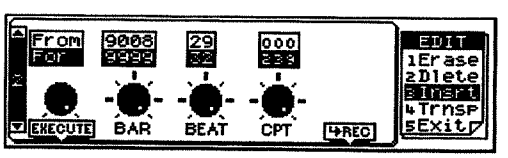
If, on page 1, you select ALL tracks, you can also specify the time signature for the newly inserted measures:




Use the [UPPER/VARIATION] knob to set the time signature of the new measures (1/2~32/16).

**Execute:** Press Part Select [M.DRUMS] to edit the data right away. The following parameters allow you to narrow down the scope of the edit operation. If you wish to edit the entire track, there is no need to fine-tune your settings.

Press [PAGE]▼ to select the following page:




**From/For:** Use the [DRUMS/PART] knob to select either the "From" or the "For" level. The From level allows you to specify the position where the selected number of bars, beats, and clocks is to be inserted.

For, on the other hand, specifies *how many* bars, beats, and CPTs are to be inserted.

**Bar, Beat, CPT:** See page 38.

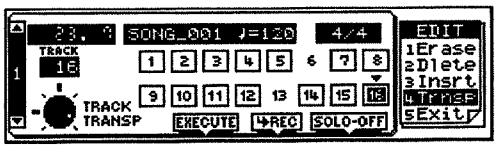
**➥REC:** Press Part Select [UPPER1] to return to the first REC page (that is usually selected via [F1]).

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and insert the requested number of bars, beats and CPTs.

### Track Transpose

[SONG TOOLS]→Part Select [M.DRUMS]→[F4]→[F4]

Track Transpose is used to transpose the notes of the selected track (the other non-note data obviously cannot be transposed).

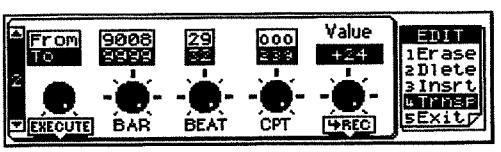



**Track (1~16, All):** Allows you to select the track you wish to edit. You can also select All here, in which case the operation applies to all tracks except track 10 (Drum track) and any other track that uses a Drum Set. The Drum tracks can, however, be selected individually. The M track obviously cannot be transposed. When combined with From Note and To Note (see below), Track Transpose is also useful for drum tracks. It allows you to select another snare or kick sound, for example. Most Drum Sets provide two snares, one assigned to note number 38 (D2), and a second assigned to note number 40 (E2). By selecting From Note= 38 (D2), To Note= 38 (D2) and setting the transpose Value "+2", you can change your D2 snare to the E2 snare.

**➥REC:** Press Part Select [UPPER2] to return to the first REC page (that is usually selected via [F1]).

**Solo On/Off:** See page 38.

**Execute:** Press Part Select [M.DRUMS] to edit the data right away. Chances are, however, that you will not obtain the desired transposition. Just ignore Execute here and go on to the next display page by pressing [PAGE]▼.




**From/To:** Use the [DRUMS/PART] knob to select the To or From level. From refers to the position where the edit operation is to begin. That position is specified in a Bar-Beat-CPT format. To designates the position where the edit operation is to end (Bar-Beat-CPT value). Always check whether you have selected the right level (From or To) before setting the following parameters.

**Bar, Beat, CPT:** See page 38.

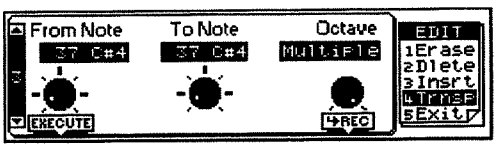
**Value (–24~+24):** Use the [UPPER/VARIATION] knob to set the transposition interval in semi-tone steps. If you wish to transpose a C part to D, enter the Value +2.

*Note: Be careful when applying Track Transpose to a Drum track (track 10 or any other track that uses a Drum Set). After all, transposing all notes of this track would mean that the drum part changes dramatically.*

**➥REC:** Press Part Select [UPPER1] to return to the first REC page (that is usually selected via [F1]).

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and edit the data or go to the next page if you do not wish to transpose all notes.

Press [PAGE]▼ to select the following page:




**From Note (0 C-1~ 127 G9):** This parameter allows you to set the lower limit of the note range to be modified within the specified From/To time range (see the second display page). If you only wish to edit one note, set the same value for From Note and To Note.

**To Note (0 C-1~127 G9):** This parameter allows you to select the upper limit of the note range you wish to edit. Select the correct value if not all notes are to be edited.

*Note: You can also enter the From Note and To Note values by pressing the desired keys on the keyboard. The first note you play becomes the From Note, while the second note will be used as To Note.*

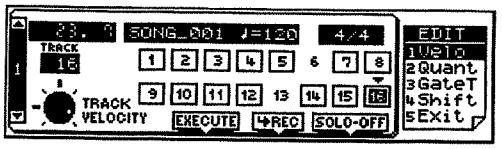
**Octave (Multiple, Single):** If the selected note should be edited in all octaves, select Multiple. Multiple is only possible when you assign the same value to From Note and To Note (Example From Note= 36 C2 and To Note= 36 C2 in Multiple mode would affect all Cs). If the edit operation should bear on the notes within the selected range, set this parameter to Single.

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and edit the data.

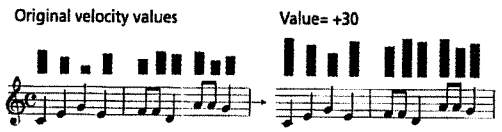
**➥REC:** Press Part Select [UPPER1] to return to the first REC page (that is usually selected via [F1]).

## Track Velocity

[SONG TOOLS]→Part Select [M.DRUMS]→[F4]→[SHIFT]+[F1]




The Track Velocity function allows you to modify the dynamics (called *velocity*) of a track or excerpt. Increasing the velocity values means that the notes in question will be louder and brighter than before, while reducing the velocity values means the opposite. Use this function when you are happy with the timing of the notes but would like the sound to be brighter/louder or rounder/softer. Executing this function means that the velocity values will change proportionally:



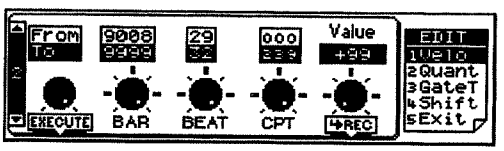

**Track (1~16, All):** Allows you to select the track you wish to edit. You can also select All here, in which case the operation applies to all tracks.

➥**REC:** Press Part Select [UPPER2] to return to the first REC page (that is usually selected via [F1]).

**Solo On/Off:** See page 38.

**Execute:** Press Part Select [M.DRUMS] to edit the data right away.

Press [PAGE]▼ to select the following page:




**From/To:** Use the [DRUMS/PART] knob to select the To or From level. From refers to the position where the edit operation is to begin. That position is specified in a Bar-Beat-CPT format. To designates the position where the edit operation is to end (Bar-Beat-CPT value). Always check whether you have selected the right level (From or To) before setting the following parameters.

**Bar, Beat, CPT:** See page 38.

**Value (–126~+126):** The Value parameter allows you to set the velocity change level. Select a positive value to increase the velocity of the selected track(s), or a negative value to decrease the velocity values.

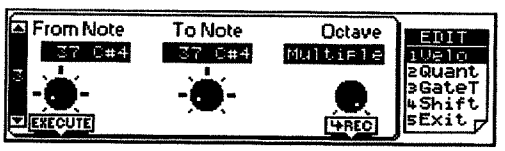
This Value parameter can be particularly useful for velocity switched sounds (most organ Tones, for example): slightly reducing or increasing the overall velocity, allows you to "shift" all notes to the "other" sound.

*Note: Even the highest positive or negative Value doesn't allow you to go beyond "1" or "127". There is a reason why "0" is impossible: that value is used to signal the end of a note (note-off). "127", on the other hand, is the highest velocity value the MIDI standard can muster. Selecting a high positive velocity value may thus lead to all notes being played at "127", which may be what you had in mind in the first place...*

➥**REC:** Press Part Select [UPPER1] to return to the first REC page (that is usually selected via [F1]).

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and edit the data or go to the next page if you do not wish to change all notes.

Press [PAGE]▼ to select the following page:




**From Note (0 C-1~127 G9):** This parameter allows you to set the lower limit of the note range to be modified within the specified From/To time range (see the second display page). If you only wish to edit one note, set the same value for From Note and To Note.

*Note: The above settings (37 C#4) are only examples. The correct note name for note number 37 is, of course, C#2.*

**To Note (0 C-1~127 G9):** This parameter allows you to select the lower limit of the note range you wish to edit.

*Note: You can also enter the From Note and To Note values by pressing the desired keys on the keyboard. The first note you play becomes the From Note, while the second note will be used as To Note.*

**Octave (Multiple, Single):** See page 39.

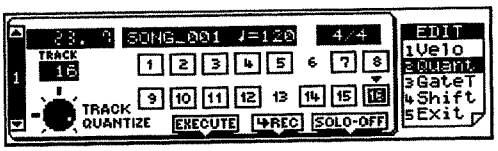
➥**REC:** Press Part Select [UPPER1] to return to the first REC page (that is usually selected via [F1]).

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and edit the data.

## Track Quantize

[SONG TOOLS]→Part Select [M.DRUMS]→[F4]→[SHIFT]+[F2]

Use this function if you chose not to quantize your music during recording (see page 34) and then realize that the timing is not quite what you expected it to be. Quantizing after recording has the advantage that you can first listen to the original and then correct only those notes whose timing is definitely off.



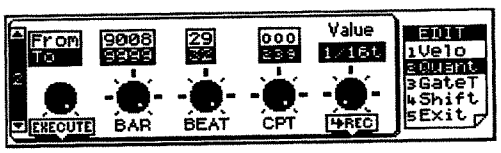

Quantizing during recording, on the other hand, will correct the timing of *all* notes, which tends to make a track sound robot-like.

**Track, Execute:** See page 42 for an explanation of these parameters.

**➥REC:** Press Part Select [UPPER2] to return to the first REC page (that is usually selected via [F1]).

**Solo On/Off:** See page 38.

Press [PAGE]▼ to select the following page:




**From, To, Bar, Beat, CPT, Execute:** See page 42 for an explanation of these parameters.

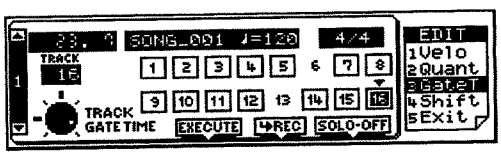
**Value:** This parameter sets the resolution of the Quantize function. The available values are: 1/8, 1/8t, 1/16, 1/16t, 1/32, 1/32t, 1/64t.

Be sure to always select the value that equals the shortest note you recorded. Otherwise, your part no longer sounds the way you played it.

**➥REC:** Press Part Select [UPPER1] to return to the first REC page (that is usually selected via [F1]).

## Track Gate Time

[SONG TOOLS]→Part Select [M.DRUMS]→[F4]→[SHIFT]+[F3]




The Gate Time function allows you to modify the duration of the notes in the selected time (From/To) range. We recommend you use this function exclusively to shorten notes that are being perceived as too long due to the Tone you assigned to the track in question. On these two pages, there is indeed no way to view the duration of the notes, which makes editing the data "en bloc" a little bit hazardous.

After selecting a Tone with a slow release (i.e. a sound that lingers on after all notes have been released), however, Track Gate Time will help you cut the notes down to size and thus avoid overlaps. Even though your release timing may have been correct for the original Tone, you could use Track Shift to shorten all notes to such a degree that they no longer overlap.

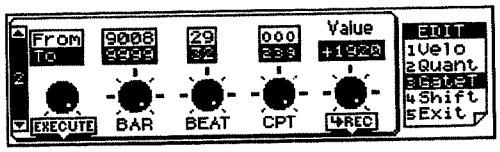
**Track:** See page 42 for an explanation of these parameters.

**➥REC:** Press Part Select [UPPER2] to return to the first REC page (that is usually selected via [F1]).

**Solo On/Off:** See page 38.

**Execute:** Press Part Select [M.DRUMS] to edit the data right away.

Press [PAGE]▼ to select the following page:




**From, To, Bar, Beat, CPT, Execute:** See page 42 for an explanation of these parameters.

**Value (–1920~+1920):** This parameter sets the amount by which the duration (or gate time) of the selected notes is to be changed. The shortest possible Gate Time value is "1" (used for all drum notes), so that selecting "–1000" for notes with a Gate Time value of "1" in the specified time range still leaves you with the same value. Allowing the value "0" would effectively erase the notes, which can only be achieved with Track Erase (see page 38). You cannot use Track Gate Time to erase notes.

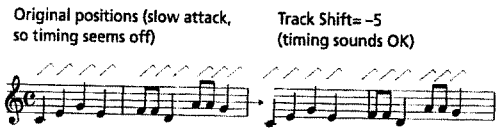
**➥REC:** Press Part Select [UPPER1] to return to the first REC page (that is usually selected via [F1]).

### Track Shift ([SHIFT]+[F4])

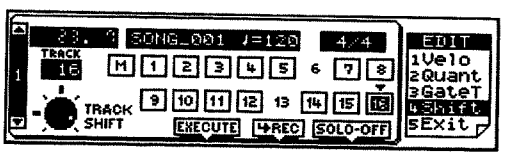
[SONG TOOLS]→Part Select [M.DRUMS]→[F4]→[SHIFT]+[F4]

Track Shift allows you to shift the notes within the selected From/To range (second page). It can be used for two things:

**1. To correct "slow" notes due to a slow(er) attack.**
You may want to use Track Shift after assigning a Tone to a track that has a considerably slower attack than the Tone you used for recording the part in question. This technique is frequently used in pop music to "time" 1/16-note string arpeggios played with a "slow" pad sound. Rather than have the notes begin at the mathematically correct time (e.g. 2-1-0), you could shift them to the left (e.g. to 1-4-110) of the previous measure, so that the peak volume of the attack is reached on the next downbeat:




**2. To correct the timing of notes recorded via MIDI without quantizing them.**
You could use sequences, etc. as raw material for your songs. Recording such excerpts via MIDI may cause a slight delay (e.g. 5 CPT). If that is not acceptable, use Track Shift to "push" all notes to the left (select "–5"). That allows you to tidy up the timing and still keep any irregularities (music!) the original may contain because it was not quantized.



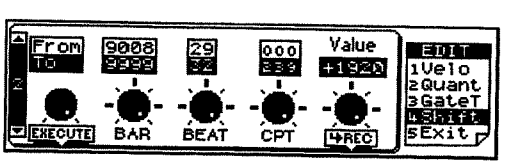

**Track, Execute:** See page 42 for an explanation of these parameters.

You can also select the M track to shift tempo changes and SysEx messages. The initial settings (located at 1.1.0), however, cannot be shifted.

➥**REC:** Press Part Select [UPPER2] to return to the first REC page (that is usually selected via [F1]).

**Solo On/Off:** See page 38.

Press [PAGE]▼ to select the following page:




**From, To, Bar, Beat, CPT, Execute:** See page 42 for an explanation of these parameters.

**Value (–1920~+1920):** This parameter sets the amount by which the notes are shifted. The Value refers to CPT units (one CPT= 1/120 ♩).

*Note: Notes on the first beat of the first bar cannot be shifted further to the left (that would mean shifting them to the "0" measure, which doesn't exist).*

➥**REC:** Press Part Select [UPPER1] to return to the first REC page (that is usually selected via [F1]).

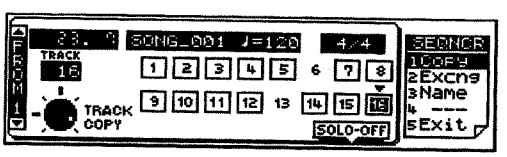
## 8.2 Other useful functions

The 16-track sequencer also provides a few practical functions that help you save time.

### Track Copy ([SHIFT]+[F1])

[SONG TOOLS]→Part Select [M.DRUMS]→[SHIFT]+[F1]

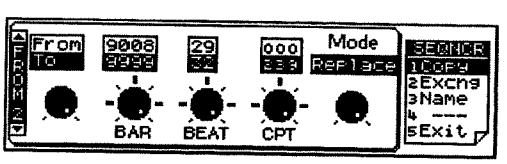
The Track Copy function allows you to copy one track to another track, or excerpts of one or all tracks to a different location. The latter is useful if you need to repeat the chorus several times at the end of the song but do not feel like recording all those notes.




**Track (1~16, All):** Allows you to select the track whose data you wish to copy (the source).

**Solo On/Off:** While you are setting the parameters on this page, you can press [PLAY ▶/STOP ■] to listen to your sequence. If you only want to hear the track you are about to edit, press Part Select [UPPER1] to solo it.

Press [PAGE]▼ to select the following page:




**From/To:** Use the [DRUMS/PART] knob to select the To or From level. From refers to the position where the edit operation is to begin. That position is specified in a Bar-Beat-CPT format. To designates the position where the edit operation is to end (Bar-Beat-CPT value). Always check whether you have selected the right level (From or To) before setting the following parameters.

**Bar (1~9999):** This is where you specify the bar position. By default, the From and To values are set to the beginning and end of the selected track(s). Note that the To value always refers to the end of the longest track.

**Beat (1~[number of beats per bar]):** This is where you specify the beat position. The number of selectable beats obviously depends on the time signature of the song.

**CPT:** This is where you specify the CPT position of the beginning and end of the track to be copied. Unless you do not need all notes within the last bar, you should keep the default setting.

**Mode (Replace, Merge):** Selects the Copy mode:

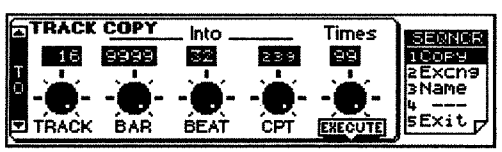
Replace . .The data in the selected range will be copied to the destination track and overwrite all data (of the destination track) in the selected source track range.

Merge . . .The data in the selected range will be added to any existing data on the destination track.

In either case, the length of the destination track may change to include all data of the source track. In other words, you may find that the destination track is longer after executing the copy function.

*Note: The EM-2000 has no Undo function. Saving your Song to disk before copying will allow you to load the previous version in case something goes wrong.*

Press [PAGE]▼to select the following page:




This page allows you to select *the destination* track and the *Into* position, i.e. the bar, beat and CPT value the first data of the source track will be copied to.

**Bar, Beat, CPT:** See page 45 for details.

**Times (1~99):** Sets the number of copies you wish to make. Note that the value "3" means that you will end up with 3 contiguous copies, whereby the second copy is placed immediately after the first, etc.

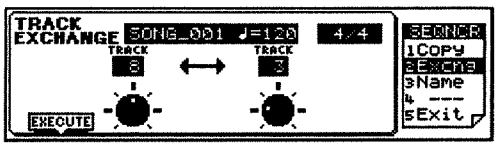
**Execute:** Press Part Select [UPPER1] to copy the selected source data.

*Note: Though you can also copy data from track 10 (the main Drum track) to a "music" track that already contains data, and vice versa, be careful. A drum track sounds odd when played by a piano, for example (and a piano part is not really suited for drumming).*

## Track Exchange ([SHIFT] + [F2])

[SONG TOOLS]→Part Select [M.DRUMS]→[SHIFT]+[F2]

Track Exchange allows you to copy the data of the source track (left) to the destination track (right), and –at the same time– the data from the destination track to the source track. In other words, this is a swap function.



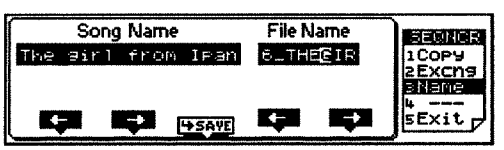

**Track (1~16):** Use the [ACCOMP/GROUP] and [LOWER/NUMBER] knobs to select the two tracks to be exchanged. Obviously, there is no ALL option here.

*Note: Be careful when exchanging a Drum track and a "musical" track. The result may not be what you had in mind.*

## Name ([SHIFT] + [F3])

[SONG TOOLS]→Part Select [M.DRUMS]→[SHIFT]+[F3]

This page allows you to program two names for your song: the Song Name, and the File Name.




The File Name is the one that you see if you use the *dir* command on an MS-DOS® computer (all EM-2000 disks are MS-DOS® compatible), while the Song Name is the name that you will see on the respective display pages. The latter is called a "meta-text event" that can only be read by the EM-2000. The File Name is more important than the Song Name because the File Name is the one that is written to disk – but it can only be 8 characters in length.

Use Part Select [M.DRUMS] and [M.BASS] to move the cursor within the *Song Name* field.

Use Part Select [UPPER2] and [UPPER1] to move the cursor within the *File Name* field.

You can enter new characters using either the [DRUMS/PART]/[ACCOMP/GROUP] knobs, or the TONE/USER PROGRAM pad (see page 25 in the Player's Guide).

*Note: For MS-DOS® compatibility reasons, only the first eight characters will be saved to disk (it's impossible to enter more than 8 characters for the File Name). Furthermore, you cannot use the same name twice on the same disk.*

**Save:** Press Part Select [LOWER1] to jump to the Save Song page, where you can save your Song to the desired disk. See also page 58 in the Player's Guide.

# 8.3 Header Post Edit

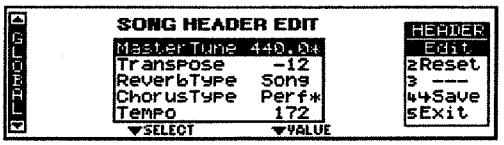
[SONG TOOLS]→Part Select [LOWER1]→[PAGE] ▲▼

The Song Header Post Edit function allows you to modify certain playback parameters of the song that is currently in the EM-2000's Song RAM memory. These modifications are either global or track-specific in nature and can be saved to disk along with the song data.

In a way, these settings are a "User Program" contained in the song itself.

These modifications are SysEx data that *alter* the actual Song Header data (without replacing them). And if we say "SysEx", we mean that only the EM-2000 (and the G-1000) can read these data. To other SMF players, the song will still be the original SMF, i.e. they will ignore these newly added SysEx data.

Though some parameters are also available elsewhere, the ones contained in the Song itself will take precedence over any similar parameters you can save to a User Program. On page 52 in the Player's Guide, we told you that the EM-2000 allows you to ignore certain User Program settings, in which case some of the settings below will not be used.




The first page, called Global, allows you to modify settings that apply to all 16 parts (or tracks) of the song.

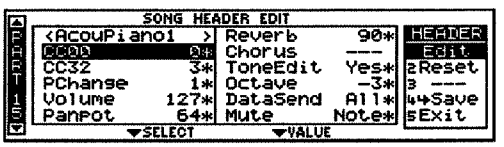
Use the [ACCOMP/GROUP] knob to select the parameter you wish to set (**Select**) and enter the desired **Value** with the [LOWER/NUMBER] knob. The asterisks (*) indicate all parameters whose values differ from the original Header settings.

The available parameters are:

| Parameter | Range | Default |
|---|---|---|
| Master Tune | 415.3~466.2 | Song setting |
| Transpose | -12~+12 | 0 |
| Reverb Type | Song/Perf | Song |
| Chorus Type | Song/Perf | Song |
| Tempo | ♩= 20~250 | Song setting |

- The *Transpose* parameter does not change the note numbers of the Drum tracks (i.e. track 10 and any other track that uses a Drum Set rather than a Tone).
- The *Reverb Type* and *Chorus Type* parameters allow to decide whether the song should use the Reverb and Chorus parameters (see also "Mixer\Effect pages" on page 20) of the currently selected User Program, or those contained in the song data.
- *Tempo* is a relative parameter that modifies all tempo values of the song (including changes) by the same amount. Tempo changes are thus not ruined. This is the same as the Auto Tempo mode (see page 46 in the Player's Guide).

Use [PAGE] ▲▼ to select a specific Song part (1~16) whose parameters you want to change.




There is a reason why we chose to use the word *Part* rather than *track*: the following parameters indeed only affect the way in which the tracks will be played back (without changing the track data themselves).

Use the [ACCOMP/GROUP] knob to select the parameter you wish to edit, and set its value with the [LOWER/NUMBER] knob. Be careful to select the desired Song Part before editing these parameters (watch the name in the scroll bar).

*Note: If a given control change message for which the EM-2000 provides a parameter is not available, the display will indicate "---".*

**CC00, CC32:** (0~127) These are Bank Select messages. CC00 allows you to select other Tone/Drum Set banks, while CC32 is used to choose the Tone level. See also "Tone Change: Old, G-800 and EM" on page 62 in the Player's Guide.

**PChange:** (1~128) These are program change messages that allow you to select another Tone or Drum Set. See page 87 for a list of the EM-2000's Tones and Drum Sets.

**Volume (07):** Control change messages (CC07) that allow you to modify the Part volume.

**Panpot:** Control change messages (CC10) that allow you to set the stereo position of the selected part. Values below "64" shift the part to the left, and values above "65" shift it to the right. "64" means "dead center".

**Reverb:** The Reverb Send level (CC91) of the part, i.e. how strongly it is processed by the Reverb effect.

**Chorus:** The Chorus Send level (CC93) of the part, i.e. how strongly it is processed by the Chorus effect.

**Tone Edit:** (Yes/No) Allows you to specify whether or not the Part in question should execute SysEx and NRPN (CC98 and 99) contained in its track. If you select "No", such changes no longer affect the Part. [Default setting: Yes.]

**Octave:** (–3~+3) Allows you to transpose a part up to three octaves up or down, which may be necessary after you assigned a flute Tone to a bass part (see "CC00, CC32" and "PChange" above). [Default setting: 0.]

**Data Send:** (All, Int, Mid) This parameter allows you to specify where the data of the selected Part should be transmitted to: to the MIDI OUT port (Mid), to the EM-2000's tone generator (Int), or both (All). [Default setting: All.]

**Mute:** This is a MIDI data filter that allows you to specify which Part data should *not* be transmitted to the Data Send destination. Select *Note* if the Part should no longer transmit note messages, Pitch Bend, Modulation, Sustain, and Aftertouch messages. This is the setting to choose for Minus-One performances. *All* means that the Part no longer transmits any MIDI messages at all (i.e., not even Bank Select and program change messages, etc.). Select *Off* if the Part in question should transmit all MIDI data contained in the track it is assigned to. [Default setting: Off.]

*Note: You can press [F2] (Reset) to cancel all Global and Part changes and to select the default values (where applicable).*

Press [F4] (➥**Save**) to jump to the Disk/Song Save page, where you can save the song. See page 58 in the Player's Guide for details.

# 9. User Style mode

The User Style mode is used to program your own accompaniments (called *User Styles*). Programming User Styles does not necessarily mean that you record everything from scratch because the EM-2000 also allows you to copy tracks (or even entire chunks) from preset Music Styles (in ROM) or other User Styles (on disk), as well as to use the Style Converter (see page 36 for details). Choose whichever is more convenient for your application.

When programming User Styles, bear in mind that you are only recording the accompaniment. If you also record the melody or an accompaniment line that characterizes a particular song, the User Style in question will not work for other songs. In other words, try to think in terms of "style" when programming User Styles (house, rave, samba, polka, etc.) if you want a Style to be "universally" usable (for a given type of music).

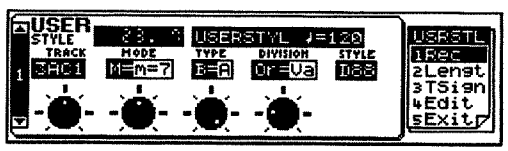
Furthermore, though possible, programming chord changes for the Basic/Original, Basic/Variation, Advanced/Original, and Advanced/Variation patterns is not a very good idea. After all, the chord changes can be performed in realtime by playing them in the chord recognition area of the keyboard. Though this warning may sound obvious, you will find that working on a pattern basis rather than along song part lines requires a lot of thinking and discipline. – But then again, the User Style functions are so easy to use that programming Styles on a song-by-song basis is not as time-consuming as it may at first look.

Note: Let us agree to use the word *pattern* to refer to any possible Mode/Type/Division combination. Example: "Basic/Original, M" is one possible accompaniment pattern (as is "Advanced, Fill-In-to Original".)

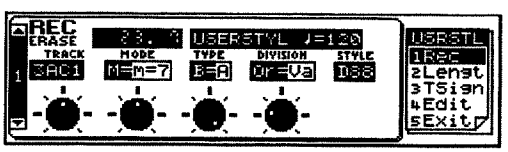
Note: The User Style mode can only be selected in the EM-2000's Arranger (i.e. normal) mode. If the function assigned to [F4] reads "Lyrics", press the [GM/GS MODE] button (indicator must go off).

## 9.1 UsrStl\Rec\1

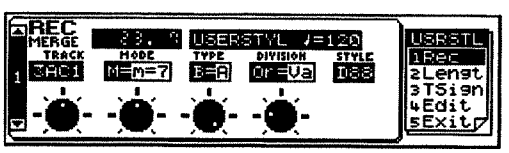
Master page: [F4] (UsrStl)→[F1] (Rec)
[PAGE] ▲▼ (select page 1)



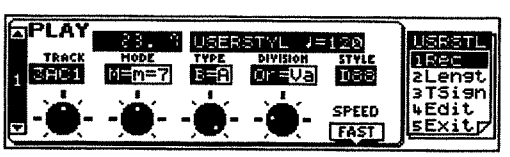

Is displayed if the selected User Style memory doesn't yet contain data.




Is displayed when you press [REC●] after selecting a track that doesn't yet contain data or if you selected Erase.




Is displayed when you press [REC●] after selecting a track that already contains data or if you selected Merge.




Is displayed when you press [START/STOP] or Recorder [PLAY ▶/STOP ■] to listen to your pattern in the User Style mode.

### Track

(1ADR, 2ABS, 3AC1, 4AC2, 5AC3, 6AC4, 7AC5, 8AC6) Use this parameter to select a track of the currently active pattern (see Mode, Type, and Division). If the name of that track is displayed in lowercase characters (e.g. 3ac1), that track is still empty. Note that a track whose Length has been specified (see page 52) is no longer considered empty (and therefore displayed in uppercase, e.g. 3AC1) because it already contains the number of rests equivalent to the Length you set.

### User Style memory and name

This is where the number of the selected User Style memory and the User Style's name appear. If you haven't yet specified a name, it will be USERSTL followed by the number of the selected memory.

### Tempo

The same window also displays the current playback and recording tempo. Feel free to change the tempo with the [TEMPO] dial but remember that the current tempo value will be recorded next time around and regarded as preset tempo for your User Style.

### Style pattern selection

**Mode:** Use this parameter to select the major, minor, and/or seventh level. All settings involving one or two "=" symbols mean that the first (white-on-blue) pattern you record will be automatically copied to the other (blue-on-white) Mode(s). This is what we called cloning in the Player's Guide.

The available options are:

| Display function | Options | Explanation |
|---|---|---|
| Mode | M | Record only the major pattern |
| | M=m | Record the major pattern and copy it to the minor pattern. |
| | M=m=7 | Record the major pattern and copy it to the minor and seventh pattern. |
| | Other options: m, m=M, m=7, m=M=7, 7, 7=M, 7=m, 7=M=m | |

**Type:** Use this parameter to select the Type, as it is called here. Think of a Type as the degree of complexity of a Style, whereby Basic represents the "easy" level, while Advanced usually contains more elaborate accompaniments (unless programmed otherwise). You may remember from the Player's Guide that there are two looped versions per Type: Original and variation.

| Display function | Options | Explanation |
|---|---|---|
| Type | Bsc | Record only the Basic division. |
| | Adv | Record only the Advanced division. |
| | B=A | Record the Basic division and copy it to the Advanced division. |
| | Other options: A=B | |

**Division:** A Division is a specific accompaniment type, such as the Intro, a Fill, the Ending of the current accompaniment pattern.

| Display function | Option | Explanation |
|---|---|---|
| Division | Or | Record only the Original division. |
| | Va | Record only the Variation division. |
| | Fo | Record only the Fill-In To Original. |
| | Fv | Record only the Fill-In to Variation. |
| | In | Record only the Intro. |
| | Ed | Record only the Ending. |
| | Other options: Or=Va, Va=Or, Fo=Fv, Fv=Fo, In=Ed, Ed=In. | |

*Note: The order in which you select the Mode, Type, and Division is of no importance.*

*Note: The Fill-In TO PREVIOUS cannot be programmed. This is a function that uses the fill of the "other" division than the one you have selected (Original or Variation) and then switches back to the originally selected Division.*

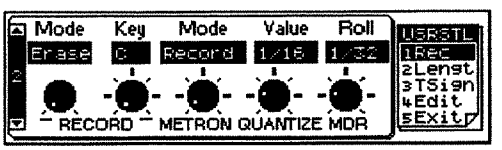
It is also possible to clone other patterns *after* recording the first one. To do so, select the required "=" options for the Mode, Type, and Division, and start recording. Wait until the count-in is finished and stop recording after the first or second beat (by pressing either Recorder [PLAY►/STOP■] or [START/STOP]). Don't play anything on the keyboard. The rest of the "original pattern" will automatically be copied to the selected "clone patterns".

*Note: The clone function always operates in Erase mode, even though you may have selected Merge for the "original pattern". Thus, before cloning other patterns, make sure the clone destinations contain no data you wish to keep.*

*Note: Since the clone function automatically transforms major chords and scales into minor and/or seventh equivalents to meet the requirements of the minor and seventh modes, nothing should stop you from using it. That is also true of automatic transformations of major patterns that are being cloned during the recording of a seventh pattern, for example.*

## 9.2 UsrStl\Rec\2

Master page: [F4] (UsrStl)→[F1] (Rec)
[PAGE] ▲▼ (select page 2)




### (Record) Mode (Erase, Merge)

This is where you select the record mode, i.e. what is going to happen to the data of the currently selected pattern. In *Erase* mode, all data of the selected track (see page 48) are replaced by the new data you record. Erase is automatically selected for empty tracks.

*Merge* means that the new data you record will be added to the existing data on that track. Select Merge to add a few notes here and there, to "memorize" the address of another Tone or Drum Set, or to modify the settings on page 4 (see below).

### Key

(C, C#, D, Eb, F, F#, G, Ab, A, Bb, B) This parameter allows you to tell your EM-2000 what key you are going to record the track in. Specifying the right key before recording is crucial for realtime use of that track or pattern. The chord recognition system of the Arranger is indeed based on the assumption that all patterns are in the key of C.

Thus, whenever you play a C (in Arranger Intelligent mode) or C chord in the chord recognition area, the Arranger will use the original notes of the pattern you recorded (no realtime transposition). If you recorded that pattern in F# without telling the EM-2000, F# is what you will hear when you play a C or C chord in the Arranger mode.

Therefore, if you wish to record in D, select "D". Failure to do so may go unnoticed in the User Style mode, but once you are back in the Arranger mode, you will soon notice "there is a problem".

*Note: There is no need to specify the key for 1ADR tracks.*

### (Metron) Mode

The default setting of this parameter is *Record*, so that the User Style metronome is only audible whenever you record a new track. During playback of that track,

the metronome remains silent. Here are the other metronome modes:

Record . .The metronome only sounds during User Style recording.
Play . . . . .The metronome only sounds during User Style playback in User Style mode.
Rec&Ply .The metronome sounds both during recording and playback.
Always . .The metronome even sounds while the User Style is not playing.

### (Quantize) Value

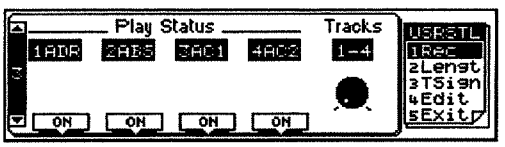
This parameter allows you to set the Quantize value to be used during User Style recording. As explained in the Player's Guide, you may set this parameter to Off and only quantize those tracks whose timing is definitely too loose using the Track Quantize function (see page 58).

The setting range is: 1/8, 1/8t, 1/16, 1/16t, 1/32, 1/32t, 1/64t, and Off.

*Note: Be sure to always select the value that equals the shortest note you are going to record. Otherwise, your recording no longer sounds the way you played it.*

## 9.3 UsrStl\Rec\3

Master page: [F4] (UsrStl)→[F1] (Rec)
[PAGE] ▲▼ (select page 3)




The parameters on this page are in fact playback parameters that allow you to mute the tracks you do not want to hear while recording. Muting User Style tracks is only necessary for tracks that already contain data.

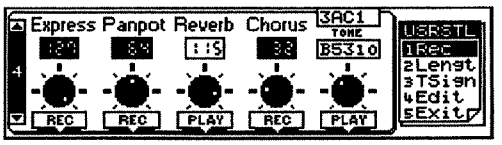
*Note: This mute function only applies to the User Style mode. Tracks you mute here still sound in the Arranger mode. If you do not need a certain part, delete it (see page 56).*

**Track (1ADR~8AC6)** Use this parameter the group the track to be muted belongs to: 1–4 or 5–8.

**Status:** Use the Part Select buttons to specify for each of the four tracks that are currently accessible (1~4 or 5~8) whether (On) or not (Off) you want to hear it. The first track of a group ("1" or "5") is assigned to the leftmost Part Select button (M.DRUMS).

## 9.4 UsrStl\Rec\4

Master page: [F4] (UsrStl)→[F1] (Rec)
[PAGE] ▲▼ (select page 4)




User Style patterns not only contain note and pitch bend/modulation data but also a number of other settings, such as the volume, the stereo position (pan), the Reverb and Chorus send values. The parameters on this page allow you to set and modify those non-note data.

The first time you record something on a track, the default values of these parameters are recorded along with the notes you play.

### REC/PLAY switches

The switches below each parameter are used to specify whether or not the corresponding Expression, Panpot, etc. value should be recorded. The first time you select a track for recording, all these switches are automatically set to REC.

The second and all subsequent times you record to this track (in Merge mode), all switches will be set to PLAY, meaning that the changes you make will not be recorded. Thus, the values of the corresponding parameters will jump back to their recorded positions.

Select REC whenever one of the parameters on this page is to be assigned another value permanently. The corresponding parameter value is then displayed white-on-blue. (In PLAY mode, it is displayed blue-on-white.)

### Express (0~127)

Use the Expres(sion) parameter to change the volume of the track whose name appears in the right-hand corner. The track has to be selected on the UsrStl\ Rec\1 page.

Setting this parameter is only meaningful after recording a few tracks. It allows you to establish the right balance between tracks.

### Panpot (Rnd, 0~64~127)

Use the Panpot parameter to position the selected track in the stereo sound field. Values between "0" and "63" shift the part further to the left, while values between "65" and "127" shift it further to the right. "64" is the dead center (default value). You could also select Rnd to obtain random jumps between the left and right channels. Since the jumps are not predictable, Rnd is probably only useful for "gimmick" kind of counter-melodies.

### Reverb (0~127)

This parameter sets the Reverb send level for the selected track. "0" means that the part in question is not processed by the Reverb effect, while "127" represents the maximum effect depth.

### Chorus (0~127)

This parameter sets the Chorus send level for the selected track. "0" means that the part in question is not processed by the Chorus effect, while "127" represents the maximum effect depth.

### Tone/Drum Set

Depending on the track you selected, the message between the track name and the Tone or Drum Set address will read Tone or Drum Set. By now, you know that you can only select Drum Sets for the 1ADR track/part. For all other tracks, the Tone message will be displayed.

You can select Tones and Drum Sets using either the TONE selection keys on the front panel or the [UPPER/VARIATION] knob.

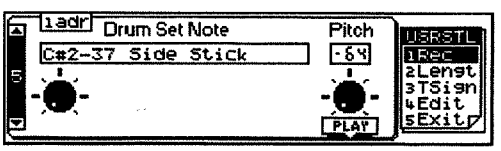
The default settings for these parameters are as follows:

| | 1ADR | 2ABS | 3AC1 | 4AC2 | 5AC3 | 6AC4 | 7ACS | 8AC6 |
|---|---|---|---|---|---|---|---|---|
| Expression | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Pan | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Reverb | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Chorus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tone/Drum Set | A11 | A11 | A11 | A11 | A11 | A11 | A11 | A11 |

These values will be automatically recorded the first time you select a track for recording. Note that you can select other Tones/Drum Sets on almost any UsrStl\Rec page (but only with the TONE buttons). Selecting the right Tone or Drum Set before you start will help you "get in the mood". Leave the other settings for later, when you have a clearer idea about the sound image.

## 9.5 UsrStl\Rec\5

Master page: [F4] (UsrStl)→[F1] (Rec)
[PAGE] ▲▼ (select page 5)




This page is entirely devoted to the 1ADR (Accompaniment Drums) track. It allows you to modify the pitch of certain drum and percussion sounds (see below).

*Note: The UsrStl\Rec\5 display page only appears if you selected the 1ADR track before calling up this function.*

### Note name-number-sound name

Use the [DRUMS/PART] knob to select the drum or percussion sound whose pitch you wish to change.

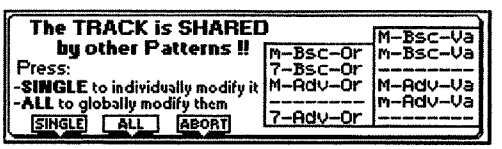
| Note | Sound |
|---|---|
| C#2/37 | Side Stick |
| D2/38 | Stand. 2 Snare 1 |
| E2/40 | Stand. 2 Snare 2 |
| F2/41 | Low Tom 2 |
| E3/52 | Chinese Cymbal |
| G#3/56 | Cowbell |
| A3/57 | Crash Cymbal 2 |
| F4/65 | High Timbale |

### Pitch (-64~64)

This parameter allows you to set the pitch of the selected drum or percussion sound. Select "0" if you need original pitch of the sound in question. Positive values raise the pitch, while negative values lower it.

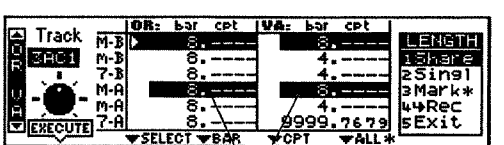
## 9.6 Cloning and edit functions and possible warnings (Shared)

When re-recording or editing just one pattern of a clone group, the following warning may be displayed:




It means that you are about to do something that will disrupt the uniformity of the patterns you have chosen to be identical (by cloning them).

Note that this page only appears if, after cloning several patterns, you decide to only redo or edit the M/Bsc/Or (or Or-M-Bsc) pattern, for example. Since the EM-2000 "knows" which tracks are clones, it will warn you that you are about to record or edit a version without copying it to the "shared" patterns. For your reference, the names of the shared patterns appear in two windows (one for Original, and one for Variation patterns).




These patterns are shared (because they are clones).

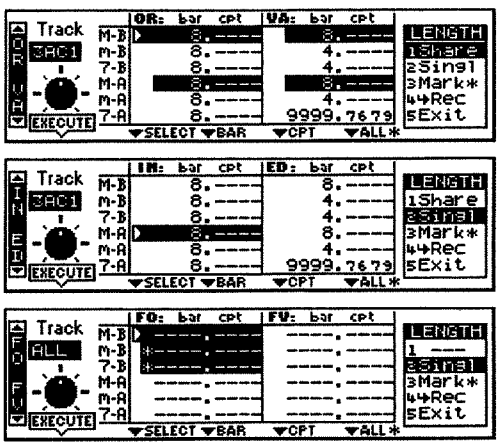
That should allow you to make up your mind whether to modify the selected pattern without changing the

clones or apply the changes to all clones (or shared patterns).

- Press Part Select [M.DRUMS] (Single) to edit the selected pattern without changing the clones.
- Press Part Select [M.BASS] (All) if the clones (or shared patterns) are to change according to the modifications of the pattern you are re-recording or editing.
- Press Part Select [LOWER1] to leave this page without changing anything.

# 9.7 Length pages

Master page: [F4] (UsrStl)→[F2] (Lengt)
[PAGE] ▲▼ (select Or/Va, In/Ed, or Fo/Fv page)




The Length function allows you to modify the length (number of bars, beats, and clocks) both before or after recording. If used after recording, the data that lie beyond the specified end will be discarded.

*Note: There is no way to recall the desired data, so think twice before executing the length function.*

### Track (1ADR~8AC6, All)

Allows you to select the track whose length setting you wish to change. If the length does not have to be the same for all tracks (which goes unnoticed for looped divisions, see "Looped vs one-shot" on page 84 in the Player's Guide), try to use only integer multiples or fractions for longer or shorter tracks (i.e. 4 bars for one track, while the others are 8 bars in length; 3-bar patterns don't loop well over 4- or 8-bar tracks).

### [F1] Share

Press [F1] to be able to select all shared patterns in one pass. Doing so ensures that clones are always identical to the original.

### [F2] Singl

Press [F2] if you want to select only one pattern of a clone group. Changing the length of a "shared"' pattern needs to be confirmed (see "Cloning and edit functions and possible warnings (Shared)" on page 51).

### [F3] Mark *

The Mark function allows you to select several patterns that are not connected to each other. To select a pattern, use the [ACCOMP/GROUP] knob, then press [F3]. Select another pattern on this page and press [F3] again.

### [F4] →Rec

Pressing this button will take you back to the UsrStl\Rec level (see page 48).

### [F5] Exit

Press this button to return to the Master page.

### Select

The Select function, assigned to the [ACCOMP/GROUP] knob, allows you to position the cursor on the pattern whose length you wish to change.

### Bar

The [BASS/BANK] knob allows you to set the length of the selected pattern(s) in steps of one bar. Note that it is perfectly possible to make an existing track longer by specifying a Bar value that lies beyond the last notes (or current end).

### CPT

This is another length value that allows you to "fine tune" the length. In most cases, you will probably work with multiples of ♩ notes (i.e. 120CPT) because 120CPT represent one beat of an X/4 bar (1/4, 2/4, 3/4, 4/4, etc.). All intermediary steps are selectable, though the musical functionality of "x-bars-and-a-bit" patterns is questionable, to say the least.

### All

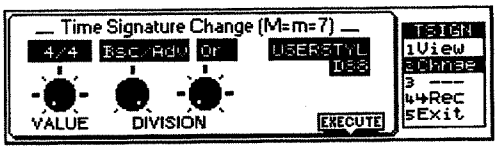
Use the All function ([UPPER/VARIATION] knob) to select all patterns on the current display page (i.e. all Original/Variation, Intro/Ending, or Fill-In To Original/To Variation patterns).

### Execute

Press Part Select [M.DRUMS] to apply the new length value to all selected patterns on this page.

# 9.8 TSign page (time signature)

Master page: [F4] (UsrStl)→[F3] (TSign)
[F1] (View) or [F2] (Chnge)




The TSign page allows you to check and set the time signature of certain patterns. As you will discover on the View page (see below), the time signature of the major (M), minor (m), and seventh (7) patterns must always be the same. This security system helps you avoid switching to another time signature simply by playing a major, minor, or seventh chord in the chord recognition area of the keyboard.

### Value (time signature)

Use this parameter to specify the time signature of the selected pattern (Division, see below). The most commonly used time signatures are: 2/4, 3/4, 4/4, 6/8, and 12/8. Other values (such as 7/4, 13/8, etc.) are also possible.

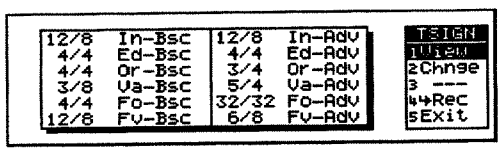
*Note: When you change the time signature of an already recorded pattern, its notes and events are "reshuffled" according to the new time signature, so that you may end up with incomplete measures. However, none of your data are deleted.*

### Division (Basc/Adv, Basic, Advanced; Or, Var)

The [ACCOMP/GROUP] and [BASS/BANK] knobs allow you to select the pattern(s) you wish to edit. Whatever your choice, it will always bear on the major, minor, and seventh modes.

### [F1] (View)

Press [F1] to have a look at the time signature values of the various patterns.




### [F2] (Chnge)

Press [F2] to select the page that allows you to modify the time signature settings. The first page (see above) only allows you to view the settings.

### [F4]→Rec

Pressing this button will take you back to the UsrStl\Rec level (see page 48).

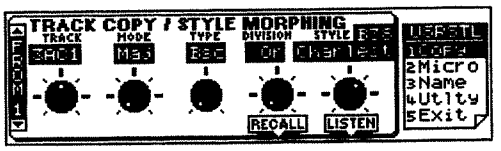
### Execute

Press Part Select [UPPER1] to confirm the new time signature and resize the selected pattern(s).

# 9.9 Track Copy (Style Morphing)

Master page: [F4] (UsrStl)→[SHIFT] + [F1] (Copy)
[PAGE] ▲▼ (select From 1).

See "Copying individual Style tracks" on page 92 in the Player's Guide for how to use this function.




The Track Copy function allows you to copy one or all tracks of a Style pattern to the selected User Style pattern. This is a very convenient way of using Parts from various existing Music Styles and combining them into a new accompaniment. This technique (the fact that elements from various sources are combined to a new "entity") is called *morphing*.

**Track (1ADR~8AC6, All):** Allows you to select the track whose data you wish to copy (the source pattern). Do not forget to select the Style you need (if it isn't already selected).

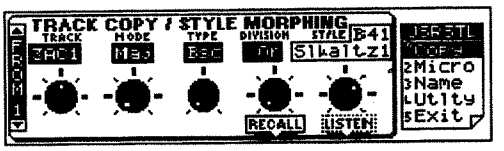
**Mode:** Allows you to specify one third of the source pattern's address: Maj (major), min (minor), 7 (seventh) or All.

**Type:** Allows you to specify the type of the source pattern: Bsc (Basic), Adv (Advanced), or All.

**Division:** This parameter is used to select the Division of the source pattern you wish to copy: Or (Original), Var (Variation) or All.

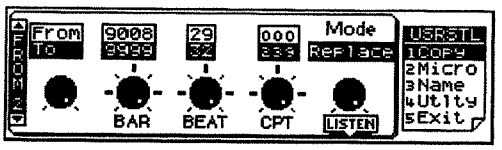
**Style (internal, Zip disk, floppy disk, etc.):** Use this parameter to select the Style that contains the source pattern. The name of that Style is displayed in the second line.

**Listen:** Press Part Select [UPPER1] to listen to the pattern you have selected for copying. Listen always plays back the entire pattern. If the Listen box is indicated by means of a dotted line, the currently selected Style hasn't been recalled yet (using Part Select [UPPER2] Recall). In that case, the Style address and names are indicated as follows:



### User Stl\Copy\ From 2 page

Master page: [F4] (UsrStl)→[SHIFT] + [F1] (Copy)
[PAGE] ▲▼ (select From 2)




**From/To:** Use the [DRUMS/PART] knob to select the To or From level. From refers to the position where the edit operation is to begin. That position is specified in a Bar-Beat-CPT format. To designates the position where the edit operation is to end (Bar-Beat-CPT value). Always check whether you have selected the right level (From or To) before setting the following parameters.

**Bar (1~9999):** This is where you specify the bar position. By default, the From and To values are set to the beginning and end of the selected track(s). Note that the To value always refers to the end of the longest track.

**Beat (1~[number of beats per bar]):** This is where you specify the beat position. The number of selectable beats obviously depends on the time signature of the song.

**CPT:** This is where you specify the CPT position of the beginning and end of the pattern to be copied. Unless you do not need all notes within the last bar, you should leave the default setting.

**Mode (Replace, Mix):** Selects the Copy mode:

*Replace*: The data in the selected range will be copied to the destination track and overwrite all data (of the destination track) in the selected source track range.

*Mix*: The data in the selected range will be added to any existing data on the destination track.

In either case, the length of the destination track may change to include all data of the source track. In other words, you may find that the destination track is longer after executing the copy function.

### User Stl\Copy\ To 1 page

Master page: [F4] (UsrStl)→[SHIFT] + [F1] (Copy)
[PAGE] ▲▼ (select To 1)


This page allows you to select the address the selected source pattern is to be copied to (the destination pattern). Please be aware of the following:

- 1ADR patterns can only be copied to 1ADR tracks.
- 2ABS patterns can only be copied to 2ABS tracks.
- AC patterns (e.g. 3AC1~8AC6) can be copied to any AC track – but never to a 1ADR or 2ABS track.
- Looped patterns cannot be copied to one-shot patterns.
- Intros can only be copied to Intros, Endings only to Endings, and Fill-Ins only to Fill-Ins.
- If the destination track or pattern Division is set to a "forbidden" value, the EM-2000 automatically selects the corresponding source value.

For example: if you selected a 1ADR track as source and the 3AC1 track as destination, the EM-2000 automatically selects "3AC1" as source track.

**Track, Mode, Type, Division:** See page 53 for details.

**Style:** Indicates the destination memory: the EM-2000's Style RAM memory (D88).

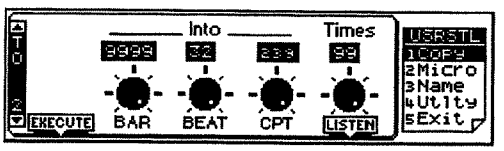
**Execute:** Press Part Select [M.DRUMS] to copy the selected source data if you only wish to make one copy. Otherwise, go on to the next display page.

**Listen:** Press Part Select [UPPER1] to listen to the destination pattern you are about to overwrite. Listen always plays back the entire pattern.

### User Stl\Copy\ To 2 page

Master page: [F4] (UsrStl)→[SHIFT] + [F1] (Copy)
[PAGE] ▲▼ (select To 2)

This page allows you to set the Into position, i.e. the bar, beat and CPT value the first data of the source pattern will be copied to.




**Bar, Beat, CPT:** See page 45 for details.

**Times (1~99):** Sets the number of copies you wish to make. Note that the value "3" means that you will end up with 3 contiguous copies, whereby the second copy is placed immediately after the first, etc.

**Execute:** Press Part Select [M.DRUMS] to copy the selected source data.

# 9.10 User Style Edit mode

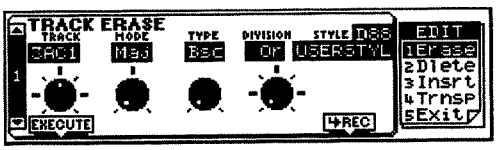
Most display pages of the User Style Edit mode feature a ➥REC function that allows you to jump back to the first User Style\Rec page. Use it after editing a track (or all tracks) to record new material straight away.

Before discussing the various User Style Edit functions, please note the following: certain functions allow you to select the data type to be edited. Whenever that is the case, you can select one of the following messages. Let us call these the *Data types*.

| Parameter | Explanation |
|---|---|
| All | All editable parameters listed below. |
| Note | Note-on/off messages |
| Modul | Modulation messages (CC01) |
| PanPt | Panpot messages (stereo position, CC10) |
| Expre | Expression messages (relative volume, CC11) |
| Revrb | Reverb Send messages (CC91) |
| Chrus | Chorus Send messages (CC93) |
| PChng | Program Change messages |
| PBend | The Pitch Bend range (i.e. the pitch change that can be obtained by turning the Bender lever fully to the left or right). |
| NRPN | Non-registered parameter number. A special kind of MIDI message for setting parameter values that is only understood by GS compatible instruments. |

## Track Erase

Master page: [F4] (UsrStl)→[F4] (Edit)→[F1] (Erase),
[PAGE] ▲▼ (select page 1)




Track Erase allows you to selectively delete data either within a specified range of the pattern(s), or from the entire track(s). In All mode, Erase will substitute the required number of rests for the data you delete, so that you end up with the equivalent number of blank measures. If you also want to eliminate the measures themselves, use Track Delete (see page 56).

**Track (1ADR~8AC6, All):** Allows you to select the track you wish to edit. You can also select All here, in which case the operation applies to all tracks of the selected pattern.

**Mode:** Allows you to select the mode of the pattern to be edited: Maj (major), min (minor) or 7 (seventh).

**Type:** Allows you to select the pattern type to be edited: Bsc (Basic), or Adv (Advanced).

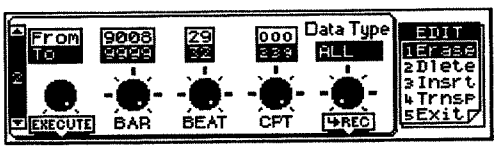
**Division:** This parameter is used to select the Division of the pattern: Or (Original) or Var (Variation).

**Style:** This field informs you about the location where editing is taking place: the EM-2000's Style RAM memory (D88).

**Execute:** Press Part Select [M.DRUMS] to edit the data right away. The following parameters allow you to narrow down the scope of the edit operation. If you wish to edit the entire pattern, there is no need to fine-tune your settings. Just confirm the command by pressing Part Select [M.DRUMS].

## Edit\Erase\2 page

Master page: [F4] (UsrStl)→[F4] (Edit)→[F1] (Erase)
[PAGE] ▲▼ (select page 2)




**From/To:** Use the [DRUMS/PART] knob to select the To or From level. From refers to the position where the edit operation is to begin. That position is specified in a Bar-Beat-CPT format. To designates the position where the edit operation is to end (Bar-Beat-CPT value). Always check whether you have selected the right level (From or To) before setting the following parameters.

**Bar (1~9999):** This is where you specify the bar position. By default, the From and To values are set to the beginning and end of the selected track(s). Note that the To value always refers to the end of the longest track.

**Beat (1~[number of beats per bar]):** This is where you specify the beat position. The number of selectable beats obviously depends on the time signature of the selected pattern.

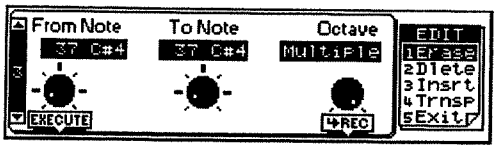
**CPT:** This is where you specify the CPT position of the beginning and end. Unless you do not need to edit all the selected data within the last bar, you should keep the default setting. Note that the Micro mode allows you to edit the data on an event basis, which is more precise because there you see the events to be edited, which is not the case here. If you only wish to edit one event (or message), you should definitely do so in the Microscope mode (see page 59).

**Data Type:** Allows you to select the data to be edited. See the table on page 55 for a list of the editable data types.

**Execute:** Press Part Select [M.DRUMS] to edit the data right away. The following parameters allow you to narrow down the scope of the edit operation. If you wish to edit the entire pattern, there is no need to fine-tune your settings. Just confirm the command by pressing Part Select [M.DRUMS].

### Edit\Erase\3 page

Master page: [F4] (UsrStl)→[F4] (Edit)→[F1] (Erase),
[PAGE] ▲▼ (select page 3)



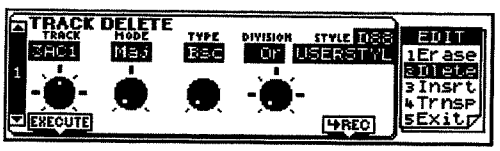

You only need to set the parameters on this page if the selected Data Type (see above) is Note. In all other cases, there is little point in setting the values on this page because you can only set a range (From/To) for notes. That is why this page is only displayed when the selected Data Type is Note.

**From Note, To Note, Octave:** See page 39.

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and edit the data.

## Track Delete

Master page: [F4] (UsrStl)→[F4] (Edit)→[F2] (Dlete),
[PAGE] ▲▼ (select page 1)




Unlike the Erase function, Track Delete also erases the measures, so that all measures that lie behind the To position, will be shifted towards the beginning of the track(s). Since Delete also disposes of the *measures*, you cannot choose the data type to be erased.

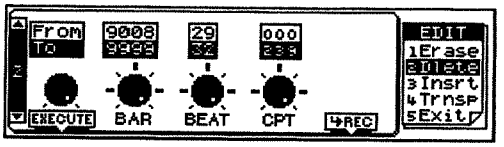
**Track, Mode, Type, Division:** See page 53 for details.

**Style:** This field informs you about the location where editing is taking place: the EM-2000's Style RAM memory (D88).

**Execute:** Press Part Select [M.DRUMS] to edit the data right away. The following parameters allow you to narrow down the scope of the edit operation. If you wish to edit the entire pattern, there is no need to fine-tune your settings. Just confirm the command by pressing Part Select [M.DRUMS].

### Edit\Dlete\2 page

Master page: [F4] (UsrStl)→[F4] (Edit)→[F2] (Dlete),
[PAGE] ▲▼ (select page 2)




**From/To:** Use the [DRUMS/PART] knob to select the To or From level. From refers to the position where the edit operation is to begin. That position is specified in a Bar-Beat-CPT format. To designates the position where the edit operation is to end (Bar-Beat-CPT value). Always check whether you have selected the right level (From or To) before setting the following parameters.

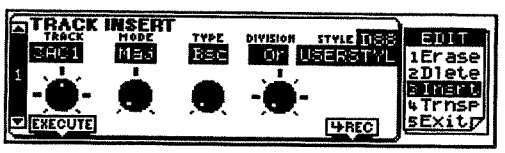
**Bar, Beat, CPT:** See page 45 for details.

Note that the Micro mode allows you to edit the data on an event basis, which is more precise because there you see the events to be edited, which is not the case here. If you only wish to edit one event (or message), you should definitely do so in the Microscope mode (see page 59).

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and edit the data.

## Track Insert

Master page: [F4] (UsrStl)→[F4] (Edit)→[F3] (Insrt)
[PAGE] ▲▼ (select page 1)




The Insert function allows you to insert space in an existing pattern. That means that all data lying behind the position calculated by the For parameter (see the second page) are shifted further towards the end of the pattern, effectively making the pattern longer. You can only insert blank measures here.

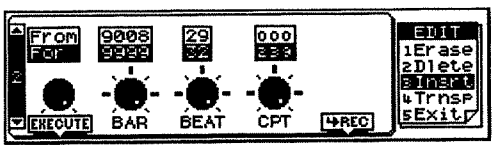
**Track, Mode, Type, Division:** See page 53 for details.

**Style:** This field informs you about the location where editing is taking place: the EM-2000's Style RAM memory (D88).

**Execute:** Press Part Select [M.DRUMS] to edit the data right away. The following parameters allow you to narrow down the scope of the edit operation. If you wish to edit the entire pattern, there is no need to fine-tune your settings. Just confirm the command by pressing Part Select [M.DRUMS].

### Edit\Insrt\2 page

Master page: [F4] (UsrStl)→[F4] (Edit)→[F3] (Insrt)
[PAGE] ▲▼ (select page 2)




**From/For:** Use the [DRUMS/PART] knob to select either the From or the For level. The From level allows you to specify the position where the selected number of bars, beats, and clocks is to be inserted.

For, on the other hand, specifies how many bars, beats, and CPTs are to be inserted.

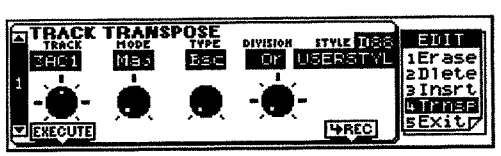
The Microscope mode also provides an Insert function (see page 60) that allows you to add events *without* shifting the subsequent events towards the end. If you need to make room for new data, Edit Track Insert, is thus the only option you have.

**Bar, Beat, CPT:** See page 45 for details.

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and insert the requested number of bars, beats and CPTs.

## Track Transpose

Master page: [F4] (UsrStl)→[F4] (Edit)→[F4] (Trnsp)
[PAGE] ▲▼ (select page 1)




Track Transpose is used to transpose the notes of the selected pattern (the other non-note data obviously cannot be transposed). Use this function with great caution because the Key value (see page 86 in the Player's Guide) is not updated – even if you transpose entire track(s). We therefore suggest you only use it for parts of an Intro or Ending pattern – for example a difficult phrase you have recorded only once and then copied using Track Copy (see page 53). In other words, never transpose an entire pattern as that will invariably lead to a lot of confusion in the Arranger mode.

**Track, Mode, Type, Division:** See page 48 for details.

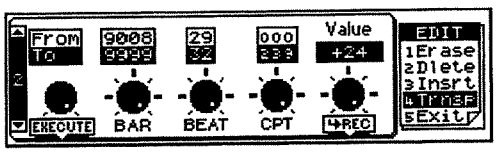
When combined with From Note and To Note (see below), Track Transpose is also useful for the 1ADR track. It allows you to select another snare or kick sound, for example.

**Style:** This field informs you about the location where editing is taking place: the EM-2000's Style RAM memory (D88).

**Execute:** Press Part Select [M.DRUMS] to edit the data right away. Chances are, however, that you will not obtain the desired transposition. Just ignore Execute here and go on to the next display page.

### Edit\Trnsp\2 page

Master page: [F4] (UsrStl)→[F4] (Edit)→[F4] (Trnsp)
[PAGE] ▲▼ (select page 2)




**From/To:** See page 38.

**Bar, Beat, CPT:** See page 45 for details.

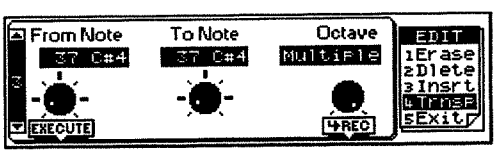
**Value (–24~+24):** This parameter is used to set the transposition interval in semi-tone steps. If you wish to transpose a C pattern to D, enter the Value +2.

*Note: Be careful when applying Track Transpose to the 1ADR part. After all, transposing all notes of this track would mean that the drum part changes dramatically.*

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and edit the data or go to the next page if you do not wish to transpose all notes.

### Edit\Trnsp\3

Master page: [F4] (UsrStl)→[F4] (Edit)→[F4] (Trnsp)
[PAGE] ▲▼ (select page 3)

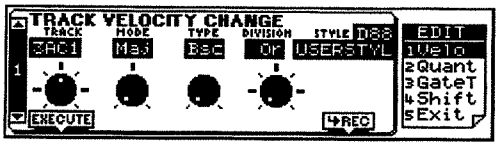



**From Note, To Note, Octave:** See page 39.

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and edit the data.

## Track Velocity Change

Master page: [F4] (UsrStl)→[F4] (Edit)→[SHIFT] + [F1] (Velo)
[PAGE] ▲▼ (select page 1)




The Velocity Change function allows you to modify the dynamics (called *velocity*) of a track or excerpt. See page 42 for details.

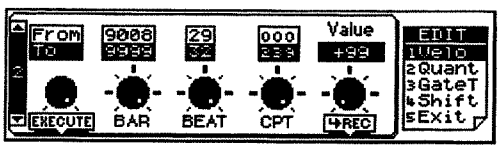
**Track, Mode, Type, Division:** See page 53 for details.

**Style:** This field informs you about the location where editing is taking place: the EM-2000's Style RAM memory (D88).

**Execute:** Press Part Select [M.DRUMS] to edit the data right away.

### Edit\Velo\2 page

Master page: [F4] (UsrStl)→[F4] (Edit)→[SHIFT] + [F1] (Velo)
[PAGE] ▲▼ (select page 2)




**From/To:** See page 38.

**Bar, Beat, CPT:** See page 45 for details.

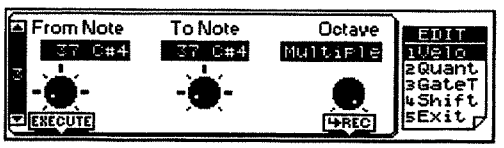
**Value (–99~+99):** The Value parameter allows you to set the velocity change level. Select a positive value to increase the velocity of the selected track(s), or a negative value to decrease the velocity values.

*Note: Even the highest positive or negative Value doesn't allow you to go beyond "1" or "127".*

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and edit the data or go to the next page if you do not wish to change all notes.

### Edit\Velo\3 page

Master page: [F4] (UsrStl)→[F4] (Edit)→[SHIFT] + [F1] (Velo)
[PAGE] ▲▼ (select page 3)



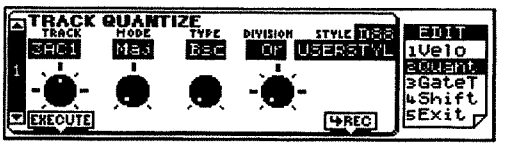

**From Note, To Note, Octave:** See page 39.

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and edit the data.

## Track Quantize

Master page: [F4] (UsrStl)→[F4] (Edit)→[SHIFT] + [F2] (Quant)
[PAGE] ▲▼ (select page 1)

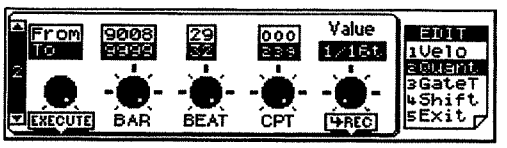
The Track Quantize function can be used *after* recording a part if you don't feel comfortable with the timing of what you played. If only certain notes in a given time range need to be quantized, you should narrow down the edit range using the From/To parameters on the second page.




**Track, Mode, Type, Division, Style, Execute:** See page 53 for an explanation of these parameters.

### Edit\Quant\2 page

Master page: [F4] (UsrStl)→[F4] (Edit)→[SHIFT] + [F2] (Quant)
[PAGE] ▲▼ (select page 2)



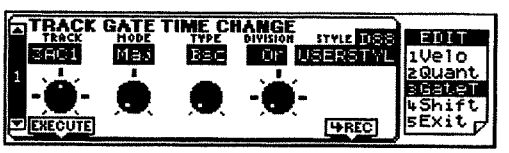

**From, To, Bar, Beat, CPT, Execute:** See page 42 for an explanation of these parameters.

**Value:** This parameter sets the resolution of the Quantize function. The available values are: 1/8, 1/8t, 1/16, 1/16t, 1/32, 1/32t, 1/64t.

*Note: Be sure to always select the value that equals the shortest note you recorded. Otherwise, your part no longer sounds the way you played it.*

## Track Gate Time Change

Master page: [F4] (UsrStl)→[F4] (Edit)→[SHIFT] + [F3] (GateT)
[PAGE] ▲▼ (select page 1)

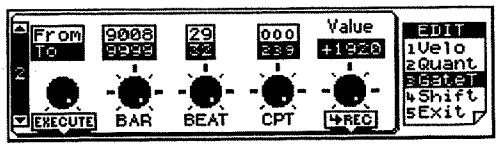



The Gate Time Change function allows you to modify the duration of the notes in the selected time (From/To) range. See page 43 for details.

**Track, Mode, Type, Division, Style, Execute:** See page 53 for an explanation of these parameters.

### Edit\GateT\2 page

Master page: [F4] (UsrStl)→[F4] (Edit)→[SHIFT] + [F3] (GateT)
[PAGE] ▲▼ (select page 2)

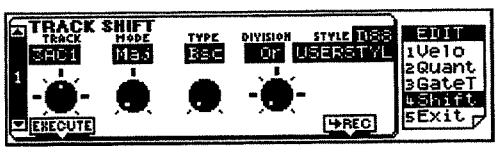



**From, To, Bar, Beat, CPT, Execute:** See page 42 for an explanation of these parameters.

**Value (–9999~+9999):** This parameter sets the amount by which the duration (or gate time) of the selected notes is to be changed. The shortest possible Gate Time value is "1". Allowing the value "0" would effectively erase the notes, which can only be achieved with Track Erase (see page 60). You cannot use Track Change Gate Time to erase notes.

### Track Shift

Master page: [F4] (UsrStl)→[F4] (Edit)→[SHIFT] + [F4] (Shift)
[PAGE] ▲▼ (select page 1)



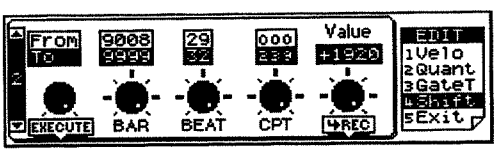

Track Shift allows you to shift the notes within the selected From/To range (second page). See page 44 for details.

*Note: Before selecting a Shift value, you should have a look at one track in the Microscope mode (see page 59) to determine which negative value to use. If the first note of a track starts on 1-1-6, for example, set Track Shift to "–6". Be sure to apply the same Shift to all tracks to maintain the timing of the original!*

**Track, Mode, Type, Division, Style, Execute:** See page 53 for an explanation of these parameters.

### Edit\Shift\2 page

Master page: [F4] (UsrStl)→[F4] (Edit)→[SHIFT] + [F4] (Shift)
[PAGE] ▲▼ (select page 2)




**From, To, Bar, Beat, CPT, Execute:** See page 42 for an explanation of these parameters.

**Value (–9999~+9999):** This parameter sets the amount by which the notes are shifted. The Value refers to CPT units (one CPT= 1/120 ♩).

*Note: Notes on the first beat of the first bar cannot be shifted further to the left (that would mean shifting them to the "0" measure, which doesn't exist).*

## 9.11 User Style Microscope mode

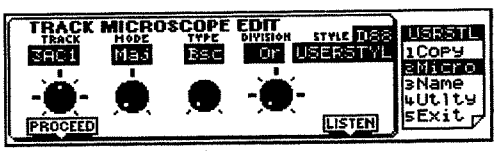
The User Style Microscope mode is similar to the Microscope mode found on Roland MC series sequencers. Select this mode whenever you need to change just one aspect of an otherwise perfect User Style (or copied ROM Style).

In this chapter, we will use the word *event* for any kind of message (identical to MIDI messages that cause the Arranger to play or set something). An event is thus a command (or instruction) for the Arranger.

As the name of the first display page (*Track Microscope Edit*) implies, you can only view and edit one track at a time. In other words, do not forget to select the right track and pattern before you select a Micro function.

### Track Microscope Edit

Master page: [F4] (UsrStl)→[SHIFT] + [F2] (Micro)




This page again contains the familiar selection criteria that help you choose the track and pattern. As stated above, you first need to choose a pattern before you can edit it. There is no way to view all data of a given pattern in Microscope mode. This is also the page you will return to after leaving the selected Micro Edit function.

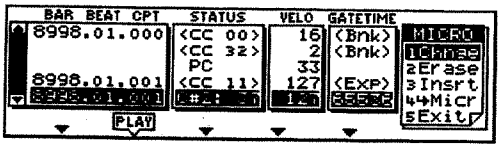
**Track, Mode, Type, Division, Style:** See page 55 for an explanation of these parameters.

**Proceed:** Press Part Select [M.DRUMS] to jump to the Microscope Edit page.

**Listen:** The Listen function allows you to audition the track of the selected pattern.

## Micro Change

Master page: [F4] (UsrStl)→[SHIFT] + [F2] (Micro)
Part Select [M.DRUMS] (Proceed)→ [F1] (Chnge)




The Microscope Change function is used to modify existing events, which may be anything from transforming a C#2 into a D2, velocity value "35" into "70", or control change CC01 into control change CC10.

**Event selection (Bar-Beat-CPT):** Allows you to scroll through the events. You can only select Bar-Beat-CPT positions that already contain data. Note that using the [PAGE] ▲▼ buttons also allows you to scroll through the events. It has the advantage of being more precise because it works on a step-by-step basis – and that every note event is sounded.

**Status column:** This column contains all the message types you can assign to an event. See page 55 for details.

Don't look for CC64 (Hold or Sustain) events because you won't find any. The use of the pedal connected to the SUSTAIN FOOTSWITCH jack is converted into the equivalent Gate Time values. To change such converted "Hold messages", you thus have to modify the Gate Time values of the affected notes.

**Velo:** Don't let the name of this column fool you. It does indeed display the velocity value of *notes*, but it also contains the values assigned to a control change number, a program change, or pitch bend event.

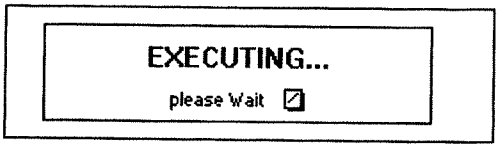
Use the [LOWER/NUMBER] knob to change the value of the selected event.

**Gate Time:** The values in this column, on the other hand always represent the duration (or Gate Time) of note events. That is why all other events have no Gate Time values.

*Note: The Gate Time value of drum note events is always "1". The sounds being triggered are indeed one-shot samples that stop automatically. Setting a longer Gate Time value for drum notes (1ADR track) does not make them longer.*

**[PLAY] (Part Select [M.BASS]):** The Play function allows you to sound the selected event (if it is a note). You could use this function to check the new velocity (Velo) value, and change it again if necessary until the note sounds right.

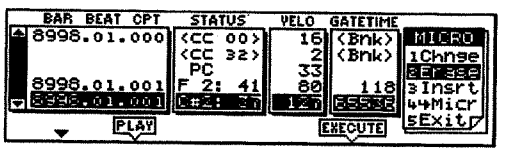
You can now select another function on the menu (Erase or Insert) or press [F4] to return to the opening Microscope page in order to select another track or pattern for editing or further exit to the Master page. As soon as you do, the display will tell you that the new settings are being processed:




In other words, there is no need to confirm your settings: all modifications will take effect as soon as you return to the opening Microscope page.

## Micro Erase

Master page: [F4] (UsrStl)→[SHIFT] + [F2] (Micro)
Part Select [M.DRUMS] (Proceed)→ [F2] (Erase)




The Erase function allows you to dispose of unwanted events. Erasing an event on this page mode does not mean that all subsequent events will be shifted to the left to fill up the "gap". As a matter of fact, "spaces" between events are not considered as gaps by the Microscope function.

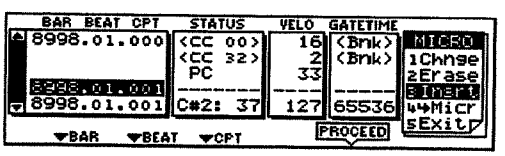
**Event selection: Bar-Beat-CPT [DRUMS/PART]:** See page 60 for details. Use this function to choose the event you wish to delete.

**[PLAY] (Part Select [M.BASS]):** The Play function allows you to sound the selected event (if it is a note). You could use this function to check the new velocity (Velo) value, and change it again if necessary until the note sounds right.

**Execute (Part Select [UPPER1]):** The Erase command needs to be confirmed. If you are sure you selected the right event, press this button now to get rid of it.

## Micro Insert

Master page: [F4] (UsrStl)→[SHIFT] + [F2] (Micro)
Part Select [M.DRUMS] (Proceed)→ [F3] (Insrt)




This Insert function is used to add events to an existing track – or to program a part in step time.

The Insert function consists of two pages: the first page is used to add an event at the selected position (using Bar, Beat and CPT), while the second page allows you to define the Status (note, control change, etc.) and values of that event.

*Note: It is perfectly possible to insert an event at a position that already contains one. This allows you to add the missing note of a chord, for example. Be sure, however, not to assign two control changes of the same number (e.g. Pan, CC10) and with different values to the same position.*

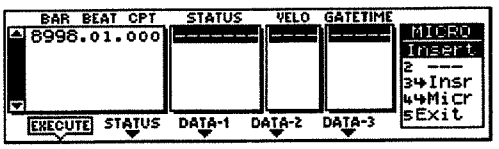
**Bar (1~9999) [DRUMS/PART]:** Allows you to specify the bar where the event should be inserted.

**Beat (1~[number of beats per bar]) [ACCOMP/GROUP]:** Allows you to specify the beat within the selected bar (see above).

**CPT ([BASS/BANK]):** This parameter sets the CPT value of the new event. Here is a table of the most commonly used notes and their CPT values:

| Note | CPT | Note | CPT |
|---|---|---|---|
| 𝅝 | 480 | ♪3 | 90 |
| 𝅗𝅥 | 240 | ♪ | 60 |
| ♩ | 120 | 𝅘𝅥𝅯 | 30 |

**Proceed (Part Select [UPPER1]):** After specifying the position of the new event, press Part Select [UPPER1] to select the second Insert page, where you can assign a function (Status) and value(s) to the new event:




Look at the above display illustration: this time, the Status, Value and Gate Time dashes are inverted (while on the previous page, only the position is inverted) to signal that the EM-2000 is now waiting for instructions regarding the newly inserted event.

**Status [ACCOMP/GROUP]:** Use the [ACCOMP/GROUP] knob to select the Status of the new event (note, control change, etc., see the table on page 55). To insert a note event, you can also press the corresponding key on the EM-2000's keyboard. That will also assign a velocity value to that event. If the velocity value is not the one you need, either press the same key again (pressing it harder or softer) or use the [BASS/BANK] knob to set it.

*Note: You can only program one note at a time. Playing a chord will only enter the last note you played.*

**Data-1 [BASS/BANK]:** This knob can only be used to set the "note name: note number" (e.g. C#2 : 37) of *note events*. If you select another event using the Status knob (see above), the [BASS/BANK] knob cannot be used.

**Velo (Data 2) [LOWER/NUMBER]:** As stated above, the Velo value does not necessarily refer to a velocity value. It is also used to indicate and (on this page) set the value assigned to the control change, etc. in question – which is why the function of the [LOWER/NUMBER] knob is called *Data-2* rather than *Velo*.

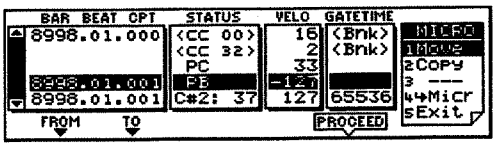
**Gate Time (Data-3) [UPPER/VARIATION]:** The Gate Time value can only be set for note events. Use it to specify the duration of the new note. Remember that Gate Time value "1" is enough for 1ADR note events.

*Note: Press [F3] to jump back to the first insert page if you need to change something.*

**Execute:** Press Part Select [M.DRUMS] to confirm your settings and assign them to the event.

## Micro Move

Master page: [F4] (UsrStl)→[SHIFT] + [F2] (Micro)
Part Select [M.DRUMS] (Proceed)→ [SHIFT] + [F1] (Move)

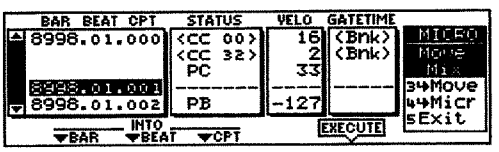



The Move function allows you move the selected event (or events) to another position. This is similar to using the Track Shift function (see page 59) but it applies only to one or a few events at a time.

**From [DRUMS/PART]:** Use the [DRUMS/PART] knob to select to first event to be moved. If you only wish to move one event, press [PROCEED]. Otherwise, set the last event to be moved:

**To [ACCOMP/GROUP]:** Allows you to select the last event to be moved. While rotating the [ACCOMP/GROUP] knob, you will notice that all events you scroll through are inverted. Stop at the last event you wish to move.

**Proceed (Part Select [UPPER1]):** Now that the range of events to be moved is selected, press Part Select [UPPER1] to go to the second Move page:




The parameters on this page are used to specify the new position (*Into*) of the first event you selected on the previous display page. All subsequent events will be positioned relative to the first event (i.e. the distance between the moved events remains the same).

**Bar, Beat, CPT ([DRUMS/PART], [ACCOMP/GROUP], [BASS/BANK]):** Use these controls to set the position the selected event(s) is (are) to be moved to. Just for your information, the Move function is

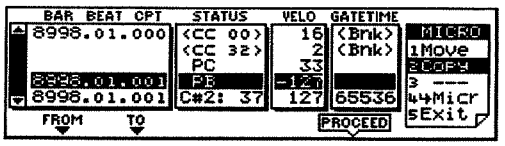
automatically set to *Mix*, which means that moving events does not overwrite events that may be present at the selected destination.

**Execute (Part Select [UPPER1]):** Press Part Select [UPPER1] to confirm your settings and move the selected events to the new position.

You could now press [F3] to jump to the Copy function, or [F4] to return to the opening Microscope page.

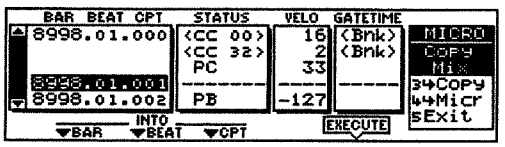
### Microscope Copy

Master page: [F4] (UsrStl)→[SHIFT] + [F2] (Micro)
Part Select [M.DRUMS] (Proceed)→ [SHIFT] + [F2] (Copy)




The Copy function allows you to copy the selected events to another position. In a way, it is like moving events without erasing the events at their original position.

**From, To:** See above for details. After selecting the events to be copied, press Part Select [UPPER1] (Proceed) to jump to the second Copy page:




The Into position is the Bar/Beat/CPT the first event of the selected range will be copied to. Set the desired position using the [DRUMS/PART], [ACCOMP/GROUP], and [BASS/BANK] knobs.

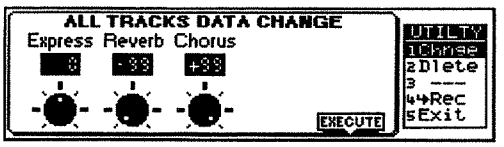
Also note the Copy Mix message on the function menu. Like on the second Move page, this message is used to signal that copying the selected events will not erase events that may already exist at the selected position.

## 9.12 User Style Utility

The User Style Utility mode contains two functions you may need from time to time.

### All Tracks Data Change

Master page: [F4] (UsrStl)→[F4] (Utlty)→[F1] (Chnge)




This function allows you to globally edit the Expression, Reverb Send, and/or Chorus Send values of all User Style tracks (of all Divisions, Modes, etc.). This may be necessary if you wish to change the character of your User Style, e.g. when you think these values are either too low or too high. Using this function is a lot faster than returning to the REC pages and re-recording these values for all tracks of all divisions.

These are relative parameters, which is why you can select both negative (–) or positive (+) values. The values you set here are indeed added to or subtracted from the values already recorded.

**Express (–127~127):** ([DRUMS/PART]) Expression (CC11) is a secondary volume parameter that allows you to reduce the main volume setting for a track (CC07). Select "0" if you don't want to change the Expression values.

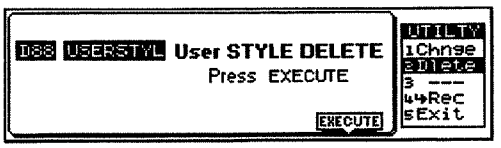
**Reverb:** ([ACCOMP/GROUP]) This parameter allows you to change the Reverb depth for all parts by the same amount. Select "0" if you don't want to change the Reverb Send values.

**Chorus:** ([BASS/BANK]) This parameter allows you to change the Chorus depth for all parts by the same amount. Select "0" if you don't want to change the Chorus Send values.

**Execute:** After setting the desired values, press Part Select [UPPER1] to execute this global change function.

## User Style Delete

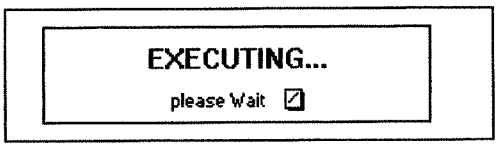
Master page: [F4] (UsrStl)→[F4] (Diete)




Unlike "Track Delete" on page 56, the User Style Delete function is used to clear the EM-2000's Style RAM memory (D88). If you are sure you no longer need a given Style, delete it using this function.

Press Part Select [M.DRUMS] (Execute) to delete the Style.

The display will respond with:




The Style will be deleted, after which the display tells you:


The display now returns to the first User Style\Rec page.

# 10. MIDI mode

## SMF, General MIDI, and General Standard

Your EM-2000 is GM (General MIDI) and GS (General Standard) compatible, the most important advantage being that it allows you to playback (and record) Standard MIDI Files using the Recorder that can be played back on any GM or GS compatible instrument (like your EM-2000). You may think that is nothing special, but before the advent of GS (and GM), there was no way of predicting what a sequence would sound like when played back on another module or synthesizer because memory 1 on instrument A contained a synth pad sound, while the same memory on instrument B contained a grand piano sound.

## Standard MIDI Files

In fact, there used to be a time when you could not even load your sequences into a sequencer of another brand because there were as many formats (i.e. ways of data-encoding) as there were sequencer manufacturers. That is why several manufacturers decided to develop a format that could be read by all sequencers. Think of the Standard MIDI File format as the TXT format of popular personal computers: the level that all programs can understand.

Contrary to TXT format, however, the Standard MIDI File (*SMF* for short) format is amazingly elaborate: even System exclusive (SysEx) messages, the most intricate kind of MIDI data, travel well, so that the "format" (comparable to the lay-out of printed text) remains intact when a sequence is converted to SMF.

In fact, the SMF format is so elaborate that some sequencers no longer rely on their manufacturers' system for recording and playing back data – which is the case of the EM-2000's Recorder and 16-track sequencer.

The Standard MIDI File format (i.e. the fact that any sequencer can read the data) is a prerequisite for the following two formats (i.e. the fact that sound selection, amongst other things, remains the same).

**GM System** : The GM (General MIDI) system is a set of recommendations that seek to provide a way to go beyond the limitations of proprietary designs, and standardize the MIDI capabilities of sound generating devices. Sound generating devices and sound data that meet the GM standard bear the GM logo. Song data bearing the GM logo can be played back using any GM sound generating unit to produce essentially the same musical performance.

**GS format** : The GS format is Roland's unified set of specifications to standardize the MIDI capabilities of sound generating devices. Song data bearing the GS logo can be played back using any GS sound generating unit. The EM-2000 supports both GM and GS, and can be used to playback song data carrying either of these logos.

## MIDI data types

The most important aspect of the MIDI standard is that it allows one instrument to tell another when to play a note, for how long, and how strongly it should be played.

Other aspects of a musical performance include modulation (vibrato), Pitch Bend (bending), volume, pan-pot, etc.

Yet another group of MIDI messages is used to tell the receiver when to select another sound and which sound to select. These messages are called *Bank Select*, and *program change*. In fact, these are the messages that are automatically recorded at the beginning of each Style division and written to a User Program so that you can recall the Tone selection for *all* available parts simply by selecting a User Program. Program change and Bank Select messages also allow you to select Performance Memories, Styles, and Drum Sets (for the MDR and ADR parts).

Still other MIDI data allow you to synchronize two MIDI instruments so that they start and stop at the same time and run at the same tempo.

# 10.1 MIDI messages used by the EM-2000

The way a device responds when it receives MIDI messages (i.e. how it produces sound, etc.) depends on the specifications of that device. This means that if the receiving device is not able to perform the function specified by the incoming message, the musical result will not be what you expected. What it comes down to is this: there are several levels of MIDI compatibility, and not all MIDI compatible instruments understand (i.e. receive) all existing MIDI messages.

*Note: MIDI messages for which reception capability is required by the GM system (level 1) are marked by a * sign.*

**Note messages *:** These messages convey notes played on the keyboard. They include the following information:

| Message | Explanation |
|---|---|
| Note number | A number describing the note corresponding to the key you pressed or released. |
| Note-on | A messages signalling that you pressed a key (i.e. "start playing now"). |
| Note-off | A message signalling that a key was released. |
| Velocity | A value describing how strongly you pressed a key. |

On many instruments (such as your EM-2000), a note-on message with the velocity value "0" is used to signal the end of a note (i.e. velocity value "0" effectively functions as note-off message).

**Pitch Bend *:** This message conveys the position of the Bender lever (or pitch bend wheel). The pitch will change when this message is received.

**Bank Select (CC00 and CC32), Program Change *:** On the EM-2000, these messages are used to select Tones, Styles, and User Programs. By using Bank Select messages (which are in fact control change messages), an even wider variety of memory locations can be selected. Control change messages were added when it became clear that the maximum number of sounds selectable using program change messages (128) was no longer sufficient to access all sounds of a given instrument.

*Note: Do not forget to send a Program Change message after a Bank Select message because sending only Bank Select messages does nothing whatsoever. The right order for sending these messages is (pay attention to the CPT values):*

*1.1.0 Bank Select CC00 + value*
*1.1.1 Bank Select CC32 + value (0, 1, 2, or 3)*
*1.1.2 Program Change*

On the EM-2000, CC32 messages are used to select the Tone mode: "0" (don't leave current Tone mode), "1" (Old, e.g. SC-55 mode, Groups E and F), "2" (G-800 Tone mode, Groups C and D), or "3" (EM-2000 Tone mode, Groups A and B).

### Control change messages

These messages control parameters such as modulation and pan. The function of a message is determined by its control change (e.g. ID) number.

**Modulation (CC01) *:** This message controls vibrato.

**Volume (CC07) *:** This message controls the volume of a part. When it is received, the volume of the part receiving on that MIDI channel will change.

**Expression (CC11) *:** This message conveys volume changes. It can be used to add expression. The volume of a Part will be affected both by Volume messages (CC07) and Expression messages (CC11). If a value of "0" is received for either of these messages, the part volume will be 0 and will not rise even if the other message is sent with a higher value.

**Pan(pot) (CC10) *:** This message controls the stereo position of a part.

**General purpose controllers (CC16 and CC17):** Here are two control change messages that have no set function within the MIDI standard. On the EM-2000, they allow you to control two parameters of the Insertion EFX. CC16 is assigned to the Source 1 parameter, and CC17 to the Source 2 parameter. See also page 114 for the parameters that can be controlled.

**Hold (1) (CC64) *:** This message conveys the up/down movements of the Damper (Sustain, Hold) pedal. When a Hold On message is received, notes will be sustained. In the case of decay-type instruments such as a piano, the sound will decay gradually until a Hold Off message is received. In the case of sustain-type instruments such as an organ, the sound will continue sustaining until a Hold Off message is received.

**Sostenuto (CC 66):** The Sostenuto pedal on a piano sustains only the notes that were already sounding at the moment the pedal was pressed. The Sostenuto message conveys the movement of this pedal.

*Note: This function can be assigned to the optional footswitch (see page 29).*

**Soft (CC67):** The Soft pedal on a piano softens the tone during the time the pedal is pressed. The Soft message conveys the movement of this pedal. When Soft On is received, the cutoff frequency will be lowered, causing a softer sound. When Soft Off is received, the previous sound will return.
*Note: This function can be assigned to the optional footswitch (see page 29).*

**Reverb Send Level (CC91):** This message indicates to what extent the part in question should be processed by the Reverb effect.

**Chorus Send Level (CC93):** This message indicates to what extent the part in question should be processed by the Chorus effect.

**Delay Send Level (CC94):** This message indicates to what extent the part in question should be processed by the Delay. Delay is not available for the ADR part, the Arranger parts or the Song parts.

**Portamento (CC65), Portamento Time (CC05), Portamento Control (CC84):** See page 81 in the Player's Guide for details. When a Portamento message is received, the Portamento effect will be turned on or off. Portamento Time controls the speed of the pitch change. Portamento Control specifies the source note number (the previously played note).

**RPN LSB, MSB (CC100/101) *, Data Entry (CC06/38) *:** Since the function of RPN (Registered Parameter Number) messages is defined in the MIDI specification, this message can be used between devices of different types. The RPN MSB and LSB messages specify the parameter which is to be modified, and then Data Entry messages can be used to modify the value of that parameter. RPN can be used to adjust Pitch Bend Sensitivity, Master Coarse Tune, and Master Fine Tune.

*Note: The values modified using RPN messages will not be initialized even if program change messages etc. are received to select other sounds.*

**NRPN LSB, MSB (CC98/99), Data Entry (CC06/38):** NRPN (Non-registered Parameter Number) messages can be used to modify the values of sound parameters unique to a particular device. The NRPN MSB and LSB messages specify the parameter which is to be modified, and then Data Entry messages can be used to modify the value of that parameter.

Since the GS format defines the function of several NRPN messages, GS compatible application programs can use NRPN messages to modify sound data parameters for Vibrato, Cutoff Frequency, Resonance, and Envelope values.

*Note: The values modified using NRPN messages will not be initialized even if program change messages etc. are received to select other sounds.*

*Note: With the factory settings, the EM-2000 will ignore NRPN messages. After a GS Reset message is received (or when you press the [GM/GS MODE] button), NRPN messages will be received. You can also manually turn on Rx NRPN (NRPN Receive Switch), so that NRPN messages will be received.*

**Aftertouch (Channel Pressure only *):** Aftertouch is a message that conveys the pressure applied to the keyboard after playing a note, so that this information can be used to control various aspects of the sound. There are two types of Aftertouch messages: Polyphonic Key Pressure which is transmitted separately for each note, and Channel Key Pressure which is transmitted as one value that affects all notes on the specified MIDI channel.

**All Sounds Off:** This message turns off all currently-sounding notes.

**All Note Off message *:** This message causes a note-off message to be sent to each note of the specified channel that is currently on. However, if Hold 1 or Sostenuto are on, the sound will continue until these are turned off.

**Reset All Controllers *:** This message returns controller values (modulation, Pitch Bend, etc.) to their initial settings. The following controller values for the specified channel will be reset to their initial values.

| MIDI message | Initial value |
|---|---|
| Pitch Bend | 0 (center) |
| Polyphonic Aftertouch | 0 (minimum) |
| Channel Aftertouch | 0 (minimum) |
| Modulation | 0 (minimum) |
| Expression | 127 (maximum) |
| Hold | 0 (off) |
| Portamento | 0 (off) |
| Soft | 0 (off) |
| Sostenuto | 0 (off) |
| RPN | no change |
| NRPN | no change |

*Note: Parameter values that were modified using RPN or NRPN will not change even when a Reset All Controller message is received.*

**Active Sensing:** This message is used to check for broken MIDI connections, such as MIDI cables that have been disconnected, or MIDI cables that have been broken. The EM-2000 transmits Active Sensing messages via MIDI OUT at set intervals. Once an Active Sensing message is received via MIDI IN, Active Sensing monitoring will begin, and if an Active Sensing message fails to arrive for more than 420ms, it is assumed that the cable has been disconnected. If this happens, all currently sounding notes will be turned off, the same procedure will be executed as if a Reset All Controller message was received, and Active Sensing monitoring will stop.

## System Exclusive messages

System Exclusive (SysEx) messages are used to control functions which are unique to specific devices. Although Universal System Exclusive messages can be used even between devices of different manufacturers, most exclusive messages only apply to one type of instrument.

In order to recognize the device for which the data is intended, Roland exclusive messages contain a manufacturer ID, device ID, and model ID.

*Note: See the separate MIDI booklet for details about the SysEx messages recognized by the EM-2000.*

**Universal System Exclusive:** When a GM System On message is received, the EM-2000 will be set to the basic GM settings. Also, NRPN and Bank Select messages will no longer be received once GM System On is received. The beginning of song data bearing the GM logo contains a GM System On message. This means that if you play back the data from the beginning, the tone generator will be automatically initialized to the basic settings.

**GS Reset (GS Format System Exclusive):** When GS Reset is received, the EM-2000 will be set to the basic GS settings. The beginning of song data bearing the GS logo contains a GS System Reset message. This means that if you play back the data from the beginning, the sound generating device will be automatically initialized to the basic settings.

**Master Volume (Universal System Exclusive):** This is an exclusive message common to all newer MIDI devices that controls the master volume of the entire EM-2000.

**Other System exclusive (SysEx) messages:** The EM-2000 can receive GS format exclusive messages (model ID 42H) that are common to all GS sound generators.

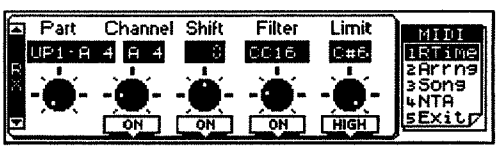
### About MIDI implementation charts

MIDI allows many different types of instruments to be connected, but in some cases there will be messages that cannot be conveyed meaningfully. For example if you wish to use Aftertouch of an external instrument to control the sound, while the tone generator connected to the keyboard does not receive Aftertouch messages, you will not get the musical result you intend. Only messages that are used by both devices will actually be executed.

The MIDI specification requires that the owner's manual for each MIDI device include a "MIDI Implementation Chart" that shows the types of MIDI messages which are actually transmitted and received by a device. Put the *Transmitted* column of the transmitting device's implementation chart side by side with the *Received* column of the receiving device's implementation chart. Messages which are marked as "0" in both charts can be conveyed successfully. If either chart shows a "X" for a certain type of message, that message cannot be conveyed.

## 10.2 RX parameters

Master page: [F3] (MIDI)→[F1] (RTime), [F2] (Arrng), or [F3] (Sng)
[PAGE] ▲▼ (select the RX page)




Seeing that these three pages feature the same parameters, we will discuss them together. Just remember to press [F1] to select the Realtime (RTime) level, [F2] to select the Arranger (Arrng) level, or [F3] to select the Song level.

**Part:** This parameter allows you to select the part whose MIDI RX settings you wish to change. The selectable parts are:

| Function key | Parts |
|---|---|
| [F1] (RTime) | UP1, UP2, UP3, MI, LOW1, LOW2, MBS, MDR |
| [F2] (Arrng) | ADR, ABS, AC1–AC6 |
| [F3] (Song) | Sng B1–Sng B16 |

The Song parts are 16 additional parts that are available at all times for MIDI control (after all, the EM-2000 is 32-part multitimbral). Of course, these parts are also used by the Recorder and the 16-track sequencer, in which case they also *transmit* data.

**Channel (A1~B16):** Allows you to assign a MIDI receive channel (i.e. the channel number used to receive MIDI data coming from external instruments, sequencers, or computers) to the selected part. The letter (A or B) denotes the MIDI circuit the part is assigned to. By default, all Realtime and Arranger parts are assigned to the MIDI A circuit. The Song parts, on the other hand, are set to receive and transmit via the MIDI B circuit.

*Note: See also "Selecting the MIDI Port" on page 97 in the Player's Guide for how to assign a MIDI circuit (A or B) to the EM-2000's MIDI connectors.*

*Note: As long as the Arranger does not play (you may have to set the Style Sync parameter (see page 71) so that the Arranger does not start playing in response to a Start message), you can use the Arranger parts the way you would use the parts of a multitimbral tone generator.*

Press the Part Select [M.BASS] (**Channel On/Off**) button to prevent the selected part (Off) from receiving any MIDI messages at all. Otherwise choose On.

**Shift:** (–48~48) This parameter allows you to transpose the received note messages before sending them to the EM-2000's tone generator. You could change the pitch of the received MIDI note messages, which may be useful if you are used to playing a song (that is being received via MIDI) in another key than the one the data were programmed in. The maximum possible transposition is four octaves up (48) or down (–48), each step representing a semitone.

Use the Part Select [LOWER1] button to specify whether the Shift interval should be applied (On) or not (Off).

### Filter

This parameter allows you to select several MIDI messages and to specify for each of them (i.e. for each selectable parameter) whether (On) or not (Off) the selected message should be received. Use the Part Select [UPPER2] button to select On or Off. The MIDI messages you can filter are:

**PChng:** Program change messages (including Bank Select)

**PBend:** Pitch Bend messages

**Modul:** Modulation messages (CC01)

**Volum:** Volume messages (CC07)

**PanPt:** Pan(pot) messages (CC10)

**Expre:** Expression messages (CC11)

**Hold:** Hold (Sustain, Damper) messages (CC64)

**Sostn:** Sostenuto messages (CC66)

**Soft:** Soft messages (CC67)

**Revrb:** Reverb Send messages (CC91)

**Chrus:** Chorus Send messages (CC93)

**Delay:** Delay Send messages (CC94)

**CAF:** Channel Aftertouch

**RPN:** Registered parameter number (CC100/101)

**NRPN:** Non-registered parameter number (CC98/99)

**SysEx:** SysEx messages (system exclusive)

**CC16 & CC17:** Source 1 and 2 settings.

**C32= 0:** What to do when the received CC32 messages equals 0 or is missing. For this parameter, you can select Old, G-800, or EM, i.e. you cannot filter this Bank Select message. (This filter only applies to reception.)

*Note: See "MIDI messages used by the EM-2000" on page 65 for details about these MIDI messages.*

### Limit (High, Low: C-1~G9)

These parameters (High and Low) allow you to set the note range to be received. If not all note messages on the selected MIDI channel should be received by the selected part, set the range to the desired values. This may be necessary when controlling the EM-2000 from a MIDI accordion that sends the chord and bass notes on the same channel. You could use the Song parts (MIDI Port B▶) for doing so — and still use the EM-2000 in the usual way.

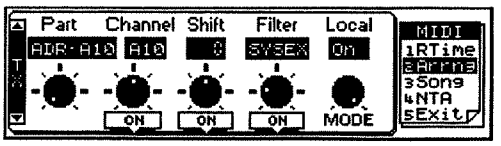
To set the upper limit (High), first press Part Select [UPPER1] until the message below the on-screen knob reads *High*. To set the lower limit, press Part Select [UPPER1] to select *Low* before setting the value with the [UPPER/VARIATION] knob.

*Note: The Low Limit cannot be set to a higher value than the High Limit (and vice versa). Once the Low Limit equals the High Limit, setting a higher Low value will also increase the High value.*

*Note: Some instruments start at C-2 and end at G8 (instead of C-1 and G9). You may have to "add an octave" to the value you see on the screen of your computer or external sequencer.*

# 10.3 MIDI TX parameters

Master page: [F3] (MIDI)→[F1] (RTime), [F2] (Arrng), or [F3] (Sng)
[PAGE] ▲▼ (select the TX page)




### Part, Channel, Shift, Filter

Except for the fact that these parameters apply to the transmission of MIDI messages (i.e. messages sent whenever you play on the EM-2000, select Tones, etc.), these parameters are identical to the RX parameters.

*Note: Unless you have a very good reason to do otherwise, we suggest you always select the same TX (transmit) and receive (RX) channel numbers for a part. That will help you spot the problem whenever the part in question does not receive MIDI messages or whenever it sends MIDI data on the "wrong" channel.*

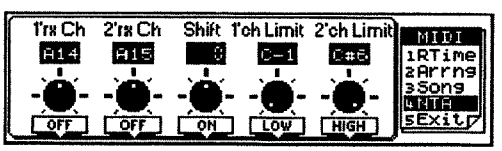
### Local (On, Off)

Set Local to On (default setting), whenever you want the EM-2000 respond to the notes you play on the keyboard. Setting Local to Off means that the part in question no longer controls the internal tone generator. When working with a sequencer equipped with a *Soft Thru* (MIDI echo) function – and *only* if (i) you connect the EM-2000's MIDI IN *and* OUT connectors to the external sequencer or computer, and (ii) use the EM-2000 as MIDI master keyboard for sequencing – you may have to set this parameter to Off to avoid that each note is sounded twice (producing an unpleasant sound called *MIDI loop*). In all other cases, select On.

*Note: A setting tantamount to Local Off can be achieved by muting a part (see page 74 in the Player's Guide) and setting the Part Switch (see page 99) to Int.*

# 10.4 NTA: Note-to-Arranger receive channels

Master page: [F3] (MIDI)→[F4] (NTA)




There is only one NTA page because the NTA notes are only meaningful when received from an external MIDI instrument. Whatever you play in the chord recognition area of the keyboard to feed the Arranger

is automatically converted to the corresponding MIDI note numbers. Unlike similar instruments of other manufacturers, your EM-2000 is blessed with the capability of sending the note numbers of all Arranger parts, so that you could use the internal or your own Styles to quickly record a song with band backing. As every single note of the Music Style is recorded, there is no need to transmit the note messages used to feed the Arranger (the NTA notes).

### 1'rx Ch, 2'rx Ch (A1~B16)

The NTA notes can be sent on two MIDI channels, so that you could control the EM-2000's Arranger using a MIDIfied accordion or any other instrument capable of sending accompaniment data (or data used to control the accompaniment) on two channels (such as organs with bass pedals, for example).

*Note: You cannot assign the same MIDI channel to 1'rx Ch and 2'rx Ch.*

*Note: The letter (A or B) refers to the MIDI Port setting you need to select. See "Selecting the MIDI Port" on page 97 in the Player's Guide.*

### Shift

(–48~48) This parameter allows you to transpose the received note messages before sending them to the EM-2000's tone generator. You could change the pitch of the received MIDI note messages, which may be useful if you are used to playing a song (that is being received via MIDI) in another key than the one the data were programmed in. The maximum possible transposition is four octaves up (48) or down (–48), each step representing a semitone.

The Shift parameter applies to both NTA channels.

Use the Part Select [LOWER1] button to specify whether the Shift interval should be applied (On) or not (Off).

### 1'ch Limit, 2'ch Limit (C-1~G9)

High and Low allow you to set the note range to be received. If not all note messages on the selected MIDI channel should be received by the NTA "part", set the range to the desired values.

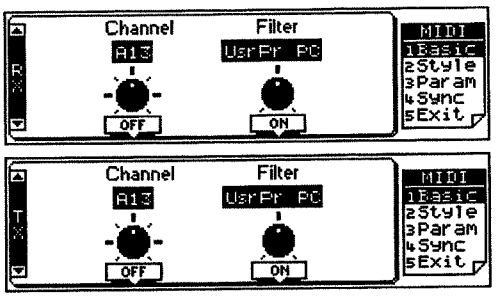
To set the upper limit (High), first press Part Select [UPPER1] until the message below the on-screen knob reads *High*. To set the lower limit, press Part Select [UPPER1] to select *Low* before setting the value with the [UPPER/VARIATION] knob.

*Note: The Low Limit cannot be set to a higher value than the High Limit (and vice versa). Once the Low Limit equals the High Limit, setting a higher Low value will also increase the High value.*

*Note: Some instruments start at C-2 and end at G8 (instead of C-1 and G9). You may have to "add an octave" to the value you see on the screen of your computer or external sequencer.*

## 10.5 Basic Channel

Master page: [F3] (MIDI)→[SHIFT] + [F1] (Basic)
[PAGE] ▲▼ (select RX or TX page)




The Basic Channel is used for several things: to receive and transmit program change and bank select messages for selecting User Programs, as well as for the reception and transmission of other kinds of messages that are not directly related to a specific MIDI channel but may affect the EM-2000's parts (such as the Part Switch function, for example). That doesn't mean that the MIDI channel assigned to the Basic Channel function is of no importance. Only, the messages received on that channel may also apply to other aspects of your EM-2000.

### Channel (A1~B16)

Use this parameter to assign an RX (receive) or transmit (TX) channel to the Basic Channel function. If you do not want the Basic Channel messages to be received (or transmitted), use the Part Select [UPPER2] button to select Off (this is the default setting).

*Note: The letter (A or B) refers to the MIDI Port setting you need to select. See "Selecting the MIDI Port" on page 97 in the Player's Guide.*

### Filter

This parameter allows you to select three functions and specify whether (On) or not (Off) the corresponding MIDI messages should be received (or transmitted):

**PartSwtc:** Whenever you mute or un-mute a part on the Volume pages, your EM-2000 sends an NRPN message that describes your action. The EM-2000 allows you to keep it from sending that message (or to respond to it whenever it is received from an external instrument). Filtering these messages on the TX page may be useful to keep your external sequencer from recording them – or the receiving GS module from muting the part assigned to that channel.

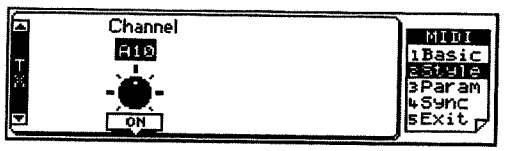
**UsrPr PC:** This parameter is used to filter the transmission (TX) or reception (RX) of program change and bank select messages relative to User Program selection.

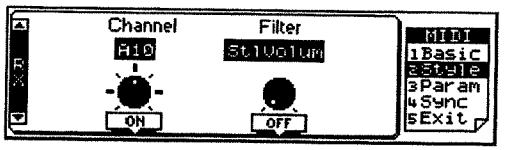
**MstVolum (only on the RX page):** This parameter allows you to enable or disable the reception of Master Volume messages (see page 66) that would change the volume of the entire EM-2000.

**Lyrics (only on the TX page):** The Lyrics function of your EM-2000 is a MIDI message used to transmit the words (or lyrics) contained in a Standard MIDI File (as meta-text events). Playing back Standard MIDI Files that contain lyrics data causes the EM-2000 to send these data on the Basic Channel – unless you set the corresponding filter to Off. Select On if you want to transmit Lyrics data to an LVC-1 Lyrics-to-Video Converter.

## 10.6 Style Channel

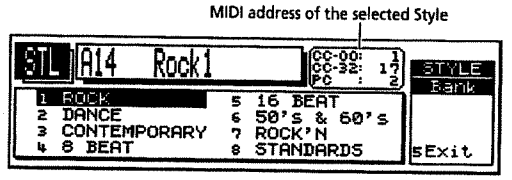
Master page: [F3] (MIDI)→[SHIFT] + [F2] (Style)
[PAGE] ▲▼ (select RX or TX page)




The Style Channel is a MIDI channel used for receiving and transmitting Program Change and Bank Select messages allowing you to select Styles via MIDI, and volume messages that change the volume of a Style. Note that these two message types can only be filtered on the RX page (i.e. you can select whether or not to *receive* them).

### Style selection via MIDI




As you see, the MIDI address of a Music Style consists of three elements: a program change number ("2" here), a CC00 number ("1"), and a CC32 number ("17"). CC00 and CC32 are Bank Select messages. The values assigned to CC00 and CC32 define the Style, whereas the program change number defines the pattern (Intro, Ending, etc.). In other words, sending only a program change number will select another pattern of the currently active Style. Only when the program change number is preceded by two values (for CC00 and CC32) will the EM-2000 select another Music Style.

*Note: Whenever you select another Style on your EM-2000, it transmits a CC00-CC32-PC cluster to the MIDI OUTput. See the Style chart at the end of this manual for a complete list of all available Styles and their addresses.*

### Channel (A1~B16)

Allows you to assign a MIDI channel to the Style select feature (transmit channel on the TX page and receive channel on the RX page). If you don't want the Style Channel messages to be received (or transmitted), use the [M.BASS] button to select Off.

*Note: The letter (A or B) refers to the MIDI Port setting you need to select. See "Selecting the MIDI Port" on page 97 in the Player's Guide.*

### Filter (only on the RX page)

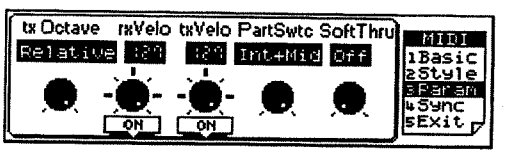
As stated above, you can filter two types of messages:

**StlVolum:** Volume messages relating to the Music Styles. Select Off if the EM-2000 must not receive them.

**StylePC:** Program change and bank select messages for Style selection. Select Off if the EM-2000 must not select other Styles or patterns in response to these incoming messages.

## 10.7 MIDI parameters (Param)

Master page: [F3] (MIDI)→[SHIFT] + [F3] (Param)




This page contains several parameters that are not related to each other (the other MIDI pages always concentrate on one aspect).

### Tx Octave (Absolute, Relative)

The TX Octave parameter can be set to **Absolute** or **Relative**. See "Meaningful transposition for MIDI note messages" on page 100 in the Player's Guide of the Player's Guide for details. *Relative* means that this internal (and automatic) transposition is translated into note numbers, so that playing a C4 (note number 60) may actually result in note number 36 being played and sent to the MIDI OUT port. This, of course, depends on the Tone you assign to the Upper1 part.

In *Absolute* mode, however, the MIDI note number sent to the corresponding MIDI OUT port will be the one assigned to the key you press (e.g. note number 60).

*Note: If you decide not to use the TX or RX Shift values, you can set the corresponding switch to Off. That is quicker than setting all Shift values back to "0".*

### rxVelo, txVelo, On/Off switches

Your EM-2000 is equipped with a velocity-sensitive keyboard and a tone generator capable of responding to velocity messages. Use the Part Select [M.BASS] and Part Select [LOWER1] buttons to switch the reception (RX) or transmission (TX) of velocity messages on or off.

If you select the Off position, you have to tell your EM-2000 which velocity value to use instead of the continuous flux normally received (in this case, the word *receive* applies to both incoming MIDI data and the messages received from the EM-2000's keyboard). That is what rxVelo and txVelo are for. The value you set using the [ACCOMP/GROUP] or [BASS/BANK] knob will be used for all notes received via MIDI IN (RX) or sent to the MIDI OUTput (TX) – but only when the corresponding velocity filter is set to Off.

### PartSwtc

The Part Switch parameter on this display page allows you determine what happens when you mute a part on the first Realtime or Arranger Mixer page. PartSwtc allows you to specify whether or not a muted part should go on sending MIDI messages:

**Int:** A muted part can no longer be played via the EM-2000's keyboard or Arranger but continues to send MIDI messages to the MIDI OUTput.

**Int+Mid:** A muted part can no longer be played via the EM-2000's keyboard or Arranger and no longer sends MIDI messages.

Selecting Int and muting a part thus has the same effect as selecting Local Off (see page 68). Choose whichever is more convenient in a given situation: part mute can be saved to a User Program, while Local and Part Switch can only be saved to a MIDI Set.

### Soft Thru (On, Off)

When you set Soft Thru to On, all notes received on the NTA channel beyond the NTA's High and Low Limits are re-transmitted to the MIDI OUTput. Use the Soft Thru feature for a digital piano or other keyboard instrument without split function.

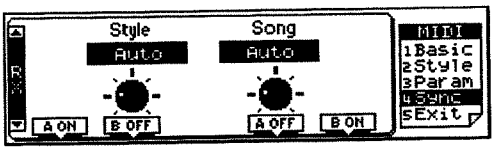
When you set Soft Thru to On, The EM-2000 sends a Local message (CC122) with a value "0" to the digital piano, so that the piano's sound source no longer responds to the notes you play on its keyboard. Seeing that the EM-2000 echoes back all notes that are not used to trigger the Arranger, you hear what you play on the piano – except in the zone set apart for the Arranger.

When you set Soft Thru back to Off, the EM-2000 sends a Local message with a value "127", thereby switching the piano's Local function back on.

## 10.8 MIDI Sync RX/TX

### Style (Sync) RX, Song (Sync) RX

Master page: [F3] (MIDI)→[SHIFT] + [F4] (Sync)
[PAGE] ▲▼ (select the RX page)




The Style Sync and Song Sync parameters on the RX pages are used to specify whether and how the Arranger or Recorder should be synchronized to external sequencers or drum machines. The available options are:

**Internal:** The Arranger or Song will neither start/stop nor follow the tempo of the external MIDI clock source (sequencer, drum machine, etc.).

**Auto:** As long as the Arranger or Recorder does not receive MIDI Start/Stop and clock commands, it will follow its own tempo and start/stop whenever you press the [START/STOP] or [PLAY▶/STOP■] buttons, or use a footswitch, etc., to Start/Stop Arranger or Song playback.

**MIDI:** The Arranger or Song can only be started or stopped with MIDI realtime messages (Start, Stop, Clock) coming from an external clock source. Be aware that you cannot start Arranger or Song playback on your EM-2000 when this mode is selected.

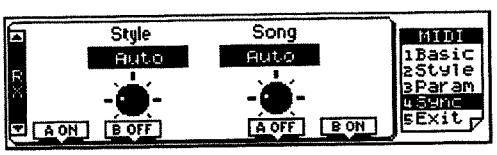
**Remote:** The Arranger or Recorder waits for a start message to start playback at its own tempo. As soon as it receives a stop message, playback will stop.

### A On/Off, B On/Off

Use these switches to select the MIDI circuit for receiving or transmitting MIDI data. Be sure to also activate that circuit using the MIDI Port parameter (see "Selecting the MIDI Port" on page 97 in the Player's Guide). A Off/B Off obviously means that the EM-2000 does not send or receive MIDI Sync data.

### Style (Sync) TX

Master page: [F3] (MIDI)→[SHIFT] + [F4] (Sync)
[PAGE] ▲▼ (select the TX page)




The Style Sync parameter on the TX page allows you to specify whether or not the EM-2000 should send MIDI realtime messages whenever you start the Arranger. Sending MIDI realtime (start, stop, clock) messages has the advantage that you can synchronize

external instruments or computers with your EM-2000.

**Start/Stop:** If you select this option, the EM-2000 will only send start or stop messages whenever you start (or stop) Arranger playback. In this case, no Clock messages are sent.

**Clock:** This option means that the Arranger sends both Start/Stop and Clock messages (usual synchronization method).

Again, do not forget to select the right MIDI circuit to be used for sending these messages.

### Song (Sync) TX

Again, there are several option for sending MIDI realtime messages whenever you play back a Song using the EM-2000's Recorder:

**Start/Stop/Continue:** If you select this option, the EM-2000's Recorder sends only Start/Stop and continue messages. *Continue*, by the way, is a message used to signal that playback is not started from the beginning of a Song.

**Clock:** This option means that the Recorder sends both Start/Stop and Clock messages (usual synchronization method).

**Song Position Pointer:** In this case, the Recorder sends all above MIDI realtime messages as well as Song Position Pointer (SPP) messages. These messages are used to signal the current playback position, so that the slaved (synchronized) drum machine, sequencer, etc. automatically jumps to the correct position upon receiving a Song Position Pointer message.

*Note: See your sequencer's etc. manual to see whether it accepts Song Position Pointer messages.*

## 10.9 MIDI Sets

MIDI Sets are in fact performance memories for the settings you make in MIDI mode. The EM-2000 has eight MIDI Set memories on board that you can use to change your MIDI configuration. You can also save your MIDI Sets to disk and load them whenever necessary. See "MIDI Sets" on page 102 in the Player's Guide for details.

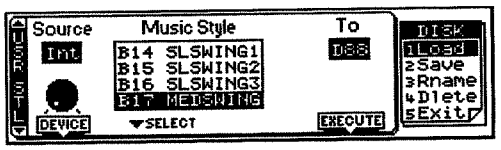
# 11. Disk mode

The Disk mode contains functions and parameters relating to saving, loading, deleting files, and to formatting new disks or disks previously used on other instruments or devices. It also allows you to mount and unmount external storage devices (hard disk, Jaz drives, etc.) as well as to copy the contents of one disk to another disk. Again, we would like to remind you that the word "disk" is used for all data media the EM-2000 allows you to use.

## 11.1 Disk Load (loading data from disk)

### Load User Style/Copy ROM Style

Master page: [F5] (Disk)→[F1] (Load)
[PAGE] ▲▼ (select USR STL)




The first Load page allows you to load User Styles from disk or to copy a ROM Style to the Style RAM memory.

**Source (Int, Dsk):** Source allows you to select the internal memory (ROM Styles) or a disk (Dsk). Select Int when you want to copy a ROM Style (i.e. one of the 128 factory Styles or 16 Custom Styles) to the Style RAM memory. Select Dsk to load a Style from disk. When you select Int, the Style names in the Music Style window are preceded by a number (A11~C28). When you select Dsk, only the Style name is displayed.

**Device:** Press this button if the desired drive cannot be selected using the [DRUMS/PART] knob. See page 10 for details.

**Select:** Allows you to position the cursor on the Style you wish to load (or copy).

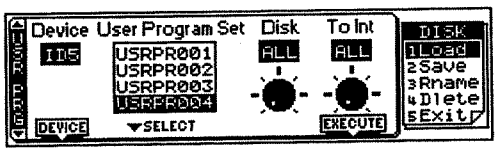
**To D88:** This field informs you that the selected Style will be copied to the EM-2000's Style RAM memory.

*Note: Doing so will erase the data that are currently in the D88 memory, so be careful.*

**Execute:** Press Part Select [UPPER1] (Execute) to confirm your settings and load the data.

### Load User Program Set

Master page: [F5] (Disk)→[F1] (Load)
[PAGE] ▲▼ (select USR PRG)




As the name implies, User Program *Sets* are groups of 192 User Programs whose main use is for archiving your internal settings. Loading User Program Sets from disk can be selective, i.e. feel free to load only one User Program, or comprehensive (the contents of all 192 User Programs).

**Device:** Press this button to select the drive that contains the data you want to load. Doing so takes you to the Device page (see page 10).

**Select:** Allows you to position the cursor on the User Program Set you wish to load.

**Disk (1~192, All):** Use this parameter to select a specific User Program from the User Program Set on disk, or select All to load all User Programs.

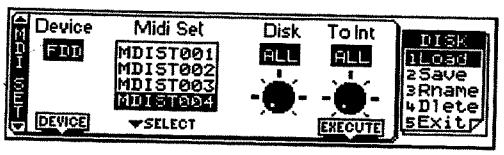
**To Int (1~192, All):** This parameter allows you to specify the User Program number the selected data are to be copied to. If you select All for Disk, All is the only option here. Furthermore, All cannot be selected when you selected a specific User Program for Disk.

*Note: By selecting "All", you not only load the User Program Set data but also the Disk Link settings in the EM-2000's internal memory. These will replace the internal settings, so be sure to save the current Disk Link settings to disk before loading an entire User Program Set. Use "Save User Program Set" on page 75 to do so.*

**Execute:** Press Part Select [UPPER1] (Execute) to confirm your settings and load the data.

## Load MIDI Set

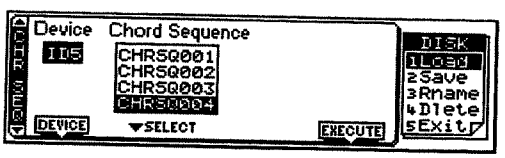
Master page: [F5] (Disk)→[F1] (Load)
[PAGE] ▲▼ (select MDI SET)




Loading MIDI Sets from disk can be selective, i.e. feel free to load only one MIDI Set of a "MIDI Set-Set" (consisting of eight MIDI Sets). See page 103 in the Player's Guide for details. If you select All for *Disk*, all 8 MIDI Set memories will be overwritten.

## Load Chord Sequence

Master page: [F5] (Disk)→[F1] (Load)
[PAGE] ▲▼ (select CHR SEQ)




This function allows you to load a Chord Sequence from disk, thereby overwriting the Chord Sequence in the internal memory.

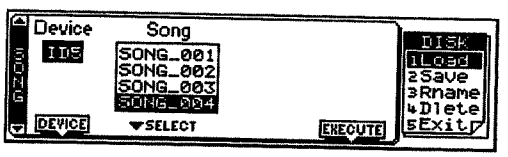
**Device:** Press this button to select the drive that contains the data you want to load. Doing so takes you to the Device page (see page 10).

**Select:** Allows you to position the cursor on the Chord Sequence you wish to load.

**Execute:** Press Part Select [UPPER1] (Execute) to confirm your settings and load the data.

## Load Song

Master page: [F5] (Disk)→[F1] (Load)
[PAGE] ▲▼ (select SONG)




This function allows you to load a Song from disk, thereby overwriting the Song currently in the EM-2000's Song RAM memory. As specified earlier, specifically loading a Song is not really necessary, because the EM-2000 will do so whenever you start Song playback and stop it after a few measures. But if you want to be in control, you can take advantage of this function.

**Device:** Press this button to select the drive that contains the data you want to load. Doing so takes you to the Device page (see page 10).

**Select:** Allows you to position the cursor on the Song you wish to load.

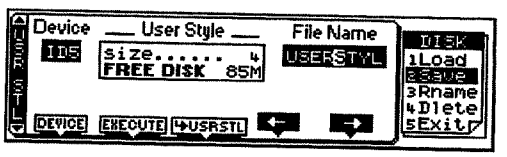
**Execute:** Press Part Select [UPPER1] (Execute) to confirm your settings and load the data.

# 11.2 Disk Save (saving data to disk)

In this manual and while designing the EM-2000, we tried to make a clear distinction between *saving* and *writing* data. The term *write* is only used to describe actions that cause certain settings to be saved to an internal memory. *Save*, on the other hand refers to the act of copying internal memory settings to disk.

## Save User Style

Master page: [F5] (Disk)→[F2] (Save)
[PAGE] ▲▼ (select USR STL)




Use this function to save a newly programmed or edited User Style to disk. You should do so as frequently as possible. In fact, we decided to include a jump function on the User Style pages, allowing you to call up the above page whenever you feel it is time to save your User Style data. That explains the presence of the "➥User" function here: it allows you to return to the User Style mode without first leaving the Disk mode, then selecting the User Style mode, etc.

**Device:** Allows you to select the disk you want to save the data to. Pressing Part Select [M.DRUMS] takes you to the Device page where you select the storage device. See page 10 for details.

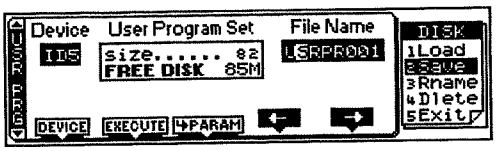
**Execute:** Press Part Select [M.BASS] to confirm your settings and save the data to disk.

**➥USRSTL:** Press Part Select [LOWER1] to return to the User Style mode.

**File Name:** Use Part Select [UPPER2] and [UPPER1] to position the cursor, and [LOWER/NUMBER] or [UPPER/VARIATION] to specify a character for the selected position. You can also use the TONE/USER PROGRAM pad for entering names (see page 25 in the Player's Guide).

## Save User Program Set

Master page: [F5] (Disk)→[F2] (Save)
[PAGE] ▲▼ (select USR PRG)




This function allows you to save all 192 User Programs as a set. The Size value indicates the capacity required to save the User Program Set to disk, while Free Disk tells you something about the remaining disk capacity.

**Device:** Allows you to select the disk you want to save the data to. Pressing Part Select [M.DRUMS] takes you to the Device page where you select the storage device. See page 10 for details.

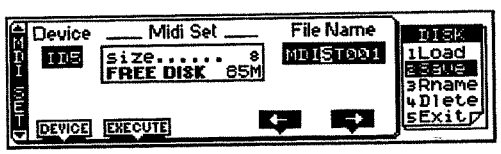
**➥PARAM:** Pressing Part Select [LOWER1] takes you back to the Parameter page where you can also enter a name for your User Program Set. If you selected this page from the Param\Name\Set page (see page 53 in the Player's Guide), this button will take you back.

**File Name:** See page 74 for details.

**Execute:** Press Part Select [M.BASS] to confirm your settings and save the data to disk.

## Save MIDI Set

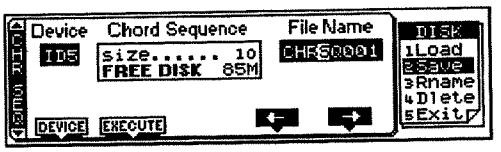
Master page: [F5] (Disk)→[F2] (Save)
[PAGE] ▲▼ (select MDI SET)




This function allows you to save all 8 MIDI Sets as a set. The Size value indicates the capacity required to save the "MIDI Set-Set" to disk, while Free Disk tells you something about the remaining disk capacity. See also "Saving MIDI Sets to disk" on page 102 in the Player's Guide.

## Save Chord Sequence

Master page: [F5] (Disk)→[F2] (Save)
[PAGE] ▲▼ (select CHR SEQ)




This function allows you to save the Chord Sequence in the internal memory to disk. The Size value indicates the capacity required to save the Chord Sequence to disk, while Free Disk tells you something about the remaining disk capacity.

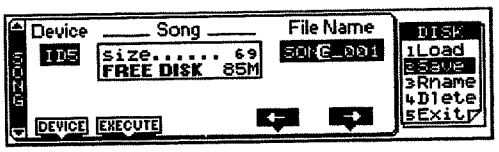
**File Name:** Use Part Select [UPPER2] and [UPPER1] to position the cursor, and [LOWER/NUMBER] or [UPPER/VARIATION] to specify a character for the selected position. You can also use the TONE/USER PROGRAM pad for entering names (see page 25 in the Player's Guide).

**Device:** Allows you to select the disk you want to save the data to. Pressing Part Select [M.DRUMS] takes you to the Device page where you select the storage device. See page 10 for details.

**Execute:** Press Part Select [M.BASS] to confirm your settings and save the data to disk.

## Save Song

Master page: [F5] (Disk)→[F2] (Save)
[PAGE] ▲▼ (select SONG)

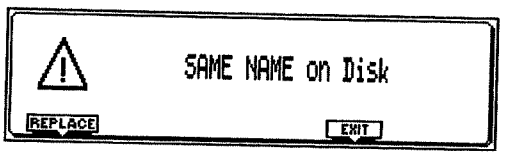



This page allows you to save the Song that is currently in the EM-2000's Song RAM memory to disk. See page 58 in the Player's Guide for details.

# 11.3 Rename

The Rename functions allow you to modify the name of a file on the disk you inserted into the EM-2000's disk drive. Please be aware that the selected file cannot be assigned the same name as that of another file on the same disk.

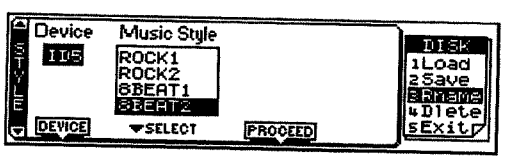
If you try to assign an already existing name to another file on the same disk, the display will respond with a message telling you that is impossible:




Press Part Select [M.DRUMS] (REPLACE) to overwrite the other file, or Part Select [UPPER2] (Exit) if you wish to assign another name to the currently selected file.

## Rename Style

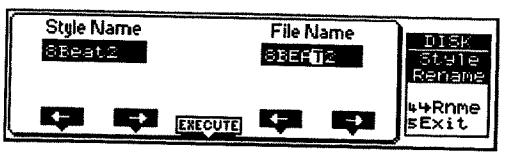
Master page: [F5] (Disk)→[F3] (Rname)
[PAGE] ▲▼ (select STYLE)




The first Rename User Style page is used to select the disk User Style you wish to rename. After selecting it, press Part Select [UPPER2] (Proceed) to jump to the second page.

**Device:** Allows you to select the disk that contains the file you wish to rename. Pressing Part Select [M.DRUMS] takes you to the Device page where you select the storage device. See page 10 for details.

### Style Name vs. File Name




The Style Name is the name used "internally" by the EM-2000. It is not the "official" name of the Style in question (i.e. not the one that will be used to identify the file on disk). The Style Name is actually just another User Style parameter located on this display page. On any display page with a Style name window, the name you set here (Style Name) will appear.

What's the difference? The *File Name* is an MS-DOS® parameter, which means that you can only use upper-case letters. That, however, may be difficult to read in a given situation. Since the *Style Name* is part of the User Style parameters, you can also use lowercase letters. So do take the time to enter both names.

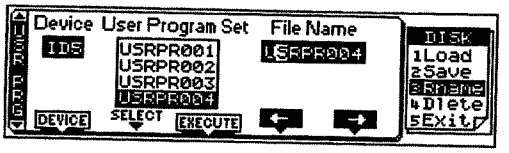
*Note: Though possible, beware of assigning different names to the Style Name and File Name parameters because that may cause confusion.*

**File Name:** See page 74 for details.

**Execute:** Press Part Select [LOWER1] to save the new names to disk.

## Rename User Program Set, MIDI Set, Chord Sequence

Master page: [F5] (Disk)→[F3] (Rname), [PAGE] ▲▼




Except for the fact that the following functions apply to different file types, they are identical, which is why we shall deal with all three of them. Be sure to select the right page using the [PAGE] ▲▼ buttons: USR PRG (User Program Sets), MDI SET (MIDI Set), or CHR SEQ (Chord Sequence).

Use this page to rename one of these file types on disk.

*Note: You can also rename your User Program Set in Parameter mode (see page 53 in the Player's Guide).*

**Device:** Allows you to select the disk that contains the file you wish to rename. Pressing Part Select [M.DRUMS] takes you to the Device page where you select the storage device. See page 10 for details.

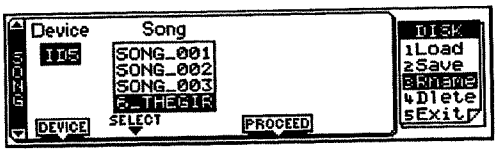
**Select:** Use the [ACCOMP/GROUP] knob to select the file you wish to rename.

**File Name:** Use Part Select [UPPER2] and [UPPER1] to position the cursor, and [LOWER/NUMBER] or [UPPER/VARIATION] to specify a character for the selected position. You can also use the TONE/USER PROGRAM pad for entering names (see page 25 in the Player's Guide).

**Execute:** Press Part Select [LOWER1] to save the new name to disk.

## Rename Song

Master page: [F5] (Disk)→[F3] (Rname), [PAGE] ▲▼ (select SONG)

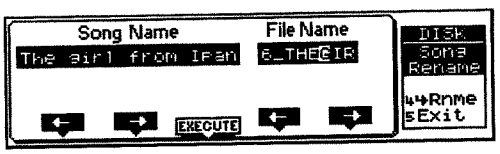



The following two pages allow you to assign a different name to a Song on disk.

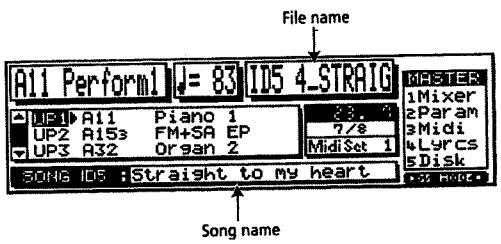
**Select:** Use the [ACCOMP/GROUP] knob to select the Song file you wish to rename.

**Device:** Allows you to select the disk that contains the file you wish to rename. Pressing Part Select [M.DRUMS] takes you to the Device page where you select the storage device. See page 10 for details.

**Proceed:** After selecting the file you wish to rename, press Part Select [UPPER2] to jump to the second page:




Again, you can set two names. See page 76 for details about the difference. Unlike the File Name of User Style, a Song's File Name does appear on the display:

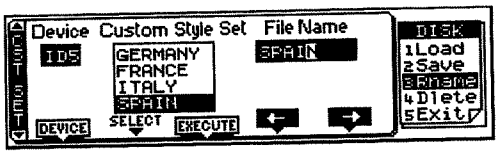



**File Name:** Use Part Select [UPPER2] and [UPPER1] to position the cursor, and [LOWER/NUMBER] or [UPPER/VARIATION] to specify a character for the selected position. You can also use the TONE/USER PROGRAM pad for entering names (see page 25 in the Player's Guide).

**Execute:** Press Part Select [LOWER1] to save the new name to disk.

## Rename Custom Style Set

Master page: [F5] (Disk)→[F3] (Rname), [PAGE] ▲▼ (CST SET)




Use this function to rename a Custom Style Set on the selected disk. See page 78 for more information about Custom Style Sets.

**Device:** Allows you to select the disk that contains the file you wish to rename. Pressing Part Select [M.DRUMS] takes you to the Device page where you select the storage device. See page 10 for details.

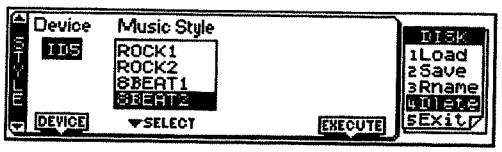
**Select:** Use the [ACCOMP/GROUP] knob to select the Song file you wish to rename.

**File Name:** Use Part Select [UPPER2] and [UPPER1] to position the cursor, and [LOWER/NUMBER] or [UPPER/VARIATION] to specify a character for the selected position. You can also use the TONE/USER PROGRAM pad for entering names (see page 25 in the Player's Guide).

**Execute:** Press Part Select [LOWER1] to save the new name to disk.

# 11.4 Delete

Master page: [F5] (Disk)→[F4] (Dlete), [PAGE] ▲▼




The Delete function allows you to erase the selected file. Be careful to select the right file type using [PAGE] ▲▼ and file using [BASS/BANK] before pressing Part Select [UPPER1] (Execute). Also note that User Program and MIDI Sets contain 192 or 8 different settings, which means that you may lose a lot more than originally intended.

| File Type | Meaning |
|---|---|
| Style | One User Style |
| USR PRG | User Program Set (192 User Programs!) |
| MDI SET | MIDI Set "Set" (8 MIDI Set memories!) |
| CHR SEQ | One Chord Sequence |
| SONG | One Song |
| SNG SET | One Song Set (only the Set data) |
| CST SET | Custom Style Set (only the Set data; see below) |

**Device:** Allows you to select the disk that contains the file you wish to delete. See page 10 for details.

**Execute:** Press Part Select [UPPER1] to delete the file.

# 11.5 Custom Style Sets

On page 19 in the Player's Guide we showed you how to select Music Styles of the Custom banks (C11~C28). Custom Sets are the descendants of the User Style Sets used on the G-800, the RA-800, and the G-600. With two major differences, that is: there are 16 Custom Style memories, and (unlike the G-800 and RA-800) the contents of these memories can only be intentionally overwritten. In other words: the Styles in these memories are not erased when you power off the EM-2000.

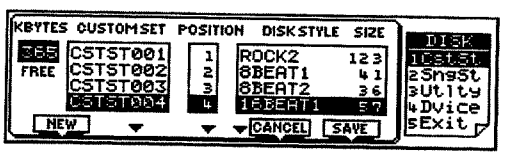
## Programming Custom Sets

Though the supplied Zip disk already contains a few Custom Sets, you can also program your own. Custom Sets can only be programmed on the CURRENT DEVICE. Be sure to select it before trying to program your own Sets (see "Device" on page 10). Like the Song Sets (see below), Custom Sets only contain references to Styles on the same disk rather than the data themselves. In other words:

- Custom Sets can only refer to Music Styles on the same disk.
- If you delete a Music Style to which a Custom Set is referring (see "(Disk List) Delete" on page 12 and "Delete" on page 78), the Set will no longer be complete, which may lead to surprising results when such a Custom Set is transferred to the Custom Style memories.

*Note: Do not forget to load the programmed Set into the EM-2000's Custom Style memories (see below). Programming a Custom Set does not automatically copy the selected Styles to these memories.*

Master page: [F5] (Disk)→[SHIFT] + [F1] (CstSt)




**KBytes Free:** Informs you about the remaining storage capacity on the Zip disk.

**Custom Set:** Use the [ACCOMP/GROUP] knob to select an existing Custom Set that can then be edited by assigning other Styles to a given Position (see below).

**New:** Press Part Select [M.DRUMS] (New) to create a new Style Set. It will be temporarily called ***New***, but you can change the name on the second page.

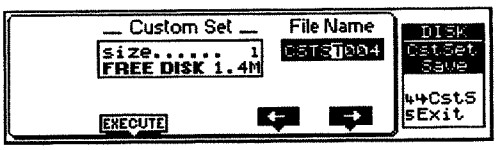
**Position (1~16):** The Position refers to the memory the Style in question will be copied to when you load this Custom Style Set. Position 1= C11, Position 2= C12, etc.). Use the [BASS/BANK] knob to select the desired position.

**Disk Style (only Styles on the current disk):** Allows you to assign a User Style to the currently selected Position. Use the [LOWER/NUMBER] knob to assign a (disk) Style to the selected position.

If you do not assign Styles to all Positions, the Custom Memories "after" the last assigned Position contain the same Style as the last assigned memory. Here is an example: If you assign Styles to Positions 1~8 (i.e. memories C11~C18), Custom Style memories C21~C28 will contain the same Style as Custom Style memory C18 when this Custom Set is loaded.

**Cancel:** Press Part Select [UPPER2] to cancel programming or editing the Custom Set.

**Save:** Press Part Select [UPPER1] to jump to the Cst Set Save page:

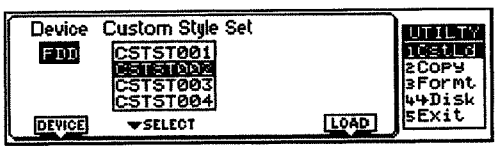



**File Name:** See page 74 for details.

**Execute:** Press Part Select [M.BASS] to save the Custom Set to disk.

## Loading a Custom Set to the Custom memories

Master page: [F5] (Disk)→[SHIFT] + [F3] (Utlty)→[F1] (CstLd)




After programming your own Custom Set, or to change the contents of the EM-2000's Custom Style memories (C11~C28), you can transfer the desired Custom Style Set to these memories. Please be aware that these Custom Style memories can only be overwritten as a group (i.e. all 16 memories).

**Device:** Press this button to select the drive that contains the data you want to load. Doing so takes you to the Device page (see page 10).

**Select:** Use the [ACCOMP/GROUP] knob to select the Custom Set you wish to transfer to the Custom Style memories.

**Load:** Press Part Select [UPPER1] to load the Custom Style Set. Seeing that doing so will overwrite the Styles that are currently in the EM-2000's Custom Style memories, you need to confirm this command:


Press Part Select [M.BASS] to go ahead and load the new Styles, or Part Select [UPPER2] if you have changed your mind.

# 11.6 Song Set

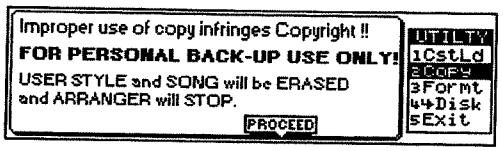
Songs Sets only consist of references to Songs on the same disk. They allow you to program the playback sequence of a programmable number of Songs. Combined with "Song Set Play" on page 15, Song Sets can either be used to entertain the audience while you are taking a break, or to assist you while performing with Standard MIDI File backing. See "Song Sets" on page 14 for details.

# 11.7 Copy functions

## Song Copy (File Copy)

Master page: [F5] (Disk)→[SHIFT] + [F3] (Utlty)→[F2] (Copy)

Whenever you select the Copy function, the EM-2000 tells you something you already know but may tend to forget at times:

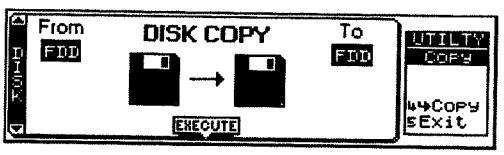



Copying Songs from commercially available Standard MIDI Files is OK as long as *you keep* the copy (as safeguard against possible disk errors). Under no circumstances, however, may you give copies of copyright-protected material to your friends.

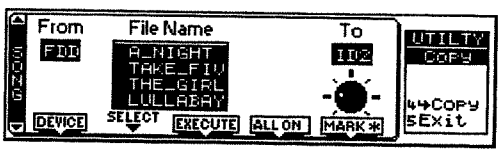
Another important message on this page tells you that the Song Copy function needs all available RAM memory – i.e. also the Style RAM memory (D88).

Be aware that really selecting the Song Copy function (which you haven't done so far), erases the User Style in the internal memory. Save it to disk before proceeding (see page 74).

Press Part Select [UPPER2] to proceed:




Now we need to select the Song Copy function. Press [PAGE] ▲▼ until the following page appears:




**From:** Press Part Select [M.DRUMS] to go to the device page where you can select the drive that contains the Song you wish to copy. See also "Device" on page 10.

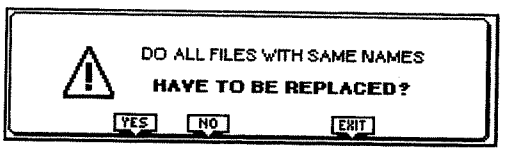
**Select:** Use the [ACCOMP/GROUP] knob to select the Song (on disk) that you wish to copy to another disk. If you do not find the Song you wish to copy, check whether you have inserted and selected the right disk. See also Mark if you wish to select several Songs at once.

**All On:** Press Part Select [UPPER2] to select all Songs. This is useful for making a backup copy of all Songs on a given disk.

**To:** Use the [UPPER/VARIATION] knob to select the drive you wish to copy the selected Song(s) to. You can only select drives the EM-2000 can access (computer literates call these "mounted drives"). Use the Scan function on the Device page (see page 10) to "mount" the desired drive if necessary.

**Mark:** Press Part Select [UPPER1] to "mark" (select for copying) the file currently indicated by the cursor. You can mark several files.

**Execute:** Press Part Select [LOWER1] to confirm your choice and to proceed. The display now looks as follows:

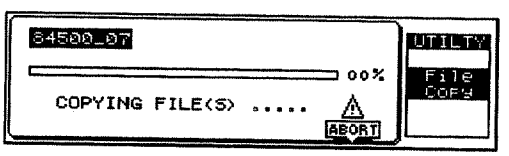



Press Part Select [M.BASS] (YES) if it is OK to overwrite any Song with the same file name on the destination disk. Press Part Select [LOWER1] (NO) if the selected files on the source disk that have the same name as existing files on the destination disk should not be copied (only files with "original" names will be copied in that case). Press Part Select [UPPER1] (EXIT) to abort the Copy operation.

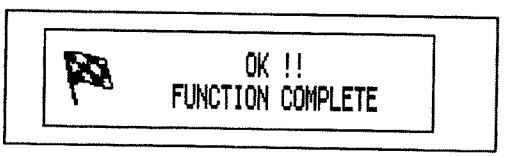
See also "Copy functions" on page 104 in the Player's Guide for examples of how to use the Copy functions.

### If you're copying from floppy or SCSI to SCSI

If, on the above page, you press Part Select [M.BASS] (YES) or [LOWER1] (NO), the display now looks as follows:

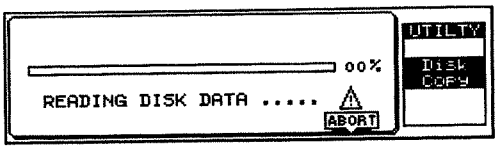



The selected files are copied, after which the display tells you:

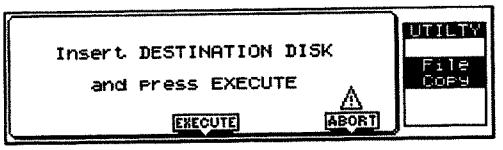


### If you're copying from floppy to floppy

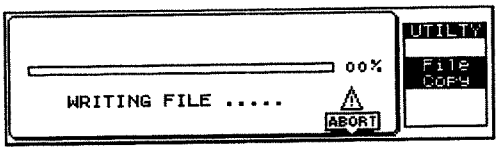
You can also copy Song files from one floppy disk to another, which may require that you insert and remove the source and destination disks several times. If you press Part Select [M.BASS] (YES) or [LOWER1] (NO) on the "Do all files with the same..." page, the EM-2000 now starts copying the selected Song file to its internal memory. Press Part Select [UPPER1] (Abort) if you change your mind about copying the Song.



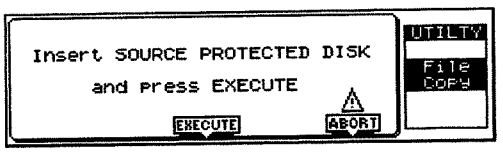

Once the first part of the Song data (or the entire Song) has been copied, the display will prompt you to insert the disk you wish to copy the Song to (the Destination Disk):



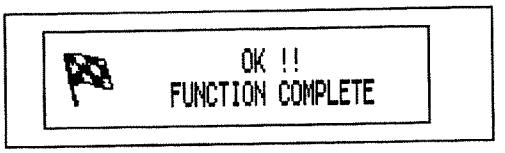

Eject the source disk and press Part Select [LOWER1] after inserting the disk. Just to inform you that everything is going well, the display responds with:




If the EM-2000 was unable to load all Song data the first time around, it will now prompt you to insert the Source disk (i.e. the disk containing the Song you are copying) once again into the drive:




Follow the on-screen instructions until the following message appears to tell you that the file has been successfully copied:




## Copying other file types

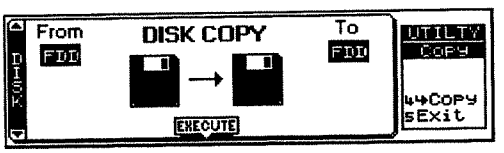
You can also copy other file types, either individually or as a bunch (or even All):

- Styles (STYLE),
- User Program Sets (USR PRG),
- MIDI Sets (MDI SET),
- Chord Sequences (CHR SEQ),
- Custom Style Sets (CST SET),
- Song Sets (SNG SET).

With the exception of the fact that you need to select the desired file type using the [PAGE] ▲▼ buttons, the procedure is exactly the same as for copying Songs. Please see above for details.

## Disk Copy

Master page: [F5] (Disk)→[SHIFT] + [F3] (Utlty)→[F2] (Copy), [PAGE] ▲▼ (DISK)




The Disk Copy function is similar to the Song Copy function. This time, however, you are given the opportunity to copy an entire floppy disk to another floppy disk. The introductory copyright warning is the same as for Song Copy (see page 80) – and again, the internal RAM memory will be erased to function as buffer memory.

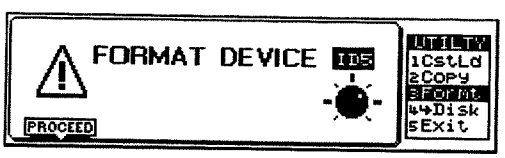
This function does not allow you to make copies from floppy to SCSI, or from SCSI to SCSI. Use the *All On* option on the File Copy pages (see page 80) to select all files of the selected type for copies towards SCSI devices. Though you could also copy Zip, etc., disks on a PC compatible computer (using Iomega's Copy Machine™ utility, for example), we cannot guarantee that all required information (Database, etc.) will be transferred correctly to the destination disk. Therefore, try to stick to the File Copy functions. They may take a little longer, but at least, they allow you to put all Songs on a Song Zip, all Styles on a Style Zip, etc.

Just in case you wonder what the data structure on an EM-2000 disk (Zip, Jaz, etc.) looks like, here it is (picture taken using the Windows™ 95 Explorer):


Press Part Select [LOWER1] (Execute) to start the Disk Copy function. Except for the fact that copying an entire disk takes a little longer than copying just one Song, the operations are the same as for Song Copy from floppy disk to floppy disk (see page 81).

## 11.8 Format Device

Master page: [F5] (Disk)→[SHIFT] + [F3] (Utlty)→[F3] (Formt)

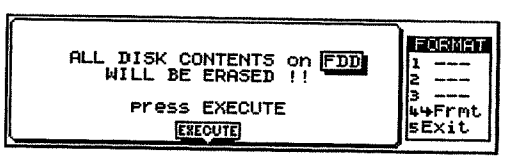



This function allows you to format the disk in the selected drive. It would be a good idea to also format floppy disks formatted for MS-DOS® because that speeds up disk access. All other disks must be formatted by the EM-2000 to be usable. To this end, the EM-2000 provides two formatting options (see below).

1. Use the [UPPER/VARIATION] knob to select the drive that contains the disk (Device) to be formatted.
2. Press Part Select [M.DRUMS] (Proceed).

### Formatting a floppy disk (FDD)

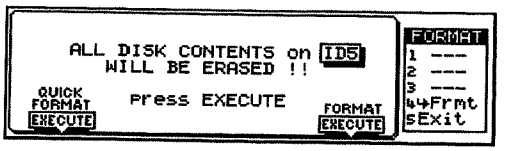
If you selected FDD, the following display appears:




3. If you are sure you no longer need the data on the selected disk, press Part Select [LOWER1] (Execute).
*Note: On this page, the only way to cancel the operation without formatting is by pressing [F5] (Exit). This will take you back to the Master page.*

### Formatting a SCSI device or Zip disk (IDx)

If you selected a SCSI device (IDx) in step (1), the display now looks like this:

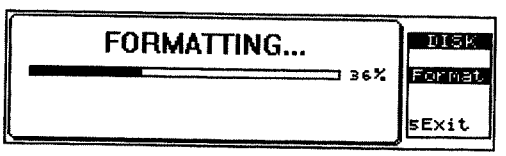



4. Press Part Select [M.DRUMS] (Quick Format) or Part Select [UPPER1] (Format).
**Quick Format:** Choose this option for MS-DOS preformatted disks that only need to be prepared for use with the EM-2000. Quick Format is a lot faster than Format.

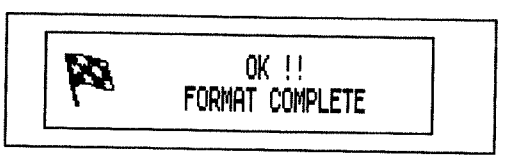
**Format:** Choose this option for disks you used on another device before deciding to use it with the EM-2000. This format operation takes considerably longer than Quick Format, so only select it when your Zip, etc. disk has become markedly slower or never been used on the EM-2000.

*Note: On this page, the only way to cancel the operation without formatting is by pressing [F5] (Exit). This will take you back to the Master page.*

During the Format operation, the following message will be displayed:

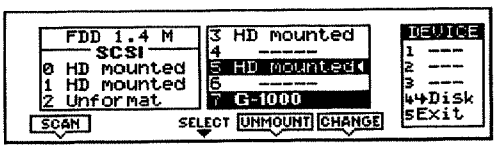



When your disk is ready for use, the display briefly tells you the Format operation is completed:



# 11.9 Device & Unmount

Master page: [F5] (Disk)→[SHIFT] + [F4] (Dvice)




The Device function allows you to scan the SCSI bus for drives you switched on after powering on the EM-2000. Only scanned devices can be selected wherever you have the option to do so.

Use Unmount (Part Select [UPPER2]) if you want to eject your Zip disk. You cannot eject a Zip disk if you have not unmounted it first (the EJECT button on the drive will not work). **Never force the Zip out of the drive, or use the emergency eject function (the famous staple recommended in drive manufacturer manuals).** See "Device" on page 10 for further details about Scan, Select, Change, and Unmount.

# 11.10. Specifications

EM-2000 Arranger Workstation

### Keyboard
61 keys, velocity sensitive with Aftertouch

### Controllers
D Beam Controller, Pitch Bender/Modulation Lever, Two assignable Pads, five knobs, switch MIDI A/B

### Sound source
Conforms to General MIDI System Level 1 (GM) and GS.

### Number of Tones
1,161 + 43 Drum Sets (including one Oriental Set)

### Maximum polyphony
64 voices

### Multitimbral parts
32

### Music Styles
128 in ROM (including Variations), 8 parts/tracks; 16 Music Styles in Flash ROM (contents depends on the country where the EM-2000 is shipped)

### User Styles
111 (on Zip disk) directly accessible via Disk Link, 441 Styles on Zip disk

### Music Style resolution
120 steps per quarter note

### User Programs
192

### MIDI Sets
8

### Sequencer
16 tracks, editing functions

### Effects
Reverb (8 types), Chorus (8 types), Delay (10 types), Parametric EQ, Insert effects (EFX, 89 types)

### Floppy disk drive
2DD/2HD, SMF recording/playback. Data load/save for User Styles, Custom Style Sets, User Programs, MIDI Sets, Chord Sequences

### Zip drive
Load/Save, record/playback. Same file types as floppy disk

### Display
156 x 48mm, backlit graphic LCD

### Connections
MIDI (In, Out, Thru), Stereo Inputs (R, L/Mono), Stereo Outputs (R, L/Mono), Sustain Footswitch, Foot Pedal jack, Foot Switch jack, Foot Controller jack (FC-7), Phones, SCSI, AC in

### Amplification
Stereo 20 + 20 W musical output power, two-way Bass Reflex system

### Dimensions
1176 (W) x 412 (D) x 165 (H) mm

### Weight
17kg

### Accessories
Zip disk with 441 additional Music Styles and 306 Standard MIDI files, metal music stand, power cord

### Options
- PK-5 Dynamic MIDI Pedal
- FC-7 Foot Controller
- MSA/MSD/MSE series floppy disks (Roland & third-party)
- RH-20/80/120 Headphones
- DP-2 Pedal switch, DP-6 Pedal switch (piano type), FS-5U Foot Switch
- EV-5 Expression pedal. BOSS FV-300L Foot Volume/Expression Pedal
- KC-100/300/500 Keyboard Amplifiers

*Note: Specifications subject to change without prior notice.*

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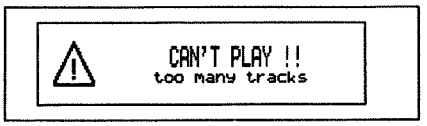
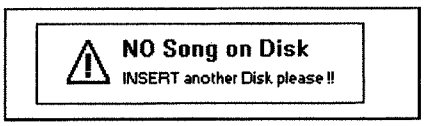
# 12. Display messages

Sometimes, you may come across a display message you do not understand. For your reference, here are all the messages you are likely to see at certain points.

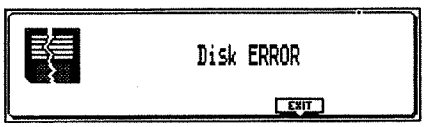
## Messages relating to the Recorder or Disk functions




The Standard MIDI File contains more than 17 tracks, which is not acceptable for Format 1 Standard MIDI Files. The Recorder cannot play it back.




The disk you inserted into the drive does not contain Song files. Remove it and insert a disk that does contain Recorder Song files.

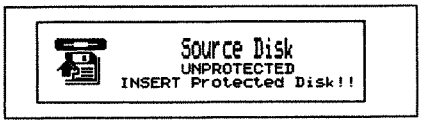



The disk you insert into the drive cannot be read or does not allow to save data. Remove it from the drive and insert another one.


You are trying to use a Disk function while the disk drive is empty. Insert a disk into the drive.


You are trying to save data to or format a floppy disk whose protection tab is set to the PROTECT position. Remove the disk from the drive, disable its write protection and press Part Select [M.DRUMS] (Retry). If you don't want to save data to this disk, press Part Select [UPPER2] (Abort).


This message means the same as the previous one. Only, this time, you need to press Part Select [UPPER2] (Exit) to make it disappear.

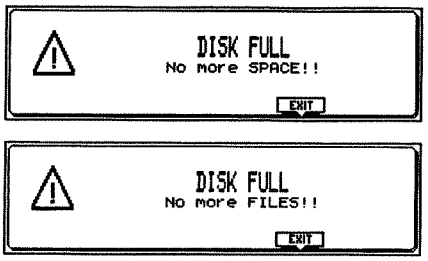



The floppy disk you are about to copy data from is not write protected. Remove the disk from the drive and enable its write protection.

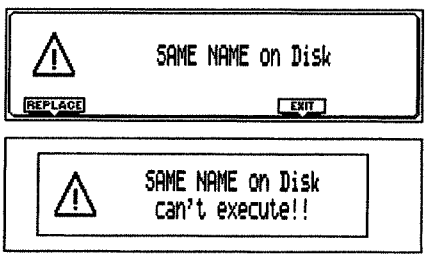

The disk you have inserted into the drive is not formatted. If you want to format it now, press Part Select [M.DRUMS] (Format). Otherwise, press Part Select [UPPER2] (Exit).


The disk you have inserted into the drive is formatted, yet the EM-2000 cannot read this format. Press Part Select [UPPER2] (Exit), and remove the disk from the drive. If you are positive that you no longer need the data on this disk, format it using the Format function (see page 82).

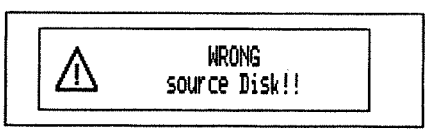

You are trying to execute a Disk function while the Recorder is playing back (or vice versa). That is impossible.



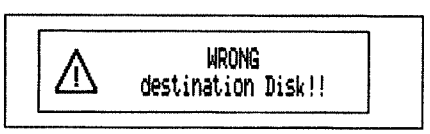

Both messages mean that you can't save data to this disk. The first message means that the remaining disk capacity is not enough to hold the file you are about to save, while the second tells you that the maximum number of files accepted by the MS-DOS® (and EM-2000) disk operating system would be exceeded by saving the current file to this disk. In either case, press Part Select [UPPER2] (Exit).




The name you have assigned to the file you are about to save or rename already exists on that disk. If possible (first display message), press Part Select [M.DRUMS] to overwrite the file of the same name, or Part Select [UPPER2] (Exit) to assign another name to the current file. In the second case, the message will disappear after a few seconds.

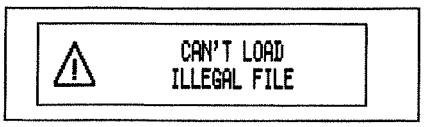



The disk you inserted after removing the destination disk (during Song or Disk Copy) is not the one you inserted the first time. Insert the proper disk.



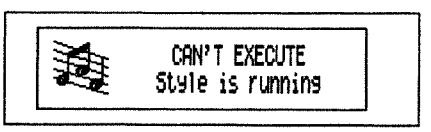

The disk you inserted after removing the source disk (during Song or Disk Copy) is not the one you inserted at the first Insert Destination Disk prompt. Insert the proper disk.

## Messages relating to the User Style function

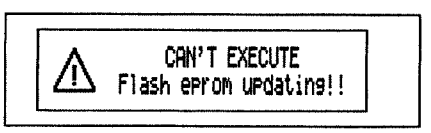



The User Style you are trying to load is not an MSA, MSD or MSE User Style and therefore cannot be loaded.


The User Program you selected did not to find the User Style whose name appears in the upper line. Press Part Select [M.DRUMS] to retry reading the disk, or Part Select [UPPER2] (Exit).

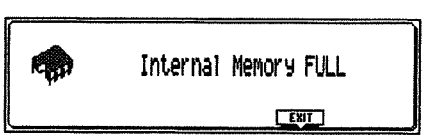



You are trying to load a User Style to the D88 (Style RAM) memory while the Style in that memory is being used. That is impossible.

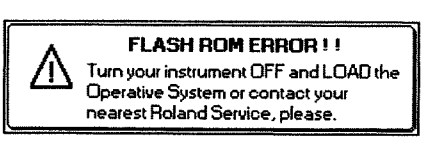



You are trying to select a Music Style while transferring a Custom Style Set to the EM-2000 (see page 79). That is impossible.

## General messages




The internal memory is full, so that you cannot further edit your Song or Music Style.




The new version of the operating system wasn't loaded correctly. Ask your Roland dealer or authorized service center to load a new operating system in the EM-2000's memory.

# 13. Tones, Drum Sets, Music Styles, EFX

## 13.1 EM-2000 Tone Map (Banks A & B)

| GBN | PC | CC00 | CC32 | Name | Voices | Rem. |
|---|---|---|---|---|---|---|
| **PIANO** | | | | | | |
| A11 | 001 | 000 | 003 | Piano 1 | 1 | V-SW |
| **A11₁** | | **008** | **003** | **Piano 1w** | **1** | **V-SW** |
| A11₂ | | 016 | 003 | European Pf | 1 | |
| A11₃ | | 024 | 003 | Piano + Str. | 2 | |
| A11₄ | | 126 | 003 | +Piano 2 | 1 | |
| A11₅ | | 127 | 003 | +Acou Piano1 | 1 | |
| A12 | 002 | 000 | 003 | Piano 2 | 2 | |
| **A12₁** | | **008** | **003** | **Piano 2w** | **2** | |
| A12₂ | | 016 | 003 | Dance Piano | 2 | |
| A12₃ | | 126 | 003 | +Piano 2 | 1 | |
| A12₄ | | 127 | 003 | +Acou Piano2 | 1 | |
| A13 | 003 | 000 | 003 | Piano 3 | 2 | |
| A13₁ | | 001 | 003 | EG+Rhodes 1 | 2 | |
| A13₂ | | 002 | 003 | EG+Rhodes 2 | 2 | |
| **A13₃** | | **008** | **003** | **Piano 3w** | **2** | |
| A13₄ | | 126 | 003 | +Piano 2 | 1 | |
| A13₅ | | 127 | 003 | +Acou Piano3 | 1 | |
| **A14** | **004** | **000** | **003** | **Honky-tonk** | **2** | |
| A14₁ | | 008 | 003 | Honky-tonk 2 | 2 | |
| A14₂ | | 126 | 003 | +Honky-tonk | 2 | |
| A14₃ | | 127 | 003 | +Elec Piano1 | 1 | |
| **A15** | **005** | **000** | **003** | **E.Piano 1** | **1** | **V-SW** |
| A15₁ | | 008 | 003 | St.Soft EP | 2 | |
| A15₂ | | 009 | 003 | Cho. E.Piano | 2 | |
| A15₃ | | 010 | 003 | SilentRhodes | 2 | |
| A15₄ | | 016 | 003 | FM+SA EP | 2 | |
| A15₅ | | 017 | 003 | Dist E.Piano | 2 | |
| A15₆ | | 024 | 003 | Wurly | 2 | |
| A15₇ | | 025 | 003 | Hard Rhodes | 2 | |
| A15₈ | | 026 | 003 | MellowRhodes | 2 | |
| A15₉ | | 126 | 003 | +Piano 1 | 1 | |
| A15₁₀ | | 127 | 003 | +Elec Piano2 | 1 | |
| A16 | 006 | 000 | 000 | E.Piano 2 | 2 | |
| A16₁ | | 008 | 003 | Detuned EP 2 | 2 | |
| **A16₂** | | **016** | **003** | **St.FM EP** | **2** | |
| A16₃ | | 024 | 003 | Hard FM EP | 2 | |
| A16₄ | | 126 | 003 | +Piano 2 | 1 | |
| A16₅ | | 127 | 003 | +Elec Piano3 | 1 | |
| **A17** | **007** | **000** | **003** | **Harpsichord** | **1** | |
| A17₁ | | 001 | 003 | Harpsichord2 | 2 | |
| A17₂ | | 008 | 003 | Coupled Hps. | 2 | |
| A17₃ | | 016 | 003 | Harpsi.w | 1 | |
| A17₄ | | 024 | 003 | Harpsi.o | 2 | |
| A17₅ | | 032 | 003 | Synth Harpsi | 2 | |
| A17₆ | | 126 | 003 | +Piano 2 | 1 | |
| A17₇ | | 127 | 003 | +Elec Piano4 | 1 | |
| A18 | 008 | 000 | 003 | Clav. | 1 | |
| **A18₁** | | **008** | **003** | **Comp Clav.** | **1** | |
| A18₂ | | 016 | 003 | Reso Clav. | 1 | |
| A18₃ | | 024 | 003 | Clav.o | 2 | |
| A18₄ | | 032 | 003 | Analog Clav. | 2 | |
| A18₅ | | 033 | 003 | JP8 Clav. 1 | 1 | |
| A18₆ | | 035 | 003 | JP8 Clav. 2 | 1 | |
| A18₇ | | 126 | 003 | +E.Piano 1 | 1 | |
| A18₈ | | 127 | 003 | +Honkytonk | 2 | |
| **CHROMATIC PERCUSSION** | | | | | | |
| A21 | 009 | 000 | 003 | Celesta | 1 | |
| **A21₁** | | **001** | **003** | **Pop Celesta** | **2** | |
| A21₂ | | 126 | 003 | +Detuned EP1 | 2 | |
| A21₃ | | 127 | 003 | +Elec Org 1 | 1 | |
| **A22** | **010** | **000** | **003** | **Glockenspiel** | **1** | |
| A22₁ | | 126 | 003 | +E.Piano 2 | 1 | |
| A22₂ | | 127 | 003 | +Elec Org 2 | 2 | |
| **A23** | **011** | **000** | **003** | **Music Box** | **1** | |
| A23₁ | | 126 | 003 | +Steel Gt. | 1 | |
| A23₂ | | 127 | 003 | +Elec Org 3 | 1 | |
| A24 | 012 | 000 | 003 | Vibraphone | 1 | V-SW |
| A24₁ | | 001 | 003 | Pop Vibe. | 2 | |
| **A24₂** | | **008** | **003** | **Vibraphone w** | **1** | **V-SW** |
| A24₃ | | 009 | 003 | Vibraphones | 2 | |
| A24₄ | | 126 | 003 | +Steel Gt. | 1 | |
| A24₅ | | 127 | 003 | +Elec Org 4 | 1 | |
| A25 | 013 | 000 | 003 | Marimba | 1 | |
| **A25₁** | | **008** | **003** | **Marimba w** | **1** | |
| A25₂ | | 016 | 003 | Barafon | 1 | |
| A25₃ | | 017 | 003 | Barafon 2 | 1 | |
| A25₄ | | 024 | 003 | Log drum | 1 | |
| A25₅ | | 126 | 003 | +12-str.Gt | 2 | |
| A25₆ | | 127 | 003 | +Pipe Org 1 | 2 | |
| **A26** | **014** | **000** | **003** | **Xylophone** | **1** | |
| A26₁ | | 126 | 003 | +Funk Gt. | 1 | |
| A26₂ | | 127 | 003 | +Pipe Org 2 | 2 | |
| **A27** | **015** | **000** | **003** | **Tubular-bell** | **1** | |
| A27₁ | | 008 | 003 | Church Bell | 1 | |
| A27₂ | | 009 | 003 | Carillon | 1 | |
| A27₃ | | 126 | 003 | +Muted Gt. | 1 | |
| A27₄ | | 127 | 003 | +Pipe Org3 | 2 | |
| **A28** | **016** | **000** | **003** | **Santur** | **1** | |
| A28₁ | | 001 | 003 | Santur 2 | 2 | |
| A28₂ | | 008 | 003 | Cimbalom | 2 | |
| A28₃ | | 016 | 003 | Zither 1 | 1 | |
| A28₄ | | 017 | 003 | Zither 2 | 2 | |
| A28₅ | | 024 | 003 | Dulcimer | 2 | |
| A28₆ | | 126 | 003 | +Slap Bass 1 | 1 | |
| A28₇ | | 127 | 003 | +Accordion | 2 | |
| **ORGAN** | | | | | | |
| **A31** | **017** | **000** | **003** | **Organ 1** | **2** | |
| A31₁ | | 001 | 003 | Organ 101 | 2 | |
| A31₂ | | 008 | 003 | Trem. Organ | 2 | |
| A31₃ | | 009 | 003 | Organ.o | 2 | |
| A31₄ | | 016 | 003 | 60's Organ 1 | 1 | |
| A31₅ | | 017 | 003 | 60's Organ 2 | 1 | |
| A31₆ | | 018 | 003 | 60's Organ 3 | 1 | |
| A31₇ | | 019 | 003 | Farf Organ | 1 | |
| A31₈ | | 024 | 003 | Cheese Organ | 1 | |
| A31₉ | | 025 | 003 | D-50 Organ | 2 | |
| A31₁₀ | | 026 | 003 | JUNO Organ | 2 | |
| A31₁₁ | | 027 | 003 | Hybrid Organ | 2 | |
| A31₁₂ | | 028 | 003 | VS Organ | 2 | |
| A31₁₃ | | 029 | 003 | Digi Church | 2 | |
| A31₁₄ | | 032 | 003 | 70's E.Organ | 2 | |
| A31₁₅ | | 033 | 003 | Even Bar | 2 | |
| A31₁₆ | | 040 | 003 | Organ Bass | 1 | |
| A31₁₇ | | 048 | 003 | 5th Organ | 2 | |
| A31₁₈ | | 126 | 003 | +Slap Bass 1 | 1 | |
| A31₁₉ | | 127 | 003 | +Harpsi 1 | 1 | |
| A32 | 018 | 000 | 003 | Organ 2 | 2 | |
| **A32₁** | | **001** | **003** | **Jazz Organ** | **2** | |
| A32₂ | | 002 | 003 | E.Organ 16+2 | 2 | |
| A32₃ | | 008 | 003 | Chorus Or.2 | 2 | |
| A32₄ | | 009 | 003 | Octave Organ | 2 | |
| A32₅ | | 032 | 003 | Perc. Organ | 2 | |
| A32₆ | | 126 | 003 | +Slap Bass 1 | 1 | |
| A32₇ | | 127 | 003 | +Harpsi 2 | 2 | |
| A33 | 019 | 000 | 003 | Organ 3 | 2 | |
| A33₁ | | 008 | 003 | Rotary Org. | 1 | V-SW |
| A33₂ | | 016 | 003 | Rotary Org.S | 1 | |
| **A33₃** | | **017** | **003** | **Rock Organ 1** | **2** | |
| A33₄ | | 018 | 003 | Rock Organ 2 | 2 | |
| A33₅ | | 024 | 003 | Rotary Org.F | 1 | |
| A33₆ | | 126 | 003 | +Slap Bass 1 | 1 | |
| A33₇ | | 127 | 003 | +Harpsi 3 | 1 | |
| A34 | 020 | 000 | 003 | Church Org.1 | 1 | |
| **A34₁** | | **008** | **003** | **Church Org.2** | **2** | |
| A34₂ | | 016 | 003 | Church Org.3 | 2 | |
| A34₃ | | 024 | 003 | Organ Flute | 1 | |
| A34₄ | | 032 | 003 | Trem.Flute | 2 | |
| A34₅ | | 033 | 003 | Theater Org. | 2 | |
| A34₆ | | 126 | 003 | +Slap Bass 2 | 1 | |
| A34₇ | | 127 | 003 | +Clavi 1 | 1 | |
| **A35** | **021** | **000** | **003** | **Reed Organ** | **1** | |
| A35₁ | | 008 | 003 | Wind Organ | 2 | |
| A35₂ | | 126 | 003 | +Slap Bass 2 | 1 | |
| A35₃ | | 127 | 003 | +Clavi 2 | 1 | |
| **A36** | **022** | **000** | **003** | **Accordion Fr.** | **1** | |
| A36₁ | | 008 | 003 | Accordion It | 1 | |
| A36₂ | | 009 | 003 | Dist. Accord | 2 | |
| A36₃ | | 016 | 003 | Cho. Accord | 2 | |
| A36₄ | | 024 | 003 | Hard Accord | 2 | |
| A36₅ | | 025 | 003 | Soft Accord | 2 | |
| A36₆ | | 126 | 003 | +Slap Bass 2 | 1 | |
| A36₇ | | 127 | 003 | +Clavi 3 | 1 | |
| **A37** | **023** | **000** | **003** | **Harmonica** | **1** | |
| A37₁ | | 001 | 003 | Harmonica 2 | 1 | |
| A37₂ | | 126 | 003 | +Slap Bass 2 | 1 | |
| A37₃ | | 127 | 003 | +Celesta 1 | 1 | |
| **A38** | **024** | **000** | **003** | **Bandoneon** | **2** | |
| A38₁ | | 008 | 003 | Bandoneon 2 | 2 | |
| A38₂ | | 016 | 003 | Bandoneon 3 | 2 | |
| A38₃ | | 126 | 003 | +Fingered Bs | 1 | |
| A38₄ | | 127 | 003 | +Celesta 2 | 1 | |
| **GUITAR** | | | | | | |
| **A41** | **025** | **000** | **003** | **Nylon-str.Gt** | **2** | |
| A41₁ | | 008 | 003 | Ukulele | 1 | |
| A41₂ | | 016 | 003 | Nylon Gt.o | 2 | |
| A41₃ | | 024 | 003 | Velo Harmnix | 1 | V-SW |
| A41₄ | | 032 | 003 | Nylon Gt.2 | 1 | V-SW |
| A41₅ | | 040 | 003 | Lequint Gt. | 1 | |
| A41₆ | | 126 | 003 | +Fingered Bs | 1 | |
| A41₇ | | 127 | 003 | +Syn Brass 1 | 2 | |
| **A42** | **026** | **000** | **003** | **Steel-str.Gt** | **1** | |
| A42₁ | | 008 | 003 | 12-str.Gt | 2 | |
| A42₂ | | 009 | 003 | Nylon+Steel | 2 | |
| A42₃ | | 016 | 003 | Mandolin | 2 | |
| A42₄ | | 017 | 003 | Mandolin 2 | 2 | |
| A42₅ | | 018 | 003 | MandolinTrem | 2 | |
| A42₆ | | 032 | 003 | Steel Gt.2 | 1 | |
| A42₇ | | 126 | 003 | +Picked Bass | 1 | |
| A42₈ | | 127 | 003 | +Syn Brass 2 | 2 | |
| **A43** | **027** | **000** | **003** | **Jazz Gt.** | **1** | |
| A43₁ | | 001 | 003 | Mellow Gt. | 2 | |
| A43₂ | | 008 | 003 | Pedal Steel | 1 | |
| A43₃ | | 126 | 003 | +Picked Bass | 1 | |
| A43₄ | | 127 | 003 | +Syn Brass3 | 2 | |
| A44 | 028 | 000 | 003 | Clean Gt. | 1 | |
| A44₁ | | 001 | 003 | Clean Half | 1 | |
| A44₂ | | 002 | 003 | Open Hard 1 | 2 | |
| A44₃ | | 003 | 003 | Open Hard 2 | 1 | |
| A44₄ | | 004 | 003 | JC Clean Gt. | 1 | |
| A44₅ | | 008 | 003 | Chorus Gt. | 2 | |
| **A44₆** | | **009** | **003** | **JC Chorus Gt** | **2** | |
| A44₇ | | 016 | 003 | TC FrontPick | 1 | |
| A44₈ | | 017 | 003 | TC Rear Pick | 1 | |
| A44₉ | | 018 | 003 | TC Clean ff | 2 | |
| A44₁₀ | | 019 | 003 | TC Clean 2 ^ | 2 | |
| A44₁₁ | | 126 | 003 | +Fretless Bs | 1 | |
| A44₁₂ | | 127 | 003 | +Syn Brass4 | 2 | |
| **A45** | **029** | **000** | **003** | **Muted Gt.** | **1** | |
| A45₁ | | 001 | 003 | Muted Dis.Gt | 1 | |
| A45₂ | | 002 | 003 | TC Muted Gt. | 2 | |
| A45₃ | | 008 | 003 | Funk Pop | 1 | |
| A45₄ | | 016 | 003 | Funk Gt.2 | 1 | V-SW |
| A45₅ | | 126 | 003 | +Acoustic Bs | 1 | |
| A45₆ | | 127 | 003 | +Syn Bass 1 | 1 | |
| A46 | 030 | 000 | 003 | Overdrive Gt | 2 | |
| A46₁ | | 001 | 003 | Overdrive 2 | 2 | |
| **A46₂** | | **002** | **003** | **Overdrive 3** | **2** | |
| A46₃ | | 003 | 003 | More Drive | 2 | |
| A46₄ | | 008 | 003 | LP OverDrvGt | 2 | |
| A46₅ | | 009 | 003 | LP OverDrv ^ | 2 | |
| A46₆ | | 126 | 003 | +Choir Aahs | 1 | |
| A46₇ | | 127 | 003 | +Syn Bass 2 | 2 | |
| **A47** | **031** | **000** | **003** | **DistortionGt.** | **2** | |
| A47₁ | | 001 | 003 | Dist. Gt2 ^ | 2 | |
| A47₂ | | 002 | 003 | Dazed Guitar | 2 | |
| A47₃ | | 003 | 003 | Distortion ^ | 2 | |
| A47₄ | | 004 | 003 | Dist.Fast ^ | 2 | |

| GBN | PC | CC00 | CC32 | Name | Voices | Rem. |
|---|---|---|---|---|---|---|
| A47$_5$ | (031) | 008 | 003 | Feedback Gt. | 2 | |
| A47$_6$ | | 009 | 003 | Feedback Gt2 | 2 | |
| A47$_7$ | | 016 | 003 | Power Guitar | 2 | |
| A47$_8$ | | 017 | 003 | Power Gt.2 | 2 | |
| A47$_9$ | | 018 | 003 | 5th Dist. | 2 | |
| A47$_{10}$ | | 024 | 003 | Rock Rhythm | 2 | |
| A47$_{11}$ | | 025 | 003 | Rock Rhythm2 | 2 | |
| A47$_{12}$ | | 126 | 003 | +Choir Aahs | 1 | |
| A47$_{13}$ | | 127 | 003 | +Syn Bass3 | 2 | |
| A48 | 032 | 000 | 003 | Gt.Harmonics | 1 | |
| A48$_1$ | | 008 | 003 | Gt. Feedback | 1 | |
| **A48$_2$** | | **009** | **003** | **Gt.Feedback2** | **2** | |
| A48$_3$ | | 016 | 003 | Ac.Gt.Harmnx | 1 | |
| A48$_4$ | | 024 | 003 | E.Bass Harm. | 1 | |
| A48$_5$ | | 126 | 003 | +Choir Aahs | 1 | |
| A48$_6$ | | 127 | 003 | +Syn Bass4 | 1 | |

**BASS**

| | | | | | | |
|---|---|---|---|---|---|---|
| A51 | 033 | 000 | 003 | Acoustic Bs. | 1 | |
| A51$_1$ | | 001 | 003 | Rockabilly | 2 | |
| **A51$_2$** | | **008** | **003** | **Wild A.Bass** | **2** | |
| A51$_3$ | | 016 | 003 | Bass + OHH | 2 | |
| A51$_4$ | | 126 | 003 | +Choir Aahs | 1 | |
| A51$_5$ | | 127 | 003 | +Fantasy | 2 | |
| **A52** | **034** | **000** | **003** | **Fingered Bs.** | **1** | |
| A52$_1$ | | 001 | 003 | Fingered Bs2 | 2 | |
| A52$_2$ | | 002 | 003 | Jazz Bass | 1 | |
| A52$_3$ | | 003 | 003 | Jazz Bass 2 | 2 | |
| A52$_4$ | | 004 | 003 | Rock Bass | 2 | |
| A52$_5$ | | 008 | 003 | ChorusJazzBs | 2 | |
| A52$_6$ | | 016 | 003 | F.Bass/Harm. | 1 | |
| A52$_7$ | | 126 | 003 | +SlowStrings | 1 | |
| A52$_8$ | | 127 | 003 | +Harmo Pan | 2 | |
| **A53** | **035** | **000** | **003** | **Picked Bass** | **1** | |
| A53$_1$ | | 001 | 003 | Picked Bass2 | 2 | |
| A53$_2$ | | 002 | 003 | Picked Bass3 | 2 | |
| A53$_3$ | | 003 | 003 | Picked Bass4 | 2 | |
| A53$_4$ | | 008 | 003 | Muted PickBs | 1 | |
| A53$_5$ | | 016 | 003 | P.Bass/Harm. | 1 | |
| A53$_6$ | | 126 | 003 | +Strings | 1 | |
| A53$_7$ | | 127 | 003 | +Chorale | 1 | |
| **A54** | **036** | **000** | **003** | **Fretless Bs.** | **1** | |
| A54$_1$ | | 001 | 003 | Fretless Bs2 | 2 | |
| A54$_2$ | | 002 | 003 | Fretless Bs3 | 2 | |
| A54$_3$ | | 003 | 003 | Fretless Bs4 | 2 | |
| A54$_4$ | | 004 | 003 | Syn Fretless | 2 | |
| A54$_5$ | | 005 | 003 | Mr.Smooth | 2 | |
| A54$_6$ | | 008 | 003 | Wood+FlessBs | 2 | |
| A54$_7$ | | 126 | 003 | +SynStrings3 | 2 | |
| A54$_8$ | | 127 | 003 | +Glasses | 2 | |
| A55 | 037 | 000 | 003 | Slap Bass 1 | 1 | |
| A55$_1$ | | 001 | 003 | Slap Pop | 1 | |
| A55$_2$ | | 008 | 003 | Reso Slap | 1 | |
| A55$_3$ | | 009 | 003 | Unison Slap | 2 | |
| A55$_4$ | | 126 | 003 | +SynStrings3 | 2 | |
| A55$_5$ | | 127 | 003 | +Soundtrack | 2 | |
| **A56** | **038** | **000** | **003** | **Slap Bass 2** | **2** | |
| A56$_1$ | | 008 | 003 | FM Slap | 2 | |
| A56$_2$ | | 126 | 003 | +Organ 1 | 1 | |
| A56$_3$ | | 127 | 003 | +Atmosphere | 2 | |
| **A57** | **039** | **000** | **003** | **Synth Bass 1** | **2** | |
| A57$_1$ | | 001 | 003 | SynthBass101 | 1 | |
| A57$_2$ | | 002 | 003 | CS Bass | 2 | |
| A57$_3$ | | 003 | 003 | JP-4 Bass | 1 | |
| A57$_4$ | | 004 | 003 | JP-8 Bass | 2 | |
| A57$_5$ | | 005 | 003 | P5 Bass | 1 | |
| A57$_6$ | | 006 | 003 | JPMG Bass | 2 | |
| A57$_7$ | | 008 | 003 | Acid Bass | 1 | |
| A57$_8$ | | 009 | 003 | TB303 Bass | 1 | |
| A57$_9$ | | 010 | 003 | Tekno Bass | 2 | |
| A57$_{10}$ | | 011 | 003 | TB303 Bass 2 | 1 | |
| A57$_{11}$ | | 012 | 003 | Kicked TB303 | 2 | |
| A57$_{12}$ | | 013 | 003 | TB303 Saw Bs | 1 | |
| A57$_{13}$ | | 014 | 003 | Rubber303 Bs | 1 | |
| A57$_{14}$ | | 015 | 003 | Reso 303 Bs | 1 | |
| A57$_{15}$ | | 016 | 003 | Reso SH Bass | 1 | |
| A57$_{16}$ | | 017 | 003 | TB303 Sqr Bs | 1 | |
| A57$_{17}$ | | 018 | 003 | TB303 DistBs | 1 | |
| A57$_{18}$ | | 024 | 003 | Arpeggio Bs | 1 | |
| A57$_{19}$ | | 126 | 003 | +Organ 1 | 1 | |
| A57$_{20}$ | | 127 | 003 | +Warm Bell | 2 | |
| A58 | 040 | 000 | 003 | Synth Bass 2 | 2 | |
| **A58$_1$** | | **001** | **003** | **SynthBass201** | **2** | |
| A58$_2$ | | 002 | 003 | Modular Bass | 2 | |
| A58$_3$ | | 003 | 003 | Seq Bass | 2 | |
| A58$_4$ | (040) | 004 | 003 | MG Bass | 1 | |
| A58$_5$ | | 005 | 003 | MG Oct Bass1 | 2 | |
| A58$_6$ | | 006 | 003 | MG Oct Bass2 | 2 | |
| A58$_7$ | | 007 | 003 | MG Blip Bs ^ | 2 | |
| A58$_8$ | | 008 | 003 | Beef FM Bass | 2 | |
| A58$_9$ | | 009 | 003 | Dly Bass | 2 | |
| A58$_{10}$ | | 010 | 003 | X Wire Bass | 2 | |
| A58$_{11}$ | | 011 | 003 | WireStr Bass | 2 | |
| A58$_{12}$ | | 012 | 003 | Blip Bass ^ | 2 | |
| A58$_{13}$ | | 013 | 003 | RubberBass 1 | 2 | |
| A58$_{14}$ | | 016 | 003 | RubberBass 2 | 2 | |
| A58$_{15}$ | | 017 | 003 | SH101 Bass 1 | 1 | |
| A58$_{16}$ | | 018 | 003 | SH101 Bass 2 | 1 | |
| A58$_{17}$ | | 019 | 003 | Smooth Bass | 2 | |
| A58$_{18}$ | | 020 | 003 | SH101 Bass 3 | 1 | |
| A58$_{19}$ | | 021 | 003 | Spike Bass | 1 | |
| A58$_{20}$ | | 022 | 003 | House Bass ^ | 2 | |
| A58$_{21}$ | | 023 | 003 | KG Bass | 2 | |
| A58$_{22}$ | | 024 | 003 | Sync Bass | 2 | |
| A58$_{23}$ | | 025 | 003 | MG 5th Bass | 2 | |
| A58$_{24}$ | | 026 | 003 | RND Bass | 2 | |
| A58$_{25}$ | | 027 | 003 | WowMG Bass | 2 | |
| A58$_{26}$ | | 028 | 003 | Bubble Bass | 2 | |
| A58$_{27}$ | | 126 | 003 | +Organ 1 | 1 | |
| A58$_{28}$ | | 127 | 003 | +Funny Vox | 1 | |

**ORCHESTRA**

| | | | | | | |
|---|---|---|---|---|---|---|
| A61 | 041 | 000 | 003 | Violin ^ | 2 | |
| **A61$_1$** | | **001** | **003** | **Violin Atk ^** | **2** | |
| A61$_2$ | | 008 | 003 | Slow Violin | 1 | |
| A61$_3$ | | 126 | 003 | +Organ 2 | 1 | |
| A61$_4$ | | 127 | 003 | +Echo Bell | 2 | |
| A62 | 042 | 000 | 003 | Viola ^ | 2 | |
| **A62$_1$** | | **001** | **003** | **Viola Atk. ^** | **2** | |
| A62$_2$ | | 126 | 003 | +Organ 1 | 1 | |
| A62$_3$ | | 127 | 003 | +Ice Rain | 2 | |
| A63 | 043 | 000 | 003 | Cello ^ | 2 | |
| **A63$_1$** | | **001** | **003** | **Cello Atk. ^** | **2** | |
| A63$_2$ | | 126 | 003 | +Organ 1 | 1 | |
| A63$_3$ | | 127 | 003 | +Oboe 2001 | 2 | |
| **A64** | **044** | **000** | **003** | **Contrabass** | **1** | |
| A64$_1$ | | 126 | 003 | +Organ 2 | 1 | |
| A64$_2$ | | 127 | 003 | +Echo Pan | 2 | |
| A65 | 045 | 000 | 003 | Tremolo Str | 1 | |
| A65$_1$ | | 008 | 003 | Slow Tremolo | 1 | |
| **A65$_2$** | | **009** | **003** | **Suspense Str** | **2** | |
| A65$_3$ | | 126 | 003 | +Organ 2 | 1 | |
| A65$_4$ | | 127 | 003 | +Doctor Solo | 2 | |
| A66 | 046 | 000 | 003 | PizzicatoStr | 1 | |
| A66$_1$ | | 001 | 003 | Vcs&Cbs Pizz | 2 | |
| A66$_2$ | | 002 | 003 | Chamber Pizz | 2 | |
| **A66$_3$** | | **003** | **003** | **St.Pizzicato** | **2** | |
| A66$_4$ | | 008 | 003 | Solo Pizz. | 1 | |
| A66$_5$ | | 016 | 003 | Solo Spic. | 1 | |
| A66$_6$ | | 126 | 003 | +Organ 2 | 1 | |
| A66$_7$ | | 127 | 003 | +School Daze | 1 | |
| **A67** | **047** | **000** | **003** | **Harp** | **1** | |
| A67$_1$ | | 016 | 003 | Synth Harp | 1 | |
| A67$_2$ | | 126 | 003 | +Trumpet | 1 | |
| A67$_3$ | | 127 | 003 | +Bellsinger | 1 | |
| **A68** | **048** | **000** | **003** | **Timpani** | **1** | |
| A68$_1$ | | 126 | 003 | +Trumpet | 1 | |
| A68$_2$ | | 127 | 003 | +Square Wave | 2 | |

**ENSEMBLE**

| | | | | | | |
|---|---|---|---|---|---|---|
| A71 | 049 | 000 | 003 | Strings ^ | 2 | |
| A71$_1$ | | 001 | 003 | Bright Str ^ | 1 | |
| **A71$_2$** | | **002** | **003** | **ChamberStr ^** | **2** | |
| A71$_3$ | | 003 | 003 | Cello sect. | 1 | |
| A71$_4$ | | 008 | 003 | Orchestra | 2 | |
| A71$_5$ | | 009 | 003 | Orchestra 2 | 2 | |
| A71$_6$ | | 010 | 003 | Tremolo Orch | 2 | |
| A71$_7$ | | 011 | 003 | Choir Str. | 2 | |
| A71$_8$ | | 012 | 003 | Strings+Horn | 2 | |
| A71$_9$ | | 016 | 003 | St. Strings | 2 | |
| A71$_{10}$ | | 024 | 003 | Velo Strings | 2 | |
| A71$_{11}$ | | 032 | 003 | Oct Strings1 | 2 | |
| A71$_{12}$ | | 033 | 003 | Oct Strings2 | 2 | |
| A71$_{13}$ | | 126 | 003 | +Trombone | 1 | |
| A71$_{14}$ | | 127 | 003 | +Str Sect 1 | 1 | |
| A72 | 050 | 000 | 003 | Slow Strings | 1 | |
| A72$_1$ | | 001 | 003 | SlowStrings2 | 1 | |
| A72$_2$ | | 008 | 003 | Legato Str. | 2 | |
| A72$_3$ | | 009 | 003 | Warm Strings | 2 | |
| **A72$_4$** | | **010** | **003** | **St.Slow Str.** | **2** | |
| A72$_5$ | (050) | 126 | 003 | +Trombone | 1 | |
| A72$_6$ | | 127 | 003 | +Str Sect 2 | 1 | |
| **A73** | **051** | **000** | **003** | **Syn.Strings1** | **2** | |
| A73$_1$ | | 001 | 003 | OB Strings | 2 | |
| A73$_2$ | | 002 | 003 | StackStrings | 2 | |
| A73$_3$ | | 003 | 003 | JP Strings | 2 | |
| A73$_4$ | | 008 | 003 | Syn.Strings3 | 2 | |
| A73$_5$ | | 009 | 003 | Syn.Strings4 | 2 | |
| A73$_6$ | | 016 | 003 | High Strings | 2 | |
| A73$_7$ | | 017 | 003 | Hybrid Str. | 2 | |
| A73$_8$ | | 024 | 003 | Tron Strings | 2 | |
| A73$_9$ | | 025 | 003 | Noiz Strings | 2 | |
| A73$_{10}$ | | 126 | 003 | +Trombone | 1 | |
| A73$_{11}$ | | 127 | 003 | +Str Sect3 | 1 | |
| **A74** | **052** | **000** | **003** | **Syn.Strings2** | **2** | |
| A74$_1$ | | 001 | 003 | Syn.Strings5 | 2 | |
| A74$_2$ | | 002 | 003 | JUNO Strings | 2 | |
| A74$_3$ | | 008 | 003 | Air Strings | 2 | |
| A74$_4$ | | 126 | 003 | +Trombone | 1 | |
| A74$_5$ | | 127 | 003 | +Pizzicato | 1 | |
| A75 | 053 | 000 | 003 | Choir Aahs | 1 | |
| A75$_1$ | | 008 | 003 | St.ChoirAahs | 2 | |
| A75$_2$ | | 009 | 003 | Melted Choir | 2 | |
| **A75$_3$** | | **010** | **003** | **Church Choir** | **2** | |
| A75$_4$ | | 016 | 003 | Choir Hahs | 1 | |
| A75$_5$ | | 024 | 003 | Chorus Lahs | 1 | |
| A75$_6$ | | 032 | 003 | Chorus Aahs | 2 | |
| A75$_7$ | | 033 | 003 | Male Aah+Str | 2 | |
| A75$_8$ | | 126 | 003 | +Trombone | 1 | |
| A75$_9$ | | 127 | 003 | +Violin 1 | 1 | |
| A76 | 054 | 000 | 003 | Voice Oohs | 1 | |
| **A76$_1$** | | **008** | **003** | **Voice Dahs** | **1** | |
| A76$_2$ | | 126 | 003 | +Trombone | 1 | |
| A76$_3$ | | 127 | 003 | +Violin 2 | 1 | |
| A77 | 055 | 000 | 003 | SynVox | 1 | |
| A77$_1$ | | 008 | 003 | Syn.Voice | 2 | |
| **A77$_2$** | | **009** | **003** | **Silent Night** | **2** | |
| A77$_3$ | | 016 | 003 | VP330 Choir | 1 | |
| A77$_4$ | | 017 | 003 | Vinyl Choir | 2 | |
| A77$_5$ | | 126 | 003 | +Alto Sax | 1 | |
| A77$_6$ | | 127 | 003 | +Cello 1 | 1 | |
| **A78** | **056** | **000** | **003** | **OrchestraHit** | **2** | |
| A78$_1$ | | 008 | 003 | Impact Hit | 2 | |
| A78$_2$ | | 009 | 003 | Philly Hit | 2 | |
| A78$_3$ | | 010 | 003 | Double Hit | 2 | |
| A78$_4$ | | 011 | 003 | Perc. Hit | 1 | |
| A78$_5$ | | 012 | 003 | Shock Wave | 2 | |
| A78$_6$ | | 016 | 003 | Lo Fi Rave | 2 | |
| A78$_7$ | | 017 | 003 | Techno Hit | 1 | |
| A78$_8$ | | 018 | 003 | Dist. Hit | 1 | |
| A78$_9$ | | 019 | 003 | Bam Hit | 1 | |
| A78$_{10}$ | | 020 | 003 | Bit Hit | 1 | |
| A78$_{11}$ | | 021 | 003 | Bim Hit | 1 | |
| A78$_{12}$ | | 022 | 003 | Technorg Hit | 1 | |
| A78$_{13}$ | | 023 | 003 | Rave Hit | 2 | |
| A78$_{14}$ | | 024 | 003 | Strings Hit | 2 | |
| A78$_{15}$ | | 025 | 003 | Stack Hit | 2 | |
| A78$_{16}$ | | 126 | 003 | +Tenor Sax | 1 | |
| A78$_{17}$ | | 127 | 003 | +Cello 2 | 1 | |

**BRASS**

| | | | | | | |
|---|---|---|---|---|---|---|
| A81 | 057 | 000 | 003 | Trumpet | 1 | |
| A81$_1$ | | 001 | 003 | Trumpet 2 | 1 | |
| A81$_2$ | | 002 | 003 | Trumpet ^ | 1 | |
| A81$_3$ | | 008 | 003 | Flugel Horn | 1 | |
| A81$_4$ | | 016 | 003 | 4th Trumpets | 2 | |
| **A81$_5$** | | **024** | **003** | **Bright Tp.** | **2** | |
| A81$_6$ | | 025 | 003 | Warm Tp. | 2 | |
| A81$_7$ | | 032 | 003 | Syn. Trumpet | 1 | |
| A81$_8$ | | 126 | 003 | +BaritoneSax | 1 | |
| A81$_9$ | | 127 | 003 | +Contrabass | 1 | |
| A82 | 058 | 000 | 003 | Trombone | 1 | |
| A82$_1$ | | 001 | 003 | Trombone 2 | 1 | |
| **A82$_2$** | | **002** | **003** | **Twin bones** | **2** | |
| A82$_3$ | | 008 | 003 | Bs. Trombone | 1 | |
| A82$_4$ | | 126 | 003 | +Alto Sax | 1 | |
| A82$_5$ | | 127 | 003 | +Harp 1 | 1 | |
| A83 | 059 | 000 | 003 | Tuba | 1 | |
| **A83$_1$** | | **001** | **003** | **Tuba 2** | **1** | |
| A83$_2$ | | 126 | 003 | +Brass 1 | 1 | |
| A83$_3$ | | 127 | 003 | +Harp 2 | 1 | |
| **A84** | **060** | **000** | **003** | **MutedTrumpet** | **1** | |
| A84$_1$ | | 008 | 003 | Muted Horns | 1 | |
| A84$_2$ | | 126 | 003 | +Brass 1 | 1 | |
| A84$_3$ | | 127 | 003 | +Guitar 1 | 1 | |

| GBN | PC | CC00 | CC32 | Name | Voices | Rem. |
|---|---|---|---|---|---|---|
| A85 | 061 | 000 | 003 | French Horns | 1 | V-SW |
| A85₁ | | 001 | 003 | Fr.Horn 2 | 2 | |
| A85₂ | | 002 | 003 | Horn + Orche | 2 | |
| **A85₃** | | **003** | **003** | **Wide FreHrns** | **2** | |
| A85₄ | | 008 | 003 | F.Hrn Slow ^ | 1 | |
| A85₅ | | 009 | 003 | Dual Horns | 2 | |
| A85₆ | | 016 | 003 | Synth Horn | 2 | |
| A85₇ | | 024 | 003 | F.Horn Rip | 1 | |
| A85₈ | | 126 | 003 | +Brass 2 | 2 | |
| A85₉ | | 127 | 003 | +Guitar 2 | 1 | |
| A86 | 062 | 000 | 003 | Brass 1 | 2 | |
| **A86₁** | | **001** | **003** | **Brass ff** | **1** | |
| A86₂ | | 002 | 003 | Bones Sect. | 1 | |
| A86₃ | | 008 | 003 | Brass 2 | 2 | |
| A86₄ | | 009 | 003 | Brass 3 | 2 | |
| A86₅ | | 010 | 003 | Brass sfz | 2 | |
| A86₆ | | 016 | 003 | Brass Fall | 1 | |
| A86₇ | | 017 | 003 | Trumpet Fall | 1 | |
| A86₈ | | 024 | 003 | Octave Brass | 2 | |
| A86₉ | | 025 | 003 | Brass + Reed | 2 | |
| A86₁₀ | | 126 | 003 | +Brass 2 | 2 | |
| A86₁₁ | | 127 | 003 | +Elec Gtr 1 | 1 | |
| A87 | 063 | 000 | 003 | Synth Brass1 | 2 | |
| A87₁ | | 001 | 003 | Juno Brass | 2 | |
| A87₂ | | 002 | 003 | Stack Brass | 2 | |
| A87₃ | | 003 | 003 | SH-5 Brass | 2 | |
| A87₄ | | 004 | 003 | MKS Brass | 2 | |
| **A87₅** | | **008** | **003** | **Pro Brass** | **2** | |
| A87₆ | | 009 | 003 | P5 Brass | 2 | |
| A87₇ | | 016 | 003 | Oct SynBrass | 2 | |
| A87₈ | | 017 | 003 | Hybrid Brass | 2 | |
| A87₉ | | 126 | 003 | +Brass 1 | 1 | |
| A87₁₀ | | 127 | 003 | +Elec Gtr 2 | 1 | |
| A88 | 064 | 000 | 003 | Synth Brass2 | 2 | |
| A88₁ | | 001 | 003 | Soft Brass | 2 | |
| A88₂ | | 002 | 003 | Warm Brass | 2 | |
| A88₃ | | 008 | 003 | SynBrass sfz | 1 | |
| **A88₄** | | **009** | **003** | **OB Brass** | **2** | |
| A88₅ | | 010 | 003 | Reso Brass | 2 | |
| A88₆ | | 016 | 003 | Velo Brass 1 | 2 | |
| A88₇ | | 017 | 003 | Transbrass | 2 | |
| A88₈ | | 126 | 003 | +Orchest.Hit | 2 | |
| A88₉ | | 127 | 003 | +Sitar | 2 | |

**REED**

| | | | | | | |
|---|---|---|---|---|---|---|
| B11 | 065 | 000 | 003 | Soprano Sax | 1 | |
| **B11₁** | | **008** | **003** | **Soprano Exp.** | **1** | **V-SW** |
| B11₂ | | 127 | 003 | +Acou Bass 1 | 1 | |
| B12 | 066 | 000 | 003 | Alto Sax | 1 | |
| **B12₁** | | **008** | **003** | **AltoSax Exp.** | **1** | **V-SW** |
| B12₂ | | 009 | 003 | Grow Sax | 1 | |
| B12₃ | | 016 | 003 | AltoSax + Tp | 2 | |
| B12₄ | | 127 | 003 | +Acou Bass 2 | 1 | |
| B13 | 067 | 000 | 003 | Tenor Sax | 2 | |
| B13₁ | | 001 | 003 | Tenor Sax ^ | 2 | |
| B13₂ | | 008 | 003 | BreathyTn. ^ | 1 | |
| **B13₃** | | **009** | **003** | **St.Tenor Sax** | **2** | |
| B13₄ | | 127 | 003 | +Elec Bass 1 | 1 | |
| **B14** | 068 | 000 | 003 | Baritone Sax | 2 | |
| B14₁ | | 001 | 003 | Bari. Sax ^ | 2 | |
| B14₂ | | 127 | 003 | +Elec Bass 2 | 1 | |
| B15 | 069 | 000 | 003 | Oboe | 1 | |
| **B15₁** | | **008** | **003** | **Oboe Exp.** | **1** | **V-SW** |
| B15₂ | | 016 | 003 | Multi Reed | 1 | |
| B15₃ | | 127 | 003 | +Slap Bass 1 | 1 | |
| **B16** | 070 | 000 | 003 | English Horn | 1 | |
| B16₁ | | 127 | 003 | +Slap Bass 2 | 1 | |
| **B17** | 071 | 000 | 003 | Bassoon | 1 | |
| B17₁ | | 127 | 003 | +Fretless 1 | 1 | |
| **B18** | 072 | 000 | 003 | Clarinet | 1 | |
| B18₁ | | 008 | 003 | Bs Clarinet | 1 | |
| B18₂ | | 016 | 003 | Multi Wind | 1 | |
| F18₃ | | 127 | 003 | +Fretless 2 | 1 | |

**PIPE**

| | | | | | | |
|---|---|---|---|---|---|---|
| **B21** | 073 | 000 | 003 | Piccolo | 1 | |
| B21₁ | | 001 | 003 | Piccolo ^ | 1 | |
| B21₂ | | 008 | 003 | Nay | 2 | |
| B21₃ | | 009 | 003 | Nay Tremolo | 2 | |
| B21₄ | | 016 | 003 | Di | 2 | |
| B21₅ | | 127 | 003 | +Flute 1 | 1 | |
| B22 | 074 | 000 | 003 | Flute | 1 | |
| **B22₁** | | **001** | **003** | **Flute 2 ^** | **1** | |
| B22₂ | | 002 | 003 | Flute Exp. | 1 | V-SW |
| B22₃ | | 003 | 003 | Flt Traverso | 2 | |
| B22₄ | (074) | 008 | 003 | Flute + Vln | 2 | |
| B22₅ | | 016 | 003 | Tron Flute | 1 | |
| B22₆ | | 127 | 003 | +Flute 2 | 1 | |
| **B23** | 075 | 000 | 003 | Recorder | 1 | |
| B23₁ | | 127 | 003 | +Piccolo 1 | 1 | |
| **B24** | 076 | 000 | 003 | Pan Flute | 2 | |
| B24₁ | | 008 | 003 | Kawala | 2 | |
| B24₂ | | 016 | 003 | Zampona | 2 | |
| B24₃ | | 017 | 003 | Zampona Atk | 1 | |
| B24₄ | | 127 | 003 | +Piccolo 2 | 2 | |
| **B25** | 077 | 000 | 003 | Bottle Blow | 2 | |
| B25₁ | | 127 | 003 | +Recorder | 1 | |
| **B26** | 078 | 000 | 003 | Shakuhachi | 2 | |
| B26₁ | | 001 | 003 | Shakuhachi ^ | 2 | |
| B26₂ | | 127 | 003 | +Pan Pipes | 1 | |
| **B27** | 079 | 000 | 003 | Whistle | 1 | |
| B27₁ | | 001 | 003 | Whistle 2 | 2 | |
| B27₂ | | 127 | 003 | +Sax 1 | 1 | |
| **B28** | 080 | 000 | 003 | Ocarina | 1 | |
| B28₁ | | 127 | 003 | +Sax 2 | 1 | |

**SYNTH LEAD**

| | | | | | | |
|---|---|---|---|---|---|---|
| B31 | 081 | 000 | 003 | Square Wave | 2 | |
| B31₁ | | 001 | 003 | MG Square | 1 | |
| B31₂ | | 002 | 003 | Hollow Mini | 1 | |
| B31₃ | | 003 | 003 | Mellow FM | 2 | |
| **B31₄** | | **004** | **003** | **CC Solo** | **2** | |
| B31₅ | | 005 | 003 | Shmoog | 2 | |
| B31₆ | | 006 | 003 | LM Square | 2 | |
| B31₇ | | 008 | 003 | 2600 Sine | 1 | |
| B31₈ | | 009 | 003 | Sine Lead | 1 | |
| B31₉ | | 010 | 003 | KG Lead | 1 | |
| B31₁₀ | | 016 | 003 | P5 Square | 1 | |
| B31₁₁ | | 017 | 003 | OB Square | 1 | |
| B31₁₂ | | 018 | 003 | JP-8 Square | 1 | |
| B31₁₃ | | 024 | 003 | Pulse Lead | 2 | |
| B31₁₄ | | 025 | 003 | JP8 PulseLd1 | 2 | |
| B31₁₅ | | 026 | 003 | JP8 PulseLd2 | 1 | |
| B31₁₆ | | 027 | 003 | MG Reso. Pls | 1 | |
| B31₁₇ | | 127 | 003 | +Sax 3 | 1 | |
| B32 | 082 | 000 | 003 | Saw Wave | 2 | |
| B32₁ | | 001 | 003 | OB2 Saw | 1 | |
| B32₂ | | 002 | 003 | Pulse Saw | 2 | |
| B32₃ | | 003 | 003 | Feline GR | 2 | |
| B32₄ | | 004 | 003 | Big Lead | 2 | |
| **B32₅** | | **005** | **003** | **Velo Lead** | **2** | |
| B32₆ | | 006 | 003 | GR-300 | 2 | |
| B32₇ | | 007 | 003 | LA Saw | 1 | |
| B32₈ | | 008 | 003 | Doctor Solo | 2 | |
| B32₉ | | 009 | 003 | Fat Saw Lead | 2 | |
| B32₁₀ | | 011 | 003 | D-50 Fat Saw | 2 | |
| B32₁₁ | | 016 | 003 | Waspy Synth | 2 | |
| B32₁₂ | | 017 | 003 | PM Lead | 1 | |
| B32₁₃ | | 018 | 003 | CS Saw Lead | 1 | |
| B32₁₄ | | 024 | 003 | MG Saw 1 | 1 | |
| B32₁₅ | | 025 | 003 | MG Saw 2 | 1 | |
| B32₁₆ | | 026 | 003 | OB Saw 1 | 1 | |
| B32₁₇ | | 027 | 003 | OB Saw 2 | 1 | |
| B32₁₈ | | 028 | 003 | D-50 Saw | 1 | |
| B32₁₉ | | 029 | 003 | SH-101 Saw | 1 | |
| B32₂₀ | | 030 | 003 | CS Saw | 1 | |
| B32₂₁ | | 031 | 003 | MG Saw Lead | 1 | |
| B32₂₂ | | 032 | 003 | OB Saw Lead | 1 | |
| B32₂₃ | | 033 | 003 | P5 Saw Lead | 2 | |
| B32₂₄ | | 034 | 003 | MG unison | 2 | |
| B32₂₅ | | 035 | 003 | Oct Saw Lead | 2 | |
| B32₂₆ | | 040 | 003 | SequenceSaw1 | 2 | |
| B32₂₇ | | 041 | 003 | SequenceSaw2 | 1 | |
| B32₂₈ | | 042 | 003 | Reso Saw | 1 | |
| B32₂₉ | | 043 | 003 | Cheese Saw 1 | 1 | |
| B32₃₀ | | 044 | 003 | Cheese Saw 2 | 2 | |
| B32₃₁ | | 045 | 003 | Rhythmic Saw | 2 | |
| B32₃₂ | | 127 | 003 | +Sax 4 | 1 | |
| B33 | 083 | 000 | 003 | Syn.Calliope | 2 | |
| **B33₁** | | **001** | **003** | **Vent Synth** | **2** | |
| B33₂ | | 002 | 003 | Pure PanLead | 2 | |
| B33₃ | | 127 | 003 | +Clarinet 1 | 1 | |
| B34 | 084 | 000 | 003 | Chiffer Lead | 2 | |
| **B34₁** | | **001** | **003** | **TB Lead** | **2** | |
| B34₂ | | 008 | 003 | Mad Lead | 2 | |
| B34₃ | | 127 | 003 | +Clarinet 2 | 1 | |
| B35 | 085 | 000 | 003 | Charang | 2 | |
| B35₁ | | 008 | 003 | Dist.Lead | 2 | |
| B35₂ | | 009 | 003 | Acid Guitar1 | 2 | |
| B35₃ | | 010 | 003 | Acid Guitar2 | 2 | |
| **B35₄** | (085) | 016 | 003 | P5 Sync Lead | 1 | |
| B35₅ | | 017 | 003 | Fat SyncLead | 2 | |
| B35₆ | | 018 | 003 | Rock Lead | 2 | |
| B35₇ | | 019 | 003 | 5th DecaSync | 2 | |
| B35₈ | | 020 | 003 | Dirty Sync | 1 | |
| B35₉ | | 024 | 003 | Juno Sub Osc | 1 | |
| B35₁₀ | | 127 | 003 | +Oboe | 1 | |
| **B36** | 086 | 000 | 003 | Solo Vox | 2 | |
| B36₁ | | 008 | 003 | Vox Lead | 2 | |
| B36₂ | | 009 | 003 | LFO Vox | 2 | |
| B36₃ | | 127 | 003 | +Engl Horn | 1 | |
| B37 | 087 | 000 | 003 | 5th Saw Wave | 2 | |
| **B37₁** | | **001** | **003** | **Big Fives** | **2** | |
| B37₂ | | 002 | 003 | 5th Lead | 2 | |
| B37₃ | | 003 | 003 | 5th Ana.Clav | 2 | |
| B37₄ | | 008 | 003 | 4th Lead | 2 | |
| B37₅ | | 127 | 003 | +Bassoon | 1 | |
| B38 | 088 | 000 | 003 | Bass & Lead | 2 | |
| **B38₁** | | **001** | **003** | **Big & Raw** | **2** | |
| B38₂ | | 002 | 003 | Fat & Perky | 2 | |
| B38₃ | | 003 | 003 | Juno Rave | 1 | |
| B38₄ | | 004 | 003 | JP8 BsLead 1 | 1 | |
| B38₅ | | 005 | 003 | JP8 BsLead 2 | 2 | |
| B38₆ | | 006 | 003 | SH-5 Bs.Lead | 2 | |
| B38₇ | | 127 | 003 | +Harmonica | 1 | |

**SYNTH PAD**

| | | | | | | |
|---|---|---|---|---|---|---|
| **B41** | 089 | 000 | 003 | Fantasia | 2 | |
| B41₁ | | 001 | 003 | Fantasia 2 | 2 | |
| B41₂ | | 002 | 003 | New Age Pad | 2 | |
| B41₃ | | 003 | 003 | Bell Heaven | 2 | |
| B41₄ | | 127 | 003 | +Trumpet 1 | 1 | |
| B42 | 090 | 000 | 003 | Warm Pad | 1 | |
| **B42₁** | | **001** | **003** | **Thick Matrix** | **2** | |
| B42₂ | | 002 | 003 | Horn Pad | 2 | |
| B42₃ | | 003 | 003 | Rotary Strng | 2 | |
| B42₄ | | 004 | 003 | OB Soft Pad | 2 | |
| B42₅ | | 008 | 003 | Octave Pad | 2 | |
| B42₆ | | 009 | 003 | Stack Pad | 2 | |
| B42₇ | | 127 | 003 | +Trumpet 2 | 1 | |
| B43 | 091 | 000 | 003 | Polysynth | 2 | |
| B43₁ | | 001 | 003 | 80's PolySyn | 2 | |
| **B43₂** | | **002** | **003** | **Polysynth 2** | **2** | |
| B43₃ | | 003 | 003 | Poly King | 2 | |
| B43₄ | | 008 | 003 | Power Stack | 2 | |
| B43₅ | | 009 | 003 | Octave Stack | 2 | |
| B43₆ | | 010 | 003 | Reso Stack | 1 | |
| B43₇ | | 011 | 003 | Techno Stack | 2 | |
| B43₈ | | 127 | 003 | +Trombone 1 | 2 | |
| B44 | 092 | 000 | 003 | Space Voice | 1 | |
| B44₁ | | 001 | 003 | Heaven II | 2 | |
| **B44₂** | | **002** | **003** | **SC Heaven** | **2** | |
| B44₃ | | 008 | 003 | Cosmic Voice | 2 | |
| B44₄ | | 009 | 003 | Auh Vox | 1 | |
| B44₅ | | 011 | 003 | AuhAuh | 2 | |
| B44₆ | | 012 | 003 | Vocorderman | 2 | |
| B44₇ | | 127 | 003 | +Trombone 2 | 2 | |
| B45 | 093 | 000 | 003 | Bowed Glass | 2 | |
| B45₁ | | 001 | 003 | SoftBellPad | 2 | |
| **B45₂** | | **002** | **003** | **JP8 Sqr Pad** | **2** | |
| B45₃ | | 003 | 003 | 7thBelPad | 2 | |
| B45₄ | | 127 | 003 | +Fr Horn 1 | 2 | |
| B46 | 094 | 000 | 003 | Metal Pad | 2 | |
| B46₁ | | 001 | 003 | Tine Pad | 2 | |
| **B46₂** | | **002** | **003** | **Panner Pad** | **2** | |
| B46₃ | | 127 | 003 | +Fr Horn 2 | 2 | |
| B47 | 095 | 000 | 003 | Halo Pad | 2 | |
| B47₁ | | 001 | 003 | Vox Pad | 2 | |
| B47₂ | | 002 | 003 | Vox Sweep | 2 | |
| **B47₃** | | **008** | **003** | **Horror Pad** | **2** | |
| B47₄ | | 127 | 003 | +Tuba | 1 | |
| B48 | 096 | 000 | 003 | Sweep Pad | 1 | |
| B48₁ | | 001 | 003 | Polar Pad | 1 | |
| B48₂ | | 008 | 003 | Converge | 1 | |
| **B48₃** | | **009** | **003** | **Shwimmer** | **2** | |
| B48₄ | | 011 | 003 | Celestial Pd | 2 | |
| B48₅ | | 012 | 003 | Bag Sweep | 2 | |
| B48₆ | | 127 | 003 | +Brs Sect 1 | 1 | |

**SYNTH SFX**

| | | | | | | |
|---|---|---|---|---|---|---|
| B51 | 097 | 000 | 003 | Ice Rain | 2 | |
| B51₁ | | 001 | 003 | Harmo Rain | 2 | |
| B51₂ | | 002 | 003 | African wood | 2 | |
| B51₃ | | 003 | 003 | Anklung Pad | 2 | |
| B51₄ | | 004 | 003 | Rattle Pad | 2 | |

| GBN | PC | CC00 | CC32 | Name | Voices | Rem. |
|---|---|---|---|---|---|---|
| B515 | (097) | 008 | 003 | Clavi Pad | 2 | |
| B516 | | 127 | 003 | +Brs Sect 2 | 2 | |
| B52... | 098 | ...000 | ... 003 | .. Soundtrack.... | 2 | |
| B521 | | 001 | 003 | Ancestral | 2 | |
| B522 | | 002 | 003 | Prologue | 2 | |
| B523 | | 003 | 003 | Prologue 2 | 2 | |
| B524 | | 004 | 003 | Hols Strings | 2 | |
| B525 | | 008 | 003 | Rave | 2 | |
| B526 | | 127 | 003 | +Vibe 1 | 1 | |
| B53... | 099 | ...000 | ... 003 | .. Crystal..... | 2 | |
| B531 | | 001 | 003 | Syn Mallet | 1 | |
| B532 | | 002 | 003 | Soft Crystal | 2 | |
| B533 | | 003 | 003 | Round Glock | 2 | |
| B534 | | 004 | 003 | Loud Glock | 2 | |
| B535 | | 005 | 003 | GlockenChime | 2 | |
| B536 | | 006 | 003 | Clear Bells | 2 | |
| B537 | | 007 | 003 | ChristmasBel | 2 | |
| B538 | | 008 | 003 | Vibra Bells | 2 | |
| B539 | | 009 | 003 | Digi Bells | 2 | |
| B5310 | | 010 | 003 | Music Bell | 2 | |
| B5311 | | 011 | 003 | Analog Bell | 1 | |
| B5312 | | 016 | 003 | Choral Bells | 2 | |
| B5313 | | 017 | 003 | Air Bells | 2 | |
| B5314 | | 018 | 003 | Bell Harp | 2 | |
| B5315 | | 019 | 003 | Gamelimba | 2 | |
| B5316 | | 020 | 003 | Juno Bell | 2 | |
| B5317 | | 127 | 003 | +Vibe 2 | 1 | |
| B54... | 100 | ...000 | ... 003 | .. Atmosphere... | 2 | |
| B541 | | 001 | 003 | Warm Atmos | 2 | |
| B542 | | 002 | 003 | Nylon Harp | 2 | |
| B543 | | 003 | 003 | Harpvox | 2 | |
| B544 | | 004 | 003 | HollowReleas | 2 | |
| B545 | | 005 | 003 | Nylon+Rhodes | 2 | |
| B546 | | 006 | 003 | Ambient Pad | 2 | |
| B547 | | 007 | 003 | Invisible | 2 | |
| B548 | | 008 | 003 | Pulsey Key | 2 | |
| B549 | | 009 | 003 | Noise Piano | 2 | |
| B5410 | | 127 | 003 | +Syn Mallet | 1 | |
| B55... | 101 | ...000 | ... 003 | .. Brightness..... | 2 | |
| B551 | | 001 | 003 | Shining Star | 2 | |
| B552 | | 002 | 003 | OB Stab | 1 | |
| B553 | | 008 | 003 | Org Bell | 2 | |
| B554 | | 127 | 003 | +Windbell | 2 | |
| B56... | 102 | ...000 | ... 003 | .. Goblin..... | 2 | |
| B561 | | 001 | 003 | Goblinson | 2 | |
| B562 | | 002 | 003 | 50's Sci-Fi | 2 | |
| B563 | | 003 | 003 | Abduction | 2 | |
| B564 | | 004 | 003 | Auhbient | 2 | |
| B565 | | 005 | 003 | LFO Pad | 2 | |
| B566 | | 006 | 003 | Random Str | 2 | |
| B567 | | 007 | 003 | Random Pad | 2 | |
| B568 | | 008 | 003 | LowBirds Pad | 2 | |
| B569 | | 009 | 003 | Falling Down | 2 | |
| B5610 | | 010 | 003 | LFO RAVE | 2 | |
| B5611 | | 011 | 003 | LFO Horror | 2 | |
| B5612 | | 012 | 003 | LFO Techno | 2 | |
| B5613 | | 013 | 003 | Alternative | 2 | |
| B5614 | | 014 | 003 | UFO FX | 2 | |
| B5615 | | 015 | 003 | Gargle Man | 1 | |
| B5616 | | 016 | 003 | Sweep FX | 1 | |
| B5617 | | 127 | 003 | +Glock | 1 | |
| B57... | 103 | ...000 | ... 003 | .. Echo Drops.... | 1 | |
| B571 | | 001 | 003 | Echo Bell | 2 | |
| B572 | | 002 | 003 | Echo Pan | 2 | |
| B573 | | 003 | 003 | Echo Pan 2 | 2 | |
| B574 | | 004 | 003 | Big Panner | 2 | |
| B575 | | 005 | 003 | Reso Panner | 2 | |
| B576 | | 006 | 003 | Water Piano | 2 | |
| B577 | | 008 | 003 | Pan Sequence | 2 | |
| B578 | | 009 | 003 | Aqua | 2 | |
| B579 | | 127 | 003 | +Tube Bell | 1 | |
| B58... | 104 | ...000 | ... 003 | .. Star Theme.... | 2 | |
| B581 | | 001 | 003 | Star Theme 2 | 2 | |
| B582 | | 008 | 003 | Dream Pad | 2 | |
| B583 | | 009 | 003 | Silky Pad | 2 | |
| B584 | | 016 | 003 | New Century | 1 | |
| B585 | | 017 | 003 | 7th Atmos. | 2 | |
| B586 | | 018 | 003 | Galaxy Way | 2 | |
| B587 | | 127 | 003 | +Xylophone | 1 | |

**ETHNIC MISC**

| | | | | | | |
|---|---|---|---|---|---|---|
| B61... | 105 | ...000 | ... 003 | .. Sitar..... | 1 | |
| B611 | | 001 | 003 | Sitar 2 | 2 | |
| B612 | | 002 | 003 | Detune Sitar | 2 | |
| B613 | | 003 | 003 | Sitar 3 | 2 | |
| B614 | (105) | 008 | 003 | Tambra | 1 | |
| B615 | | 016 | 003 | Tamboura | 2 | |
| B616 | | 127 | 003 | +Marimba | 1 | |
| B62... | 106 | ...000 | ... 003 | .. Banjo..... | 1 | |
| B621 | | 001 | 003 | Muted Banjo | 1 | |
| B622 | | 008 | 003 | Rabab | 2 | |
| B623 | | 009 | 003 | San Xian | 2 | |
| B624 | | 016 | 003 | Gopichant | 2 | |
| B625 | | 024 | 003 | Oud | 2 | |
| B626 | | 028 | 003 | Oud+Strings | 2 | |
| B627 | | 032 | 003 | Pi Pa | 1 | |
| B628 | | 127 | 003 | +Koto | 1 | |
| B63... | 107 | ...000 | ... 003 | .. Shamisen ..... | 1 | |
| B631 | | 001 | 003 | Tsugaru | 2 | |
| B632 | | 008 | 003 | Syn Shamisen | 2 | |
| B633 | | 127 | 003 | +Sho | 2 | |
| B64... | 108 | ...000 | ... 003 | .. Koto ..... | 2 | |
| B641 | | 001 | 003 | Gu Zheng | 2 | |
| B642 | | 008 | 003 | Taisho Koto | 1 | |
| B643 | | 016 | 003 | Kanoon | 2 | |
| B644 | | 019 | 003 | Kanoon+Choir | 2 | |
| B645 | | 024 | 003 | Oct Harp | 1 | |
| B646 | | 127 | 003 | +Shakuhachi | 2 | |
| B65... | 109 | ...000 | ... 003 | .. Kalimba..... | 1 | |
| B651 | | 008 | 003 | Sanza | 2 | |
| B652 | | 127 | 003 | +Whistle 1 | 2 | |
| B66... | 110 | ...000 | ... 003 | .. Bagpipe..... | 1 | |
| B661 | | 008 | 003 | Didgeridoo | 1 | |
| B662 | | 127 | 003 | +Whistle 2 | 1 | |
| B67... | 111 | ...000 | ... 003 | .. Fiddle ..... | 1 | |
| B671 | | 008 | 003 | Er Hu | 1 | |
| B672 | | 009 | 003 | Gao Hu | 1 | |
| B673 | | 127 | 003 | +Bottleblow | 2 | |
| B68... | 112 | ...000 | ... 003 | .. Shanai..... | 1 | |
| B681 | | 001 | 003 | Shanai 2 | 1 | V-SW |
| B682 | | 008 | 003 | Pungi | 1 | |
| B683 | | 016 | 003 | Hichiriki | 2 | |
| B684 | | 024 | 003 | Mizmar | 1 | |
| B685 | | 032 | 003 | Suona 1 | 1 | |
| B686 | | 033 | 003 | Suona 2 | 1 | |
| B687 | | 127 | 003 | +Breathpipe | 1 | |

**PERCUSSIVE**

| | | | | | | |
|---|---|---|---|---|---|---|
| B71... | 113 | ...000 | ... 003 | .. Tinkle Bell..... | 1 | |
| B711 | | 008 | 003 | Bonang | 1 | |
| B712 | | 009 | 003 | Gender | 1 | |
| B713 | | 010 | 003 | Gamelan Gong | 1 | |
| B714 | | 011 | 003 | St.Gamelan | 2 | |
| B715 | | 012 | 003 | Jang Gu | 2 | |
| B716 | | 016 | 003 | RAMA Cymbal | 1 | |
| B717 | | 127 | 003 | +Timpani | 1 | |
| B72... | 114 | ...000 | ... 003 | .. Agogo..... | 1 | |
| B721 | | 008 | 003 | Atarigane | 1 | |
| B722 | | 016 | 003 | Tambourine | 1 | |
| B723 | | 127 | 003 | +Melodic Tom | 1 | |
| B73... | 115 | ...000 | ... 003 | .. Steel Drums ... | 1 | |
| B731 | | 001 | 003 | Island Mlt | 2 | |
| B732 | | 127 | 003 | +Deep Snare | 1 | |
| B74... | 116 | ...000 | ... 003 | .. Woodblock.... | 1 | |
| B741 | | 008 | 003 | Castanets | 1 | |
| B742 | | 016 | 003 | Angklung | 1 | |
| B743 | | 017 | 003 | Angkl Rhythm | 2 | |
| B744 | | 024 | 003 | Finger Snaps | 1 | |
| B745 | | 032 | 003 | 909 HandClap | | |
| B746 | | 127 | 003 | +Elec Perc 1 | 1 | |
| B75... | 117 | ...000 | ... 003 | .. Taiko ..... | 1 | |
| B751 | | 001 | 003 | Small Taiko | 1 | |
| B752 | | 008 | 003 | Concert BD | 1 | |
| B753 | | 016 | 003 | Jungle BD | 1 | |
| B754 | | 017 | 003 | Techno BD | 1 | |
| B755 | | 018 | 003 | Bounce | 1 | |
| B756 | | 127 | 003 | +Elec Perc 2 | 1 | |
| B76... | 118 | ...000 | ... 003 | .. Melo. Tom 1 ... | 1 | |
| B761 | | 001 | 003 | Real Tom | 2 | |
| B762 | | 008 | 003 | Melo. Tom 2 | 1 | |
| B763 | | 009 | 003 | Rock Tom | 2 | |
| B764 | | 016 | 003 | Rash SD | 1 | |
| B765 | | 017 | 003 | House SD | 1 | |
| B766 | | 018 | 003 | Jungle SD | 1 | |
| B767 | | 019 | 003 | 909 SD | 1 | |
| B768 | | 127 | 003 | +Taiko | 1 | |
| B77... | 119 | ...000 | ... 003 | .. Synth Drum.... | 1 | |
| B771 | | 008 | 003 | 808 Tom | 2 | |
| B772 | | 009 | 003 | Elec Perc | 1 | |
| B773 | | 010 | 003 | Sine Perc. | 1 | |
| B774 | (119) | 011 | 003 | 606 Tom | 1 | |
| B775 | | 012 | 003 | 909 Tom | 1 | |
| B776 | | 127 | 003 | +Taiko Rim | 1 | |
| B78... | 120... | 000 | ... 003 | .. Reverse Cym. .. | 1 | |
| B781 | | 001 | 003 | Reverse Cym2 | 1 | |
| B782 | | 002 | 003 | Reverse Cym3 | 1 | |
| B783 | | 008 | 003 | Rev.Snare 1 | 1 | |
| B784 | | 009 | 003 | Rev.Snare 2 | 1 | |
| B785 | | 016 | 003 | Rev.Kick 1 | 1 | |
| B786 | | 017 | 003 | Rev.ConBD | 1 | |
| B787 | | 024 | 003 | Rev.Tom 1 | 1 | |
| B788 | | 025 | 003 | Rev.Tom 2 | 1 | |
| B789 | | 127 | 003 | +Cymbal | 1 | |

**SFX**

| | | | | | | |
|---|---|---|---|---|---|---|
| B81... | 121... | 000 | ... 003 | .. Gt.FretNoise ... | 1 | |
| B811 | | 001 | 003 | Gt.Cut Noise | 1 | |
| B812 | | 002 | 003 | String Slap | 1 | |
| B813 | | 003 | 003 | Gt.CutNoise2 | 1 | |
| B814 | | 004 | 003 | Dist.CutNoiz | 1 | |
| B815 | | 005 | 003 | Bass Slide | 1 | |
| B816 | | 006 | 003 | Pick Scrape | 1 | |
| B817 | | 008 | 003 | Gt. FX Menu | 1 | |
| B818 | | 009 | 003 | Bartok Pizz. | 1 | |
| B819 | | 010 | 003 | Guitar Slap | 1 | |
| B8110 | | 011 | 003 | Chord Stroke | 1 | |
| B8111 | | 012 | 003 | Biwa Stroke | 1 | |
| B8112 | | 013 | 003 | Biwa Tremolo | 1 | |
| B8113 | | 127 | 003 | +Castanets | 1 | |
| B82... | 122... | 000 | ... 003 | .. Breath Noise ... | 1 | |
| B821 | | 001 | 003 | Fl.Key Click | 1 | |
| B822 | | 127 | 003 | +Triangle | 1 | |
| B83... | 123... | 000 | ... 003 | .. Seashore ..... | 1 | |
| B831 | | 001 | 003 | Rain | 1 | |
| B832 | | 002 | 003 | Thunder | 1 | |
| B833 | | 003 | 003 | Wind | 1 | |
| B834 | | 004 | 003 | Stream | 2 | |
| B835 | | 005 | 003 | Bubble | 2 | |
| B836 | | 006 | 003 | Wind 2 | 1 | |
| B837 | | 016 | 003 | Pink Noise | 1 | |
| B838 | | 017 | 003 | White Noise | 1 | |
| B839 | | 127 | 003 | +Orche Hit | 1 | |
| B84... | 124... | 000 | ... 003 | .. Bird ..... | 2 | |
| B841 | | 001 | 003 | Dog | 1 | |
| B842 | | 002 | 003 | Horse-Gallop | 1 | |
| B843 | | 003 | 003 | Bird 2 | 1 | |
| B844 | | 004 | 003 | Kitty | 1 | |
| B845 | | 005 | 003 | Growl | 1 | |
| B846 | | 127 | 003 | +Telephone | 1 | |
| B85... | 125... | 000 | ... 003 | .. Telephone 1 ... | 1 | |
| B851 | | 001 | 003 | Telephone 2 | 1 | |
| B852 | | 002 | 003 | DoorCreaking | 1 | |
| B853 | | 003 | 003 | Door | 1 | |
| B854 | | 004 | 003 | Scratch | 1 | |
| B855 | | 005 | 003 | Wind Chimes | 2 | |
| B856 | | 007 | 003 | Scratch 2 | 1 | |
| B857 | | 008 | 003 | ScratchKey | 2 | |
| B858 | | 009 | 003 | TapeRewind | 1 | |
| B859 | | 010 | 003 | Phono Noise | 1 | |
| B8510 | | 011 | 003 | MC-500 Beep | 1 | |
| B8511 | | 127 | 003 | +Bird Tweet | 1 | |
| B86... | 126... | 000 | ... 003 | .. Helicopter..... | 1 | |
| B861 | | 001 | 003 | Car-Engine | 1 | |
| B862 | | 002 | 003 | Car-Stop | 1 | |
| B863 | | 003 | 003 | Car-Pass | 1 | |
| B864 | | 004 | 003 | Car-Crash | 2 | |
| B865 | | 005 | 003 | Siren | 1 | |
| B866 | | 006 | 003 | Train | 1 | |
| B867 | | 007 | 003 | Jetplane | 2 | |
| B868 | | 008 | 003 | Starship | 2 | |
| B869 | | 009 | 003 | Burst Noise | 2 | |
| B8610 | | 010 | 003 | Calculating | 2 | |
| B8611 | | 011 | 003 | Perc. Bang | 2 | |
| B8612 | | 127 | 003 | +OneNote Jam | 1 | |
| B87... | 127... | 000 | ... 003 | .. Applause..... | 2 | |
| B871 | | 001 | 003 | Laughing | 1 | |
| B872 | | 002 | 003 | Screaming | 1 | |
| B873 | | 003 | 003 | Punch | 1 | |
| B874 | | 004 | 003 | Heart Beat | 1 | |
| B875 | | 005 | 003 | Footsteps | 1 | |
| B876 | | 006 | 003 | Applause 2 | 2 | |
| B877 | | 007 | 003 | Small Club | 2 | |
| B878 | | 008 | 003 | ApplauseWave | 2 | |
| B879 | | 016 | 003 | Voice One | 1 | |
| B8710 | | 017 | 003 | Voice Two | 1 | |

| GBN | PC | CC00 | CC32 | Name | Voices Rem. |
|---|---|---|---|---|---|
| B87$_{11}$ | (127) | 018 | 003 | Voice Three | 1 |
| B87$_{12}$ | | 019 | 003 | Voice Tah | 1 |
| B87$_{13}$ | | 020 | 003 | Voice Whey | 1 |
| B87$_{14}$ | | 127 | 003 | +Water Bell | 2 |
| B88 | ...128... | 000 | ...003... | Gun Shot ..... | 1 |
| B88$_{1}$ | | 001 | 003 | Machine Gun | 1 |
| B88$_{2}$ | | 002 | 003 | Lasergun | 1 |
| B88$_{3}$ | | 003 | 003 | Explosion | 2 |
| B88$_{4}$ | | 004 | 003 | Eruption | 1 |
| B88$_{5}$ | | 005 | 003 | Big Shot | 2 |
| B88$_{6}$ | | 127 | 003 | +Jungle Tune | 2 |

- Names in **bold** refer to the default choice when a Tone is selected using the TONE/USER PROGRAM pad.
- Tones indicated with "A" are Legato Tones (different attack when you play legato).
- PC= MIDI Program Change number.
- Voices= number of polyphonic voices used for each note.
- GBN= Group/Bank/Number address (on the EM-2000's front panel).

# 13.2. G-800 Tone Map (Banks C & D)

| GBN | PC | CC00 | CC32 | Name | Voices | Rem. |
|---|---|---|---|---|---|---|
| **PIANO** | | | | | | |
| C11 | 001 | 000 | 002 | 'Piano 1 | 1 | |
| **C11₁** | | **008** | **002** | **'Piano 1w** | **1** | |
| C11₂ | | 016 | 002 | 'Piano 1d | 1 | |
| C11₃ | | 126 | 002 | +Piano 2 | 1 | |
| C11₄ | | 127 | 002 | +Acou Piano1 | 1 | |
| C12 | 002 | 000 | 002 | 'Piano 2 | 1 | |
| **C12₁** | | **008** | **002** | **'Piano 2w** | **1** | |
| C12₂ | | 126 | 002 | +Piano 2 | 1 | |
| C12₃ | | 127 | 002 | +Acou Piano2 | 1 | |
| C13 | 003 | 000 | 002 | 'Piano3 | 1 | |
| **C13₁** | | **001** | **002** | **'EG+Rhodes 1** | **2** | |
| C13₂ | | 002 | 002 | 'EG+Rhodes 2 | 2 | |
| C13₃ | | 008 | 002 | 'Piano 3w | 1 | |
| C13₄ | | 126 | 002 | +Piano 2 | 1 | |
| C13₅ | | 127 | 002 | +Acou Piano3 | 1 | |
| C14 | 004 | 000 | 002 | 'Honky-tonk | 2 | |
| **C14₁** | | **008** | **002** | **'Old Upright** | **2** | |
| C14₂ | | 126 | 002 | +Honky-tonk | 2 | |
| C14₃ | | 127 | 002 | +Elec Piano1 | 1 | |
| C15 | 005 | 000 | 002 | 'E.Piano 1 | 2 | |
| **C15₁** | | **008** | **002** | **'St.Soft EP** | **2** | |
| C15₂ | | 009 | 002 | 'SA E.Piano | 2 | G-800 |
| C15₃ | | 016 | 002 | 'FM+SA EP | 2 | |
| C15₄ | | 017 | 002 | 'Stiky Rhodes | 2 | G-800 |
| C15₅ | | 024 | 002 | '60's EPiano | 1 | |
| C15₆ | | 025 | 002 | 'Hard Rhodes | 2 | |
| C15₇ | | 026 | 002 | 'MellwRhodes | 2 | |
| C15₈ | | 027 | 002 | '60'sE.Piano2 | 2 | G-800 |
| C15₉ | | 126 | 002 | +Piano 1 | 1 | |
| C15₁₀ | | 127 | 002 | +Elec Piano2 | 1 | |
| C16 | 006 | 000 | 002 | 'E.Piano 2 | 2 | |
| C16₁ | | 008 | 002 | 'Detuned EP2 | 2 | |
| **C16₂** | | **016** | **002** | **'St.FM EP** | **2** | |
| C16₃ | | 024 | 002 | 'Hard FM EP | 2 | |
| C16₄ | | 126 | 002 | +Piano 2 | 1 | |
| C16₅ | | 127 | 002 | +Elec Piano3 | 1 | |
| C17 | 007 | 000 | 002 | 'Harpsichord | 1 | |
| C17₁ | | 008 | 002 | 'Coupled Hps | 2 | |
| **C17₂** | | **016** | **002** | **'Harpsi.w** | **1** | |
| C17₃ | | 024 | 002 | 'Harpsi.o | 2 | |
| C17₄ | | 126 | 002 | +Piano 2 | 1 | |
| C17₅ | | 127 | 002 | +Elec Piano4 | 1 | |
| C18 | 008 | 000 | 002 | 'Clav. | 1 | |
| C18₁ | | 126 | 002 | +E.Piano 1 | 1 | |
| C18₂ | | 127 | 002 | +Honkytonk | 2 | |
| **CHROMATIC PERCUSSION** | | | | | | |
| C21 | 009 | 000 | 002 | 'Celesta | 1 | |
| C21₁ | | 126 | 002 | +Detuned EP1 | 2 | |
| C21₂ | | 127 | 002 | +Elec Org 1 | 1 | |
| C22 | 010 | 000 | 002 | 'Glocknspiel | 1 | |
| C22₁ | | 126 | 002 | +E.Piano 2 | 1 | |
| C22₂ | | 127 | 002 | +Elec Org 2 | 2 | |
| C23 | 011 | 000 | 002 | 'Music Box | 1 | |
| C23₁ | | 126 | 002 | +Steel Gt. | 1 | |
| C23₂ | | 127 | 002 | +Elec Org 3 | 1 | |
| C24 | 012 | 000 | 002 | 'Vibraphone | 1 | |
| **C24₁** | | **001** | **002** | **'Hard Vibe** | **2** | |
| C24₂ | | 008 | 002 | 'Vib.w | 1 | |
| C24₃ | | 126 | 002 | +Steel Gt. | 1 | |
| C24₄ | | 127 | 002 | +Elec Org 4 | 1 | |
| C25 | 013 | 000 | 002 | 'Marimba | 1 | |
| **C25₁** | | **008** | **002** | **'Marimba w** | **1** | |
| C25₂ | | 016 | 002 | 'Barafon | 1 | |
| C25₃ | | 017 | 002 | 'Barafon 2 | 1 | |
| C25₄ | | 024 | 002 | 'Log drum | 1 | |
| C25₅ | | 126 | 002 | +12-str.Gt | 2 | |
| C25₆ | | 127 | 002 | +Pipe Org 1 | 2 | |
| C26 | 014 | 000 | 002 | 'Xylophone | 1 | |
| C26₁ | | 126 | 002 | +Funk Gt. | 1 | |
| C26₂ | | 127 | 002 | +Pipe Org 2 | 2 | |
| C27 | 015 | 000 | 002 | 'Tubularbell | 1 | |
| C27₁ | | 008 | 002 | 'Church Bell | 1 | |
| C27₂ | | 009 | 002 | 'Carillon | 1 | |
| C27₃ | | 126 | 002 | +Muted Gt. | 1 | |
| C27₄ | | 127 | 002 | +Pipe Org3 | 2 | |
| C28 | 016 | 000 | 002 | 'Santur | 1 | |
| C28₁ | | 001 | 002 | 'Santur 2 | 2 | |
| C28₂ | | 008 | 002 | 'Cimbalom | 2 | |
| C28₃ | | 126 | 001 | +Slap Bass 1 | 1 | |
| C28₄ | | 127 | 001 | +Accordion | 2 | |
| **ORGAN** | | | | | | |
| C31 | 017 | 000 | 002 | 'Organ 1 | 1 | |
| C31₁ | | 001 | 002 | 'Organ 101 | 2 | |
| C31₂ | | 008 | 002 | 'DetunedOr.1 | 2 | |
| C31₃ | | 009 | 002 | 'Organ 109 | 2 | |
| C31₄ | | 016 | 002 | '60'sOrgan 1 | 1 | |
| C31₅ | | 017 | 002 | '60'sOrgan 2 | 1 | |
| C31₆ | | 018 | 002 | '60'sOrgan 3 | 1 | |
| C31₇ | | 024 | 002 | 'CheeseOrgan | 1 | |
| **C31₈** | | **032** | **002** | **'Organ 4** | **1** | |
| C31₉ | | 033 | 002 | 'Even Bar | 2 | |
| C31₁₀ | | 040 | 002 | 'Organ Bass | 1 | |
| C31₁₁ | | 048 | 002 | 'Organ Oct 1 | 2 | G-800 |
| C31₁₂ | | 126 | 002 | +Slap Bass 1 | 1 | |
| C31₁₃ | | 127 | 002 | +Harpsi 1 | 1 | |
| C32 | 018 | 000 | 002 | 'Organ 2 | 1 | |
| C32₁ | | 001 | 002 | 'Organ 201 | 2 | |
| C32₂ | | 008 | 002 | 'DetunedOr.2 | 2 | |
| C32₃ | | 032 | 002 | 'Organ 5 | 2 | |
| C32₄ | | 126 | 002 | +Slap Bass 1 | 1 | |
| C32₅ | | 127 | 002 | +Harpsi 2 | 2 | |
| C33 | 019 | 000 | 002 | 'Organ 3 | 2 | |
| **C33₁** | | **008** | **002** | **'Rotary Org.** | **1** | **V-SW** |
| C33₂ | | 016 | 002 | 'RotaryOrg.S | 1 | |
| C33₃ | | 024 | 002 | 'RotaryOrg.F | 1 | |
| C33₄ | | 126 | 002 | +Slap Bass 1 | 1 | |
| C33₅ | | 127 | 002 | +Harpsi 3 | 1 | |
| C34 | 020 | 000 | 002 | 'ChurchOrg.1 | 1 | |
| C34₁ | | 008 | 002 | 'ChurchOrg.2 | 2 | |
| C34₂ | | 009 | 002 | 'Organ Oct 2 | 2 | G-800 |
| **C34₃** | | **016** | **002** | **'ChurchOrg.3** | **2** | |
| C34₄ | | 024 | 002 | 'Organ Flute | 1 | |
| C34₅ | | 032 | 002 | 'Trem.Flute | 2 | |
| C34₆ | | 126 | 002 | +Slap Bass 2 | 1 | |
| C34₇ | | 127 | 002 | +Clavi 1 | 1 | |
| C35 | 021 | 000 | 002 | 'Reed Organ | 1 | |
| C35₁ | | 126 | 002 | +Slap Bass 2 | 1 | |
| C35₂ | | 127 | 002 | +Clavi 2 | 1 | |
| C36 | 022 | 000 | 002 | 'AccordionFr | 1 | |
| C36₁ | | 008 | 002 | 'AccordionIt | 2 | |
| C36₂ | | 016 | 002 | 'Detuned Acc | 2 | G-800 |
| C36₃ | | 024 | 002 | 'Accordion 1 | 2 | G-800 |
| C36₄ | | 025 | 002 | 'Accordion 2 | 2 | G-800 |
| C36₅ | | 126 | 002 | +Slap Bass 2 | 1 | |
| C36₆ | | 127 | 002 | +Clavi 3 | 1 | |
| C37 | 023 | 000 | 002 | 'Harmonica | 1 | |
| C37₁ | | 001 | 002 | 'Harmonica 2 | 2 | |
| C37₂ | | 126 | 002 | +Slap Bass 2 | 1 | |
| C37₃ | | 127 | 002 | +Celesta 1 | 1 | |
| C38 | 024 | 000 | 002 | 'Bandoneon | 1 | |
| C38₁ | | 008 | 002 | 'AccJuno-106 | 2 | G-800 |
| C38₂ | | 016 | 002 | 'DetunedAcc2 | 2 | G-800 |
| C38₃ | | 017 | 002 | 'It. Musette | 1 | NIF |
| C38₄ | | 126 | 002 | +Fingered Bs | 1 | |
| C38₅ | | 127 | 002 | +Celesta 2 | 1 | |
| **GUITAR** | | | | | | |
| C41 | 025 | 000 | 002 | 'Nylonstr.Gt | 1 | |
| C41₁ | | 008 | 002 | 'Ukulele | 1 | |
| **C41₂** | | **016** | **002** | **'Nylon Gt.o** | **2** | |
| C41₃ | | 024 | 002 | 'VeloHarmnix | 1 | V-SW |
| C41₄ | | 032 | 002 | 'Nylon Gt.2 | 1 | |
| C41₅ | | 040 | 002 | 'Lequint Gt. | 1 | |
| C41₆ | | 126 | 002 | +Fingered Bs | 1 | |
| C41₇ | | 127 | 002 | +Syn Brass 1 | 2 | |
| C42 | 026 | 000 | 002 | 'Steelstr.Gt | 1 | |
| **C42₁** | | **008** | **002** | **'12-str.Gt** | **2** | |
| C42₂ | (026) | 009 | 002 | 'Nylon+Steel | 2 | |
| C42₃ | | 016 | 002 | 'Mandolin | 2 | |
| C42₄ | | 017 | 002 | 'Mandolin 2 | 1 | G-800 |
| C42₅ | | 018 | 002 | 'Mandolin Tr | 1 | G-800 |
| C42₆ | | 032 | 002 | 'Steel Gt.2 | 1 | |
| C42₇ | | 126 | 002 | +Picked Bass | 1 | |
| C42₈ | | 127 | 002 | +Syn Brass 2 | 2 | |
| C43 | 027 | 000 | 002 | 'Jazz Gt. | 1 | |
| C43₁ | | 001 | 002 | 'Mellow Gt. | 2 | |
| C43₂ | | 008 | 002 | 'Pedal Steel | 1 | |
| C43₃ | | 126 | 002 | +Picked Bass | 1 | |
| C43₄ | | 127 | 002 | +Syn Brass3 | 2 | |
| C44 | 028 | 000 | 002 | 'Clean Gt. | 1 | |
| C44₁ | | 001 | 002 | 'Clean Gt. 2 | 2 | G-800 |
| C44₂ | | 002 | 002 | 'OpenHard Gt | 2 | G-800 |
| C44₃ | | 008 | 002 | 'Chorus Gt. | 2 | |
| **C44₄** | | **009** | **002** | **'JC Strat Gt** | **2** | **G-800** |
| C44₅ | | 126 | 002 | +Fretless Bs | 1 | |
| C44₆ | | 127 | 002 | +Syn Brass4 | 2 | |
| C45 | 029 | 000 | 002 | 'Muted Gt. | 1 | |
| **C45₁** | | **001** | **002** | **'MutedDis.Gt** | **1** | |
| C45₂ | | 002 | 002 | 'Muted Gt. 2 | 1 | |
| C45₃ | | 008 | 002 | 'Funk Pop | 1 | |
| C45₄ | | 016 | 002 | 'Funk Gt.2 | 1 | V-SW |
| C45₅ | | 126 | 002 | +Acoustic Bs | 1 | |
| C45₆ | | 127 | 002 | +Syn Bass 1 | 1 | |
| C46 | 030 | 000 | 002 | 'OverdriveGt | 1 | |
| C46₁ | | 126 | 002 | +Choir Aahs | 1 | |
| C46₂ | | 127 | 002 | +Syn Bass 2 | 2 | |
| C47 | 031 | 000 | 002 | 'DistortionG | 1 | |
| C47₁ | | 001 | 002 | 'Dist. Gt2 | 2 | |
| C47₂ | | 002 | 002 | 'DazedGuitar | 2 | |
| C47₃ | | 008 | 002 | 'FeedbackGt. | 2 | |
| C47₄ | | 009 | 002 | 'FeedbackGt2 | 2 | |
| C47₅ | | 016 | 002 | 'PowerGuitar | 2 | |
| C47₆ | | 017 | 002 | 'Power Gt.2 | 2 | |
| C47₇ | | 018 | 002 | '5th Dist. | 2 | |
| C47₈ | | 024 | 002 | 'Rock Rhythm | 2 | |
| C47₉ | | 025 | 002 | 'RockRhythm2 | 2 | |
| C47₁₀ | | 126 | 002 | +Choir Aahs | 1 | |
| C47₁₁ | | 127 | 002 | +Syn Bass3 | 2 | |
| C48 | 032 | 000 | 002 | 'Gt.Harmonix | 1 | |
| **C48₁** | | **008** | **002** | **'Gt.Feedback** | **1** | |
| C48₂ | | 016 | 002 | 'Ac.Gt.Harm. | 1 | |
| C48₃ | | 126 | 002 | +Choir Aahs | 1 | |
| C48₄ | | 127 | 002 | +Syn Bass4 | 1 | |
| **BASS** | | | | | | |
| C51 | 033 | 000 | 002 | 'AcousticBs. | 2 | |
| C51₁ | | 126 | 002 | +Choir Aahs | 1 | |
| C51₂ | | 127 | 002 | +Fantasy | 2 | |
| C52 | 034 | 000 | 002 | 'FingeredBs. | 1 | |
| **C52₁** | | **001** | **002** | **'FingeredBs2** | **2** | |
| C52₂ | | 002 | 002 | 'Jazz Bass | 1 | |
| C52₃ | | 126 | 002 | +SlowStrings | 1 | |
| C52₄ | | 127 | 002 | +Harmo Pan | 2 | |
| C53 | 035 | 000 | 002 | 'Picked Bass | 1 | |
| C53₁ | | 008 | 002 | 'MutePickBs. | 1 | |
| C53₂ | | 126 | 002 | +Strings | 1 | |
| C53₃ | | 127 | 002 | +Chorale | 1 | |
| C54 | 036 | 000 | 002 | 'FretlessBs. | 1 | |
| C54₁ | | 001 | 002 | 'FretlessBs2 | 2 | |
| C54₂ | | 002 | 002 | 'FretlessBs3 | 2 | |
| **C54₃** | | **003** | **002** | **'FretlessBs4** | **2** | |
| C54₄ | | 004 | 002 | 'SynFretless | 2 | |
| C54₅ | | 005 | 002 | 'Mr.Smooth | 2 | |
| C54₆ | | 126 | 002 | +SynStrings3 | 2 | |
| C54₇ | | 127 | 002 | +Glasses | 2 | |
| C55 | 037 | 000 | 002 | 'Slap Bass 1 | 1 | |
| C55₁ | | 008 | 002 | 'Reso Slap | 1 | |
| C55₂ | | 126 | 002 | +SynStrings3 | 2 | |
| C55₃ | | 127 | 002 | +Soundtrack | 2 | |
| C56 | 038 | 000 | 002 | 'Slap Bass 2 | 2 | |
| C56₁ | | 126 | 002 | +Organ 1 | 1 | |
| C56₂ | | 127 | 002 | +Atmosphere | 2 | |

| GBN | PC | CC00 | CC32 | Name | Voices | Rem. |
|---|---|---|---|---|---|---|
| C57 | 039 | 000 | 002 | 'SynthBass 1 | 2 | |
| C57$_1$ | | 001 | 002 | 'Syn.Bass101 | 1 | |
| C57$_2$ | | 008 | 002 | 'Acid Bass | 1 | |
| C57$_3$ | | 009 | 002 | 'TB303 Bass | 1 | |
| C57$_4$ | | 010 | 002 | 'Tekno Bass | 2 | |
| C57$_5$ | | 016 | 002 | 'Reso SHBass | 1 | |
| C57$_6$ | | 126 | 002 | +Organ 1 | 1 | |
| C57$_7$ | | 127 | 002 | +Warm Bell | 2 | |
| C58 | 040 | 000 | 002 | 'SynthBass 2 | 2 | |
| C58$_1$ | | 001 | 002 | 'Syn.Bass201 | 2 | |
| C58$_2$ | | 002 | 002 | 'ModularBass | 2 | |
| C58$_3$ | | 003 | 002 | 'Seq Bass | 2 | |
| C58$_4$ | | 008 | 002 | 'Beef FMBass | 2 | |
| C58$_5$ | | 009 | 002 | 'X Wire Bass | 2 | |
| C58$_6$ | | 016 | 002 | 'Rubber Bass | 2 | |
| C58$_7$ | | 017 | 002 | 'SH101Bass 1 | 1 | |
| C58$_8$ | | 018 | 002 | 'SH101Bass 2 | 1 | |
| C58$_9$ | | 019 | 002 | 'Smooth Bass | 2 | |
| C58$_{10}$ | | 126 | 002 | +Organ 1 | 1 | |
| C58$_{11}$ | | 127 | 002 | +Funny Vox | 1 | |
| **ORCHESTRA** | | | | | | |
| C61 | 041 | 000 | 002 | 'Violin | 1 | |
| C61$_1$ | | 008 | 002 | 'Slow Violin | 1 | |
| C61$_2$ | | 016 | 002 | 'Folk Violin | 1 | NIF |
| C61$_3$ | | 017 | 002 | 'FolkViolnVb | 1 | NIF |
| C61$_4$ | | 126 | 002 | +Organ 2 | 1 | |
| C61$_5$ | | 127 | 002 | +Echo Bell | 2 | |
| C62 | 042 | 000 | 002 | 'Viola | 1 | |
| C62$_1$ | | 126 | 002 | +Organ 1 | 1 | |
| C62$_2$ | | 127 | 002 | +Ice Rain | 2 | |
| C63 | 043 | 000 | 002 | 'Cello | 1 | |
| C63$_1$ | | 126 | 002 | +Organ 1 | 1 | |
| C63$_2$ | | 127 | 002 | +Oboe 2001 | 2 | |
| C64 | 044 | 000 | 002 | 'Contrabass | 1 | |
| C65 | 045 | 000 | 002 | 'Tremolo Str | 1 | |
| C65$_1$ | | 008 | 002 | 'SlowTremolo | 1 | |
| C65$_2$ | | 009 | 002 | 'SuspenseStr | 2 | |
| C65$_3$ | | 126 | 002 | +Organ 2 | 1 | |
| C65$_4$ | | 127 | 002 | +Doctor Solo | 2 | |
| C66 | 046 | 000 | 002 | 'Pizz. Str | 1 | |
| C66$_1$ | | 126 | 002 | +Organ 2 | 1 | |
| C66$_2$ | | 127 | 002 | +School Daze | 1 | |
| C67 | 047 | 000 | 002 | 'Harp | 1 | |
| C67$_1$ | | 126 | 002 | +Trumpet | 1 | |
| C67$_2$ | | 127 | 002 | +Bellsinger | 1 | |
| C68 | 048 | 000 | 002 | 'Timpani | 1 | |
| C68$_1$ | | 126 | 002 | +Trumpet | 1 | |
| C68$_2$ | | 127 | 002 | +Square Wave | 2 | |
| **ENSEMBLE** | | | | | | |
| C71 | 049 | 000 | 002 | 'Strings | 1 | |
| C71$_1$ | | 001 | 002 | 'Strings 2 | 1 | |
| C71$_2$ | | 008 | 002 | 'Orchestra | 2 | |
| C71$_3$ | | 009 | 002 | 'Orchestra 2 | 2 | |
| C71$_4$ | | 010 | 002 | 'TremoloOrch | 2 | |
| C71$_5$ | | 011 | 002 | 'Choir Str. | 2 | |
| C71$_6$ | | 016 | 002 | 'St.Strings | 2 | |
| C71$_7$ | | 024 | 002 | 'VeloStrings | 2 | |
| C71$_8$ | | 032 | 002 | 'Strings Oct | 2 | G-800 |
| C71$_9$ | | 126 | 002 | +Trombone | 1 | |
| C71$_{10}$ | | 127 | 002 | +Str Sect 1 | 1 | |
| C72 | 050 | 000 | 002 | 'SlowStrings | 1 | |
| C72$_1$ | | 001 | 002 | 'Slow Str. 2 | 1 | |
| C72$_2$ | | 008 | 002 | 'Legato Str. | 2 | |
| C72$_3$ | | 009 | 002 | 'WarmStrings | 2 | |
| C72$_4$ | | 010 | 002 | 'St.SlowStr. | 2 | |
| C72$_5$ | | 126 | 002 | +Trombone | 1 | |
| C72$_6$ | | 127 | 002 | +Str Sect 2 | 1 | |
| C73 | 051 | 000 | 002 | 'SynStrings1 | 2 | |
| C73$_1$ | | 001 | 002 | 'OB Strings | 2 | |
| C73$_2$ | | 008 | 002 | 'SynStrings3 | 2 | |
| C73$_3$ | | 126 | 002 | +Trombone | 1 | |
| C73$_4$ | | 127 | 002 | +Str Sect3 | 1 | |
| C74 | 052 | 000 | 002 | 'SynStrings2 | 2 | |
| C74$_1$ | | 126 | 002 | +Trombone | 1 | |
| C74$_2$ | | 127 | 002 | +Pizzicato | 1 | |
| C75 | 053 | 000 | 002 | 'Choir Aahs | 1 | |
| C75$_1$ | | 008 | 002 | 'St.Choir | 2 | |
| C75$_2$ | | 009 | 002 | 'Mello Choir | 2 | |
| C75$_3$ | | 032 | 002 | 'ChoirAahs 2 | 1 | |
| C75$_4$ | | 126 | 002 | +Trombone | 1 | |
| C75$_5$ | | 127 | 002 | +Violin 1 | 1 | |

| GBN | PC | CC00 | CC32 | Name | Voices | Rem. |
|---|---|---|---|---|---|---|
| C76 | 054 | 000 | 002 | 'Voice Oohs | 1 | |
| C76$_1$ | | 126 | 002 | +Trombone | 1 | |
| C76$_2$ | | 127 | 002 | +Violin 2 | 1 | |
| C77 | 055 | 000 | 002 | 'SynVox | 1 | |
| C77$_1$ | | 008 | 002 | 'Syn.Voice | 2 | |
| C77$_2$ | | 126 | 002 | +Alto Sax | 1 | |
| C77$_3$ | | 127 | 002 | +Cello 1 | 1 | |
| C78 | 056 | 000 | 002 | 'Orch. Hit | 2 | |
| C78$_1$ | | 008 | 002 | 'Impact Hit | 2 | |
| C78$_2$ | | 009 | 002 | 'Philly Hit | 2 | |
| C78$_3$ | | 010 | 002 | 'Double Hit | 2 | |
| C78$_4$ | | 016 | 002 | 'Lo Fi Rave | 2 | |
| C78$_5$ | | 126 | 002 | +Tenor Sax | 1 | |
| C78$_6$ | | 127 | 002 | +Cello 2 | 1 | |
| **BRASS** | | | | | | |
| C81 | 057 | 000 | 002 | 'Trumpet | 1 | |
| C81$_1$ | | 001 | 002 | 'Trumpet 2 | 1 | |
| C81$_2$ | | 008 | 002 | 'Flugel Horn | 1 | |
| C81$_3$ | | 017 | 002 | 'FolkTrumpet | 1 | NIF |
| C81$_4$ | | 018 | 002 | 'FolkTrumpVb | 1 | NIF |
| C81$_5$ | | 024 | 002 | 'Bright Tp. | 2 | |
| C81$_6$ | | 025 | 002 | 'Warm Tp. | 2 | |
| C81$_7$ | | 126 | 002 | +BaritoneSax | 1 | |
| C81$_8$ | | 127 | 002 | +Contrabass | 1 | |
| C82 | 058 | 000 | 002 | 'Trombone | 1 | |
| C82$_1$ | | 001 | 002 | 'Trombone 2 | 2 | |
| C82$_2$ | | 126 | 002 | +Alto Sax | 1 | |
| C82$_3$ | | 127 | 002 | +Harp 1 | 1 | |
| C83 | 059 | 000 | 002 | 'Tuba | 1 | |
| C83$_1$ | | 001 | 002 | 'Tuba 2 | 1 | |
| C83$_2$ | | 126 | 002 | +Brass 1 | 1 | |
| C83$_3$ | | 127 | 002 | +Harp 2 | 1 | |
| C84 | 060 | 000 | 002 | 'Muted Tp. | 1 | |
| C84$_1$ | | 126 | 002 | +Brass 1 | 1 | |
| C84$_2$ | | 127 | 002 | +Guitar 1 | 1 | |
| C85 | 061 | 000 | 002 | 'FrenchHorns | 1 | V-SW |
| C85$_1$ | | 001 | 002 | 'Fr.Horn 2 | 2 | |
| C85$_2$ | | 008 | 002 | 'Fr.HornSolo | 1 | |
| C85$_3$ | | 016 | 002 | 'Horn Orch | 2 | |
| C85$_4$ | | 126 | 002 | +Brass 2 | 2 | |
| C85$_5$ | | 127 | 002 | +Guitar 2 | 1 | |
| C86 | 062 | 000 | 002 | 'Brass 1 | 1 | |
| C86$_1$ | | 008 | 002 | 'Brass 2 | 2 | |
| C86$_2$ | | 016 | 002 | 'Brass Fall | 1 | |
| C86$_3$ | | 024 | 002 | 'Brass Oct | 2 | G-800 |
| C86$_4$ | | 126 | 002 | +Brass 2 | 2 | |
| C86$_5$ | | 127 | 002 | +Elec Gtr 1 | 1 | |
| C87 | 063 | 000 | 002 | 'SynthBrass1 | 2 | |
| C87$_1$ | | 001 | 002 | 'Poly Brass | 2 | |
| C87$_2$ | | 008 | 002 | 'Syn.Brass 3 | 2 | |
| C87$_3$ | | 009 | 002 | 'Quack Brass | 2 | |
| C87$_4$ | | 016 | 002 | 'OctaveBrass | 2 | |
| C87$_5$ | | 126 | 002 | +Brass 1 | 1 | |
| C87$_6$ | | 127 | 002 | +Elec Gtr 2 | 1 | |
| C88 | 064 | 000 | 002 | 'Syn.Brass 2 | 2 | |
| C88$_1$ | | 001 | 002 | 'Soft Brass | 2 | |
| C88$_2$ | | 008 | 002 | 'Syn.Brass 4 | 1 | |
| C88$_3$ | | 016 | 002 | 'VeloBrass 1 | 2 | |
| C88$_4$ | | 017 | 002 | 'VeloBrass 2 | 2 | |
| C88$_5$ | | 126 | 002 | +Orchest.Hit | 2 | |
| C88$_6$ | | 127 | 002 | +Sitar | 2 | |
| **REED** | | | | | | |
| D11 | 065 | 000 | 002 | 'Soprano Sax | 1 | |
| D11$_1$ | | 127 | 002 | +Acou Bass 1 | 1 | |
| D12 | 066 | 000 | 002 | 'Alto Sax | 1 | |
| D12$_1$ | | 008 | 002 | 'Hyper Alto | 1 | V-SW |
| D12$_2$ | | 009 | 002 | 'Alto Sax 2 | 1 | V-SW G-800 |
| D12$_3$ | | 017 | 002 | 'Folk A.Sax | 1 | NIF |
| D12$_4$ | | 018 | 002 | 'FolkA.SaxVb | 1 | NIF |
| D12$_5$ | | 127 | 002 | +Acou Bass 2 | 1 | |
| D13 | 067 | 000 | 002 | 'Tenor Sax | 2 | |
| D13$_1$ | | 001 | 002 | 'Tenor Sax 2 | 1 | V-SW G-800 |
| D13$_2$ | | 008 | 002 | 'BreathyTnr. | 1 | |
| D13$_3$ | | 127 | 002 | +Elec Bass 1 | 1 | |
| D14 | 068 | 000 | 002 | 'BaritoneSax | 1 | |
| D14$_1$ | | 127 | 002 | +Elec Bass 2 | 1 | |
| D15 | 069 | 000 | 002 | 'Oboe | 1 | |
| D15$_1$ | | 127 | 002 | +Slap Bass 1 | 1 | |
| D16 | 070 | 000 | 002 | 'EnglishHorn | 1 | |
| D16$_1$ | | 127 | 002 | +Slap Bass 2 | 1 | |
| D17 | 071 | 000 | 002 | 'Bassoon | 1 | |
| D17$_1$ | | 127 | 002 | +Fretless 1 | 1 | |

| GBN | PC | CC00 | CC32 | Name | Voices | Rem. |
|---|---|---|---|---|---|---|
| D18 | 072 | 000 | 002 | 'Clarinet | 1 | |
| D18$_1$ | | 008 | 002 | 'Bs Clarinet | 1 | |
| D18$_2$ | | 016 | 002 | 'Folk Clarin | 1 | NIF |
| D18$_3$ | | 017 | 002 | 'FolkClarnVb | 1 | NIF |
| D18$_4$ | | 127 | 002 | +Fretless 2 | 1 | |
| **PIPE** | | | | | | |
| D21 | 073 | 000 | 002 | 'Piccolo | 1 | |
| D21$_1$ | | 008 | 002 | 'Nay | 1 | G-800 |
| D21$_2$ | | 009 | 002 | 'Nay Oct | 2 | G-800 |
| D21$_3$ | | 127 | 002 | +Flute 1 | 1 | |
| D22 | 074 | 000 | 002 | 'Flute | 1 | |
| D22$_1$ | | 127 | 002 | +Flute 2 | 1 | |
| D23 | 075 | 000 | 002 | 'Recorder | 1 | |
| D23$_1$ | | 127 | 002 | +Piccolo 1 | 1 | |
| D24 | 076 | 000 | 002 | 'Pan Flute | 2 | |
| D24$_1$ | | 008 | 002 | 'Kawala | 2 | |
| D24$_2$ | | 009 | 002 | 'Kawala 2 | 1 | G-800 |
| D24$_3$ | | 010 | 002 | 'Kawala Oct | 2 | G-800 |
| D24$_4$ | | 127 | 002 | +Piccolo 2 | 2 | |
| D25 | 077 | 000 | 002 | 'Bottle Blow | 2 | |
| D25$_1$ | | 127 | 002 | +Recorder | 1 | |
| D26 | 078 | 000 | 002 | 'Shakuhachi | 2 | |
| D26$_1$ | | 127 | 002 | +Pan Pipes | 1 | |
| D27 | 079 | 000 | 002 | 'Whistle | 1 | |
| D27$_1$ | | 127 | 002 | +Sax 1 | 1 | |
| D28 | 080 | 000 | 002 | 'Ocarina | 1 | |
| D28$_1$ | | 127 | 002 | +Sax 2 | 1 | |
| **SYNTH LEAD** | | | | | | |
| D31 | 081 | 000 | 002 | 'Square Wave | 2 | |
| D31$_1$ | | 001 | 002 | 'Square | 1 | |
| D31$_2$ | | 002 | 002 | 'Hollow Mini | 1 | |
| D31$_3$ | | 003 | 002 | 'Mellow FM | 2 | |
| D31$_4$ | | 004 | 002 | 'CC Solo | 2 | |
| D31$_5$ | | 005 | 002 | 'Shmoog | 2 | |
| D31$_6$ | | 006 | 002 | 'LM Square | 2 | |
| D31$_7$ | | 008 | 002 | 'Sine Wave | 1 | |
| D31$_8$ | | 127 | 002 | +Sax 3 | 1 | |
| D32 | 082 | 000 | 002 | 'Saw Wave | 2 | |
| D32$_1$ | | 001 | 002 | 'Saw | 1 | |
| D32$_2$ | | 002 | 002 | 'Pulse Saw | 2 | |
| D32$_3$ | | 003 | 002 | 'Feline GR | 2 | |
| D32$_4$ | | 004 | 002 | 'Big Lead | 2 | |
| D32$_5$ | | 005 | 002 | 'Velo Lead | 2 | |
| D32$_6$ | | 006 | 002 | 'GR-300 | 2 | |
| D32$_7$ | | 007 | 002 | 'LA Saw | 1 | |
| D32$_8$ | | 008 | 002 | 'Doctor Solo | 2 | |
| D32$_9$ | | 016 | 002 | 'Waspy Synth | 2 | |
| D32$_{10}$ | | 127 | 002 | +Sax 4 | 1 | |
| D33 | 083 | 000 | 002 | 'SynCalliope | 2 | |
| D33$_1$ | | 001 | 002 | 'Vent Synth | 2 | |
| D33$_2$ | | 002 | 002 | 'PurePanLead | 2 | |
| D33$_3$ | | 127 | 002 | +Clarinet 1 | 1 | |
| D34 | 084 | 000 | 002 | 'ChifferLead | 2 | |
| D34$_1$ | | 127 | 002 | +Clarinet 2 | 1 | |
| D35 | 085 | 000 | 002 | 'Charang | 2 | |
| D35$_1$ | | 008 | 002 | 'Dist.Lead | 2 | |
| D35$_2$ | | 127 | 002 | +Oboe | 1 | |
| D36 | 086 | 000 | 002 | 'Solo Vox | 2 | |
| D36$_1$ | | 127 | 002 | +Engl Horn | 1 | |
| D37 | 087 | 000 | 002 | '5th Saw | 2 | |
| D37$_1$ | | 001 | 002 | 'Big Fives | 2 | |
| D37$_2$ | | 127 | 002 | +Bassoon | 1 | |
| D38 | 088 | 000 | 002 | 'Bass & Lead | 2 | |
| D38$_1$ | | 001 | 002 | 'Big & Raw | 2 | |
| D38$_2$ | | 002 | 002 | 'Fat & Perky | 2 | |
| D38$_3$ | | 127 | 002 | +Harmonica | 1 | |
| **SYNTH PAD** | | | | | | |
| D41 | 089 | 000 | 002 | 'Fantasia | 2 | |
| D41$_1$ | | 001 | 002 | 'Fantasia 2 | 2 | |
| D41$_2$ | | 127 | 002 | +Trumpet 1 | 1 | |
| D42 | 090 | 000 | 002 | 'Warm Pad | 1 | |
| D42$_1$ | | 001 | 002 | 'Thick Pad | 2 | |
| D42$_2$ | | 002 | 002 | 'Horn Pad | 2 | |
| D42$_3$ | | 003 | 002 | 'RotaryStrng | 2 | |
| D42$_4$ | | 004 | 002 | 'Soft Pad | 2 | |
| D42$_5$ | | 127 | 002 | +Trumpet 2 | 1 | |
| D43 | 091 | 000 | 002 | 'Polysynth | 2 | |
| D43$_1$ | | 001 | 002 | '80'sPolySyn | 2 | |
| D43$_2$ | | 127 | 002 | +Trombone 1 | 2 | |
| D44 | 092 | 000 | 002 | 'Space Voice | 1 | |
| D44$_1$ | | 001 | 002 | 'Heaven II | 2 | |
| D44$_2$ | | 127 | 002 | +Trombone 2 | 2 | |

| GBN | PC | CC00 | CC32 | Name | Voices | Rem. |
|---|---|---|---|---|---|---|
| **D45** | **093** | **000** | **002** | **'Bowed Glass** | **2** | |
| D45₁ | | 127 | 002 | +Fr Horn 1 | 2 | |
| D46 | 094 | 000 | 002 | 'Metal Pad | 2 | |
| D46₁ | | 001 | 002 | 'Tine Pad | 2 | |
| **D46₂** | | **002** | **002** | **'Panner Pad** | **2** | |
| D46₃ | | 127 | 002 | +Fr Horn 2 | 2 | |
| **D47** | **095** | **000** | **002** | **'Halo Pad** | **2** | |
| D47₁ | | 127 | 002 | +Tuba | 1 | |
| D48 | 096 | 000 | 002 | 'Sweep Pad | 1 | |
| D48₁ | | 001 | 002 | 'Polar Pad | 1 | |
| D48₂ | | 008 | 002 | 'Converge | 1 | |
| D48₃ | | 009 | 002 | 'Shwimmer | 2 | |
| **D48₄** | | **010** | **002** | **'CelestialPd** | **2** | |
| D48₅ | | 127 | 002 | +Brs Sect 1 | 1 | |
| **SYNTH SFX** | | | | | | |
| D51 | 097 | 000 | 002 | 'Ice Rain | 2 | |
| D51₁ | | 001 | 002 | 'Harmo Rain | 2 | |
| D51₂ | | 002 | 002 | 'AfricanWood | 2 | |
| **D51₃** | | **008** | **002** | **'Clavi Pad** | **2** | |
| D51₄ | | 127 | 002 | +Brs Sect 2 | 2 | |
| D52 | 098 | 000 | 002 | 'Soundtrack | 2 | |
| **D52₁** | | **001** | **002** | **'Ancestral** | **2** | |
| D52₂ | | 002 | 002 | 'Prologue | 2 | |
| D52₃ | | 008 | 002 | 'Rave | 2 | |
| D52₄ | | 127 | 004 | +Vibe 1 | 1 | |
| D53 | 099 | 000 | 002 | 'Crystal | 2 | |
| D53₁ | | 001 | 002 | 'Syn Mallet | 1 | |
| D53₂ | | 002 | 002 | 'SoftCrystal | 2 | |
| D53₃ | (099) | 003 | 002 | 'Round Glock | 2 | |
| **D53₄** | | **004** | **002** | **'Loud Glock** | **2** | |
| D53₅ | | 005 | 002 | 'GlocknChime | 2 | |
| D53₆ | | 006 | 002 | 'Clear Bells | 2 | |
| D53₇ | | 007 | 002 | 'X'mas Bell | 2 | |
| D53₈ | | 008 | 002 | 'Vibra Bells | 2 | |
| D53₉ | | 009 | 002 | 'Digi Bells | 2 | |
| D53₁₀ | | 016 | 002 | 'ChoralBells | 2 | |
| D53₁₁ | | 017 | 002 | 'Air Bells | 2 | |
| D53₁₂ | | 018 | 002 | 'Bell Harp | 2 | |
| D53₁₃ | | 019 | 002 | 'Gamelimba | 2 | |
| D53₁₄ | | 127 | 002 | +Vibe 2 | 1 | |
| D54 | 100 | 000 | 002 | 'Atmosphere | 2 | |
| D54₁ | | 001 | 002 | 'Warm Atmos | 2 | |
| D54₂ | | 002 | 002 | 'Nylon Harp | 2 | |
| **D54₃** | | **003** | **002** | **'Harpvox** | **2** | |
| D54₄ | | 004 | 002 | 'HollowRels. | 2 | |
| D54₅ | | 005 | 002 | 'NylonRhodes | 2 | |
| D54₆ | | 006 | 002 | 'Ambient Pad | 2 | |
| D54₇ | | 127 | 002 | +Syn Mallet | 1 | |
| **D55** | **101** | **000** | **002** | **'Brightness** | **2** | |
| D55₁ | | 127 | 002 | +Windbell | 2 | |
| D56 | 102 | 000 | 002 | 'Goblin | 2 | |
| **D56₁** | | **001** | **002** | **'Goblinson** | **2** | |
| D56₂ | | 002 | 002 | '50's Sci-Fi | 2 | |
| D56₃ | | 127 | 002 | +Glock | 1 | |
| D57 | 103 | 000 | 002 | 'Echo Drops | 1 | |
| D57₁ | | 001 | 002 | 'Echo Bell | 2 | |
| D57₂ | | 002 | 002 | 'Echo Pan | 2 | |
| D57₃ | | 003 | 002 | 'Echo Pan 2 | 2 | |
| **D57₄** | | **004** | **002** | **'Big Panner** | **2** | |
| D57₅ | | 005 | 002 | 'Reso Panner | 2 | |
| D57₆ | | 006 | 002 | 'Water Piano | 2 | |
| D57₇ | | 127 | 002 | +Tube Bell | 1 | |
| **D58** | **104** | **000** | **002** | **'Star Theme** | **2** | |
| D58₁ | | 001 | 002 | 'StarTheme 2 | 2 | |
| D58₂ | | 127 | 002 | +Xylophone | 1 | |
| **ETHNIC MISC** | | | | | | |
| D61 | 105 | 000 | 002 | 'Sitar | 1 | |
| **D61₁** | | **001** | **002** | **'Sitar 2** | **2** | |
| D61₂ | | 002 | 002 | 'DetuneSitar | 2 | |
| D61₃ | | 008 | 002 | 'Tambra | 1 | |
| D61₄ | | 016 | 002 | 'Tamboura | 2 | |
| D61₅ | | 127 | 002 | +Marimba | 1 | |
| **D62** | **106** | **000** | **002** | **'Banjo** | **1** | |
| D62₁ | | 001 | 002 | 'Muted Banjo | 1 | |
| D62₂ | | 008 | 002 | 'Rabab | 2 | |
| D62₃ | | 016 | 002 | 'Gopichant | 2 | |
| D62₄ | | 024 | 002 | 'Oud | 2 | |
| D62₅ | | 025 | 002 | 'Oud 2 | 1 | G-800 |
| D62₆ | | 026 | 002 | 'Oud Tremolo | 1 | G-800 |
| D62₇ | | 027 | 002 | 'Oud VSwitch | 2 | V-SW G-800 |
| D62₈ | | 028 | 002 | 'Oud&Strings | 2 | V-SW G-800 |
| D62₉ | | 127 | 002 | +Koto | 1 | |

| GBN | PC | CC00 | CC32 | Name | Voices | Rem. |
|---|---|---|---|---|---|---|
| D63 | 107 | 000 | 002 | 'Shamisen | 1 | |
| **D63₁** | | **001** | **002** | **'Tsugaru** | **2** | |
| D63₂ | | 127 | 002 | +Sho | 2 | |
| D64 | 108 | 000 | 002 | 'Koto | 1 | |
| **D64₁** | | **008** | **002** | **'Taisho Koto** | **1** | |
| D64₂ | | 016 | 002 | 'Kanoon | 2 | |
| D64₃ | | 017 | 002 | 'Kanoon 2 | 1 | G-800 |
| D64₄ | | 018 | 002 | 'Kanoon Oct | 2 | G-800 |
| D64₅ | | 019 | 002 | 'Knoon&Choir | 2 | V-SW G-800 |
| D64₆ | | 127 | 002 | +Shakuhachi | 2 | |
| **D65** | **109** | **000** | **002** | **'Kalimba** | **1** | |
| D65₁ | | 127 | 002 | +Whistle 1 | 2 | |
| **D66** | **110** | **000** | **002** | **'Bagpipe** | **1** | |
| D66₁ | | 008 | 002 | 'Mizmar | 1 | G-800 |
| D66₂ | | 009 | 002 | 'Mizmar Oct | 2 | G-800 |
| D66₃ | | 010 | 002 | 'Mizmar Dual | 2 | G-800 |
| D66₄ | | 127 | 002 | +Whistle 2 | 1 | |
| D67 | 111 | 000 | 002 | 'Fiddle | 1 | |
| **D67₁** | | **008** | **002** | **'Rababa** | **1** | **G-800** |
| D67₂ | | 127 | 002 | +Bottleblow | 2 | |
| D68 | 112 | 000 | 002 | 'Shanai | 1 | |
| **D68₁** | | **001** | **002** | **'Shanai 2** | **1** | **V-SW** |
| D68₂ | | 008 | 002 | 'Pungi | 1 | |
| D68₃ | | 016 | 002 | 'Hichiriki | 2 | |
| D68₄ | | 127 | 002 | +Breathpipe | 1 | |
| **PERCUSSIVE** | | | | | | |
| D71 | 113 | 000 | 002 | 'Tinkle Bell | 1 | |
| D71₁ | | 008 | 002 | 'Bonang | 1 | |
| D71₂ | | 009 | 002 | 'Gender | 1 | |
| D71₃ | | 010 | 002 | 'GamelanGong | 1 | |
| D71₄ | | 011 | 002 | 'St.Gamelan | 2 | |
| **D71₅** | | **016** | **002** | **'RAMA Cymbal** | **1** | |
| D71₆ | | 127 | 002 | +Timpani | 1 | |
| **D72** | **114** | **000** | **002** | **'Agogo** | **1** | |
| D72₁ | | 008 | 002 | 'Atarigane | 1 | |
| D72₂ | | 127 | 002 | +Melodic Tom | 1 | |
| **D73** | **115** | **000** | **002** | **'Steel Drums** | **1** | |
| D73₁ | | 127 | 002 | +Deep Snare | 1 | |
| **D74** | **116** | **000** | **002** | **'Woodblock** | **1** | |
| D74₁ | | 008 | 002 | 'Castanets | 1 | |
| D74₂ | | 127 | 002 | +Elec Perc 1 | 1 | |
| **D75** | **117** | **000** | **002** | **'Taiko** | **1** | |
| D75₁ | | 008 | 002 | 'Concert BD | 1 | |
| D75₂ | | 127 | 002 | +Elec Perc 2 | 1 | |
| D76 | 118 | 000 | 002 | 'Melo. Tom 1 | 1 | |
| **D76₁** | | **001** | **002** | **'Real Tom** | **2** | |
| D76₂ | | 008 | 002 | 'Melo. Tom 2 | 1 | |
| D76₃ | | 009 | 002 | 'Rock Tom | 2 | |
| D76₄ | | 127 | 002 | +Taiko | 1 | |
| D77 | 119 | 000 | 002 | 'Synth Drum | 1 | |
| **D77₁** | | **008** | **002** | **'808 Tom** | **2** | |
| D77₂ | | 009 | 002 | 'Elec Perc | 1 | |
| D77₃ | | 127 | 002 | +Taiko Rim | 1 | |
| D78 | 120 | 00 | 002 | 'Reverse Cym | 1 | |
| **D78₁** | | **001** | **002** | **'ReverseCym2** | **1** | |
| D78₂ | | 008 | 002 | 'Rev.Snare 1 | 1 | |
| D78₃ | | 009 | 002 | 'Rev.Snare 2 | 1 | |
| D78₄ | | 016 | 002 | 'Rev.Kick 1 | 1 | |
| D78₅ | | 017 | 002 | 'Rev.ConBD | 1 | |
| D78₆ | | 024 | 002 | 'Rev.Tom 1 | 1 | |
| D78₇ | | 025 | 002 | 'Rev.Tom 2 | 1 | |
| D78₈ | | 127 | 002 | +Cymbal | 1 | |
| **SFX** | | | | | | |
| D81 | 121 | 000 | 002 | 'Gt.FretNoiz | 1 | |
| D81₁ | | 001 | 002 | 'Gt.CutNoise | 1 | |
| D81₂ | | 002 | 002 | 'String Slap | 1 | |
| D81₃ | | 003 | 002 | 'Gt.CutNz. 2 | 1 | |
| D81₄ | | 004 | 002 | 'Dist.CutNz. | 1 | |
| D81₅ | | 005 | 002 | 'Bass Slide | 1 | |
| **D81₆** | | **006** | **002** | **'Pick Scrape** | **1** | |
| D81₇ | | 127 | 002 | +Castanets | 1 | |
| **D82** | **122** | **000** | **002** | **'BreathNoise** | **1** | |
| D82₁ | | 001 | 002 | 'Fl.KeyClick | 1 | |
| D82₂ | | 127 | 002 | +Triangle | 1 | |
| D83 | 123 | 000 | 002 | 'Seashore | 1 | |
| D83₁ | | 001 | 002 | 'Rain | 1 | |
| D83₂ | | 002 | 002 | 'Thunder | 1 | |
| D83₃ | | 003 | 002 | 'Wind | 1 | |
| **D83₄** | | **004** | **002** | **'Stream** | **2** | |
| D83₅ | | 005 | 002 | 'Bubble | 2 | |
| D83₆ | | 127 | 002 | +Orche Hit | 1 | |

| GBN | PC | CC00 | CC32 | Name | Voices | Rem. |
|---|---|---|---|---|---|---|
| **D84** | **124** | **000** | **002** | **'Bird** | **2** | |
| D84₁ | | 001 | 002 | 'Dog | 1 | |
| D84₂ | | 002 | 002 | 'HorseGallop | 1 | |
| D84₃ | | 003 | 002 | 'Bird 2 | 1 | |
| D84₄ | | 004 | 002 | 'Kitty | 1 | |
| D84₅ | | 005 | 002 | 'Growl | 1 | |
| D84₆ | | 127 | 002 | +Telephone | 1 | |
| **D85** | **125** | **000** | **002** | **'Telephone 1** | **1** | |
| D85₁ | | 001 | 002 | 'Telephone 2 | 1 | |
| D85₂ | | 002 | 002 | 'Creaking | 1 | |
| D85₃ | | 003 | 002 | 'Door | 1 | |
| D85₄ | | 004 | 002 | 'Scratch | 1 | |
| D85₅ | | 005 | 002 | 'Wind Chimes | 2 | |
| D85₆ | | 007 | 002 | 'Scratch 2 | 1 | |
| D85₇ | | 127 | 002 | +Bird Tweet | 1 | |
| D86 | 126 | 000 | 002 | 'Helicopter | 1 | |
| **D86₁** | | **001** | **002** | **'Car-Engine** | **1** | |
| D86₂ | | 002 | 002 | 'Car-Stop | 1 | |
| D86₃ | | 003 | 002 | 'Car-Pass | 1 | |
| D86₄ | | 004 | 002 | 'Car-Crash | 2 | |
| D86₅ | | 005 | 002 | 'Siren | 1 | |
| D86₆ | | 006 | 002 | 'Train | 1 | |
| D86₇ | | 007 | 002 | 'Jetplane | 2 | |
| D86₈ | | 008 | 002 | 'Starship | 2 | |
| D86₉ | | 009 | 002 | 'Burst Noise | 2 | |
| D86₁₀ | | 127 | 002 | +OneNote Jam | 1 | |
| D87 | 127 | 000 | 002 | 'Applause | 2 | |
| D87₁ | | 001 | 002 | 'Laughing | 1 | |
| D87₂ | | 002 | 002 | 'Screaming | 1 | |
| D87₃ | | 003 | 002 | 'Punch | 1 | |
| D87₄ | | 004 | 002 | 'Heart Beat | 1 | |
| D87₅ | | 005 | 002 | 'Footsteps | 1 | |
| **D87₆** | | **006** | **002** | **'Applause 2** | **2** | |
| D87₇ | | 127 | 002 | +Water Bell | 2 | |
| **D88** | **128** | **000** | **002** | **'Gun Shot** | **1** | |
| D88₁ | | 001 | 002 | 'Machine Gun | 1 | |
| D88₂ | | 002 | 002 | 'Lasergun | 1 | |
| D88₃ | | 003 | 002 | 'Explosion | 2 | |
| D88₄ | | 127 | 002 | +Jungle Tune | 2 | |

* NIF= New Italian Folk.

# 13.3 SC-55 Map & CM-64 Tones (Banks E & F)

| GBN | PC | CC00 | CC32 | Name | Voice | Rem. |
|---|---|---|---|---|---|---|
| **PIANO** | | | | | | |
| E11 | 001 | 000 | 001 | "Piano 1 | 1 | |
| E111 | | 008 | 001 | "Piano 1w | 1 | |
| E112 | | 016 | 001 | "Piano 1d | 1 | |
| E113 | | 126 | 001 | +Piano 2 | 1 | |
| E114 | | 127 | 001 | +Acou Piano1 | 1 | |
| E12 | 002 | 000 | 001 | "Piano 2 | 1 | |
| E121 | | 008 | 001 | "Piano 2w | 1 | |
| E122 | | 126 | 001 | +Piano 2 | 1 | |
| E123 | | 127 | 001 | +Acou Piano2 | 1 | |
| E13 | 003 | 000 | 001 | "Piano 3 | 1 | |
| E131 | | 008 | 001 | "Piano 3w | 1 | |
| E132 | | 126 | 001 | +Piano 2 | 1 | |
| E133 | | 127 | 001 | +Acou Piano3 | 1 | |
| E14 | 004 | 000 | 001 | "Honky-tonk | 2 | |
| E141 | | 008 | 001 | "HonkyTonk w | 2 | |
| E142 | | 126 | 001 | +Honky-tonk | 2 | |
| E143 | | 127 | 001 | +Elec Piano1 | 1 | |
| E15 | 005 | 000 | 001 | "E.Piano 1 | 1 | |
| E151 | | 008 | 001 | "Detuned EP1 | 2 | |
| E152 | | 016 | 001 | "E.Piano 1v | 2 | |
| E153 | | 024 | 001 | "60s E.Piano | 1 | |
| E154 | | 126 | 001 | +Piano 1 | 1 | |
| E155 | | 127 | 001 | +Elec Piano2 | 1 | |
| E16 | 006 | 000 | 001 | "E.Piano 2 | 1 | |
| E161 | | 008 | 001 | "Detuned EP2 | 2 | |
| E162 | | 016 | 001 | "E.Piano 2v | 2 | |
| E163 | | 126 | 001 | +Piano 2 | 1 | |
| E164 | | 127 | 001 | +Elec Piano3 | 1 | |
| E17 | 007 | 000 | 001 | "Harpsichord | 1 | |
| E171 | | 008 | 001 | "Coupled Hps | 2 | |
| E172 | | 016 | 001 | "Harpsi.w | 1 | |
| E173 | | 024 | 001 | "Harpsi.o | 2 | |
| E174 | | 126 | 001 | +Piano 2 | 1 | |
| E175 | | 127 | 001 | +Elec Piano4 | 1 | |
| E18 | 008 | 000 | 001 | "Clav. | 1 | |
| E181 | | 126 | 001 | +E.Piano 1 | 1 | |
| E182 | | 127 | 001 | +Honkytonk | 2 | |
| **CHROMATIC PERCUSSION** | | | | | | |
| E21 | 009 | 000 | 001 | "Celesta | 1 | |
| E211 | | 126 | 001 | +Detuned EP1 | 2 | |
| E212 | | 127 | 001 | +Elec Org 1 | 1 | |
| E22 | 010 | 000 | 001 | "Glockenspl | 1 | |
| E221 | | 126 | 001 | +E.Piano 2 | 1 | |
| E222 | | 127 | 001 | +Elec Org 2 | 2 | |
| E23 | 011 | 000 | 001 | "Music Box. | 1 | |
| E231 | | 126 | 001 | +Steel Gt. | 1 | |
| E232 | | 127 | 001 | +Elec Org 3 | 1 | |
| E24 | 012 | 000 | 001 | "Vibraphone | 1 | |
| E241 | | 008 | 001 | "Vib.w | 1 | |
| E242 | | 126 | 001 | +Steel Gt. | 1 | |
| E243 | | 127 | 001 | +Elec Org 4 | 1 | |
| E25 | 013 | 000 | 001 | "Marimba | 1 | |
| E251 | | 008 | 001 | "Marimba w | 1 | |
| E252 | | 126 | 001 | +12-str.Gt | 2 | |
| E253 | | 127 | 001 | +Pipe Org 1 | 2 | |
| E26 | 014 | 000 | 001 | "Xylophone | 1 | |
| E261 | | 126 | 001 | +Funk Gt. | 1 | |
| E262 | | 127 | 001 | +Pipe Org 2 | 2 | |
| E27 | 015 | 000 | 001 | "Tubularbell | 1 | |
| E271 | | 008 | 001 | "Church Bell | 1 | |
| E272 | | 009 | 001 | "Carillon | 1 | |
| E273 | | 126 | 001 | +Muted Gt. | 1 | |
| E274 | | 127 | 001 | +Pipe Org3 | 2 | |
| E28 | 016 | 000 | 001 | "Santur. | 1 | |
| E281 | | 126 | 001 | +Slap Bass 1 | 1 | |
| E282 | | 127 | 001 | +Accordion | 2 | |

| GBN | PC | CC00 | CC32 | Name | Voice | Rem. |
|---|---|---|---|---|---|---|
| **ORGAN** | | | | | | |
| E31 | 017 | 000 | 001 | "Organ 1 | 1 | |
| E311 | | 008 | 001 | "Detuned Or1 | 2 | |
| E312 | | 016 | 001 | "60's Organ1 | 1 | |
| E313 | | 032 | 001 | "Organ 4 | 2 | |
| E314 | | 126 | 001 | +Slap Bass 1 | 1 | |
| E315 | | 127 | 001 | +Harpsi 1 | 1 | |
| E32 | 018 | 000 | 001 | "Organ 2 | 1 | |
| E321 | | 008 | 001 | "Detuned Or2 | 2 | |
| E322 | | 032 | 001 | "Organ 5 | 2 | |
| E323 | | 126 | 001 | +Slap Bass 1 | 1 | |
| E324 | | 127 | 001 | +Harpsi 2 | 2 | |
| E33 | 019 | 000 | 001 | "Organ 3 | 2 | |
| E331 | | 126 | 001 | +Slap Bass 1 | 1 | |
| E332 | | 127 | 001 | +Harpsi 3 | 1 | |
| E34 | 020 | 000 | 001 | "Church Org1 | 1 | |
| E341 | | 008 | 001 | "Church Org2 | 2 | |
| E342 | | 016 | 001 | "Church Org3 | 2 | |
| E343 | | 126 | 001 | +Slap Bass 2 | 1 | |
| E344 | | 127 | 001 | +Clavi 1 | 1 | |
| E35 | 021 | 000 | 001 | "Reed Organ | 1 | |
| E351 | | 126 | 001 | +Slap Bass 2 | 1 | |
| E352 | | 127 | 001 | +Clavi 2 | 1 | |
| E36 | 022 | 000 | 001 | "Accordion F | 2 | |
| E361 | | 008 | 001 | "Accordion I | 2 | |
| E362 | | 126 | 001 | +Slap Bass 2 | 1 | |
| E363 | | 127 | 001 | +Clavi 3 | 1 | |
| E37 | 023 | 000 | 001 | "Harmonica | 1 | |
| E371 | | 126 | 001 | +Slap Bass 2 | 1 | |
| E372 | | 127 | 001 | +Celesta 1 | 1 | |
| E38 | 024 | 000 | 001 | "Bandoneon. | 2 | |
| E381 | | 126 | 001 | +Fingered Bs | 1 | |
| E382 | | 127 | 001 | +Celesta 2 | 1 | |
| **GUITAR** | | | | | | |
| E41 | 025 | 000 | 001 | "Nylon Gt. | 1 | |
| E411 | | 008 | 001 | "Ukulele | 1 | |
| E412 | | 016 | 001 | "Nylon Gt.o | 2 | |
| E413 | | 032 | 001 | "Nylon Gt.2 | 1 | |
| E414 | | 126 | 001 | +Fingered Bs | 1 | |
| E415 | | 127 | 001 | +Syn Brass 1 | 2 | |
| E42 | 026 | 000 | 001 | "Steel Gt. | 1 | |
| E421 | | 008 | 001 | "12-str.Gt | 2 | |
| E422 | | 016 | 001 | "Mandolin | 1 | |
| E423 | | 126 | 001 | +Picked Bass | 1 | |
| E424 | | 127 | 001 | +Syn Brass 2 | 2 | |
| E43 | 027 | 000 | 001 | "Jazz Gt. | 1 | |
| E431 | | 008 | 001 | "Hawaiian Gt | 1 | |
| E432 | | 126 | 001 | +Picked Bass | 1 | |
| E433 | | 127 | 001 | +Syn Brass3 | 2 | |
| E44 | 028 | 000 | 001 | "Clean Gt. | 1 | |
| E441 | | 008 | 001 | "Chorus Gt. | 2 | |
| E442 | | 126 | 001 | +Fretless Bs | 1 | |
| E443 | | 127 | 001 | +Syn Brass4 | 2 | |
| E45 | 029 | 000 | 001 | "Muted Gt. | 1 | |
| E451 | | 008 | 001 | "Funk Gt. | 1 | |
| E452 | | 016 | 001 | "Funk Gt.2 | 1 | V-SW |
| E453 | | 126 | 001 | +Acoustic Bs | 1 | |
| E454 | | 127 | 001 | +Syn Bass 1 | 1 | |
| E46 | 030 | 000 | 001 | "OverdriveGt | 1 | |
| E461 | | 126 | 001 | +Choir Aahs | 1 | |
| E462 | | 127 | 001 | +Syn Bass 2 | 2 | |
| E47 | 031 | 000 | 001 | "Dist.Gt. | 1 | |
| E471 | | 008 | 001 | "Feedback Gt | 2 | |
| E472 | | 126 | 001 | +Choir Aahs | 1 | |
| E473 | | 127 | 001 | +Syn Bass3 | 2 | |
| E48 | 032 | 000 | 001 | "Gt.Harmonix | 1 | |
| E481 | | 008 | 001 | "Gt.Feedback | 1 | |
| E482 | | 126 | 001 | +Choir Aahs | 1 | |
| E483 | | 127 | 001 | +Syn Bass4 | 1 | |

| GBN | PC | CC00 | CC32 | Name | Voice | Rem. |
|---|---|---|---|---|---|---|
| **BASS** | | | | | | |
| E51 | 033 | 000 | 001 | "Acoustic Bs | 1 | |
| E511 | | 126 | 001 | +Choir Aahs | 1 | |
| E512 | | 127 | 001 | +Fantasy | 2 | |
| E52 | 034 | 000 | 001 | "Fingered Bs. | 1 | |
| E521 | | 126 | 001 | +SlowStrings | 1 | |
| E522 | | 127 | 001 | +Harmo Pan | 2 | |
| E53 | 035 | 000 | 001 | "Picked Bass | 1 | |
| E531 | | 126 | 001 | +Strings | 1 | |
| E532 | | 127 | 001 | +Chorale | 1 | |
| E54 | 036 | 000 | 001 | "Fretless Bs. | 1 | |
| E541 | | 126 | 001 | +SynStrings3 | 2 | |
| E542 | | 127 | 001 | +Glasses | 2 | |
| E55 | 037 | 000 | 001 | "Slap Bass 1 | 1 | |
| E551 | | 126 | 001 | +SynStrings3 | 2 | |
| E552 | | 127 | 001 | +Soundtrack | 2 | |
| E56 | 038 | 000 | 001 | "Slap Bass 2 | 1 | |
| E561 | | 126 | 001 | +Organ 1 | 1 | |
| E562 | | 127 | 001 | +Atmosphere | 2 | |
| E57 | 039 | 000 | 001 | "Syn.Bass 1 | 1 | |
| E571 | | 001 | 001 | "Syn.Bass101 | 1 | |
| E572 | | 008 | 001 | "Syn.Bass 3 | 1 | |
| E573 | | 126 | 001 | +Organ 1 | 1 | |
| E574 | | 127 | 001 | +Warm Bell | 2 | |
| E58 | 040 | 000 | 001 | "Syn.Bass 2 | 2 | |
| E581 | | 008 | 001 | "Syn.Bass 4 | 2 | |
| E582 | | 016 | 001 | "Rubber Bass | 2 | |
| E583 | | 126 | 001 | +Organ 1 | 1 | |
| E584 | | 127 | 001 | +Funny Vox | 1 | |
| **ORCHESTRA** | | | | | | |
| E61 | 041 | 000 | 001 | "Violin | 1 | |
| E611 | | 008 | 001 | "Slow Violin | 1 | |
| E612 | | 126 | 001 | +Organ 2 | 1 | |
| E613 | | 127 | 001 | +Echo Bell | 2 | |
| E62 | 042 | 000 | 001 | "Viola | 1 | |
| E621 | | 126 | 001 | +Organ 1 | 1 | |
| E622 | | 127 | 001 | +Ice Rain | 2 | |
| E63 | 043 | 000 | 001 | "Cello | 1 | |
| E631 | | 1260 | 001 | +Organ 1 | 1 | |
| E632 | | 127 | 001 | +Oboe 2001 | 2 | |
| E64 | 044 | 000 | 001 | "Contrabass | 1 | |
| E641 | | 126 | 001 | +Organ 2 | 1 | |
| E642 | | 127 | 001 | +Echo Pan | 2 | |
| E65 | 045 | 000 | 001 | "Tremolo Str. | 1 | |
| E651 | | 126 | 001 | +Organ 2 | 1 | |
| E652 | | 127 | 001 | +Doctor Solo | 2 | |
| E66 | 046 | 000 | 001 | "Pizzicato | 1 | |
| E661 | | 126 | 001 | +Organ 2 | 1 | |
| E662 | | 127 | 001 | +School Daze | 1 | |
| E67 | 047 | 000 | 001 | "Harp | 1 | |
| E671 | | 126 | 001 | +Trumpet | 1 | |
| E672 | | 127 | 001 | +Bellsinger | 1 | |
| E68 | 048 | 000 | 001 | "Timpani | 1 | |
| E681 | | 126 | 001 | +Trumpet | 1 | |
| E682 | | 127 | 001 | +Square Wave | 2 | |
| **ENSEMBLE** | | | | | | |
| E71 | 049 | 000 | 001 | "Strings | 1 | |
| E711 | | 008 | 001 | "Orchestra | 2 | |
| E712 | | 126 | 001 | +Trombone | 1 | |
| E713 | | 127 | 001 | +Str Sect 1 | 1 | |
| E72 | 050 | 000 | 001 | "SlowStrings | 1 | |
| E721 | | 126 | 001 | +Trombone | 1 | |
| E722 | | 127 | 001 | +Str Sect 2 | 1 | |
| E73 | 051 | 000 | 001 | "SynStrings1 | 1 | |
| E731 | | 008 | 001 | "SynStrings3 | 2 | |
| E732 | | 126 | 001 | +Trombone | 1 | |
| E733 | | 127 | 001 | +Str Sect3 | 1 | |
| E74 | 052 | 000 | 001 | "SynStrings2 | 2 | |
| E741 | | 126 | 001 | +Trombone | 1 | |
| E742 | | 127 | 001 | +Pizzicato | 1 | |

| GBN | PC | CC00 | CC32 | Name | Voice | Rem. |
|---|---|---|---|---|---|---|
| E75 | 053 | 000 | 001 | "Choir Aahs | 1 | |
| E751 | 032 | 001 | | "Choir Aahs2 | 1 | |
| E752 | 126 | 001 | | +Trombone | 1 | |
| E753 | 127 | 001 | | +Violin 1 | 1 | |
| E76 | 054 | 000 | 001 | "Voice Oohs | 1 | |
| E761 | 126 | 001 | | +Trombone | 1 | |
| E762 | 127 | 001 | | +Violin 2 | 1 | |
| E77 | 055 | 000 | 001 | "SynVox | 1 | |
| E771 | 126 | 001 | | +Alto Sax | 1 | |
| E772 | 127 | 001 | | +Cello 1 | 1 | |
| E78 | 056 | 000 | 001 | "Orchest.Hit | 2 | |
| E781 | 126 | 001 | | +Tenor Sax | 1 | |
| E782 | 127 | 001 | | +Cello 2 | 1 | |
| **BRASS** | | | | | | |
| E81 | 057 | 000 | 001 | "Trumpet | 1 | |
| E811 | 126 | 001 | | +BaritoneSax | 1 | |
| E812 | 127 | 001 | | +Contrabass | 1 | |
| E82 | 058 | 000 | 001 | "Trombone | 1 | |
| E821 | 001 | 001 | | "Trombone 2 | 2 | |
| E822 | 126 | 001 | | +Alto Sax | 1 | |
| E823 | 127 | 001 | | +Harp 1 | 1 | |
| E83 | 059 | 000 | 001 | "Tuba | 1 | |
| E831 | 126 | 001 | | +Brass 1 | 1 | |
| E832 | 127 | 001 | | +Harp 2 | 1 | |
| E84 | 060 | 000 | 001 | "MuteTrumpet | 1 | |
| E841 | 126 | 001 | | +Brass 1 | 1 | |
| E842 | 127 | 001 | | +Guitar 1 | 1 | |
| E85 | 061 | 000 | 001 | "French Horn | 2 | |
| E851 | 001 | 001 | | "Fr.Horn 2 | 2 | |
| E852 | 126 | 001 | | +Brass 2 | 2 | |
| E853 | 127 | 001 | | +Guitar 2 | 1 | |
| E86 | 062 | 000 | 001 | "Brass 1 | 1 | |
| E861 | 008 | 001 | | "Brass 2 | 2 | |
| E862 | 126 | 001 | | +Brass 2 | 2 | |
| E863 | 127 | 001 | | +Elec Gtr 1 | 1 | |
| E87 | 063 | 000 | 001 | "Syn.Brass 1 | 2 | |
| E871 | 008 | 001 | | "Syn.Brass 3 | 2 | |
| E872 | 016 | 001 | | "Analog Brs1 | 2 | |
| E873 | 126 | 001 | | +Brass 1 | 1 | |
| E874 | 127 | 001 | | +Elec Gtr 2 | 1 | |
| E88 | 064 | 000 | 001 | "Syn.Brass 2 | 2 | |
| E881 | 008 | 001 | | "Syn.Brass 4 | 1 | |
| E882 | 016 | 001 | | "Analog Brs2 | 2 | |
| E883 | 126 | 001 | | +Orchest.Hit | 2 | |
| E884 | 127 | 001 | | +Sitar | 2 | |
| **REED** | | | | | | |
| F11 | 065 | 000 | 001 | "Soprano Sax | 1 | |
| F111 | 127 | 001 | | +Acou Bass 1 | 1 | |
| F12 | 066 | 000 | 001 | "Alto Sax | 1 | |
| F121 | 127 | 001 | | +Acou Bass 2 | 1 | |
| F13 | 067 | 000 | 001 | "Tenor Sax | 1 | |
| F131 | 127 | 001 | | +Elec Bass 1 | 1 | |
| F14 | 068 | 000 | 001 | "BaritoneSax | 1 | |
| F141 | 127 | 001 | | +Elec Bass 2 | 1 | |
| F15 | 069 | 000 | 001 | "Oboe | 1 | |
| F151 | 127 | 001 | | +Slap Bass 1 | 1 | |
| F16 | 070 | 000 | 001 | "EnglishHorn | 1 | |
| F161 | 127 | 001 | | +Slap Bass 2 | 1 | |
| F17 | 071 | 000 | 001 | "Bassoon | 1 | |
| F171 | 127 | 001 | | +Fretless 1 | 1 | |
| F18 | 072 | 000 | 001 | "Clarinet | 1 | |
| F181 | 127 | 001 | | +Fretless 2 | 1 | |
| **PIPE** | | | | | | |
| F21 | 073 | 000 | 001 | "Piccolo | 1 | |
| F211 | 127 | 001 | | +Flute 1 | 1 | |
| F22 | 074 | 000 | 001 | "Flute | 1 | |
| F221 | 127 | 001 | | +Flute 2 | 1 | |
| F23 | 075 | 000 | 001 | "Recorder | 1 | |
| F231 | 127 | 001 | | +Piccolo 1 | 1 | |
| F24 | 076 | 000 | 001 | "Pan Flute | 1 | |
| F241 | 127 | 001 | | +Piccolo 2 | 2 | |
| F25 | 077 | 000 | 001 | "Bottle Blow | 2 | |
| F251 | 127 | 001 | | +Recorder | 1 | |
| F26 | 078 | 000 | 001 | "Shakuhachi | 2 | |
| F261 | 127 | 001 | | +Pan Pipes | 1 | |
| F27 | 079 | 000 | 001 | "Whistle | 1 | |
| F271 | 127 | 001 | | +Sax 1 | 1 | |
| F28 | 080 | 000 | 001 | "Ocarina | 1 | |
| F281 | 127 | 001 | | +Sax 2 | 1 | |

| GBN | PC | CC00 | CC32 | Name | Voice | Rem. |
|---|---|---|---|---|---|---|
| **SYNTH LEAD** | | | | | | |
| F31 | 081 | 000 | 001 | "Square Wave | 2 | |
| F311 | 001 | 001 | | "Square | 1 | |
| F312 | 008 | 001 | | "Sine Wave | 1 | |
| F313 | 127 | 001 | | Sax 3 | 1 | |
| F32 | 082 | 000 | 001 | "Saw Wave | 2 | |
| F321 | 001 | 001 | | "Saw | 1 | |
| F322 | 008 | 001 | | "Doctor Solo | 2 | |
| F323 | 127 | 001 | | +Sax 4 | 1 | |
| F33 | 083 | 000 | 001 | "SynCalliope | 2 | |
| F331 | 127 | 001 | | +Clarinet 1 | 1 | |
| F34 | 084 | 000 | 001 | "ChifferLead | 2 | |
| F341 | 127 | 001 | | +Clarinet 2 | 1 | |
| F35 | 085 | 000 | 001 | "Charang | 2 | |
| F351 | 127 | 001 | | +Oboe | 1 | |
| F36 | 086 | 000 | 001 | "Solo Vox | 2 | |
| F361 | 127 | 001 | | +Engl Horn | 1 | |
| F37 | 087 | 000 | 001 | "5th Saw | 2 | |
| F371 | 127 | 001 | | +Bassoon | 1 | |
| F38 | 088 | 000 | 001 | "Bass & Lead | 2 | |
| F381 | | 127 | 001 | +Harmonica | 1 | |
| **SYNTH PAD** | | | | | | |
| F41 | 089 | 000 | 001 | "Fantasia | 2 | |
| F411 | 127 | 001 | | +Trumpet 1 | 1 | |
| F42 | 090 | 000 | 001 | "Warm Pad | 1 | |
| F421 | 127 | 001 | | +Trumpet 2 | 1 | |
| F43 | 091 | 000 | 001 | "Polysynth | 2 | |
| F431 | 127 | 001 | | +Trombone 1 | 2 | |
| F44 | 092 | 000 | 001 | "Space Voice | 1 | |
| F441 | 127 | 001 | | +Trombone 2 | 2 | |
| F45 | 093 | 000 | 001 | "Bowed Glass | 2 | |
| F451 | 127 | 001 | | +Fr Horn 1 | 2 | |
| F46 | 094 | 000 | 001 | "Metal Pad | 2 | |
| F461 | 127 | 001 | | +Fr Horn 2 | 2 | |
| F47 | 095 | 000 | 001 | "Halo Pad | 2 | |
| F471 | 127 | 001 | | +Tuba | 1 | |
| F48 | 096 | 000 | 001 | "Sweep Pad | 1 | |
| F481 | 127 | 001 | | +Brs Sect 1 | 1 | |
| **SYNTH SFX** | | | | | | |
| F51 | 097 | 000 | 001 | "Ice Rain | 2 | |
| F511 | 127 | 001 | | +Brs Sect 2 | 2 | |
| F52 | 098 | 000 | 001 | "Soundtrack | 2 | |
| F521 | 127 | 001 | | +Vibe 1 | 1 | |
| F53 | 099 | 000 | 001 | "Crystal | 2 | |
| F531 | 001 | 001 | | "Syn Mallet | 1 | |
| F532 | 127 | 001 | | +Vibe 2 | 1 | |
| F54 | 100 | 000 | 001 | "Atmosphere | 2 | |
| F541 | 127 | 001 | | +Syn Mallet | 1 | |
| F55 | 101 | 000 | 001 | "Brightness | 2 | |
| F551 | 127 | 001 | | +Windbell | 2 | |
| F56 | 102 | 000 | 001 | "Goblin | 2 | |
| F561 | 127 | 001 | | +Glock | 1 | |
| F57 | 103 | 000 | 001 | "Echo Drops | 1 | |
| F571 | 001 | 001 | | "Echo Bell | 2 | |
| F572 | 002 | 001 | | "Echo Pan | 2 | |
| F573 | 127 | 001 | | +Tube Bell | 1 | |
| F58 | 104 | 000 | 001 | "Star Theme | 2 | |
| F581 | 127 | 001 | | +Xylophone | 1 | |
| **ETHNIC MISC** | | | | | | |
| F61 | 105 | 000 | 001 | "Sitar | 1 | |
| F611 | 001 | 001 | | "Sitar 2 | 2 | |
| F612 | 127 | 001 | | +Marimba | 1 | |
| F62 | 106 | 000 | 001 | "Banjo | 1 | |
| F621 | 127 | 001 | | +Koto | 1 | |
| F63 | 107 | 000 | 001 | "Shamisen | 1 | |
| F631 | 127 | 001 | | +Sho | 2 | |
| F64 | 108 | 000 | 001 | "Koto | 1 | |
| F641 | 008 | 001 | | "Taisho Koto | 2 | |
| F642 | 127 | 001 | | +Shakuhachi | 2 | |
| F65 | 109 | 000 | 001 | "Kalimba | 1 | |
| F651 | 127 | 001 | | +Whistle 1 | 2 | |
| F66 | 110 | 000 | 001 | "Bagpipe | 1 | |
| F661 | 127 | 001 | | +Whistle 2 | 1 | |
| F67 | 111 | 000 | 001 | "Fiddle | 1 | |
| F671 | 127 | 001 | | +Bottleblow | 2 | |
| F68 | 112 | 000 | 001 | "Shanai | 1 | |
| F681 | 127 | 001 | | +Breathpipe | 1 | |

| GBN | PC | CC00 | CC32 | Name | Voice | Rem. |
|---|---|---|---|---|---|---|
| **PERCUSSIVE** | | | | | | |
| F71 | 113 | 000 | 001 | "Tinkle Bell | 1 | |
| F711 | 127 | 001 | | +Timpani | 1 | |
| F72 | 114 | 000 | 001 | "Agogo | 1 | |
| F721 | 127 | 001 | | +Melodic Tom | 1 | |
| F73 | 115 | 000 | 001 | "Steel Drums | 1 | |
| F731 | 127 | 001 | | +Deep Snare | 1 | |
| F74 | 116 | 000 | 001 | "Woodblock | 1 | |
| F741 | 008 | 001 | | "Castanets | 1 | |
| F742 | 127 | 001 | | +Elec Perc 1 | 1 | |
| F75 | 117 | 000 | 001 | "Taiko | 1 | |
| F751 | 008 | 001 | | "Concert BD | 1 | |
| F752 | 127 | 001 | | +Elec Perc 2 | 1 | |
| F76 | 118 | 000 | 001 | "Melo. Tom 1 | 1 | |
| F761 | 008 | 001 | | "Melo. Tom 2 | 1 | |
| F762 | 127 | 001 | | +Taiko | 1 | |
| F77 | 119 | 000 | 001 | "Synth Drum | 1 | |
| F771 | 008 | 001 | | "808 Tom | 1 | |
| F772 | 009 | 001 | | "Elec Perc | 1 | |
| F773 | 127 | 001 | | +Taiko Rim | 1 | |
| F78 | 120 | 000 | 001 | "Reverse Cym | 1 | |
| F781 | 127 | 001 | | +Cymbal | 1 | |
| **SFX** | | | | | | |
| F81 | 121 | 000 | 001 | "Gt.FretNoiz | 1 | |
| F811 | 001 | 001 | | "Gt.CutNoise | 1 | |
| F812 | 002 | 001 | | "String Slap | 1 | |
| F813 | 127 | 001 | | +Castanets | 1 | |
| F82 | 122 | 000 | 001 | "BreathNoise | 1 | |
| F821 | 001 | 001 | | "Fl.KeyClick | 1 | |
| F822 | 127 | 001 | | +Triangle | 1 | |
| F83 | 123 | 000 | 001 | "Seashore | 1 | |
| F831 | 001 | 001 | | "Rain | 1 | |
| F832 | 002 | 001 | | "Thunder | 1 | |
| F833 | 003 | 001 | | "Wind | 1 | |
| F834 | 004 | 001 | | "Stream | 2 | |
| F835 | 005 | 001 | | "Bubble | 2 | |
| F836 | 127 | 001 | | +Orche Hit | 1 | |
| F84 | 124 | 000 | 001 | "Bird | 2 | |
| F841 | 001 | 001 | | "Dog | 1 | |
| F842 | 002 | 001 | | "HorseGallop | 1 | |
| F843 | 003 | 001 | | "Bird 2 | 1 | |
| F844 | 127 | 001 | | +Telephone | 1 | |
| F85 | 125 | 000 | 001 | "Telephone 1 | 1 | |
| F851 | 001 | 001 | | "Telephone 2 | 1 | |
| F852 | 002 | 001 | | "Creaking | 1 | |
| F853 | 003 | 001 | | "Door | 1 | |
| F854 | 004 | 001 | | "Scratch | 1 | |
| F855 | 005 | 001 | | "Wind Chimes | 2 | |
| F856 | 127 | 001 | | +Bird Tweet | 1 | |
| F86 | 126 | 000 | 001 | "Helicopter | 1 | |
| F861 | 001 | 001 | | "Car-Engine | 1 | |
| F862 | 002 | 001 | | "Car-Stop | 1 | |
| F863 | 003 | 001 | | "Car-Pass | 1 | |
| F864 | 004 | 001 | | "Car-Crash | 2 | |
| F865 | 005 | 001 | | "Siren | 1 | |
| F866 | 006 | 001 | | "Train | 1 | |
| F867 | 007 | 001 | | "Jetplane | 2 | |
| F868 | 008 | 001 | | "Starship | 2 | |
| F869 | 009 | 001 | | "Burst Noise | 2 | |
| F8610 | 127 | 001 | | +OneNote Jam | 1 | |
| F87 | 127 | 000 | 001 | "Applause | 2 | |
| F871 | 001 | 001 | | "Laughing | 1 | |
| F872 | 002 | 001 | | "Screaming | 1 | |
| F873 | 003 | 001 | | "Punch | 1 | |
| F874 | 004 | 001 | | "Heart Beat | 1 | |
| F875 | 005 | 001 | | "Footsteps | 1 | |
| F876 | 127 | 001 | | +Water Bell | 2 | |
| F88 | 128 | 000 | 001 | "Gun Shot | 1 | |
| F881 | 001 | 001 | | "Machine Gun | 1 | |
| F882 | 002 | 001 | | "Lasergun | 1 | |
| F883 | 003 | 001 | | "Explosion | 2 | |
| F884 | 127 | 001 | | +Jungle Tune | 2 | |

# 13.4. Drum Sets

| CC32= 3 | PC1 | PC2 | PC3 | PC9 | PC10 |
|---|---|---|---|---|---|
| | STANDARD 1 | STANDARD 2 # | STANDARD 3 | ROOM # | Hip-Hop |
| 22 | MC-500 Beep 1 | ← | ← | ← | ← |
| 23 | MC-500 Beep 2 | ← | ← | ← | ← |
| C1 24 | Concert SD | ← | ← | ← | ← |
| 25 | Snare Roll | ← | ← | ← | ← |
| 26 | Finger Snap 2 | Finger Snap | ← | Finger Snap | ← |
| 27 | High Q | ← | ← | ← | ← |
| 28 | Slap | ← | ← | ← | ← |
| 29 | Scratch Push [EXC7] | ← | ← | ← | Scratch Push 2 [EXC7] |
| 30 | Scratch Pull [EXC7] | ← | ← | ← | Scratch Pull 2 [EXC7] |
| 31 | Sticks | ← | ← | ← | ← |
| 32 | Square Click | ← | ← | ← | ← |
| 33 | Metronome Click | ← | ← | ← | ← |
| 34 | Metronome Bell | ← | ← | ← | ← |
| 35 | Standard 1 Kick 2 | Standard 2 Kick 2 | Standard 3 Kick 2 | Room Kick 2 | Hip-Hop Kick 2 |
| C2 36 | Standard 1 Kick 1 | Standard 2 Kick 1 | [RND] Kick | Room Kick 1 | Hip-Hop Kick 1 |
| 37 | Side Stick | ← | ← | ← | TR-808 Rim Shot |
| 38 | Standard 1 Snare 1 | Standard 2 Snare 1 | [RND] Snare | Room Snare 1 | Rap Snare |
| 39 | Hand Clap | TR-808 Hand Clap | [RND] Hand Clap * | TR-808 Hand Clap | ← |
| 40 | Standard 1 Snare 2 | Standard 2 Snare 2 | Standard 3 Snare 2 | Room Snare 2 | Hip-Hop Snare 2 |
| 41 | Low Tom 2 | ← | ← | Room Low Tom 2 * | TR-909 Low Tom 2 |
| 42 | Closed Hi-Hat [EXC1] | Closed Hi-Hat 2 [EXC1] | [RND] Closed Hi-Hat [EXC1] | Closed Hi-Hat 3 [EXC1] | Closed Hi-Hat 3 [EXC1] |
| 43 | Low Tom 1 * | ← | ← | Room Low Tom 1 * | TR-909 Low Tom 1 |
| 44 | Pedal Hi-Hat [EXC1] | Pedal Hi-Hat 2 [EXC1] | [RND] Pedal Hi-Hat [EXC1] | Room Pedal Hi-Hat [EXC1] | Room Pedal Hi-Hat [EXC1] |
| 45 | Mid Tom 2 | ← | ← | Room Mid Tom 2 * | TR-909 Mid Tom 2 |
| 46 | Open Hi-Hat [EXC1] | Open Hi-Hat 2 [EXC1] | [RND] Open Hi-Hat [EXC1] | Open Hi-Hat 3 [EXC1] | Open Hi-Hat 3 [EXC1] |
| 47 | Mid Tom 1 * | ← | ← | Room Mid Tom 1 * | TR-909 Mid Tom 1 |
| C3 48 | High Tom 2 * | ← | ← | Room High Tom 2 * | TR-909 High Tom 2 |
| 49 | Crash Cymbal1 | ← | [RND] Crash Cymbal | ← | TR-909 Crash Cymbal |
| 50 | High Tom 1 * | ← | ← | Room High Tom 1 * | TR-909 High Tom 1 |
| 51 | Ride Cymbal 1 | ← | [RND] Ride Cymbal 1 * | ← | ← |
| 52 | Chinese Cymbal | ← | ← | ← | Reverse Gymbal |
| 53 | Ride Bell | ← | [RND] Ride Bell | ← | ← |
| 54 | Tambourine | ← | ← | ← | Shake Tambourine |
| 55 | Splash Cymbal | ← | ← | ← | ← |
| 56 | Cowbell | ← | ← | ← | TR-808 Cowbell |
| 57 | Crash Cymbal 2 | ← | ← | ← | ← |
| 58 | Vibra-slap | ← | ← | ← | ← |
| 59 | Ride Cymbal 2 | ← | [RND] Ride Cymbal 2 * | ← | ← |
| C4 60 | High Bongo | ← | ← | ← | ← |
| 61 | Low Bongo | ← | ← | ← | ← |
| 62 | Mute High Conga | ← | ← | ← | ← |
| 63 | Open High Conga | ← | ← | ← | ← |
| 64 | Open Low Conga | ← | ← | ← | ← |
| 65 | High Timbale | ← | ← | ← | ← |
| 66 | Low Timbale | ← | ← | ← | ← |
| 67 | High Agogo | ← | ← | ← | ← |
| 68 | Low Agogo | ← | ← | ← | ← |
| 69 | Cabasa | ← | ← | ← | ← |
| 70 | Maracas | ← | ← | ← | TR-808 Maracas |
| 71 | Short High Whistle [EXC2] | ← | ← | ← | ← |
| C5 72 | Long Low Whistle [EXC2] | ← | ← | ← | ← |
| 73 | Short Guiro [EXC3] | ← | ← | ← | ← |
| 74 | Long Guiro [EXC3] | ← | ← | ← | CR-78 Guiro [EXC3] |
| 75 | Claves | ← | ← | ← | TR-808 Claves |
| 76 | High Wood Block | ← | ← | ← | ← |
| 77 | Low Wood Block | ← | ← | ← | ← |
| 78 | Mute Cuica [EXC4] | ← | ← | ← | High Hoo [EXC4] |
| 79 | Open Cuica [EXC4] | ← | ← | ← | Low Hoo [EXC4] |
| 80 | Mute Triangle [EXC5] | ← | ← | ← | Electric Mute Triangle |
| 81 | Open Triangle [EXC5] | ← | ← | ← | Electric Open Triangle |
| 82 | Shaker | ← | ← | ← | TR-626 Shaker |
| 83 | Jingle Bell | ← | ← | ← | ← |
| C6 84 | Bell Tree | Bar Chimes | ← | ← | ← |
| 85 | Castanets | ← | ← | ← | ← |
| 86 | Mute Surdo [EXC6] | ← | ← | ← | ← |
| 87 | Open Surdo [EXC6] | ← | ← | ← | ← |
| 88 | Applause 2 | ← | ← | ← | Small Club 1 * |
| 89 | --- | --- | --- | --- | --- |
| 90 | --- | --- | --- | --- | --- |
| 91 | --- | --- | --- | --- | --- |
| 92 | --- | --- | --- | --- | --- |
| 93 | --- | --- | --- | --- | --- |
| 94 | --- | --- | --- | --- | --- |
| 95 | --- | --- | --- | --- | --- |
| C7 96 | --- | --- | --- | --- | --- |

Note number

PC : Program change number
--- : No sound
* : Tones using two voices

← : Same sound as "STANDARD1"(PC1) Set.
[EXC] : Sounds with the same EXC number cannot be used simultaneously.

[88] : Same sound as for CC32= 2.
[55] : Same sound as for CC32= 1.
# : Same Drum Set as CC32= 2.

| CC32= 3 | PC 11 | PC 12 | PC 17 | PC 25 | PC 26 |
|---|---|---|---|---|---|
| | JUNGLE | TECHNO | POWER | ELECTRONIC # | TR-808 |
| 22 | ← | ← | ← | ← | ← |
| 23 | ← | ← | ← | ← | ← |
| C1 24 | ← | ← | ← | ← | ← |
| 25 | ← | ← | ← | ← | ← |
| 26 | ← | ← | ← | Finger Snap | ← |
| 27 | ← | ← | ← | ← | ← |
| 28 | ← | ← | ← | ← | ← |
| 29 | Scratch Push 2 [EXC7] | Scratch Push 2 [EXC7] | ← | [EXC7] Scratch Push 2 [EXC7] | Scratch Push 2 [EXC7] |
| 30 | Scratch Pull 2 [EXC7] | Scratch Pull 2 [EXC7] | ← | [EXC7] Scratch Pull 2 [EXC7] | Scratch Pull 2 [EXC7] |
| 31 | ← | ← | ← | ← | ← |
| 32 | ← | ← | ← | ← | ← |
| 33 | ← | ← | ← | ← | ← |
| 34 | ← | ← | ← | ← | ← |
| 35 | Jungle Kick 2 | Techno Kick 2 | Power Kick 2 | Electric Kick 2 | TR-808 Kick 2 |
| C2 36 | Jungle Kick 1 | Techno Kick 1 | Power Kick 1 | Electric Kick 1 * | TR-808 Kick 1 |
| 37 | ← | TR-808 Rim Shot | ← | ← | TR-808 Rim Shot |
| 38 | Jungle Snare 1 | Techno Snare 1 | Power Snare 1 | Electric Snare 1 | TR-808 Snare 1 |
| 39 | Hand Clap 2 | TR-707 Hand Clap | TR-808 Hand Clap | TR-808 Hand Clap | TR-808 Hand Clap |
| 40 | Jungle Snare 2 | Techno Snare 2 | Power Snare 2 | Electric Snare 2 | TR-808 Snare 2 |
| 41 | TR-909 Low Tom 2 | TR-808 Low Tom 2 * | Power Low Tom 2 * | Electric Low Tom 2 * | TR-808 Low Tom 2 * |
| 42 | TR-606 Closed Hi-Hat [EXC1] | TR-707 Closed Hi-Hat [EXC1] | ← | Closed Hi-Hat 2 [EXC1] | TR-808 Closed Hi-Hat [EXC1] |
| 43 | TR-909 Low Tom 1 | TR-808 Low Tom 1 * | Power Low Tom 1 * | Electric Low Tom 1 * | TR-808 Low Tom 1 * |
| 44 | Jungle Hi-Hat [EXC1] | CR-78 Closed Hi-Hat [EXC1] | ← | Pedal Hi-Hat 2 [EXC1] | TR-808 Closed Hi-Hat 2 [EXC1] |
| 45 | TR-909 Mid Tom 2 | TR-808 Mid Tom 2 * | Power Mid Tom 2 * | Electric Mid Tom 2 * | TR-808 Mid Tom 2 * |
| 46 | TR-606 Open Hi-Hat [EXC1] | TR-909 Open Hi-Hat [EXC1] | ← | Open Hi-Hat 2 [EXC1] | TR-808 Open Hi-Hat [EXC1] |
| 47 | TR-909 Mid Tom 1 | TR-808 Mid Tom 1 * | Power Mid Tom 1 * | Electric Mid Tom 1 * | TR-808 Mid Tom 1 * |
| C3 48 | TR-909 High Tom 2 | TR-808 High Tom 2 * | Power High Tom 2 * | Electric High Tom 2 * | TR-808 High Tom 2 * |
| 49 | TR-808 Crash Cymbal | TR-909 Crash Cymbal | ← | ← | TR-808 Crash Cymbal |
| 50 | TR-909 High Tom 1 | TR-808 High Tom 1 * | Power High Tom 1 * | Electric High Tom 1 * | TR-808 High Tom 1 * |
| 51 | ← | ← | ← | ← | TR-606 Ride Cymbal |
| 52 | Reverse Cymbal | Reverse Cymbal | ← | Reverse Cymbal | ← |
| 53 | ← | ← | ← | ← | ← |
| 54 | Shake Tambourine | Shake Tambourine | ← | ← | CR-78 Tambourine |
| 55 | ← | ← | ← | ← | ← |
| 56 | TR-808 Cowbell | TR-808 Cowbell | ← | ← | TR-808 Cowbell |
| 57 | ← | TR-909 Crash Cymbal | ← | ← | TR-909 Crash Cymbal |
| 58 | ← | ← | ← | ← | ← |
| 59 | ← | ← | ← | ← | Ride Cymbal Edge |
| C4 60 | ← | CR-78 High Bongo | ← | ← | CR-78 High Bongo |
| 61 | ← | CR-78 Low Bongo | ← | ← | CR-78 Low Bongo |
| 62 | ← | TR-808 Mute High Conga | ← | * ← | TR-808 Mute High Conga |
| 63 | ← | TR-808 Open High Conga | ← | ← | TR-808 Open High Conga |
| 64 | ← | TR-808 Open Low Conga | ← | ← | TR-808 Open Low Conga |
| 65 | ← | ← | ← | ← | ← |
| 66 | ← | ← | ← | ← | ← |
| 67 | ← | ← | ← | ← | ← |
| 68 | ← | ← | ← | ← | ← |
| 69 | ← | ← | ← | ← | ← |
| 70 | TR-808 Maracas | TR-808 Maracas | ← | ← | TR-808 Maracas |
| 71 | ← | ← | ← | ← | ← |
| C5 72 | ← | ← | ← | ← | ← |
| 73 | ← | ← | ← | ← | ← |
| 74 | CR-78 Guiro [EXC3] | CR-78 Guiro [EXC3] | ← | ← | CR-78 Guiro [EXC3] |
| 75 | TR-808 Claves | TR-808 Claves | ← | ← | TR-808 Claves |
| 76 | ← | ← | ← | ← | ← |
| 77 | ← | ← | ← | ← | ← |
| 78 | High Hoo [EXC4] | High Hoo [EXC4] | ← | ← | High Hoo [EXC4] |
| 79 | Low Hoo [EXC4] | Low Hoo [EXC4] | ← | ← | Low Hoo [EXC4] |
| 80 | Electric Mute Triangle | Electric Mute Triangle | ← | ← | Electric Mute Triangle |
| 81 | Electric Open Triangle | Electric Open Triangle | ← | ← | Electric Open Triangle |
| 82 | TR-626 Shaker | TR-626 Shaker | ← | ← | TR-626 Shaker |
| 83 | ← | ← | ← | ← | ← |
| C6 84 | ← | ← | ← | ← | ← |
| 85 | ← | ← | ← | ← | ← |
| 86 | ← | ← | ← | ← | ← |
| 87 | ← | ← | ← | ← | ← |
| 88 | Small Club 1 * | ← | ← | Small Club 1 * | Small Club 1 * |
| 89 | --- | --- | --- | --- | --- |
| 90 | --- | --- | --- | --- | --- |
| 91 | --- | --- | --- | --- | --- |
| 92 | --- | --- | --- | --- | --- |
| 93 | --- | --- | --- | --- | --- |
| 94 | --- | --- | --- | --- | --- |
| 95 | --- | --- | --- | --- | --- |
| C7 96 | --- | --- | --- | --- | --- |

Note number

PC : Program change number
--- : No sound
* : Tones using two voices

← : Same sound as "STANDARD1"(PC1) Set.
[EXC] : Sounds with the same EXC number cannot be used simultaneously.

[88] : Same sound as for CC32= 2.
[55] : Same sound as for CC32= 1.
# : Same Drum Set as CC32= 2.

| Note number | CC32= 3 | PC 27 DANCE | | PC 28 CR-78 | | PC 29 TR-606 | | PC 30 TR-707 | |
|---|---|---|---|---|---|---|---|---|---|
| | 22 | ← | | ← | | ← | | ← | |
| 23 | | ← | | ← | | ← | | ← | |
| C1 24 | | ← | | ← | | ← | | ← | |
| | 25 | ← | | ← | | ← | | ← | |
| 26 | | Finger Snap | | ← | | ← | | ← | |
| | 27 | ← | | ← | | ← | | ← | |
| 28 | | ← | | ← | | ← | | ← | |
| 29 | | Scratch Push 2 | [EXC7] | Scratch Push 2 | [EXC7] | Scratch Push 2 | [EXC7] | Scratch Push 2 | [EXC7] |
| | 30 | Scratch Pull 2 | [EXC7] | Scratch Pull 2 | [EXC7] | Scratch Pull 2 | [EXC7] | Scratch Pull 2 | [EXC7] |
| 31 | | ← | | ← | | ← | | ← | |
| | 32 | ← | | ← | | ← | | ← | |
| 33 | | ← | | ← | | ← | | ← | |
| | 34 | ← | | ← | | ← | | ← | |
| 35 | | TR-909 Kick 1 | | CR-78 Kick 2 | | CR-78 Kick 2 | | TR-707 Kick 2 | |
| C2 36 | | Electric Kick 2 | | CR-78 Kick 1 | | TR-606 Kick 1 | | TR-707 Kick 1 | |
| | 37 | ← | | CR-78 Rim Shot | | CR-78 Rim Shot | | TR-707 Rim Shot | |
| 38 | | House Snare 1 | | CR-78 Snare 1 | | TR-606 Snare 1 | | TR-707 Snare 1 | |
| | 39 | ← | | TR-707 Hand Clap | | TR-707 Hand Clap | | TR-707 Hand Clap | |
| 40 | | Dance Snare 2 | | CR-78 Snare 2 | | TR-606 Snare 2 | | TR-707 Snare 2 | |
| 41 | | Electric Low Tom 2 | * | CR-78 Low Tom 2 | * | TR-606 Low Tom 2 | | TR-707 Low Tom 2 | * |
| | 42 | CR-78 Closed Hi-Hat | [EXC1] | CR-78 Closed Hi-Hat | [EXC1] | TR-606 Closed Hi-Hat | [EXC1] | TR-707 Closed Hi-Hat | [EXC1] |
| 43 | | Electric Low Tom 1 | * | CR-78 Low Tom 1 | * | TR-606 Low Tom 1 | | TR-707 Low Tom 1 | * |
| | 44 | TR-808 Closed Hi-Hat 2 | [EXC1] | TR-606 Closed Hi-Hat | [EXC1] | TR-606 Closed Hi-Hat | [EXC1] | TR-707 Closed Hi-Hat | [EXC1] |
| 45 | | Electric Mid Tom 2 | * | CR-78 Mid Tom 2 | * | TR-606 Mid Tom 2 | | TR-707 Mid Tom 2 | * |
| | 46 | CR-78 Open Hi-Hat | [EXC1] | CR-78 Open Hi-Hat | [EXC1] | TR-606 Open Hi-Hat | [EXC1] | TR-707 Open Hi-Hat | [EXC1] |
| 47 | | Electric Mid Tom 1 | * | CR-78 Mid Tom 1 | * | TR-606 Mid Tom 1 | | TR-707 Mid Tom 1 | * |
| C3 48 | | Electric High Tom 2 | * | CR-78 High Tom 2 | * | TR-606 High Tom 2 | | TR-707 High Tom 2 | * |
| | 49 | TR-808 Crash Cymbal | | TR-808 Crash Cymbal | | TR-808 Crash Cymbal | | TR-909 Crash Cymbal | |
| 50 | | Electric High Tom 1 | * | CR-78 High Tom 1 | * | TR-606 High Tom 1 | | TR-707 High Tom 1 | * |
| | 51 | TR-606 Ride Cymbal | | TR-606 Ride Cymbal | | TR-606 Ride Cymbal | | TR-909 Ride Cymbal | * |
| 52 | | Reverse Cymbal | | ← | | ← | | ← | |
| | | ← | | ← | | ← | | ← | |
| 53 | 54 | Shake Tambourine | | CR-78 Tambourine | | CR-78 Tambourine | | Tambourine 2 | |
| 55 | | ← | | ← | | ← | | ← | |
| | 56 | TR-808 Cowbell | | CR-78 Cowbell | | CR-78 Cowbell | | TR-808 Cowbell | |
| 57 | | ← | | TR-909 Crash Cymbal | | TR-909 Crash Cymbal | | ← | |
| | 58 | ← | | ← | | ← | | ← | |
| 59 | | ← | | Ride Cymbal Edge | | Ride Cymbal Edge | | Ride Cymbal Edge | |
| C4 60 | | ← | | CR-78 High Bongo | | CR-78 High Bongo | | ← | |
| | 61 | ← | | CR-78 Low Bongo | | CR-78 Low Bongo | | ← | |
| 62 | | ← | | TR-808 Mute High Conga | | TR-808 Mute High Conga | | ← | |
| | 63 | ← | | TR-808 Open High Conga | | TR-808 Open High Conga | | ← | |
| 64 | | ← | | TR-808 Open Low Conga | | TR-808 Open Low Conga | | ← | |
| | | ← | | ← | | ← | | ← | |
| 65 | 66 | ← | | ← | | ← | | ← | |
| 67 | | ← | | ← | | ← | | ← | |
| | 68 | ← | | ← | | ← | | ← | |
| 69 | | ← | | ← | | ← | | ← | |
| | 70 | ← | | CR-78 Maracas | | CR-78 Maracas | | TR-808 Maracas | |
| 71 | | ← | | ← | | ← | | ← | |
| C5 72 | | ← | | ← | | ← | | ← | |
| | 73 | ← | | ← | | ← | | ← | |
| 74 | | ← | | CR-78 Guiro | [EXC3] | CR-78 Guiro | [EXC3] | ← | |
| | 75 | ← | | CR-78 Claves | | CR-78 Claves | | ← | |
| 76 | | ← | | ← | | ← | | ← | |
| | | ← | | ← | | ← | | ← | |
| 77 | 78 | High Hoo | [EXC4] | High Hoo | [EXC4] | High Hoo | [EXC4] | High Hoo | [EXC4] |
| 79 | | Low Hoo | [EXC4] | Low Hoo | [EXC4] | Low Hoo | [EXC4] | Low Hoo | [EXC4] |
| | 80 | Electric Mute Triangle | | CR-78 Low Beat | [EXC5] | CR-78 Low Beat | [EXC5] | Electric Mute Triangle | |
| 81 | | Electric Open Triangle | | CR-78 High Beat | [EXC5] | CR-78 High Beat | [EXC5] | Electric Open Triangle | |
| | 82 | TR-626 Shaker | | TR-626 Shaker | | TR-626 Shaker | | TR-626 Shaker | |
| 83 | | ← | | ← | | ← | | ← | |
| | | ← | | ← | | ← | | ← | |
| C6 84 | 85 | ← | | ← | | ← | | ← | |
| 86 | | ← | | ← | | ← | | ← | |
| | 87 | ← | | ← | | ← | | ← | |
| 88 | | Small Club 1 | * | Small Club 1 | * | Small Club 1 | * | Small Club 1 | * |
| 89 | | --- | | --- | | --- | | --- | |
| | 90 | --- | | --- | | --- | | --- | |
| 91 | | --- | | --- | | --- | | --- | |
| | 92 | --- | | --- | | --- | | --- | |
| 93 | | --- | | --- | | --- | | --- | |
| | 94 | --- | | --- | | --- | | --- | |
| 95 | | --- | | --- | | --- | | --- | |
| C7 96 | | --- | | --- | | --- | | --- | |

PC : Program change number
— : No sound
* : Tones using two voices

← : Same sound as "STANDARD1"(PC1) Set.
[EXC] : Sounds with the same EXC number cannot be used simultaneously.

[88] : Same sound as for CC32= 2.
[55] : Same sound as for CC32= 1.
# : Same Drum Set as CC32= 2.

| | CC32= 3 | PC 31 | | PC 33 | | PC 41 | | PC 49 | |
|---|---|---|---|---|---|---|---|---|---|
| | | TR-909 | | JAZZ | | BRUSH | | ORCHESTRA # | |
| | 22 | ← | | ← | | ← | | ← | |
| | 23 | ← | | ← | | ← | | ← | |
| C1 | 24 | ← | | ← | | ← | | ← | |
| | 25 | ← | | ← | | ← | | ← | |
| | 26 | ← | | Finger Snap | | Finger Snap | | Finger Snap | |
| | 27 | ← | | ← | | ← | | Closed Hi-Hat 2 | [EXC1] |
| | 28 | ← | | ← | | ← | | Pedal Hi-Hat | [EXC1] |
| | 29 | Scratch Push 2 | [EXC7] | ← | | ← | | Open Hi-Hat 2 | [EXC1] |
| | 30 | Scratch Pull 2 | [EXC7] | ← | | ← | | Ride Cymbal 1 | |
| | 31 | ← | | ← | | ← | | ← | |
| | 32 | ← | | ← | | ← | | ← | |
| | 33 | ← | | ← | | ← | | ← | |
| | 34 | ← | | ← | | ← | | ← | |
| | 35 | Techno Kick 2 | | Jazz Kick 2 | | Jazz Kick 2 | | Jazz Kick 1 | |
| C2 | 36 | TR-909 Kick 1 | * | Jazz Kick 1 | | Jazz Kick 1 | | Concert BD 1 | |
| | 37 | TR-909 Rim | | ← | | ← | | ← | |
| | 38 | TR-909 Snare 1 | | Jazz Snare 1 | | Brush Snare 1 | | Concert SD | |
| | 39 | ← | | Hand Clap 2 | | Brush Slap | | Castanets | |
| | 40 | TR-909 Snare2 | | Jazz Snare 2 | | Brush Snare 2 | | Concert SD | |
| | 41 | TR-909 Low Tom 2 | | ← | | Brush Low Tom 2 | * | Timpani F | |
| | 42 | TR-707 Closed Hi-Hat | [EXC1] | Closed Hi-Hat 2 | [EXC1] | Brush Closed Hi-Hat | [EXC1] | Timpani F# | |
| | 43 | TR-909 Low Tom 1 | | ← | | Brush Low Tom 1 | * | Timpani G | |
| | 44 | TR-707 Closed Hi-Hat | [EXC1] | Pedal Hi-Hat 2 | [EXC1] | Pedal Hi-Hat | [EXC1] | Timpani G# | |
| | 45 | TR-909 Mid Tom 2 | | ← | | Brush Mid Tom 2 | * | Timpani A | |
| | 46 | TR-909 Open Hi-Hat | [EXC1] | Open Hi-Hat 2 | [EXC1] | Brush Open Hi-Hat | [EXC1] | Timpani A# | |
| | 47 | TR-909 Mid Tom 1 | | ← | | Brush Mid Tom 1 | * | Timpani B | |
| C3 | 48 | TR-909 High Tom 2 | | ← | | Brush High Tom 2 | * | Timpani c | |
| | 49 | TR-909 Crash Cymbal | | ← | | Brush Crash Cymbal | | Timpani c# | |
| | 50 | TR-909 High Tom 1 | | ← | | Brush High Tom 1 | * | Timpani d | |
| | 51 | TR-909 Ride Cymbal | * | Ride Cymbal Inner | | Ride Cymbal Inner | | Timpani d# | |
| | 52 | ← | | ← | | ← | | Timpani e | |
| | 53 | ← | | ← | | Brush Ride Bell | | Timpani f | |
| | 54 | Tambourine 2 | | ← | | ← | | ← | |
| | 55 | ← | | ← | | ← | | ← | |
| | 56 | TR-808 Cowbell | | ← | | ← | | ← | |
| | 57 | ← | | ← | | ← | | Concert Cymbal 2 | |
| | 58 | ← | | ← | | ← | | ← | |
| | 59 | Ride Cymbal Edge | | Ride Cymbal Edge | | Ride Cymbal Edge | | Concert Cymbal 1 | |
| C4 | 60 | ← | | ← | | ← | | ← | |
| | 61 | ← | | ← | | ← | | ← | |
| | 62 | ← | | ← | | ← | | ← | |
| | 63 | ← | | ← | | ← | | ← | |
| | 64 | ← | | ← | | ← | | ← | |
| | 65 | ← | | ← | | ← | | ← | |
| | 66 | ← | | ← | | ← | | ← | |
| | 67 | ← | | ← | | ← | | ← | |
| | 68 | ← | | ← | | ← | | ← | |
| | 69 | ← | | ← | | ← | | ← | |
| | 70 | TR-808 Maracas | | ← | | ← | | ← | |
| | 71 | ← | | ← | | ← | | ← | |
| C5 | 72 | ← | | ← | | ← | | ← | |
| | 73 | ← | | ← | | ← | | ← | |
| | 74 | CR-78 Guiro | [EXC3] | ← | | ← | | ← | |
| | 75 | TR-808 Claves | | ← | | ← | | ← | |
| | 76 | ← | | ← | | ← | | ← | |
| | 77 | ← | | ← | | ← | | ← | |
| | 78 | High Hoo | [EXC4] | ← | | ← | | ← | |
| | 79 | Low Hoo | [EXC4] | ← | | ← | | ← | |
| | 80 | Electric Mute Triangle | | ← | | ← | | ← | |
| | 81 | Electric Open Triangle | | ← | | ← | | ← | |
| | 82 | TR-626 Shaker | | ← | | ← | | ← | |
| | 83 | ← | | ← | | ← | | ← | |
| C6 | 84 | ← | | ← | | ← | | ← | |
| | 85 | ← | | ← | | ← | | ← | |
| | 86 | ← | | ← | | ← | | ← | |
| | 87 | ← | | ← | | ← | | ← | |
| | 88 | ← | | Applause | * | Applause | * | Applause | * |
| | 89 | --- | | --- | | --- | | --- | |
| | 90 | --- | | --- | | --- | | --- | |
| | 91 | --- | | --- | | --- | | --- | |
| | 92 | --- | | --- | | --- | | --- | |
| | 93 | --- | | --- | | --- | | --- | |
| | 94 | --- | | --- | | --- | | --- | |
| | 95 | --- | | --- | | --- | | --- | |
| | | --- | | --- | | --- | | --- | |
| C7 | 96 | --- | | --- | | --- | | --- | |

Note number

PC : Program change number
--- : No sound
* : Tones using two voices

← : Same sound as "STANDARD1"(PC1) Set.
[EXC]: Sounds with the same EXC number cannot be used simultaneously.

[88] : Same sound as for CC32= 2.
[55] : Same sound as for CC32= 1.
# : Same Drum Set as CC32= 2.

| Note number | CC32= 3 | PC 50 | | PC 51 | | PC 53 | | PC 54 | |
|---|---|---|---|---|---|---|---|---|---|
| | | ETHNIC # | | KICK & SNARE # | | ASIA | | CYMBAL&CLAPS | |
| 22 | | Finger Snap | | CR-78 Kick 1 | | Gamelan Gong C# | | --- | |
| 23 | | Tambourine | | CR-78 Kick 2 | | Gamelan Gong D# | | --- | |
| C1 24 | | Castanets | | TR-606 Kick1 | | Gamelan Gong G | | --- | |
| 25 | | Crash Cymbal 1 | | TR-707 Kick | | Gamelan Gong A# | | --- | |
| 26 | | Snare Roll | | TR-808 Kick | | Gamelan Gong c | | --- | |
| 27 | | Concert SD | | Hip-Hop Kick 2 | | Gamelan Gong c# | | --- | |
| 28 | | Concert Cymbal | | TR-909 Kick 1 | * | Gamelan Gong d# | | --- | |
| 29 | | Concert BD 1 | | Hip-Hop Kick 3 | | Gamelan Gong g | | Reverse Open Hi-Hat | |
| 30 | | Jingle Bell | | Hip-Hop Kick 1 | | Gamelan Gong a# | | Reverse Closed Hi-Hat 1 | |
| 31 | | Bell Tree | | Jungle Kick 2 | | Gamelan Gong C | | Reverse Closed Hi-Hat 2 | |
| 32 | | Bar Chimes | | Jungle Kick 1 | | Gender C# | | Jungle Hi-Hat | [EXC1] |
| 33 | | Wadaiko | * | Techno Kick 2 | | Gender D# | | [55] Closed Hi-Hat | [EXC1] |
| 34 | | Wadaiko Rim | * | Techno KicK 1 | | Gender G | | [88] Closed Hi-Hat 2 | [EXC1] |
| 35 | | Shime Taiko | | Standard 1 Kick 2 | | Gender A# | | [88] Closed Hi-Hat 3 | [EXC1] |
| C2 36 | | Atarigane | | Standard 1 Kick 1 | | Gender c | | Closed Hi-Hat 4 | [EXC1] |
| 37 | | Hyoushigi | | [88] Standard 1 Kick 1 | | Bonang C# | | Closed Hi-Hat | [EXC1] |
| 38 | | Ohkawa | | [88] Standard 1 Kick 2 | | Bonang D# | | TR-707 Closed Hi-Hat | [EXC1] |
| 39 | | High Kotsuzumi | | [88] Standard 2 Kick 1 | | Bonang G | | TR-606 Closed Hi-Hat | [EXC1] |
| 40 | | Low Kotsuzumi | | [88] Standard 2 Kick 2 | | Bonang A# | | [88] TR-808 Closed Hi-Hat | [EXC1] |
| 41 | | Ban Gu | | [55] Kick Drum1 | | Bonang c | | TR-808 Closed Hi-Hat | [EXC1] |
| 42 | | Big Gong | | [55] Kick Drum 2 | | Thai Gong | | CR-78 Closed Hi-Hat | [EXC1] |
| 43 | | Small Gong | | [88] Soft Kick | | Rama Cymbal | | [55] Pedal Hi-Hat | [EXC1] |
| 44 | | Bend Gong | | [88] Jazz Kick 1 | | Sagat Open | [EXC7] | [88] Pedal Hi-Hat | [EXC1] |
| 45 | | Thai Gong | | [88] Jazz Kick 2 | | Sagat Closed | [EXC7] | Pedal Hi-Hat | [EXC1] |
| 46 | | Rama Cymbal | | [55] Concert BD 1 | | Jaws Harp | | Half-Open Hi-Hat 1 | [EXC1] |
| 47 | | Gamelan Gong | | [88] Room Kick 1 | | Wadaiko | * | Half-Open Hi-Hat 2 | [EXC1] |
| C3 48 | | Udo Short | [EXC1] | [88] Room Kick 2 | | Wadaiko Rim | * | [55] Open Hi Hat | [EXC1] |
| 49 | | Udo Long | [EXC1] | [88] Power Kick1 | | Taiko | | [88] Open Hi-Hat 2 | [EXC1] |
| 50 | | Udo Slap | | [88] Power Kick2 | | Shimedaiko | | [88] Open Hi-Hat 3 | [EXC1] |
| 51 | | Bendir | | [88] Electric Kick 2 | | Atarigane | | Open Hi-Hat | [EXC1] |
| 52 | | Req Dum | | [88] Electric Kick 1 | * | Hyoushigi | | TR-909 Open Hi-Hat | [EXC1] |
| 53 | | Req Tik | | [55] Electric Kick | | Ohkawa | | TR-707 Open Hi-Hat | [EXC1] |
| 54 | | Tabla Te | | [88] TR-808 Kick | | High Kotsuzumi | | TR-606 Open Hi-Hat | [EXC1] |
| 55 | | Tabla Na | | [88] TR-909 Kick | | Low Kotsuzumi | | [88] TR-808 Open Hi-Hat | [EXC1] |
| 56 | | Tabla Tun | | [88] Dance Kick | | Yyoo Dude | | TR-808 Open Hi-Hat | [EXC1] |
| 57 | | Tabla Ge | | [88] Standard 1 Snare 1 | | Buk | | CR-78 Open Hi-Hat | [EXC1] |
| 58 | | Tabla Ge Hi | | [88] Standard 1 Snare 2 | | Buk Rim | | Crash Cymbal 1 | [EXC3] |
| 59 | | Talking Drum | * | [88] Standard 2 Snare 1 | | Gengari p | [EXC1] | Crash Cymbal 2 | [EXC4] |
| C4 60 | | Bend Talking Drum | * | [88] Standard 2 Snare 2 | | Gengari Mute Low | [EXC1] | Crash Cymbal 3 | |
| 61 | | Caxixi | | [55] Snare Drum 2 | | Gengari f | [EXC2] | Brush Crash Cymbal | |
| 62 | | Djembe | | [55] Concert Snare | | Gengari Mute High | [EXC2] | Hard Crash Cymbal | * |
| 63 | | Djembe Rim | | [88] Jazz Snare 1 | | Gengari Samll | | TR-909 Crash Cymbal | |
| 64 | | Timbales Low | | [88] Jazz Snare 2 | | Jang-Gu Che | | TR-808 Crash Cymbal | |
| 65 | | Timbales Palla | | [88] Room Snare 1 | | Jang-Gu Kun | | Mute Crash Cymbal 1 | [EXC3] |
| 66 | | Timbales High | | [88] Room Snare 2 | | Jang-Gu Rim | | Mute Crash Cymbal 2 | [EXC4] |
| 67 | | Cowbell | | [88] Power Snare 1 | | Jing p | [EXC3] | Reverse Crash Cymbal 1 | |
| 68 | | High Bongo | | [88] Power Snare 2 | | Jing f | * [EXC3] | Reverse Crash Cymbal 2 | |
| 69 | | Low Bongo | | [55] Gated Snare | | Jing Mute | [EXC3] | Reverse Crash Cymbal 3 | |
| 70 | | Mute High Conga | | [88] Dance Snare 1 | | Asian Gong 1 | | Reverse TR-909 Crash Cymbal | |
| 71 | | Open High Conga | | [88] Dance Snare 2 | | Big Gong | | [55] Splash Cymbal | |
| C5 72 | | Mute Low Conga | | [88] Disco Snare | | Small Gong | | Splash Cymbal | |
| 73 | | Conga Slap | | [88] Electric Snare 2 | | Pai Ban | | [88] Ride Bell | |
| 74 | | Open Low Conga | | [88] House Snare | * | Ban Gu | | [88] Brush Ride Bell | |
| 75 | | Conga Slide | * | [55] Electric Snare 1 | | Tang Gu | [EXC4] | [88] Ride Cymbal 1 | |
| 76 | | Mute Pandiero | | [88] Electric Snare 3 | * | Tang Gu Mute | [EXC4] | [88] Ride Cymbal 2 | |
| 77 | | Open Pandiero | | [88] TR-808 Snare 1 | | Shou Luo | * | [88] Brush Ride Cymbal | |
| 78 | | Open Surdo | [EXC2] | [88] TR-808 Snare 2 | * | Bend Gong | | Ride Cymbal Low Inner | |
| 79 | | Mute Surdo | [EXC2] | [88] TR-909 Snare 1 | | Hu Yin Luo Low | * | Ride Cymbal Mid Inner | |
| 80 | | Tamborim | | [88] TR-909 Snare 2 | * | Hu Yin Luo Mid | [EXC5] | Ride Cymbal High Inner | |
| 81 | | High Agogo | | [88] Brush Tap 1 | | Hu Yin Luo Mid Mute | [EXC5] | Ride Cymbal Low Edge | |
| 82 | | Low Agogo | | [88] Brush Tap 2 | | Hu Yin Luo High | [EXC6] | Ride Cymbal Mid Edge | |
| 83 | | Shaker | | [88] Brush Slap 1 | | Hu Yin Luo High Mute | [EXC6] | Ride Cymbal High Edge | |
| C6 84 | | High Whistle | [EXC3] | [88] Brush Slap 2 | | Nao Bo | | TR-606 Ride Cymbal | |
| 85 | | Low Whistle | [EXC3] | [88] Brush Slap 3 | | Xiao Bo | | TR-808 Ride Cymbal | |
| 86 | | Mute Cuica | [EXC4] | [88] Brush Swirl 1 | | --- | | Chinese Cymbal 1 | |
| 87 | | Open Cuica | [EXC4] | [88] Brush Swirl 2 | | --- | | Chinese Cymbal 2 | |
| 88 | | Mute Triangle | [EXC5] | [88] Brush Long Swirl | | --- | | [55] Hand Clap | |
| 89 | | Open Triangle | [EXC5] | Standard 1 Snare 1 | | --- | | [88] Hand Clap 2 | |
| 90 | | Short Guiro | [EXC6] | Standard 1 Snare 2 | | --- | | [88] Hand Clap | |
| 91 | | Long Guiro | [EXC6] | Standard Snare 3 | | --- | | Hand Clap | |
| 92 | | Cabasa Up | | Rap Snare | | --- | | Hand Clap 2 | |
| 93 | | Cabasa Down | | Hip-Hop Snare 2 | | --- | | TR-707 Hand Clap | |
| 94 | | Claves | | Jungle Snare 1 | | --- | | --- | |
| 95 | | High Wood Block | | Jungle Snare 2 | | --- | | --- | |
| C7 96 | | Low Wood Block | | Techno Snare 1 | | --- | | --- | |

PC : Program change number
— : No sound
* : Tones using two voices

← : Same sound as "STANDARD1"(PC1) Set.
[EXC] : Sounds with the same EXC number cannot be used simultaneously.

[88] : Same sound as for CC32= 2.
[55] : Same sound as for CC32= 1.
# : Same Drum Set as CC32= 2.

| | CC32= 3 | PC 57 SFX | | PC 58 RHYTHM FX # | | PC 59 RHYTHM FX 2 | |
|---|---|---|---|---|---|---|---|
| | 21 | MC-500 Beep 1 | | --- | | --- | |
| | 22 | MC-500 Beep 2 | | --- | | --- | |
| | 23 | Guitar Slide | | --- | | --- | |
| C1 | 24 | Guitar Wah | | --- | | --- | |
| | 25 | Guitar Slap | | --- | | --- | |
| | 26 | Chord Stroke Down | | --- | | --- | |
| | 27 | Chord Stroke Up | | --- | | --- | |
| | 28 | Biwa | * | --- | | --- | |
| | 29 | Phonograph Noise | | --- | | --- | |
| | 30 | Tape Rewind | | --- | | --- | |
| | 31 | Scratch Push 2 | [EXC1] | --- | | --- | |
| | 32 | Scratch Pull 2 | [EXC1] | --- | | --- | |
| | 33 | Cutting Noise 2 Up | | --- | | --- | |
| | 34 | Cutting Noise 2 Down | | --- | | --- | |
| | 35 | Distortion Guitar Cutting Noise Up | | --- | | --- | |
| C2 | 36 | Distortion Guitar Cutting Noise Down | | Reverse Kick 1 | | Reverse TR-707 Kick 1 | |
| | 37 | Bass Slide | | Reverse Concert Bass Drum | | Reverse TR-909 Kick 1 | |
| | 38 | Pick Scrape | | Reverse Power Kick1 | | Reverse Hip-Hop Kick 1 | |
| | 39 | High Q | | Reverse Electric Kick 1 | | Reverse Jungle Kick 2 | |
| | 40 | Slap | | Reverse Snare 1 | | Reverse Techno Kick 2 | |
| | 41 | Scratch Push | [EXC7] | Reverse Snare 2 | | Reverse TR-606 Snare 2 | |
| | 42 | Scratch Pull | [EXC7] | Reverse Standard 1 Snare 1 | | Reverse CR-78 Snare 1 | |
| | 43 | Sticks | | Reverse Sanre Drum 2 | | Reverse CR-78 Snare 2 | |
| | 44 | Square Click | | Reverse Tight Snare | | Reverse Jungle Snare 2 | |
| | 45 | Metronome Click | | Reverse 808 Snare | | Reverse Techno Snare 2 | |
| | 46 | Metronome Bell | | Reverse Tom 1 | | Reverse TR-707 Snare | |
| | 47 | Guitar Fret Noise | | Reverse Tom 2 | | Reverse TR-606 Snare 1 | |
| C3 | 48 | Guitar Cutting Noise Up | | Reverse Sticks | | Reverse TR-909 Snare 1 | |
| | 49 | Guitar Cutting Noise Down | | Reverse Slap | | Reverse Hip-Hop Snare 2 | |
| | 50 | String Slap of Double Bass | | Reverse Cymbal 1 | | Reverse Jungle Snare 1 | |
| | 51 | Flute Key Click Noise | | Reverse Cymbal 2 | | Reverse House Snare | |
| | 52 | Laughing | | Reverse Open Hi-Hat | | Reverse Closed Hi-Hat | |
| | 53 | Screaming | | Reverse Ride Cymbal | | Reverse TR-606 Closed Hi-Hat | |
| | 54 | Punch | | Reverse CR-78 Open Hi-Hat | | Reverse TR-707 Closed Hi-Hat | |
| | 55 | Heart Beat | | Reverse Closed Hi-Hat | | Reverse TR-808 Closed Hi-Hat | |
| | 56 | Footsteps 1 | | Reverse Gong | | Reverse Jungle Hi-Hat | |
| | 57 | Footsteps 2 | | Reverse Bell Tree | | Reverse Tambourine 2 | |
| | 58 | Applause | * | Reverse Guiro | | Reverse Shake Tambourine | |
| | 59 | Door Creaking | | Reverse Bendir | | Reverse TR-808 Open Hi-Hat | |
| C4 | 60 | Door | | Reverse Gun Shot | | Reverse TR-707 Open Hi-Hat | |
| | 61 | Scratch | | Reverse Scratch | | Reverse Open Hi-Hat | |
| | 62 | Wind Chimes | * | Reverse Laser Gun | | Reverse TR-606 Open Hi-Hat | |
| | 63 | Car Engine | | Key Click | | Reverse Hu Yin Luo | |
| | 64 | Car Stop | | Techno Thip | | Reverse TR-707 Crash Cymbal | * |
| | 65 | Car Passing | | Pop Drop | | Voice One | |
| | 66 | Car Crash | * | Woody Slap | | Reverse Voice One | |
| | 67 | Siren | | Distortion Kick | * | Voice Two | |
| | 68 | Train | | Syn. Drops | | Reverse Voice Two | |
| | 69 | Jetplane | * | Reverse Hi Q | | Voice Three | |
| | 70 | Helicopter | | Pipe | | Reverse Voice Three | |
| | 71 | Starship | * | Ice Block | | Voice Tah | |
| C5 | 72 | Gun Shot | | Digital Tambourine | * | Reverse Voice Tah | |
| | 73 | Machine Gun | | Alias | | Voice Ou | |
| | 74 | Laser Gun | | Modulated Bell | | Voice Au | |
| | 75 | Explosion | * | Spark | | Voice Whey | |
| | 76 | Dog | | Metallic Percussion | | Frog Vpoce | * |
| | 77 | Horse-Gallop | | Velocity Noise FX | | Reverse Yyoo Dude | |
| | 78 | Birds | * | Stereo Noise Clap | * | Douby | |
| | 79 | Rain | | Swish | | Reverse Douby | |
| | 80 | Thunder | | Slappy | * | Baert High | |
| | 81 | Wind | | Voice Ou | | Baert Low | |
| | 82 | Seashore | | Voice Au | | Bounce | |
| | 83 | Stream | * | Hoo | | Reverse bounce | |
| C6 | 84 | Bubble | * | Tape Stop 1 | * | Distortion Knock | |
| | 85 | Kitty | | Tape Stop 2 | * | Guitar Slide | |
| | 86 | Bird 2 | | Missile | * | Sub Marine | |
| | 87 | Growl | | Space Birds | | Noise Attack | |
| | 88 | ← | | Flying Monster | | Space Worms | |
| | 89 | Telephone 1 | | --- | | Emergency ! | * |
| | 90 | Telephone 2 | | --- | | Calculating... | * |
| | 91 | Small Club 1 | * | --- | | Saw LFO Saw | |
| | 92 | Small Club 2 | * | --- | | --- | |
| | 93 | Applause Wave | * | --- | | --- | |
| | 94 | Eruption | | --- | | --- | |
| | 95 | Big Shot | * | --- | | --- | |
| C7 | 96 | Percussion Bang | * | --- | | --- | |

Note number

PC : Program change number
--- : No sound
* : Tones using two voices

← : Same sound as "STANDARD1"(PC1) Set.
[EXC] : Sounds with the same EXC number cannot be used simultaneously.

[88] : Same sound as for CC32= 2.
[55] : Same sound as for CC32= 1
# : Same Drum Set as CC32= 2.

Note numbers 0-19 and 97-127 are assigned to the following sounds (not available for PC50 Ethnic, PC51 Asia, PC54 Cymbal&Claps, PC57 SFX, PC58 Rhythm FX, and PC59 Rhythm FX2):

CC32= 3

PC1 STANDARD 1
PC2 STANDARD 2
PC3 STANDARD 3
PC9 ROOM
PC 17 POWER

PC10 Hip-Hop
PC 11 JUNGLE
PC 12 TECHNO
PC 25 ELECTRONIC
PC 26 TR-808
PC 27 DANCE
PC 28 CR-78
PC 29 TR-606
PC 30 TR-707
PC 31 TR-909

PC 33 JAZZ
PC 41 BRUSH

PC 49 ORCHESTRA

PC 51 KICK & SNARE

| Note number | | | | | | |
|---|---|---|---|---|---|---|
| C-1 0 | [88] Standard 1 Kick 1 | [88] Electric Kick 2 | ← | ← | --- |
| 1 | [88] Standard 1 Kick 2 | [88] Electric Kick 1 * | ← | ← | --- |
| 2 | [88] Standard 2 Kick 1 | CR-78 Kick 1 | ← | ← | --- |
| 3 | [88] Standard 2 Kick 2 | CR-78 Kick 2 | ← | ← | --- |
| 4 | [55] Kick Drum 1 | TR-606 Kick1 | ← | ← | --- |
| 5 | [55] Kick Drum 2 | TR-707 Kick 1 | ← | ← | --- |
| 6 | [88] Jazz Kick 1 | [55] TR-808 Kick | ← | ← | --- |
| 7 | [88] Jazz Kick 2 | [88] TR-808 Kick | ← | ← | --- |
| 8 | [88] Room Kick 1 | TR-808 Kick 2 | ← | ← | --- |
| 9 | [88] Room Kick 2 | [88] TR-909 Kick | ← | ← | --- |
| 10 | [88] Power Kick 1 | [88] Dance Kick | ← | ← | --- |
| 11 | [88] Power Kick 2 | Hip-Hop Kick 2 | ← | ← | --- |
| C0 12 | [88] Electric Kick 2 | TR-909 Kick 1 * | ← | ← | --- |
| 13 | [88] Electric Kick 1 * | Hip-Hop Kick 3 | ← | ← | --- |
| 14 | [88] TR-808 Kick | Jungle Kick 1 | ← | ← | --- |
| 15 | [88] TR-909 Kick | Techno Kick 1 | ← | ← | --- |
| 16 | [88] Dance Kick | Bounce Kick | ← | ← | --- |
| 17 | Voice One | ← | ← | ← | --- |
| 18 | Voice Two | ← | ← | ← | --- |
| 19 | Voice Three | ← | ← | ← | --- |
| : | : | : | : | : | : |
| 97 | [88] Standard 1 Snare1 | Techno Hit | --- | Applause 2 * | Jungle Snare 1 |
| 98 | [88] Standard 1 Snare 2 | Philly Hit * | --- | Small Club 1 * | Jungle Snare 2 |
| 99 | [88] Standard 2 Snare 1 | Shock Wave * | --- | [55] Timpani D# | Techno Snare 1 |
| 100 | [88] Standard 2 Snare 2 | Lo-Fi Rave * | [88] Brush Tap 1 | [55] Timpani E | Techno Snare 2 |
| 101 | [55] Snare Drum 2 | Bam Hit | [88] Brush Tap 2 | [55] Timpani F | House Snare 2 |
| 102 | Standard 1 Snare 1 | Bim Hit | [88] Brush Slap 1 | [55] Timpani F# | CR-78 Snare 1 |
| 103 | Standard 1 Snare 2 | Tape Rewind | [88] Brush Slap 2 | [55] Timpani G | CR-78 Snare 2 |
| 104 | Standard Snare 3 | Phonograph Noise | [88] Brush Slap 3 | [55] Timpani G# | TR-606 Snare 1 |
| 105 | [88] Jazz Snare 1 | [88] Power Snare 1 | [88] Brush Swirl 1 | [55] Timpani A | TR-606 Snare 2 |
| 106 | [88] Jazz Snare 2 | [88] Dance Snare 1 | [88] Brush Swirl 2 | [55] Timpani A# | TR-707 Snare 1 |
| 107 | [88] Room Snare 1 | [88] Dance Snare 2 | [88] Brush Long Swirl | [55] Timpani B | TR-707 Snare 2 |
| C8 108 | [88] Room Snare 2 | [88] Disco Snare | [88] Jazz Snare 1 | [55] Timpani c | Standard 3 Snare 2 |
| 109 | [88] Power Snare 1 | [88] Electric Snare 2 | [88] Jazz Snare 2 | [55] Timpani c# | TR-808 Snare 2 |
| 110 | [88] Power Snare 2 | [55] Electric Snare | [88] Standard 1 Snare1 | [55] Timpani d | TR-909 Snare 1 |
| 111 | [55] Gated Snare | [88] Electric Snare 3 * | [88] Standard 1 Snare2 | [55] Timpani d# | TR-909 Snare 2 |
| 112 | [88] Dance Snare 1 | TR-606 Snare | [88] Standard 2 Snare1 | [55] Timpani e | --- |
| 113 | [88] Dance Snare 2 | TR-707 Snare | [88] Standard 2 Snare2 | [55] Timpani f | --- |
| 114 | [88] Disco Snare | [88] TR-808 Snare 1 | [55] Snare Drum 2 | --- | --- |
| 115 | [88] Electric Snare 2 | [88] TR-808 Snare 2 * | Standard 1 Snare 1 | --- | --- |
| 116 | [55] Electric Snare | TR-808 Snare 2 | Standard 1 Snare 2 | --- | --- |
| 117 | [88] Electric Snare 3 * | [88] TR-909 Snare 1 | Standard Snare 3 | --- | --- |
| 118 | TR-707 Snare | [88] TR-909 Snare 2 * | [88] Room Snare 1 | --- | --- |
| 119 | [88] TR-808 Snare 1 | TR-909 Snare 1 | [88] Room Snare 2 | --- | --- |
| C9 120 | [88] TR-808 Snare 2 * | TR-909 Snare 2 | [88] Power Snare 1 | --- | --- |
| 121 | [88] TR-909 Snare 1 | Rap Snare | [88] Power Snare 2 | --- | --- |
| 122 | [88] TR-909 Snare 2 * | Jungle Snare 1 | [88] Gated Snare | --- | --- |
| 123 | Rap Snare | House Snare 1 | [88] Dance Snare 1 | --- | --- |
| 124 | Jungle Snare 1 | [88] House Snare * | [88] Dance Snare 2 | --- | --- |
| 125 | House Snare 1 | House Snare 2 | [88] Disco Snare | --- | --- |
| 126 | [88] House Snare * | Voice Tah | [88] Electric Snare 2 | --- | --- |
| 127 | House Snare 2 | [88] Slappy * | [88] Electric Snare 3 * | --- | --- |

Note number

| CC32= 2 | PC 1 STANDARD 1 | PC 2 STANDARD 2 | PC 9 ROOM | PC 17 POWER | PC 25 ELECTRONIC |
|---|---|---|---|---|---|
| 25 | Snare Roll | ← | ← | ← | ← |
| 26 | Finger Snap | ← | ← | ← | ← |
| 27 | High Q | ← | ← | ← | ← |
| 28 | Slap | ← | ← | ← | ← |
| 29 | Scratch Push [EXC7] | ← | ← | ← | Scratch Push2 [EXC7] |
| 30 | Scratch Pull [EXC7] | ← | ← | ← | Scratch Pull2 [EXC7] |
| 31 | Sticks | ← | ← | ← | ← |
| 32 | Square Click | ← | ← | ← | ← |
| 33 | Metronome Click | ← | ← | ← | ← |
| 34 | Metronome Bell | ← | ← | ← | ← |
| 35 | Standard 1 Kick 2 | Standard 2 Kick 2 | Room Kick 2 | Power Kick 2 | Electric Kick 2 |
| C2 36 | Standard 1 Kick 1 | Standard 2 Kick 1 | Room Kick 1 | Power Kick 1 | Electric Kick 1 |
| 37 | Side Stick | ← | ← | ← | ← |
| 38 | Standard 1 Snare 1 | Standard 2 Snare 1 | Room Snare 1 | Power Snare 1 | Electric Snare 1 |
| 39 | Hand Clap | ← | ← | ← | ← |
| 40 | Standard 1 Snare 2 | Standard 2 Snare 2 | Room Snare 2 | PowerSnare 2 | Electric Snare 2 |
| 41 | Low Tom2 * | ← | Room Low Tom2 * | Power Low Tom2 * | Electric Low Tom2 * |
| 42 | Closed Hi-hat1 [EXC1] | Closed Hi-hat2 [EXC1] | Closed Hi-hat3 [EXC1] | Closed Hi-hat3 [EXC1] | Closed Hi-hat2 [EXC1] |
| 43 | Low Tom1 * | ← | Room Low Tom1 * | Power Low Tom1 * | Electric Low Tom1 * |
| 44 | Pedal Hi-hat [EXC1] | ← | ← | ← | ← |
| 45 | Mid Tom2 * | ← | Room Mid Tom2 * | Power Mid Tom2 * | Electric Mid Tom2 * |
| 46 | Open Hi-hat1 [EXC1] | Open Hi-hat2 [EXC1] | Open Hi-hat3 [EXC1] | Open Hi-hat3 [EXC1] | Open Hi-hat2 [EXC1] |
| 47 | Mid Tom1 * | ← | Room Mid Tom1 * | Power Mid Tom1 * | Electric Mid Tom1 * |
| C3 48 | High Tom2 * | ← | Room Hi Tom2 * | Power Hi Tom2 * | Electric Hi Tom2 * |
| 49 | Crash Cymbal1 | ← | ← | ← | ← |
| 50 | High Tom1 * | ← | Room Hi Tom1 * | Power Hi Tom1 * | Electric Hi Tom1 * |
| 51 | Ride Cymbal1 | ← | ← | ← | ← |
| 52 | Chinese Cymbal | ← | ← | ← | Reverse Cymbal |
| 53 | Ride Bell | ← | ← | ← | ← |
| 54 | Tambourine | ← | ← | ← | ← |
| 55 | Splash Cymbal | ← | ← | ← | ← |
| 56 | Cowbell | ← | ← | ← | ← |
| 57 | Crash Cymbal2 | ← | ← | ← | ← |
| 58 | Vibra-slap | ← | ← | ← | ← |
| 59 | Ride Cymbal2 | ← | ← | ← | ← |
| C4 60 | High Bongo | ← | ← | ← | ← |
| 61 | Low Bongo | ← | ← | ← | ← |
| 62 | Mute High Conga | ← | ← | ← | ← |
| 63 | Open High Conga | ← | ← | ← | ← |
| 64 | Low Conga | ← | ← | ← | ← |
| 65 | High Timbale | ← | ← | ← | ← |
| 66 | Low Timbale | ← | ← | ← | ← |
| 67 | High Agogo | ← | ← | ← | ← |
| 68 | Low Agogo | ← | ← | ← | ← |
| 69 | Cabasa | ← | ← | ← | ← |
| 70 | Maracas | ← | ← | ← | ← |
| 71 | Short Hi Whistle [EXC2] | ← | ← | ← | ← |
| C5 72 | Long Low Whistle [EXC2] | ← | ← | ← | ← |
| 73 | Short Guiro [EXC3] | ← | ← | ← | ← |
| 74 | Long Guiro [EXC3] | ← | ← | ← | ← |
| 75 | Claves | ← | ← | ← | ← |
| 76 | High Wood Block | ← | ← | ← | ← |
| 77 | Low Wood Block | ← | ← | ← | ← |
| 78 | Mute Cuica [EXC4] | ← | ← | ← | ← |
| 79 | Open Cuica [EXC4] | ← | ← | ← | ← |
| 80 | Mute Triangle [EXC5] | ← | ← | ← | ← |
| 81 | Open Triangle [EXC5] | ← | ← | ← | ← |
| 82 | Shaker | ← | ← | ← | ← |
| 83 | Jingle Bell | ← | ← | ← | ← |
| C6 84 | Bell Tree | Bar Chimes | ← | ← | ← |
| 85 | Castanets | ← | ← | ← | ← |
| 86 | Mute Surdo [EXC6] | ← | ← | ← | ← |
| 87 | Open Surdo [EXC6] | ← | ← | ← | ← |
| 88 | ---- | ---- | ---- | ---- | ---- |
| 89 | ---- | ---- | ---- | ---- | ---- |
| 90 | ---- | ---- | ---- | ---- | ---- |
| 91 | ---- | ---- | ---- | ---- | ---- |
| 92 | ---- | ---- | ---- | ---- | ---- |
| 93 | ---- | ---- | ---- | ---- | ---- |
| 94 | ---- | ---- | ---- | ---- | ---- |
| 95 | ---- | ---- | ---- | ---- | ---- |
| C7 96 | ---- | ---- | ---- | ---- | ---- |
| 97 | ---- | ---- | ---- | ---- | ---- |
| 98 | ---- | ---- | ---- | ---- | ---- |
| 99 | ---- | ---- | ---- | ---- | ---- |

Note number

PC : Program change number
--- : No sound
* : Tones using two voices

← : Same sound as "STANDARD1"(PC1) Set.
[EXC] : Sounds with the same EXC number cannot be used simultaneously.

[88] : Same sound as for CC32= 2.
[55] : Same sound as for CC32= 1.

| CC32= 2 | PC 26 'TR-808/909 | | PC 27 'DANCE | | PC 33 'JAZZ | | PC 41 'BRUSH | | PC 49 'ORCHESTRA | |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 | ← | | ← | | ← | | ← | | ← | |
| 26 | ← | | ← | | ← | | ← | | ← | |
| 27 | ← | | ← | | ← | | ← | | Closed Hi-hat2 | [EXC1] |
| 28 | ← | | ← | | ← | | ← | | Pedal Hi-hat | [EXC1] |
| 29 | Scratch Push2 | [EXC7] | Scratch Push2 | [EXC7] | ← | | ← | | Open Hi-hat2 | [EXC1] |
| 30 | Scratch Pull2 | [EXC7] | Scratch Pull2 | [EXC7] | ← | | ← | | Ride Cymbal1 | |
| 31 | ← | | ← | | ← | | ← | | ← | |
| 32 | ← | | ← | | ← | | ← | | ← | |
| 33 | ← | | ← | | ← | | ← | | ← | |
| 34 | ← | | ← | | ← | | ← | | ← | |
| 35 | 909 Bass Drum | | Dance Kick | | Jazz Kick 2 | | Jazz Kick 2 | | Jazz Kick 1 | |
| C2 36 | 808 Bass Drum | | Electric Kick 2 | | Jazz Kick 1 | | Jazz Kick 1 | | Concert BD1 | |
| 37 | 808 Rim Shot | | ← | | ← | | ← | | ← | |
| 38 | 808 Snare 1 | | Dance Snare 1 | | Jazz Snare 1 | | Brush Tap1 | | Concert SD | |
| 39 | ← | | ← | | Hand Clap2 | | Brush Slap1 | | Castanets | |
| 40 | 909 Snare 1 | | Dance Snare 2 | | Jazz Snare 2 | | Brush Swirl1 | | Concert SD | |
| 41 | 808 Low Tom2 | * | Electric Low Tom2 | * | ← | | Brush Low Tom2 | * | Timpani F | |
| 42 | 808 CHH | [EXC1] | CR-78 CHH | [EXC1] | Closed Hi-hat2 | [EXC1] | Brush Closed Hi-hat | [EXC1] | Timpani F# | |
| 43 | 808 Low Tom1 | * | Electric Low Tom1 | * | ← | | Brush Low Tom1 | * | Timpani G | |
| 44 | 808 CHH | [EXC1] | 808 CHH | [EXC1] | ← | | ← | | Timpani G# | |
| 45 | 808 Mid Tom2 | * | Electric Mid Tom2 | * | ← | | Brush Mid Tom2 | * | Timpani A | |
| 46 | 808 OHH | [EXC1] | CR-78 OHH | [EXC1] | Open Hi-hat2 | [EXC1] | Brush Open Hi-hat | [EXC1] | Timpani A# | |
| 47 | 808 Mid Tom1 | * | Electric Mid Tom1 | * | ← | | Brush Mid Tom1 | * | Timpani B | |
| C3 48 | 808 Hi Tom2 | * | Electric High Tom2 | * | ← | | Brush Hi Tom2 | * | Timpani c | |
| 49 | 808 Cymbal | | ← | | ← | | Brush Crash Cymbal | | Timpani c# | |
| 50 | 808 Hi Tom1 | | Electric High Tom1 | * | ← | | Brush Hi Tom1 | * | Timpani d | |
| 51 | ← | | ← | | ← | | Brush Ride Cymbal | | Timpani d# | |
| 52 | ← | | Reverse Cymbal | | ← | | ← | | Timpani e | |
| 53 | ← | | ← | | ← | | Brush Ride Bell | | Timpani f | |
| 54 | ← | | ← | | ← | | ← | | ← | |
| 55 | ← | | ← | | ← | | ← | | ← | |
| 56 | 808 Cowbell | | ← | | ← | | ← | | ← | |
| 57 | ← | | ← | | ← | | ← | | Concert Cymbal2 | |
| 58 | ← | | ← | | ← | | ← | | ← | |
| 59 | ← | | ← | | ← | | ← | | Concert Cymbal1 | |
| C4 60 | ← | | ← | | ← | | ← | | ← | |
| 61 | ← | | ← | | ← | | ← | | ← | |
| 62 | 808 High Conga | | ← | | ← | | ← | | ← | |
| 63 | 808 Mid Conga | | ← | | ← | | ← | | ← | |
| 64 | 808 Low Conga | | ← | | ← | | ← | | ← | |
| 65 | ← | | ← | | ← | | ← | | ← | |
| 66 | ← | | ← | | ← | | ← | | ← | |
| 67 | ← | | ← | | ← | | ← | | ← | |
| 68 | ← | | ← | | ← | | ← | | ← | |
| 69 | ← | | ← | | ← | | ← | | ← | |
| 70 | 808 Maracas | | ← | | ← | | ← | | ← | |
| 71 | ← | | ← | | ← | | ← | | ← | |
| C5 72 | ← | | ← | | ← | | ← | | ← | |
| 73 | ← | | ← | | ← | | ← | | ← | |
| 74 | ← | | ← | | ← | | ← | | ← | |
| 75 | 808 Claves | | ← | | ← | | ← | | ← | |
| 76 | ← | | ← | | ← | | ← | | ← | |
| 77 | ← | | ← | | ← | | ← | | ← | |
| 78 | ← | | High Hoo | [EXC4] | ← | | ← | | ← | |
| 79 | ← | | Low Hoo | [EXC4] | ← | | ← | | ← | |
| 80 | ← | | Electric Mute Triangle | [EXC5] | ← | | ← | | ← | |
| 81 | ← | | Electric Open Triangle | [EXC5] | ← | | ← | | ← | |
| 82 | ← | | ← | | ← | | ← | | ← | |
| 83 | ← | | ← | | ← | | ← | | ← | |
| C6 84 | ← | | ← | | ← | | ← | | ← | |
| 85 | ← | | ← | | ← | | ← | | ← | |
| 86 | ← | | ← | | ← | | ← | | ← | |
| 87 | ← | | ← | | ← | | ← | | ← | |
| 88 | --- | | --- | | --- | | --- | | Applause | * |
| 89 | --- | | --- | | --- | | --- | | --- | |
| 90 | --- | | --- | | --- | | --- | | --- | |
| 91 | --- | | --- | | --- | | --- | | --- | |
| 92 | --- | | --- | | --- | | --- | | --- | |
| 93 | --- | | --- | | --- | | --- | | --- | |
| 94 | --- | | --- | | --- | | --- | | --- | |
| 95 | --- | | --- | | --- | | --- | | --- | |
| C7 96 | --- | | --- | | --- | | --- | | --- | |
| 97 | --- | | --- | | --- | | --- | | --- | |
| 98 | --- | | --- | | --- | | --- | | --- | |
| 99 | --- | | --- | | --- | | --- | | --- | |

Note number

PC : Program change number
--- : No sound
* : Tones using two voices

← : Same sound as "STANDARD1"(PC1) Set.
[EXC]: Sounds with the same EXC number cannot be used simultaneously.

[88] : Same sound as for CC32= 2
[55] : Same sound as for CC32= 1.

REFERENCE MANUAL

| CC32= 2 | PC 50 'ETHNIC | | PC 51 'KICK&SNARE | | PC 52 'ORIENTAL | | PC 57 'SFX | | PC 58 'RHYTHM FX | |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 | Finger Snap | | ---- | | ---- | | ---- | | ---- | |
| 26 | Tambourine | | ---- | | ---- | | ---- | | ---- | |
| 27 | Castanets | | ---- | | ---- | | ---- | | ---- | |
| 28 | Crash Cymbal1 | | ---- | | ZaghrutaLoop | | ---- | | ---- | |
| 29 | Snare Roll | | ---- | | Zaghruta Stop | | ---- | | ---- | |
| 30 | Concert Snare Drum | | ---- | | ReverseZag | | ---- | | ---- | |
| 31 | Concert Cymbal | | ---- | | ---- | | Scratch Push2 | [EXC1] | ---- | |
| 32 | Concert BD1 | | ---- | | ---- | | Scratch Pull2 | [EXC1] | ---- | |
| 33 | Jingle Bell | | ---- | | ---- | | Cutting Noise 2 Up | | ---- | |
| 34 | Bell Tree | | ---- | | ---- | | Cutting Noise 2 Down | | ---- | |
| 35 | Bar Chimes | | ---- | | TR-707 BD | | Distortion Guitar Cutting Noise Up | | ---- | |
| C2 36 | Wadaiko | * | ---- | | TR-707 BD | | Distortion Guitar Cutting Noise Down | | Reverse Kick 1 | |
| 37 | Wadaiko Rim | * | ---- | | TR-707 Rim | | Bass Slide | | Reverse Concert BD 1 | |
| 38 | Shime Taiko | | ---- | | TR-707 SD | | Pick Scrape | | Reverse Power Kick 1 | |
| 39 | Atarigane | | ---- | | HandClap ST | | High Q | | Reverse Electric Kick 1 | |
| 40 | Hyoushigi | | Standard 1 Kick 1 | | TR-707 SD | | Slap | | Reverse Snare 1 | |
| 41 | Ohkawa | | Standard 1 Kick 2 | | Tom | | Scratch Push | [EXC7] | Reverse Snare 2 | |
| 42 | High Kotsuzumi | | Standard 2 Kick 1 | | TR-707 HH Clsd | | Scratch Pull | [EXC7] | Reverse Standard set1 Snare 1 | |
| 43 | Low Kotsuzumi | | Standard 2 Kick 2 | | Tom | | Sticks | | Reverse Tight Snare | |
| 44 | Ban Gu | | Kick 1 | | TR-707 HH Clsd | | Square Click | | Reverse Dance Snare | |
| 45 | Big Gong | | Kick 2 | | Tom | | Metronome Click | | Reverse 808 Snare | |
| 46 | Small Gong | | Soft Kick | | TR-707 HH Open | | Metronome Bell | | Reverse Tom1 | |
| 47 | Bend Gong | | Jazz Kick 1 | | Tom | | Guitar Fret Noise | | Reverse Tom2 | |
| C3 48 | Thai Gong | | Jazz Kick 2 | | Tom | | Guitar Cutting Noise Up | | Reverse Sticks | |
| 49 | Rama Cymbal | | Concert BD | | TR-707 Crash | | GuitarCutting Noise Down | | Reverse Slap | |
| 50 | Gamelan Gong | | Room Kick 1 | | Tom | | String Slap of Double Bass | | Reverse Cymbal1 | |
| 51 | Udo Short | [EXC1] | Room Kick 2 | | Ride Cymbal | | Fl.Key Click | | Reverse Cymbal2 | |
| 52 | Udo Long | [EXC1] | Power Kick 1 | | Doholla Dom | | Laughing | | Reverse Open Hi-hat | |
| 53 | Udo Slap | | Power Kick 2 | | Doholla Sak | | Scream | | Reverse Ride Cymbal | |
| 54 | Bendir | | Electric Kick 2 | | Tambourine | | Punch | | Reverse CR-78 OHH | |
| 55 | Req Dum | | Electric Kick 1 | * | Doholla Tak2 | | Heart Beat | | Reverse Closed Hi-hat | |
| 56 | Req Tik | | Electric Kick | | Cowbell | | Footsteps1 | | Reverse Gong | |
| 57 | Tabla Te | | 808 Bass Drum | | Doholla Tak1 | | Footsteps2 | | Reverse Bell Tree | |
| 58 | Tabla Na | | 909 Bass Drum | | Cabasa | | Applause | * | Reverse Guiro | |
| 59 | Tabla Tun | | Dance Kick | | Doff Dom | | Door Creaking | | Reverse Bendir | |
| C4 60 | Tabla Ge | | Standard 1 Snare 1 | | Doff Tak3 | | Door | | Reverse Gun Shot | |
| 61 | Tabla Ge Hi | | Standard 1 Snare 2 | | Low Bongo | | Scratch | | Reverse Scratch | |
| 62 | Talking Drum | * | Standard 2 Snare 1 | | DoffTak-c | | Wind Chimes | * | Reverse Laser | |
| 63 | Bend Talking Drum | * | Standard 2 Snare 2 | | High Bongo | | Car-Engine | | Key Click | |
| 64 | Caxixi | | Tight Snare | | Doff Tak 3 | | Car-Stop | | Tekno Thip | |
| 65 | Djembe | | Concert Snare | | Tabla Dom | | Car-Pass | | Pop Drop | |
| 66 | Djembe Rim | | Jazz Snare 1 | | Tabla Roll | | Car-Crash | * | Woody Slap | |
| 67 | Timbales Low | | Jazz Snare 2 | | Tabla Tak | | Siren | | Distortion Kick | * |
| 68 | Timbales Palla | | Room Snare 1 | | Tabla Flam | | Train | | Syn.Drop | |
| 69 | Timbales High | | Room Snare 2 | | Tabla Rim1 | | Jetplane | * | Reverse High Q | |
| 70 | Cowbell | | Power Snare 1 | | Tabla Rim3 | | Helicopter | | Pipe | |
| 71 | Hi Bongo | | Power Snare 2 | | Tabla Rim2 | | Starship | * | Ice Block | |
| C5 72 | Low Bongo | | Gated Snare | | Rek Dom2 | | Gun Shot | | Digital Tambourine | * |
| 73 | Mute Hi Conga | | Dance Snare 1 | | Rek Tak2 | | Machine Gun | | Alias | |
| 74 | Open Hi Conga | | Dance Snare 2 | | Rek Dom1 | | Lasergun | | Modulated Bell | |
| 75 | Mute Low Conga | | Disco Snare | | Rek Tak1 | | Explosion | * | Spark | |
| 76 | Conga Slap | | Electric Snare2 | | Rek Rim | | Dog | | Metalic Percussion | |
| 77 | Open Low Conga | | House Snare | * | Rek Slap | | Horse-Gallop | | Velocity Noise FX | |
| 78 | Conga Slide | * | Electric Snare 1 | | --- | | Birds | * | Stereo Noise Clap | * |
| 79 | Mute Pandiero | | Electric Snare 3 | * | Rek Khan-c | | Rain | | Swish | |
| 80 | Open Pandiero | | 808 Snare 1 | | --- | | Thunder | | Slappy | * |
| 81 | Open Surdo | [EXC2] | 808 Snare 2 | * | Rek Kha-o | | Wind | | Voice Ou | |
| 82 | Mute Surdo | [EXC2] | 909 Snare 1 | | Rek Loop | | Seashore | | Voice Au | |
| 83 | Tamborim | | 909 Snare 2 | * | Rek Slap | | Stream | * | Hoo | |
| C6 84 | High Agogo | | Brush Tap1 | | Sagat L-o | | Bubble | * | Tape Stop1 | * |
| 85 | Low Agogo | | Brush Tap2 | | Sagat R | | Kitty | | Tape Stop2 | * |
| 86 | Shaker | | Brush Slap1 | | Sagat L-c | | Bird2 | | Misslle | * |
| 87 | High Whistle | [EXC3] | Brush Slap2 | | Jingle Bell | | Growl | | Space Bird | |
| 88 | Low Whistle | [EXC3] | Brush Slap3 | | --- | | Applause2 | * | Flying Monster | |
| 89 | Mute Cuica | [EXC4] | Brush Swirl1 | | --- | | Telephone1 | | ---- | |
| 90 | Open Cuica | [EXC4] | Brush Swirl2 | | --- | | Telephone2 | | ---- | |
| 91 | Mute Triangle | [EXC5] | Brush Long Swirl | | --- | | ---- | | ---- | |
| 92 | Open Triangle | [EXC5] | ---- | | ---- | | ---- | | ---- | |
| 93 | Short Guiro | [EXC6] | ---- | | ---- | | ---- | | ---- | |
| 94 | Long Guiro | [EXC6] | ---- | | ---- | | ---- | | ---- | |
| 95 | Cabasa Up | | ---- | | ---- | | ---- | | ---- | |
| C7 96 | Cabasa Down | | ---- | | ---- | | ---- | | ---- | |
| 97 | Claves | | ---- | | ---- | | ---- | | ---- | |
| 98 | High Wood Block | | ---- | | ---- | | ---- | | ---- | |
| 99 | Low Wood Block | | ---- | | ---- | | ---- | | ---- | |

Note number

PC : Program change number
— : No sound
* : Tones using two voices

← : Same sound as "STANDARD1"(PC1) Set.
[EXC] : Sounds with the same EXC number cannot be used simultaneously.

[88] : Same sound as for CC32= 2.
[55] : Same sound as for CC32= 1.

| CC32= 1 | PC 1 / PC 33 "STANDARD / JAZZ | PC 9 "ROOM | PC 17 "POWER | PC 25 "ELECTRONIC | PC 26 "TR-808 | PC 41 "BRUSH | PC 49 "ORCHESTRA |
|---|---|---|---|---|---|---|---|
| 25 | --- | --- | --- | --- | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | --- |
| 27 | High Q | ← | ← | ← | ← | ← | Closed Hi-hat [EXC1] |
| 28 | Slap | ← | ← | ← | ← | ← | Pedal Hi-hat [EXC1] |
| 29 | Scratch Push | ← | ← | ← | ← | ← | Open Hi-hat [EXC1] |
| 30 | Scratch Pull | ← | ← | ← | ← | ← | Ride Cymbal1 |
| 31 | Sticks | ← | ← | ← | ← | ← | ← |
| 32 | Square Click | ← | ← | ← | ← | ← | ← |
| 33 | Metronome Click | ← | ← | ← | ← | ← | ← |
| 34 | Metronome Bell | ← | ← | ← | ← | ← | ← |
| 35 | Kick Drum2 / Jazz BD2 | ← | ← | ← | ← | Jazz BD2 | Concert BD2 |
| C2 36 | Kick Drum1 / Jazz BD1 | ← | MONDO Kick | Elec BD | 808 Bass Drum | Jazz BD1 | Concert BD1 |
| 37 | Side Stick | ← | ← | ← | 808 Rim Shot | ← | ← |
| 38 | Snare Drum1 | ← | Gated SD | Elec SD | 808 Snare Drum | Brush Tap | Concert SD |
| 39 | Hand Clap | ← | ← | ← | ← | Brush Slap | Castanets |
| 40 | Snare Drum2 | ← | ← | Gated SD | ← | Brash Swirl | Concert SD |
| 41 | Low Tom2 | Room Low Tom2 | Room Low Tom2 | Elec Low Tom2 | 808 Low Tom2 | ← | Timpani F |
| 42 | Closed Hi-hat [EXC1] | ← | ← | ← | 808 CHH [EXC1] | ← | Timpani F# |
| 43 | Low Tom1 | Room Low Tom1 | Room Low Tom1 | Elec Low Tom1 | 808 Low Tom1 | ← | Timpani G |
| 44 | Pedal Hi-hat [EXC1] | ← | ← | ← | 808 CHH [EXC1] | ← | Timpani G# |
| 45 | Mid Tom2 | Room Mid Tom2 | Room Mid Tom2 | Elec Mid Tom2 | 808 Mid Tom2 | ← | Timpani A |
| 46 | Open Hi-hat [EXC1] | ← | ← | ← | 808 OHH [EXC1] | ← | Timpani A# |
| 47 | Mid Tom1 | Room Mid Tom1 | Room Mid Tom1 | Elec Mid Tom1 | 808 Mid Tom1 | ← | Timpani B |
| C3 48 | High Tom2 | Room Hi Tom2 | Room Hi Tom2 | Elec Hi Tom2 | 808 Hi Tom2 | ← | Timpani c |
| 49 | Crash Cymbal1 | ← | ← | ← | 808 Cymbal | ← | Timpani c# |
| 50 | High Tom1 | Room Hi Tom1 | Room Hi Tom1 | Elec Hi Tom1 | 808 Hi Tom1 | ← | Timpani d |
| 51 | Ride Cymbal1 | ← | ← | ← | ← | ← | Timpani d# |
| 52 | Chinese Cymbal | ← | ← | Reverse Cymbal | ← | ← | Timpani e |
| 53 | Ride Bell | ← | ← | ← | ← | ← | Timpani f |
| 54 | Tambourine | ← | ← | ← | ← | ← | ← |
| 55 | Splash Cymbal | ← | ← | ← | ← | ← | ← |
| 56 | Cowbell | ← | ← | ← | 808 Cowbell | ← | ← |
| 57 | Crash Cymbal2 | ← | ← | ← | ← | ← | Concert Cymbal2 |
| 58 | Vibra-slap | ← | ← | ← | ← | ← | ← |
| 59 | Ride Cymbal2 | ← | ← | ← | ← | ← | Concert Cymbal1 |
| C4 60 | High Bongo | ← | ← | ← | ← | ← | ← |
| 61 | Low Bongo | ← | ← | ← | ← | ← | ← |
| 62 | Mute High Conga | ← | ← | ← | 808 High Conga | ← | ← |
| 63 | Open High Conga | ← | ← | ← | 808 Mid Conga | ← | ← |
| 64 | Low Conga | ← | ← | ← | 808 Low Conga | ← | ← |
| 65 | High Timbale | ← | ← | ← | ← | ← | ← |
| 66 | Low Timbale | ← | ← | ← | ← | ← | ← |
| 67 | High Agogo | ← | ← | ← | ← | ← | ← |
| 68 | Low Agogo | ← | ← | ← | ← | ← | ← |
| 69 | Cabasa | ← | ← | ← | ← | ← | ← |
| 70 | Maracas | ← | ← | ← | 808 Maracas | ← | ← |
| 71 | Short Hi Whistle [EXC2] | ← | ← | ← | ← | ← | ← |
| C5 72 | Long Low Whistle [EXC2] | ← | ← | ← | ← | ← | ← |
| 73 | Short Guiro | ← | ← | ← | ← | ← | ← |
| 74 | Long Guiro | ← | ← | ← | ← | ← | ← |
| 75 | Claves | ← | ← | ← | 808 Claves | ← | ← |
| 76 | High Wood Block | ← | ← | ← | ← | ← | ← |
| 77 | Low Wood Block | ← | ← | ← | ← | ← | ← |
| 78 | Mute Cuica [EXC4] | ← | ← | ← | ← | ← | ← |
| 79 | Open Cuica [EXC4] | ← | ← | ← | ← | ← | ← |
| 80 | Mute Triangle [EXC5] | ← | ← | ← | ← | ← | ← |
| 81 | Open Triangle [EXC5] | ← | ← | ← | ← | ← | ← |
| 82 | Shaker | ← | ← | ← | ← | ← | ← |
| 83 | Jingle Bell | ← | ← | ← | ← | ← | ← |
| C6 84 | Bell Tree | ← | ← | ← | ← | ← | ← |
| 85 | Castanets | ← | ← | ← | ← | ← | ← |
| 86 | Mute Surdo [EXC6] | ← | ← | ← | ← | ← | ← |
| 87 | Open Surdo [EXC6] | ← | ← | ← | ← | ← | ← |
| 88 | --- | --- | --- | --- | --- | --- | Applause * |
| 89 | --- | --- | --- | --- | --- | --- | --- |
| 90 | --- | --- | --- | --- | --- | --- | --- |
| 91 | --- | --- | --- | --- | --- | --- | --- |
| 92 | --- | --- | --- | --- | --- | --- | --- |
| 93 | --- | --- | --- | --- | --- | --- | --- |
| 94 | --- | --- | --- | --- | --- | --- | --- |
| 95 | --- | --- | --- | --- | — | --- | --- |
| C7 96 | --- | --- | --- | --- | --- | --- | --- |
| 97 | --- | --- | --- | --- | --- | --- | --- |
| 98 | --- | --- | --- | --- | --- | --- | --- |
| 99 | --- | --- | --- | --- | --- | --- | --- |

Note number

PC : Program change number
— : No sound
* : Tones using two voices

← : Same sound as "STANDARD1"(PC1) Set.
[EXC] : Sounds with the same EXC number cannot be used simultaneously.

[88] : Same sound as for CC32= 2.
[55] : Same sound as for CC32= 1.

| | PC 57 *SFX | | PC 128 +CM-64/32L | |
|---|---|---|---|---|
| 35 | ---- | | CM Kick Drum | |
| C2 36 | ---- | | CM Kick Drum | |
| 37 | ---- | | CM Rim Shot | |
| 38 | ---- | | CM Snare Drum | |
| 39 | High Q | | CM Hand Clap | |
| 40 | Slap | | CM Electronic Snare Drum | |
| 41 | Scratch Push | [EXC7] | CM Acoustic Low Tom | |
| 42 | Scratch Pull | [EXC7] | CM Closed High Hat | [EXC1] |
| 43 | Sticks | | CM Acoustic Low Tom | |
| 44 | Square Click | | CM Open Hi-Hat2 | |
| 45 | Metronome Click | | CM Acoustic Middle Tom | |
| 46 | Metronome Bell | | CM Open Hi-Hat1 | [EXC1] |
| 47 | Guitar Fret Noise | | CM M.TomAcoustic Middle Tom | |
| C3 48 | Guitar cuttingnoise/up | | CM Acoustic High Tom | |
| 49 | Guitar cutting noise/down | | CM Crash Cymbal | |
| 50 | String slap of double bass | | CM Acoustic High Tom | |
| 51 | Fl.Key Click | | CM Ride Cymbal | |
| 52 | Laughing | | ---- | |
| 53 | Scream | | ---- | |
| 54 | Punch | | CM Tambourine | |
| 55 | Heart Beat | | ---- | |
| 56 | Footsteps1 | | CM Cowbell | |
| 57 | Footsteps2 | | ---- | |
| 58 | Applause | * | ---- | |
| 59 | Door Creaking | | ---- | |
| C4 60 | Door | | CM High Bongo | |
| 61 | Scratch | | CM Low Bongo | |
| 62 | Wind Chimes | * | CM Mute High Conga | |
| 63 | Car-Engine | | CM High Conga | |
| 64 | Car-Stop | | CM Low Conga | |
| 65 | Car-Pass | | CM High Timbale | |
| 66 | Car-Crash | * | CM Low Timbale | |
| 67 | Siren | | CM High Agogo | |
| 68 | Train | | CM Low Agogo | |
| 69 | Jetplane | * | CM Cabasa | |
| 70 | Helicopter | | CM Maracas | |
| 71 | Starship | * | CM Short Whistle | |
| C5 72 | Gun Shot | | CM Long Whistle | |
| 73 | Machine Gun | | CM Vibrato Slap | |
| 74 | Lasergun | | ---- | |
| 75 | Explosion | * | CM Claves | |
| 76 | Dog | | Laughing | |
| 77 | Horse-Gallop | | Scream | |
| 78 | Birds | * | Punch | |
| 79 | Rain | * | Heart Beat | |
| 80 | Thunder | | Footsteps1 | |
| 81 | Wind | | Footsteps2 | |
| 82 | Seashore | | Applause | * |
| 83 | Stream | * | Creaking | |
| C6 84 | Bubble | * | Door | |
| 85 | ---- | | Scratch | |
| 86 | ---- | | Wind Chimes | * |
| 87 | ---- | | Car-Engine | |
| 88 | ---- | | Car-Stop | |
| 89 | ---- | | Car-Pass | |
| 90 | ---- | | Car-Crash | * |
| 91 | ---- | | Siren | |
| 92 | ---- | | Train | |
| 93 | ---- | | Jetplane | * |
| 94 | ---- | | Helicopter | |
| 95 | ---- | | Starship | * |
| C7 96 | ---- | | Gun Shot | |
| 97 | ---- | | Machine Gun | |
| 98 | ---- | | Lasergun | |
| 99 | ---- | | Explosion | * |
| 100 | ---- | | Dog | |
| 101 | ---- | | Horse-Gallop | |
| 102 | ---- | | Birds | * |
| 103 | ---- | | Rain | * |
| 104 | ---- | | Thunder | |
| 105 | ---- | | Wind | |
| 106 | ---- | | SeaShore | |
| 107 | ---- | | Stream | * |
| C8 108 | ---- | | Bubble | * |

Note number

PC : Program change number
— : No sound
* : Tones using two voices

〃 : Same sound as "STANDARD1"(PC1) Set.
[EXC] : Sounds with the same EXC number cannot be used simultaneously.

[88] : Same sound as for CC32= 2.
[55] : Same sound as for CC32= 1.

# 13.5. Music Style chart (ROM)

| GBN | STYLE NAME | TEMPO | T.S. | CC00 | CC32 |
|---|---|---|---|---|---|
| A 11 | HardRock | 90 | 4/4 | 1 | 15 |
| A 12 | HardEdge | 96 | 4/4 | 1 | 16 |
| A 13 | BritRock | 120 | 4/4 | 1 | 9 |
| A 14 | Rock1 | 128 | 4/4 | 1 | 17 |
| A 15 | Rock2 | 140 | 4/4 | 1 | 18 |
| A 16 | Sh Rock1 | 100 | 4/4 | 1 | 19 |
| A 17 | Sh Rock2 | 113 | 4/4 | 1 | 20 |
| A 18 | Sh Rock3 | 127 | 4/4 | 1 | 10 |
| A 21 | DownBeat | 100 | 4/4 | 2 | 32 |
| A 22 | Undergrd | 120 | 4/4 | 2 | 33 |
| A 23 | House | 130 | 4/4 | 2 | 34 |
| A 24 | Jungle | 160 | 4/4 | 2 | 35 |
| A 25 | Dance1 | 120 | 4/4 | 2 | 36 |
| A 26 | Dance2 | 93 | 4/4 | 2 | 37 |
| A 27 | Rap | 90 | 4/4 | 33 | 8 |
| A 28 | Progress | 134 | 4/4 | 2 | 38 |
| A 31 | Funk1 | 102 | 4/4 | 3 | 13 |
| A 32 | Funk2 | 110 | 4/4 | 3 | 14 |
| A 33 | CoolGrv1 | 116 | 4/4 | 28 | 3 |
| A 34 | CoolGrv2 | 130 | 4/4 | 28 | 2 |
| A 35 | CoolGrv3 | 95 | 4/4 | 28 | 4 |
| A 36 | AcidJazz | 90 | 4/4 | 2 | 39 |
| A 37 | Contemp1 | 120 | 4/4 | 28 | 6 |
| A 38 | Contemp2 | 98 | 4/4 | 28 | 7 |
| A 41 | 8B Pop1 | 60 | 4/4 | 6 | 32 |
| A 42 | 8B Pop2 | 70 | 4/4 | 6 | 33 |
| A 43 | 8B Pop3 | 75 | 4/4 | 6 | 34 |
| A 44 | 8B Pop4 | 84 | 4/4 | 6 | 35 |
| A 45 | 8B Pop5 | 85 | 4/4 | 6 | 36 |
| A 46 | 8B Pop6 | 92 | 4/4 | 6 | 37 |
| A 47 | 8B Pop7 | 96 | 4/4 | 6 | 38 |
| A 48 | 8B Pop8S | 75 | 4/4 | 6 | 39 |
| A 51 | 16B Pop1 | 65 | 4/4 | 7 | 31 |
| A 52 | Bld Rock | 75 | 4/4 | 7 | 32 |
| A 53 | 16B Pop2 | 85 | 4/4 | 7 | 33 |
| A 54 | 16B Pop3 | 100 | 4/4 | 7 | 34 |
| A 55 | 16B Pop4 | 100 | 4/4 | 7 | 35 |
| A 56 | 16B Pop5 | 120 | 4/4 | 7 | 36 |
| A 57 | Bld RckS | 78 | 4/4 | 7 | 37 |
| A 58 | 16B PopS | 100 | 4/4 | 7 | 38 |
| A 61 | SlRock1 | 58 | 6/8 | 5 | 10 |
| A 62 | SlRock2 | 75 | 6/8 | 5 | 11 |
| A 63 | SlRock3 | 90 | 6/8 | 5 | 15 |
| A 64 | SlRock4 | 80 | 4/4 | 5 | 16 |
| A 65 | PopRock | 140 | 4/4 | 39 | 13 |
| A 66 | Surf | 153 | 4/4 | 10 | 21 |
| A 67 | Charlest | 212 | 4/4 | 11 | 4 |
| A 68 | Dixie | 180 | 4/4 | 11 | 3 |

| GBN | STYLE NAME | TEMPO | T.S. | CC00 | CC32 |
|---|---|---|---|---|---|
| A 71 | Boogie1 | 150 | 4/4 | 9 | 7 |
| A 72 | Boogie2 | 165 | 4/4 | 9 | 3 |
| A 73 | Rock'N1 | 122 | 4/4 | 10 | 22 |
| A 74 | Rock'N2 | 176,0 | 4/4 | 10 | 23 |
| A 75 | Rock'N3 | 168 | 4/4 | 10 | 24 |
| A 76 | Rock'N4 | 185 | 4/4 | 10 | 25 |
| A 77 | Twist1 | 164 | 4/4 | 10 | 14 |
| A 78 | Twist2 | 158 | 4/4 | 10 | 20 |
| A 81 | Sh Bald1 | 88 | 4/4 | 4 | 12 |
| A 82 | Sh Bald2 | 110 | 4/4 | 4 | 8 |
| A 83 | Sh Bald3 | 114 | 4/4 | 4 | 9 |
| A 84 | Blues | 60 | 4/4 | 44 | 14 |
| A 85 | BlueBeat | 110 | 4/4 | 44 | 4 |
| A 86 | R&B | 114 | 4/4 | 44 | 5 |
| A 87 | BigBand | 135 | 4/4 | 14 | 3 |
| A 88 | Shuffle | 180 | 4/4 | 15 | 3 |
| B 11 | SlSwing1 | 56 | 4/4 | 13 | 7 |
| B 12 | SlSwing2 | 60 | 4/4 | 13 | 5 |
| B 13 | SlSwing3 | 100 | 4/4 | 13 | 6 |
| B 14 | MedSwing | 110 | 4/4 | 13 | 8 |
| B 15 | Swing1 | 130 | 4/4 | 12 | 6 |
| B 16 | Swing2 | 150 | 4/4 | 12 | 5 |
| B 17 | CoolJazz | 160 | 4/4 | 12 | 7 |
| B 18 | SwCombo | 184 | 4/4 | 12 | 18 |
| B 21 | Bossa1 | 106 | 4/4 | 22 | 15 |
| B 22 | Bossa2 | 125 | 4/4 | 22 | 16 |
| B 23 | Bossa3 | 150 | 4/4 | 22 | 17 |
| B 24 | Bossa4 | 173 | 4/4 | 22 | 18 |
| B 25 | LatinRK | 84 | 4/4 | 22 | 11 |
| B 26 | Latin | 102 | 4/4 | 22 | 19 |
| B 27 | Samba1 | 105 | 4/4 | 27 | 9 |
| B 28 | Samba2 | 130 | 4/4 | 27 | 10 |
| B 31 | Mambo1 | 89 | 4/4 | 38 | 6 |
| B 32 | Mambo2 | 107 | 4/4 | 38 | 7 |
| B 33 | Mereng1 | 115 | 4/4 | 59 | 3 |
| B 34 | Mereng2 | 155 | 4/4 | 59 | 4 |
| B 35 | Salsa1 | 90 | 4/4 | 25 | 6 |
| B 36 | Salsa2 | 98 | 4/4 | 25 | 7 |
| B 37 | ChaCha1 | 121 | 4/4 | 24 | 7 |
| B 38 | ChaCha2 | 126 | 4/4 | 24 | 6 |
| B 41 | Gipsy1 | 93 | 2/4 | 61 | 0 |
| B 42 | Gipsy2 | 120 | 2/4 | 61 | 1 |
| B 43 | Macarena | 102 | 4/4 | 61 | 2 |
| B 44 | Tic Tac | 104 | 4/4 | 61 | 3 |
| B 45 | LtDance | 125 | 4/4 | 61 | 4 |
| B 46 | Son | 125 | 4/4 | 45 | 1 |
| B 47 | LimboRck | 86 | 4/4 | 35 | 3 |
| B 48 | Calypso | 165 | 4/4 | 35 | 4 |

| GBN | STYLE NAME | TEMPO | T.S. | CC00 | CC32 |
|---|---|---|---|---|---|
| B 51 | Reggae1 | 96 | 4/4 | 8 | 8 |
| B 52 | Reggae2 | 132 | 4/4 | 8 | 6 |
| B 53 | Rhumba | 97 | 4/4 | 23 | 6 |
| B 54 | Bolero | 109 | 4/4 | 23 | 5 |
| B 55 | Beguine | 105 | 4/4 | 39 | 7 |
| B 56 | ArgTango | 120 | 4/4 | 26 | 6 |
| B 57 | EurTango | 120 | 4/4 | 26 | 7 |
| B 58 | Foxtrot | 185 | 4/4 | 34 | 3 |
| B 61 | SlWaltz1 | 85 | 3/4 | 18 | 7 |
| B 62 | SlWaltz2 | 90 | 3/4 | 18 | 5 |
| B 63 | JazWltz1 | 120 | 3/4 | 17 | 23 |
| B 64 | JazWltz2 | 150 | 3/4 | 17 | 11 |
| B 65 | W'Waltz | 185 | 6/4 | 17 | 24 |
| B 66 | March1 | 120 | 4/4 | 20 | 10 |
| B 67 | March2 | 120 | 4/4 | 20 | 11 |
| B 68 | Polka | 128 | 4/4 | 19 | 9 |
| B 71 | P Slow | 60 | 4/4 | 6 | 41 |
| B 72 | G Slow | 93 | 4/4 | 6 | 40 |
| B 73 | P Ballad | 55 | 4/4 | 5 | 17 |
| B 74 | G SlRock | 56 | 4/4 | 5 | 18 |
| B 75 | G Ballad | 110 | 4/4 | 4 | 19 |
| B 76 | P Pop | 70 | 4/4 | 7 | 39 |
| B 77 | G Pop | 100 | 4/4 | 7 | 40 |
| B 78 | G FstPop | 87 | 4/4 | 22 | 22 |
| B 81 | P Rock'N | 160 | 4/4 | 10 | 26 |
| B 82 | P Shuffl | 180 | 4/4 | 15 | 6 |
| B 83 | P RagTim | 200 | 4/4 | 43 | 1 |
| B 84 | P Night | 60 | 4/4 | 13 | 11 |
| B 85 | P Jazz | 150 | 4/4 | 12 | 19 |
| B 86 | G Bossa | 145 | 4/4 | 22 | 21 |
| B 87 | P Fusion | 120 | 4/4 | 22 | 20 |
| B 88 | P Waltz | 84 | 3/4 | 18 | 8 |

# 13.6. Music Style chart (Zip disk)

### 16 Beat

!16BEAT5
!16BEAT6
#BALLADM
#POP2
$16BEAT1
$16BEAT2
%16BEAT1
%16BEAT2
%16BEAT3
%16BEAT4
%BALLAD1
%BALLAD2
@BALLAD3
'16Beat1
'16Beat2
'16Beat3
'16Beat4
'16Beat5
'16Beat6
'16Bet7S
'16Bet8S
#BALLAD4
#BLDSHFL

### 50's & 60's

#LIMBORK
%CHRLEST
%SLROCK1
%SLROCK2
%TWIST
^PopRock
^SlRock3
^SlRock4
HullyGul
Surf1
#60'S
#BOOGIE3
#50'SBLD
%BOOGIE
@BOOGIE2
PopRock1
PopRock2

### 8 Beat

8BeatAut
8 Beat 3
8 Beat 4
!8BEAT6
!8BEAT5
#POP1
$8BEAT1
$8BEAT2
%8BEAT1
%8BEAT2
%8BEAT3
%8BEAT4
'8Beat1
'8Beat2
'8Beat3
'8Beat6
'8Bet4Rk
'8Bet5Rb
'8Bet7Sw
'8Bet8Sw
8 Beat 1
8 Beat 2

### Classic

#W'POLKA
#W'WALTZ
WienWalz
WienWalc
#MINUET
#TOCCATA
%BAROQUE
^Baroque
#PAVANE
#ROSSINI
#BOLERO
^Bolero2
Bolero

### Contemporary

BeneFunk
BenePop1
BenePop2
!FUNK3
#CONTEMP
#FUNK4
$FUNK1
$FUNK2
$FUSION
%FUNK1
%FUNK2
%FUSION
'Funk1
'Funk2
Funk1
Funk2
SlowJam
UpGroove

### Dance

Disco 8B
Disco 1
!DANCE10
!HOUSE2
#DANCE2
#DANCE3
#DANCE4
#DANCE5
#DANCE6
#DANCE7
#DANCE8
#DANCE9
%DANCE
%HOUSE
%RAP
^AcidJaz
^Dance1
^Dance2
^PopRap
^Progres
^Techno
^Undergr
'Dance2
'House1
'House2
'PopRap
'Rap1
'Rap2
'Techno1
Dance
Disco M2
SoftDanc
Jive2

### Ethnic

Ballos
Bayon#Ru
Kalamati
Kam&Kars
Syrtorum
Tsamiko
Tsiftete
Xasapi&2
Zeimpeki
%ENKA
%ANADOLU
%ARAB
%KARS
%MALFOUF
%TROT
'Keroncn
'Turkis1
'Turkis2
Etno'Rom

### Folk

Awalzer
Boarisch
DiscoSch
Marsch
Obrkrain
Polka
Schlagr1
Schlagr7
SchWalz1
SlowWalz
Gaficira
Regional
SbCancao
SbEnredo
^FrWaltz
^Musette
'Musette
^DMarsc1
^DMarsc2
^Dwalzer
^Schlag1
^Schlag2
^Schlag3
^VlkMusk
Ballade
D'Rockmx
Dt'Fox
Evrgreen
FastLast
'G Polka
'G Waltz
Hitmix
Jive1
M'Polka
O'Polka1
O'Polka2
O'Polka3
O'Walz1
O'Walz2
Partypop
PopWlzer
Quickstp
Riomix
Schlager
Schunkel
Slowfox
V'Ballad
V'Schlg1
V'Schlg2
W'Walzer
Csardas
Gartner
Tango3
#JZWALTZ
#MARCH3
#SLWLTZ3
$POLKA
$WALTZ2
%DIXIE
%FOXTROT
%MARCH
%POLKA
%TANGO
%WALTZ
@SLWALTZ
^March
^Polka
^SlFoxtr
^Waltz
'EurTngo
#FOXTRT2
#POLKA3
#SALTARL
#TANGO3
#WALTZ5
^Mazurka
^Quadrgl
^Tarantl
Mazurca1
Mazurca2
Polca1
Polca2
PsoDoble
Tango1
Tango2
Tarantel
Valzer1
Valzer2
CtryDanc
Banat Mm
Hora Mm
Maneaua
Sirba
@CARIBEA
@MEXROCK
#CNTR2-4
#FAST2-4
#FAST4-4
#SLOW4-4
FolkVals
Hambo
March
Polka
'S 8Beat
'Shoogie
Schottis
'Sfoursh
Vals 1
%PDOBLE
@GUARACH
^Balle
^Habaner
^Jota
^Rancher
^RumSals
Corrido
Cumbia
'Cumbia
Habanera
Joropo
Pasodobl
'Pdoble
Ranchera
Sardana
'Sevilla
Sevillan
'SpRumba
Tango
Valsperu
!C'WLTZ3
#BGRASS2
#CAJUN
#C'ROCK2
#C'SWING
#C'WLTZ2
#TRAIN'B
#TWOSTEP
$COUNTRY
%COUNTRY
@C'WALTZ
^B'Grass
^Cajun
^C'Balld
^C'Boogi
^Country
^C'Swing
^C'Westr
Country1
Country2
'C'Swing
TexMex
Valz

### Latin

#SAMBA4
#SAMBA5
%SAMBA
@SAMBA2
^DscSamb
^MdnSamb
^SambRio
BossaNov
PopBossa
Samba1
Samba2
Samba3
SlowBoss
TrioBoss
TrueBos1
TrueBos2
TrueBos3
TrueBos4
TrueBos5
!LATIN2
!MENEAIT
!MERENG2
#BOSSA3
#BOSSA4
#CHACHA2
#MAMBO2
#RHUMBA2
$BOSSAN
$RHUMBA
%BOSSA
%CHACHA
%LATIN
%MAMBO
%SALSA
@MAMBO
^Bossa1
^Bossa2
^Calypso

^ChaCha
^Latin
^Mambo1
^Mambo2
^Mereng1
^Mereng2
^Merengu
^Rhumba
^Salsa1
^Salsa2
'Bossa1
'Bossa2
'ChaCha2
Cha Cha
LatinRap
Mambo
Merengue
Salsa

**Rock**

BeneRock
#ROCK3
#ROCK4
$ROCK1
$ROCK2
%ROCK1
%ROCK2
RockBeat
RkEdge2
RockEdge

**Rock'n Roll**

#ROCK'N4
#ROCK'N5
#ROCK'N6
#ROCK'N7
%ROCK'N
^Rock'n1
^Rock'n2

**Standard**

Bene R&B
Shuffle3
%SHUFFLE
@STNDARD
#SHFFLE3
#SLSHFFL
Shuffle1
Shuffle2
!BLUES2
!BLUES3
!R&B2
#BIGBAND
#R&B
%BIGBAND
@BLUES
^Blues
'BigBand

**Swing**

SwingBet
!5-4
#JAZZ
#SWPOP
%SWWALTZ
'Coollaz
!SWING2
$SWING
%SLSWNG1
%SLSWNG2
%SWING
@SLSWING
JazzCmbo
'SwCombo
Swing

**Variety**

CountFox
PopReage
Foxtrot1
SloWaltz
SlowFox2
SlowFox3
Waltz 1
Waltz 2
Waltz 3
Beguine
#BEGUIN3
$REGGAE
%BEGUINE
%REGGAE
@REGGAE2
@RHUMBA2
^Reggae1
Beguine1
%RHUMBA
@LAMBADA
@SON
'Rhumba2
Foxtrot
JzWaltz

**World**

^DiscFox
%SLWALTZ
^S Balld
^S Boogi
^S Waltz
^Countr
Fast4-4
FastBeat
HalfBeat
#GOSPEL
@M'TOWN
@RAGTIME
^Gospel
'Gospel
Gospel1

# 13.7 MIDI Implementation Charts

[CREATIVE KEYBOARD] (Arranger)
Model: EM-2000

Date: September 1998
Version: 1.00

| Function... | | Transmitted | Recognized | Remarks |
|---|---|---|---|---|
| Basic | Default | 1~16 | 1~16 | 1= ACC1, 2= A.Bass, 3= ACC2, 4= Upper1, 5= ACC3, 6= Upper2, 7= ACC4, 8= ACC5, 9= ACC6, 10= A Drums/Stl PG, 11= Lower1, 12= M.Bass, 13= Upper3/ Basic/ , 14= Lower2/NTA1, 15= MI/NTA2, 16= M.Drums |
| Channel | Changed | 1~16, Off | 1~16, Off | |
| Mode | Default | Mode 3 | Mode 3 | |
| | Message | Mode 3, 4 (M=1) | Mode 3, 4 (M=1) | *2 |
| | Altered | ***** | | |
| Note Number | | 0~127 ***** | 0~127 *1<br>0~127 | |
| | True Voice | | | |
| Velocity | Note ON | O *1 | O *1 | |
| | Note OFF | X | X | |
| After Touch | Key's | X | O *1 | |
| | Ch's | O | O *1 | |
| Pitch Bend | | O *1 | O *1 | |
| Control Change | 0,32 | O *1 | O *1 | Bank Select |
| | 1 | O *1 | O *1 | Modulation |
| | 5 | O | O *1 | Portamento Time |
| | 6, 38 | O | O *1 | Data Entry |
| | 7 | O *1 | O *1 | Volume |
| | 10 | O *1 | O *1 | Panpot |
| | 11 | O *1 | O *1 | Expression |
| | 16 | O *1 | O *1 | Source 1 |
| | 17 | O *1 | O *1 | Source 2 |
| | 64 | O *1 | O *1 | Hold 1 |
| | 65 | O | O *1 | Portamento |
| | 66 | O *1 | O *1 | Sostenuto |
| | 67 | O *1 | O *1 | Soft |
| | 84 | O | O *1 | Portamento Control |
| | 91 | O *1 | O (Reverb) *1 | Effect 1 Depth |
| | 93 | O *1 | O (Chorus) *1 | Effect 3 Depth |
| | 94 | O *1 | O (Delay) *1 | Effect 4 Depth |
| | 98, 99 | O *1 | O *1 | NRPN LSB, MSB |
| | 100, 101 | O *1 | O *1 | RPN LSB, MSB |
| Program Change | | X *1 | O *1 | |
| | True # | ***** | 0~127 | Program Number 1~128 |
| System Exclusive | | O | O | |
| System Common | Song Pos | X | X | |
| | Song Sel | X | X | |
| | Tune | X | X | |
| System Real Time | Clock | O *1 | O *1 | |
| | Commands | O *1 | O *1 | MIDI File Record/Play |
| Aux Messages | All Sound Off | X | O (120, 126, 127) | |
| | Reset All Controllers | X | O (121) | |
| | Local On/Off | O *1 | O | |
| | All Notes Off | X | O (123-125) | |
| | Active Sense | O | O | |
| | Reset | X | X | |
| Notes | | *1 O X is selectable<br>*2 Recognize as M=1 even if M≠1 | | |

Mode 1: OMNI ON, POLY
Mode 2: OMNI ON, MONO
O: Yes
Mode 3: OMNI OFF, POLY
Mode 4: OMNI OFF, MONO
X: No

[CREATIVE KEYBOARD] (Sound Module, Keyboard Section, SMF Player)
Model: EM-2000

Date: September 1998
Version: 1.00

| | Function... | Transmitted | Recognized | Remarks |
|---|---|---|---|---|
| Basic | Default | 4, 6, 11, 12~16 | 1~16 | 4= Upper1, 6= Upper2 |
| Channel | Changed | 1~16, Off | 1~16, Off | 11= Lower1, 12= M. Bass, 13= Upper 3, 14= Lower2, 15= M. Int. 16= M.Drums |
| Mode | Default | Mode 3 | Mode 3 | *2 |
| | Message | Mode 3, 4 (M=1) | Mode 3, 4 (M=1) | |
| | Altered | ***** | | |
| Note Number | True Voice | 0~127 *1<br>***** | 0~127<br>0~127 | |
| Velocity | Note ON | O *1 | O | |
| | Note OFF | X | X | |
| After Touch | Key's | X | O *1 | |
| | Ch's | O | O *1 | |
| Pitch Bend | | O *1 | O *1 | |
| Control Change | 0,32 | O *1 | O *1 | Bank Select |
| | 1 | O *1 | O *1 | Modulation |
| | 5 | O | O *1 | Portamento Time |
| | 6, 38 | O | O *1 | Data Entry |
| | 7 | O *1 | O *1 | Volume |
| | 10 | O *1 | O *1 | Panpot |
| | 11 | O *1 | O *1 | Expression |
| | 16 | O *1 | O *1 | Source 1 |
| | 17 | O *1 | O *1 | Source 2 |
| | 64 | O *1 | O *1 | Hold 1 |
| | 65 | O | O *1 | Portamento |
| | 66 | O *1 | O *1 | Sostenuto |
| | 67 | O *1 | O *1 | Soft |
| | 84 | O | O *1 | Portamento Control |
| | 91 | O *1 | O (Reverb) *1 | Effect 1 Depth |
| | 93 | O *1 | O (Chorus) *1 | Effect 3 Depth |
| | 94 | O *1 | O (Delay) *1 | Effect 4 Depth |
| | 98, 99 | O *1 | O *1 | NRPN LSB, MSB |
| | 100, 101 | O *1 | O *1 | RPN LSB, MSB |
| Program Change | True # | O *1<br>***** | O *1<br>0~127 | Program Number 1~128 |
| System Exclusive | | O | O | |
| System Common | Song Pos | O *1 | O *1 | |
| | Song Sel | X | X | |
| | Tune | X | X | |
| System Real Time | Clock | O *1 | O *1 | MIDI File Record/Play |
| | Commands | O *1 | O *1 | |
| Aux Messages | All Sound Off | X | O (120, 126, 127) | |
| | Reset All Controllers | X | O (121) | |
| | Local On/Off | O *1 | O | |
| | All Notes Off | X | O (123-125) | |
| | Active Sense | O | O | |
| | Reset | X | X | |
| Notes | | *1 O X is selectable<br>*2 Recognize as M=1 even if M≠1 | | |

Mode 1: OMNI ON, POLY
Mode 2: OMNI ON, MONO
Mode 3: OMNI OFF, POLY
Mode 4: OMNI OFF, MONO

O: Yes
X: No

# 13.8. EFX Types & controllable parameters

Below please find a list of the EFX Types available on the EM-2000. As stated on page 22, each type provides two parameters that can be controlled via the Source 1 and 2 parameters (see "Using the insertion effect (DSP EFX)" on page 33 in the Player's Guide). Parameters indicated with an asterisk (*) can also be controlled via the PAD 1/2 buttons or an optional footswitch. See "Rotary S/F" on page 31 and "Rotary Slow/Fast" on page 29 for details.

## TONE COLOR (filter type)

**01 Enhancer**
Source 1 Sens 0~127
Source 2 Mix 0~127

The Enhancer controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.

**02 Humanizr**
Source 1 Vowel a/i/u/e/o
Source 2 Level 0~127

This adds a vowel character to the sound, making it similar to a human voice.

## GUITAR AMPLIFIER EFFECTS

Here is what the abbreviations mean:
Small: small amp
Bltin: single-unit type amp
2-Stk: large double-stack amp
3-Stk: large triple-stack amp

**03 Overdrv1 (Small)** Source 1 Drive 0~127
Source 2 Pan L63~0~R63

Overdrive creates a soft distortion similar to that produced by tube amplifiers. Several types of overdrive are available (see the names between brackets).

**04 Overdrv2 (Bltin)** Source 1 Drive 0~127
Source 2 Pan L63 ~0~ R63

**05 Overdrv3 (2-Stk)** Source 1 Drive 0~127
Source 2 Pan L63~0~R63

**06 Overdrv4 (3-Stk)** Source 1 Drive 0~127
Source 2 Pan L63~0~R63

**07 Distort1 (Small)** Source 1 Drive 0~127
Source 2 Pan L63~0~R63

This effect produces a more intense distortion than Overdrive.

**08 Distort2 (Bltin)** Source 1 Drive 0~127
Source 2 Pan L63~0~R63

**09 Distort3 (2-Stk)** Source 1 Drive 0~127
Source 2 Pan L63~0~R63

**10 Distort4 (3-Stk)** Source 1 Drive 0~127
Source 2 Pan L63~0~R63

## MODULATION EFFECTS (EXCEPT CHORUS)

**11 Phaser** Source 1 Manual 100Hz~8.0kHz
Source 2 Rate 0.05~10.0 Hz

A phaser adds a phase-shifted sound to the original sound, producing a twisting modulation that creates spaciousness and depth.

**12 Auto Wah** Source 1 Manual 0~127
Source 2 Rate 0.05~10.0 Hz

The Auto Wah cyclically controls a filter to create cyclic change in timbre.

**13 Rotary** *Source 1 Speed Slow/Fast
Source 2 Level 0~127

The Rotary effect simulates the sound of a classic rotary speaker. The unique type of modulation characteristic of these speakers is of a striking realism. This effect is most suitable for electric organ.

**14 StFlangr** Source 1 Rate 0.05~10.0 Hz
Source 2 Feedback -98% ~+98%

This is a stereo Flanger. It produces a metallic resonance that rises and falls like a jet airplane taking off or landing.

**15 SpFlangr** Source 1 Feedback -98% ~+98%
Source 2 Step Rate 0.05~10.0 Hz

A Step Flanger is an effect in which the Flanger pitch changes in audible steps.

**16 Tremolo1 (Tri)** Source 1 Mod Rate 0.05~10.0 Hz
(Triangular wave) Source 2 Mod Depth 0~127

Tremolo cyclically modulates the volume to add tremolo effect to the sound.

**17 Tremolo2 (Sqr)** Source 1 Mod Rate 0.05~10.0 Hz
(Square wave) Source 2 Mod Depth 0~127

**18 Tremolo3 (Sin)** Source 1 Mod Rate 0.05~10.0 Hz
(Sine wave) Source 2 Mod Depth 0~127

**19 Tremolo4 (Saw1)** Source 1 Mod Rate 0.05~10.0 Hz
(Normal saw wave) Source 2 Mod Depth 0~127

**20 Tremolo5 (Saw2)** Source 1 Mod Rate 0.05~10.0 Hz
("Flipped" saw wave) Source 2 Mod Depth 0~127

**21 AutoPan1 (Tri)** Source 1 Mod Rate 0.05~10.0 Hz
Source 2 Mod Depth 0~127

The Auto Pan effect cyclically modulates the stereo location of the sound.

**22 AutoPan2 (Sqr)** Source 1 Mod Rate 0.05~10.0 Hz
Source 2 Mod Depth 0~127

**23 AutoPan3 (Sin)** Source 1 Mod Rate 0.05~10.0 Hz
Source 2 Mod Depth 0~127

**24 AutoPan4 (Saw1)** Source 1 Mod Rate 0.05~10.0 Hz
Source 2 Mod Depth 0~127

**25 AutoPan5 (Saw2)** Source 1 Mod Rate 0.05~10.0 Hz
Source 2 Mod Depth 0~127

## DYNAMICS EFFECTS

**26 Compress** Source 1 Pan L63~0~R63
Source 2 Level 0~127

A compressor reduces signal peaks and boosts low levels, smoothing out unevenness in volume.

**27 Limiter** Source 1 Pan L63 ~0~ R63
Source 2 Level 0~127

A limiter prevents the volume from exceeding a certain level (Threshold) without boosting low levels.

## CHORUS EFFECTS

"D" means *dry* (no effect), while "E" means *effect* (no unprocessed signal); "0" refers to the level.

**28 Hexa Cho**
Source 1 Rate 0.05~10.0 Hz
Source 2 Balance D>0E~D0<E

Hexa chorus uses a six-phase chorus (six layers of chorused sound) to give richness and spatial spread to the sound.

**29 Trem Cho**
Source 1 Trem. Rate 0.05~10.0 Hz
Source 2 Balance D>0E~D0<E

Tremolo chorus is a chorus effect with added Tremolo (cyclic modulation of the volume).

**30 StChorus**
Source 1 Rate 0.05~10.0 Hz
Source 2 Balance D>0E~D0<E

This is a stereo chorus.

**31 Space D**
Source 1 Rate 0.05~10.0 Hz
Source 2 Balance D>0E~D0<E

Space-D is a multiple chorus that applies two-phase modulation in stereo. It gives no impression of modulation, but produces a transparent chorus effect (the perfect "stereo maker").

**32 3DChorus**
Source 1 Cho. Rate 0.05~10.0 Hz
Source 2 Balance D>0E~D0<E

This applies a 3D effect to the chorus sound. The chorus sound will be positioned 90 degrees left and 90 degrees right.

## DELAY & REVERB EFFECTS

"D" means *dry* (no effect), while "E" means *only effect* (no unprocessed signal).

**33 St Delay**
Source 1 Feedback -98% ~+98%
Source 2 Balance D>0E~D0<E

Delay is an effect that allows you repeat the input signal. By increasing the Feedback value (SOURCE 1), you can control the number of repetitions. Negative values (-) invert the phase of the repeated signals.

**34 Mod Dly**
Source 1 Mod Rate 0.05~10.0 Hz
Source 2 Balance D>0E~D0<E

This effect adds modulation to the delayed sound, producing an effect similar to a Flanger.

**35 3Tap Dly**
Source 1 Feedback -98% ~+98%
Source 2 Balance D>0E~D0<E

The Triple Tap Delay produces three delay sounds; center, left and right.

**36 4Tap Dly**
Source 1 Feedback -98% ~+98%

The Quadruple Tap Delay has four delays.

**37 TmCtrDly**
Source 1 Dly Time 200m-990m/1sec
Source 2 Feedback -98% ~+98%

This effect allows you to use SOURCE 1 to control the delay time and pitch in realtime. Lengthening the delay time will lower the pitch, and shortening it will raise the pitch.

**38 Reverb**
Source 1 Time 0~127
Source 2 Balance D>0E~D0<E

**39 GteRevNr** (Normal gated reverb)
Source 1 Balance D>0E~D0<E
Source 2 Level 0~127

Gate Reverb is a special type of reverb in which the reverberant sound is suddenly cut off (and does not gradually decrease).

**40 GteRevRv** (Reverse gated reverb)
Source 1 Balance D>0E~D0<E
Source 2 Level 0~127

**41 GteRevS1** (Sweep 1)
Source 1 Balance D>0E~D0<E
Source 2 Level 0~127

The reverberant sound moves from right to left.

**42 GteRevS2** (Sweep 2)
Source 1 Balance D>0E~D0<E
Source 2 Level 0~127

The reverberant sound moves from left to right.

**43 3D Delay**
Source 1 Feedback -98% ~+98%
Source 2 Balance D>0E~D0<E

This applies a 3D effect to the delay sound. The delay sound will be positioned 90 degrees left and 90 degrees right.

## PITCH SHIFT (TRANSPOSITION) EFFECTS

**44 2PitchSh**
Source 1 Coarse1 -24 ~0~ +12
Source 2 Coarse2 -24 ~0~ +12

A Pitch Shifter shifts the pitch of the original sound. This 2-voice effect has two pitch shifters, and can add two pitch shifted sounds to the original sound.

**45 Fb P.Shf**
Source 1 Coarse1 -24 ~0~ +12
Source 2 Feedback -98% ~+98%

## OTHER EFFECTS

**46 3D Auto**
Source 1 Speed 0.05~10.0 Hz
Source 2 Turn Effect on/off

The 3D Auto effect moves the location of the sound. This effect is derived from Roland's 3-D Sound Space technology (RSS).

**47 3DManual**
Source 1 Azimuth 180/L168~0~R168
Source 2 Level 0~127

Allows you to manually move the sound in a 3-D sound space.).

**48 Lo-Fi 1**
Source 1 Balance D>0E~D0<E
Source 2 Pan L63 ~0~ R63

Lo-Fi 1 is an effect that intentionally degrades the sound quality.

**49 Lo-Fi 2**
Source 1 R.Detune 0~127
Source 2 Balance D>0E~D0<E

Lo-Fi 2 also degrades the sound quality and adds some noise to further "worsen" the quality.

**50 OD→ Chors**
Source 1 OD Pan L63 ~0~ R63
Source 2 ChoBalance D>0E~D0<E

This effect connects an Overdrive and a Chorus in series.

**51 OD→ Flger**
Source 1 OD Pan L63 ~0~ R63
Source 2 FLBalance D>0E~D0<E

This effect connects an Overdrive and a Flanger in series.

**52 OD→ Delay**
Source 1 OD Pan L63 ~0~ R63
Source 2 DlyBalance D>0E~D0<E

This effect connects an overdrive and a Delay in series.

**53 DS→ Chors**
Source 1 DS Pan L63 ~0~ R63
Source 2 ChoBalance D>0E~D0<E

This effect connects a Distortion effect and a Chorus in series.

**54 DS→ Flger**
Source 1 DS Pan L63 ~0~ R63
Source 2 FLBalance D>0E~D0<E

This effect connects a Distortion effect and a Flanger in series.

**55 DS→ Delay**
Source 1 DS Pan L63 -0- R63
Source 2 DlyBalance D>0E-D0<E

This effect connects a Distortion effect and a Delay in series.

**56 EH→ Chors**
Source 1 EH Sens 0-127
Source 2 ChoBalance D>0E-D0<E

This effect connects an Enhancer and a Chorus in series.

**57 EH→ Flger**
Source 1 EH Sens 0-127
Source 2 FLBalance D>0E-D0<E

This effect connects an Enhancer and a Flanger in series.

**58 EH→ Delay**
Source 1 EH Sens 0-127
Source 2 DlyBalance D>0E-D0<E

This effect connects an Enhancer and a Delay in series.

**59 Cho→ Dly**
Source 1 ChoBalance D>0E-D0<E
Source 2 DlyBalance D>0E-D0<E

This effect connects a Chorus and a Delay in series.

**60 FL→ Delay**
Source 1 FL Fb -98% -+98%
Source 2 DlyBalance D>0E-D0<E

This effect connects a Flanger and a Delay in series.

**61 Cho→ Flgr**
Source 1 ChoBalance D>0E-D0<E
Source 2 FLBalance D>0E-D0<E

This effect connects a Chorus and a Flanger in series.

**62 RotarMlt**
Source 1 OD Drive 0-127
*Source 2 RT Speed Slow/Fast

This connects Overdrive (OD), 3-band equalizer (EQ), and Rotary (RT) effects in series.

**63 GTRMlt1A**
(OD Amp Small)
Source 1 OD Drive 0-127
Source 2 Dly Mix 0-127

Guitar Multi 1 algorithms connect Compressor, Overdrive (OD), Chorus, and Delay effects in series. Different amp types are available (see below) so choose your Type with care.

**64 GTRMlt1B**
(OD Amp Bltln)
Source 1 OD Drive 0-127
Source 2 Dly Mix 0-127

**65 GTRMlt1C**
(OD Amp 2-Stk)
Source 1 OD Drive 0-127
Source 2 Dly Mix 0-127

**66 GTRMlt1D**
(OD Amp 3-Stk)
Source 1 OD Drive 0-127
Source 2 Dly Mix 0-127

**67 GTRMlt2A**
(OD Amp Small)
Source 1 OD Drive 0-127
Source 2 CF Mix 0-127

Guitar Multi 2 algorithms provide Compressor, Overdrive (OD), Equalizer, and Chorus or Flanger (CF) effects connected in series.

**68 GTRMlt2B**
(OD Amp Bltln)
Source 1 OD Drive 0-127
Source 2 CF Mix 0-127

**69 GTRMlt2C**
(OD Amp 2-Stk)
Source 1 OD Drive 0-127
Source 2 CF Mix 0-127

**70 GTRMlt2D**
(OD Amp 3-Stk)
Source 1 OD Drive 0-127
Source 2 CF Mix 0-127

**71 GTRMlt3A**
(OD Amp Small)
Source 1 Wah Man 0-127
Source 2 OD Drive 0-127

Guitar Multi 3 connects WahWah (Wah), Overdrive (OD), Chorus (CF), and Delay effects in series.

**72 GTRMlt3B**
(OD Amp Bltln)
Source 1 Wah Man 0-127
Source 2 OD Drive 0-127

**73 GTRMlt3C**
(OD Amp 2-Stk)
Source 1 Wah Man 0-127
Source 2 OD Drive 0-127

**74 GTRMlt3D**
(OD Amp 3-Stk)
Source 1 Wah Man 0-127
Source 2 OD Drive 0-127

**75 ClGtMlt1**
Source 1 CF Mix 0-127
Source 2 Dly Mix 0-127

Clean Guitar Multi 1 connects Compressor, Equalizer, Chorus (CF), and Delay (Dly) effects in series.

**76 ClGtMlt2**
Dly Time value 60m
Source 1 AW Man 0-127
Source 2 Dly Mix 0-127

Clean Guitar Multi 2 provides Auto-wah (AW), Equalizer, Chorus, and Delay (Dly) effects connected in series.

**77 BassMlti**
Source 1 OD Drive 0-127
Source 2 CF Mix 0-127

Bass Multi provides Compressor, Overdrive (OD), Equalizer, and Chorus (CF) effects connected in series.

**78 RhodMlt1**
(Pan)
Source 1 TP ModRT 0.05-6.40 Hz
Source 2 TP ModDep 0-127

Rhodes Multi 1 provides Enhancer, Phaser, Chorus, and Pan (TP) effects connected in series.

**79 RhodMlt2**
(Tremolo)
Source 1 TP ModRT 0.05-6.40 Hz
Source 2 TP ModDep 0-127

Rhodes Multi 2 provides Enhancer, Phaser, Chorus, and Tremolo (TP) effects connected in series.

**80 KeybMlti**
(Tremolo)
Source 1 RM ModFrq 0-127
Source 2 RMBalance D>0E-D0<E

Keyboard Multi provides Ring Modulator (RM), Equalizer, Pitch Shifter, Phaser, and Delay effects connected in series.

## EFFECTS CONNECTED IN PARALLEL

Parallel effects can be used in such a way that one part uses one effect, while the other uses the other effect. Specify the effect assignments by panning one part fully to the left, and the other fully to the right. See page 74 in the Player's Guide for details.

**81 Cho/Dly**
Source 1 ChoBalance D>0E-D0<E
Source 2 DlyBalance D>0E-D0<E

This effect connects a Chorus and a Delay in parallel.

**82 FL/Delay**
Source 1 FLBalance D>0E-D0<E
Source 2 DlyBalance D>0E-D0<E

This effect connects a Flanger and a Delay in parallel.

**83 Cho/Flgr**
Source 1 ChoBalance D>0E-D0<E
Source 1 FLBalance D>0E-D0<E

This effect connects a Flanger and a Flanger in parallel.

**84 OD1/OD2**
Source 1 OD1 Drive 0-127
Source 2 OD2 Drive 0-127

**85 OD/Rotar**
Source 1 OD Drive 0-127
*Source 2 RTRT Speed Slow/Fast

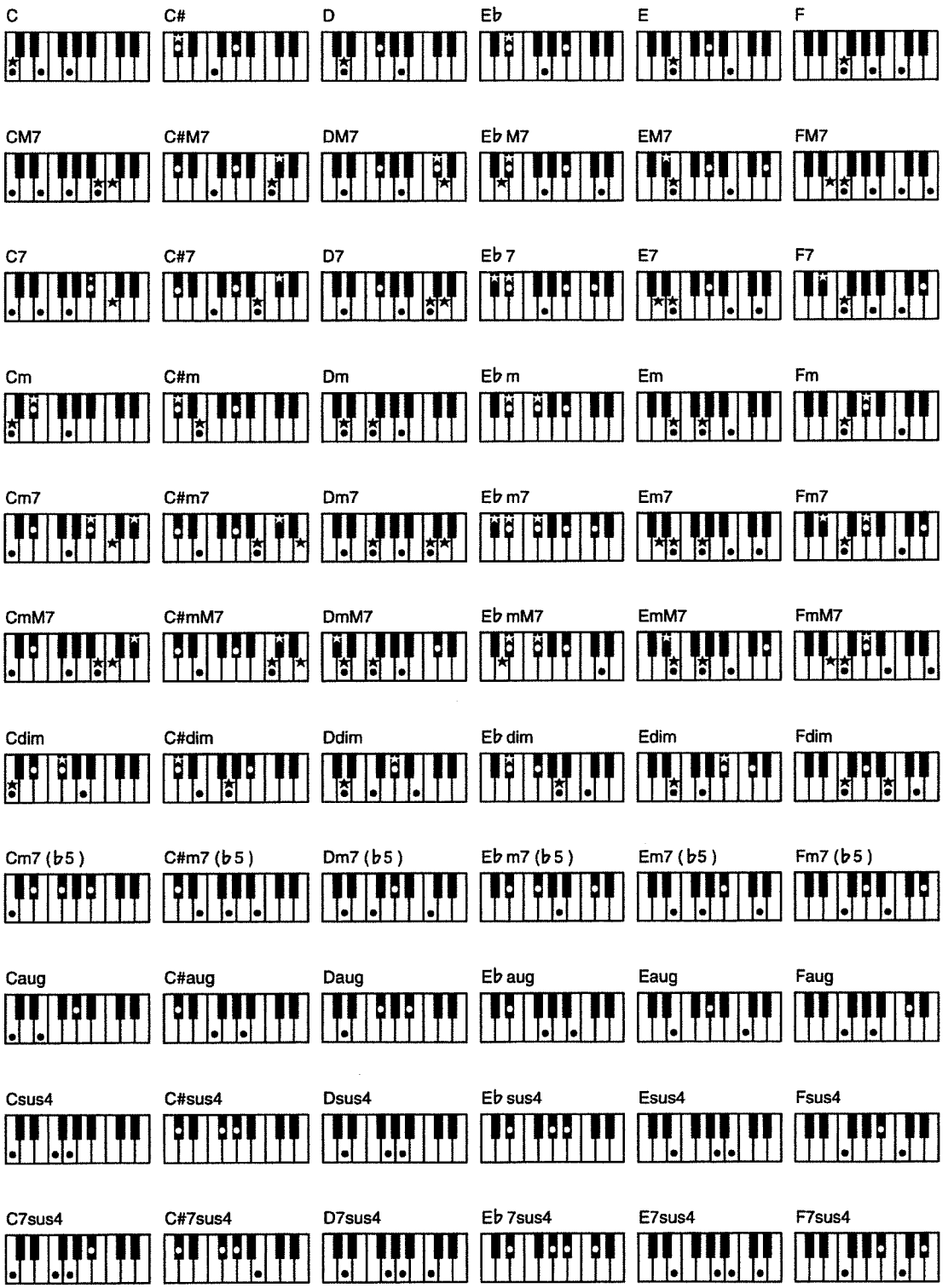
**86 OD/Phase**
Source 1 OD Drive 0-127
Source 2 PH Rate 0.05-10.0 Hz

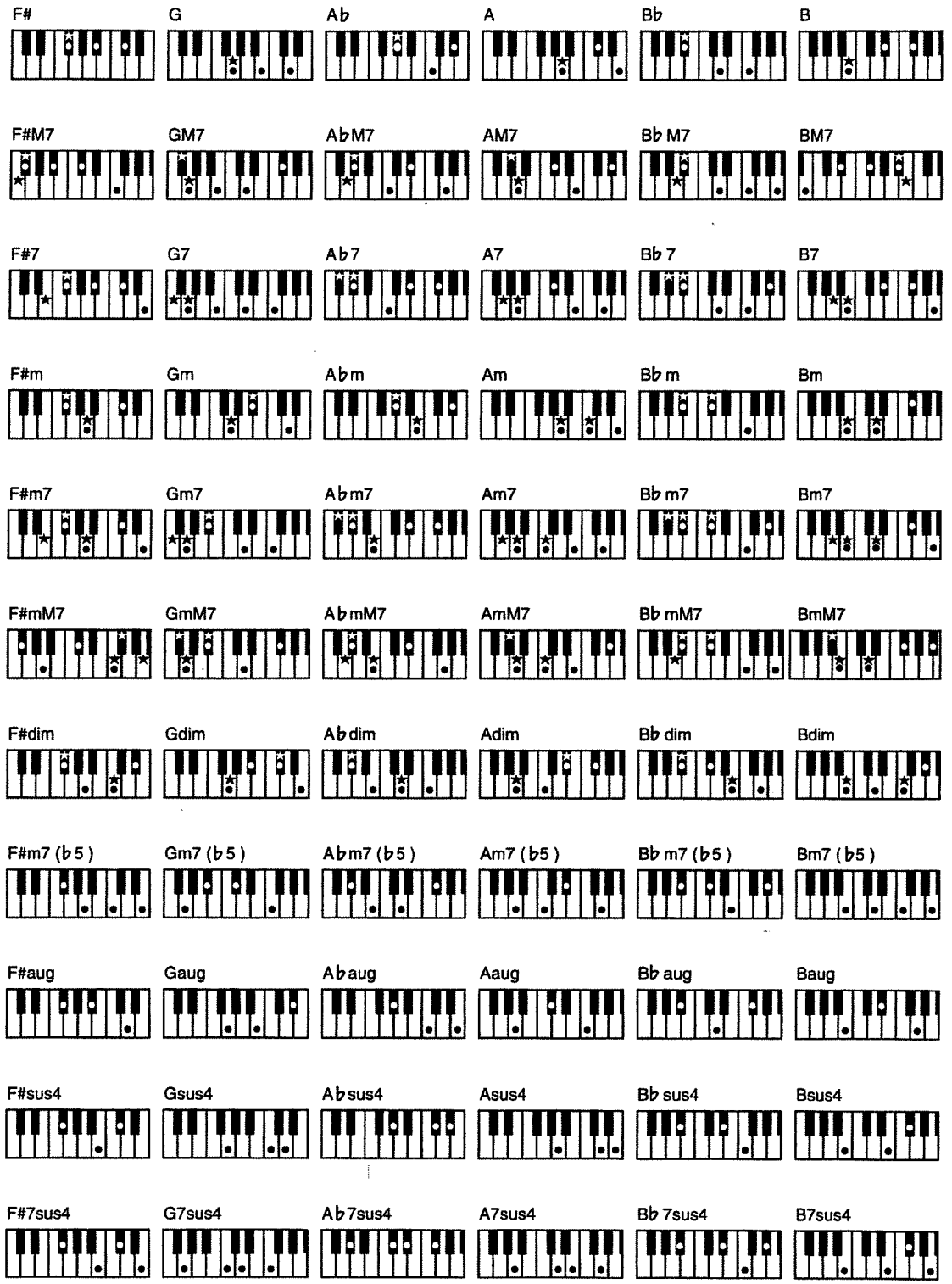
**87 OD/AtWah**
(Overdrive + Auto Wah)
Source 1 OD Drive 0-127
Source 2 AW Man 0-127

**88 PH/Rotar**
Source 1 PH Rate 0.05-10.0 Hz
*Source 2 RT Speed Slow/Fast

**89 PH/AtWah**
Source 1 PH Rate 0.05-10.0 Hz
Source 2 AW Man 0-127

## 13.9 Chord Intelligence




F#
G
Ab
A
Bb
B
F#M7
GM7
AbM7
AM7
Bb M7
BM7
F#7
G7
Ab7
A7
Bb 7
B7
F#m
Gm
Abm
Am
Bb m
Bm
F#m7
Gm7
Abm7
Am7
Bb m7
Bm7
F#mM7
GmM7
AbmM7
AmM7
Bb mM7
BmM7
F#dim
Gdim
Abdim
Adim
Bb dim
Bdim
F#m7 (b5)
Gm7 (b5)
Abm7 (b5)
Am7 (b5)
Bb m7 (b5)
Bm7 (b5)
F#aug
Gaug
Abaug
Aaug
Bb aug
Baug
F#sus4
Gsus4
Absus4
Asus4
Bb sus4
Bsus4
F#7sus4
G7sus4
Ab7sus4
A7sus4
Bb 7sus4
B7sus4

# 14. Index

# 15. Glossary

Below please find a list of terms being used in this manual and their explanations. These may help you utilize the full potential of your EM-2000. See also "MIDI messages used by the EM-2000" on page 65 in the Reference Manual for an explanation of MIDI-related terms.

**16-track Sequencer:** A function that allows you to record and edit songs on a track-by-track basis. (The EM-2000's Recorder always records to all 16 tracks simultaneously and has no edit functions.) It splits the MIDI data of a Standard MIDI File into separate tracks (comparable to the "Remix Track" function of a popular sequencer program) and thus allows for simplified and more efficient editing. (All Songs created on the EM-2000 are saved to disk as Format 0 →Standard MIDI Files.)

**Aftertouch:** The possibility to control the selected parameter by pressing a key even further down after playing a note. In most instances, Aftertouch is used to change the volume of the notes being played. Other common uses are to control the pitch or the filter (TVF) setting. On the EM-2000, Aftertouch can also be be used to control Arranger playback. There are two kinds of Aftertouch: Channel Aftertouch (one value per MIDI channel) and Polyphonic Aftertouch (each note sends its own Aftertouch value). The EM-2000's keyboard generates Channel Aftertouch messages.

**Arranger:** A MIDI sequencer that takes care of playing back the currently selected accompaniment (called →Music Style). Unlike a conventional sequencer, the Arranger is interactive because it can transpose (change the key) of the accompaniment data based on the chord information you supply in the →Chord recognition area of the keyboard.

**Chord Family:** The →Arranger provides three different patterns for every Original/Variation–Basic/Advanced combination, for a total of 12 different accompaniment patterns. These are: major (M), minor (m), and seventh (7). This means that when you play a seventh chord in the →Chord recognition area, the Arranger plays the "7" pattern of the currently selected Division/Type. This pattern may differ significantly from the pattern you hear when you play a major or minor chord and result in "clashing" notes (dissonances) when you play slightly more elaborate chords (6, 13, 11, Augm., Dim., etc.). If you do not change the Chord Family Assign parameter, these chord types cause the "7" pattern to be used. They may sound a lot better when played using the "M" or "m" patterns.

**Chord recognition area:** The area of the EM-2000's keyboard that is scanned for note/chord information in order to transpose the →Arranger.

**Clone:** A Music Style pattern that is automatically recorded and contains the same notes as the pattern selected for recording.

**Cutoff:** A widely used term that refers to the frequency where the TVF (filter) starts working. Depending on the filter type (low-pass or high-pass), all frequencies above (or below) this value are filtered.

**D Beam:** A controller based on an infrared light beam that measures the distance between an object and its sensor. The D Beam Controller can be assigned to a parameter (modulation, cutoff frequency, tempo, etc.) and translates the distance into MIDI messages. By moving your hand over the D Beam Controller, you can thus change the value of the selected parameter.

**Database:** A generic term used to refer to special file catalogues on a Zip™ disk (Style Database, Song Database). In addition to the file names, the Database also contains information that can only be read by the EM-2000 and the G-1000 Arranger Workstation. This information includes the Style/Song Name, Country, Author and Genre as well as the theme you need to play for a Song file in order to have the EM-2000 look for it (Play & Search function). Database information cannot be copied to floppy disk and is not transferred when you copy a Zip™ disk using a copy utility on your PC.

**Disk Link:** A special kind of Music Style memory inside the EM-2000. Disk Link memories do not contain Music Styles – only references to Music Styles on a Zip™ or other large-capacity disk. The disk in question thus needsto be available (→Mount/Unmount) in order for the Disk Link function to work. The EM-2000 provides 111 Disk Link memories.

**Division:** One of two possible accompaniment versions of the selected Music Style level (called →Type). "Original" is the simpler version of the two, while Advanced is a slightly busier or different accompaniment (with more or other instruments).

**Drum Set:** A collection of drum/percussion sounds that can be assigned to a part. Every key/MIDI note number triggers a different sound. It is thus impossible to play melodies with a Drum Set. (Contrast with →Tone.)

**Dynamic Arranger:** The possibility to control the volume of the Arranger parts via the force with which you strike the keys in the →Chord recognition area.

**Envelope:** A series of parameters that allow you to change a given sound aspect over time ("dynamically"). The EM-2000 provides envelopes that apply to both the volume (amplitude) and brightness (filter).

**Fill-In:** A transition lasting one bar that signals the end of a musical phrase and the beginning of a new section. The EM-2000 provides three Fill-Ins whose name already indicates which →Division will be played next. Thus, "To Original" means that the Origi-

nal will be automatically selected as soon as the Fill-In is completed. "To Variation" means that the →Arranger changes to the Variation Division. "To Previous", on the other hand, uses the Fill-In for the Division that is *not* selected (example: "Fill-In To Variation" when the ORIGINAL indicator lights) and then returns to the currently selected Division ("Original" in the above example).

**Header:** An area or data portion that contains information to be sent before all other data. The header is to a song file what the stage setting is to a theater play.

**MIDI:** Acronym for *Musical Instrument Digital Interface*. This is the language all MIDI compatible musical instruments must use in order to exchange information about notes being played, parameters being changed, and controllers (Pitch Bend, Modulation, foot switch, etc.) being used. MIDI only transmits and receives numbers ("digits", hence the name "digital"), and is thus only useful for electronic devices.

**Morphing:** Style Morphing is the musical version of a technique used in graphic environments to create new entities from elements taken from various existing entities. The EM series applies this technique to Music Styles. On the EM-2000, Style Morphing allows you to quickly create new accompaniments by using the drum part of Style "A", the bass line of Style "B", the guitar riff of Style "C", etc. Morphing new Styles is as easy as it sounds – and it's even faster than can be explained on paper. You can use any Music Style for morphing: internal Styles, Styles in Flash ROM, as well as Styles on floppy, Zip™ disk, Jaz™ disk, etc. The morphed results can be saved to any storage device that can interact with the EM-2000.

**Mount/Unmount:** The act of "introducing" a disk (Zip, Jaz, hard disk, etc.) to the EM-2000's operating system. A disk can only be used after you have alerted the EM-2000 to its existence. (In other words: inserting a disk into a drive that was not off when you switched on the EM-2000 is not enough.) *Unmount* refers to the opposite. Most disks (including the Zip™ disk in the internal drive) can only be ejected after they have "taken leave" from the EM-2000.

**Music Style:** A group of several short sequences programmed to play back the accompaniment of a particular musical style (Dance, Mambo, Big Band, etc.). Music Styles for the EM-2000 contain the following patterns: Intro, Ending, Basic, Advanced, Original, Variation, Fill-In To Original, and Fill-In To Variation. Fill-In To Previous contains no original data but functions just like Fill-In To Original and Fill-In To Variation (→Fill-In). Additional patterns are selectable via the chords you play (major, minor, seventh).

**NTA:** Acronym for *Note To Arranger*. It refers to the notes that are used to specify the key for Music Style playback (→Arranger). These notes can also be received via MIDI (from an external keyboard, sequencer, accordion, MIDI pedals, etc.). They are not transmitted, though, because the Arranger translates all Style data into MIDI messages that can be recorded externally and played back using any GM/GS compatible sound source.

**Part:** One "instrument" of the "orchestra" provided by the EM-2000. Your Arranger Workstation is equipped with eight Realtime parts, 8 Arranger parts and 16 Song parts.

**RX:** A widely used abbreviation for *receive/reception*. This abbreviation usually refers to MIDI parameters. Example: "RX Ch" means "receive channel".

**Sequencer:** A sequencer is a software program used to record the order ("sequence") in which a series of instructions was issued. (Even hardware sequencers, such as the Roland MC-50MkII, are in effect computers whose controls perform dedicated functions and replace the keyboard and mouse of a computer. Their "heart" is also software-based.) Sequencers would be unthinkable without the →MIDI standard. A sequencer is able to tell when a given command was issued, which makes it muscially useful. To this end, it uses a given number of clock pulses generated by the computer's quartz crystal (which determines the "clock speed") to determine at which moment in time the commands need to be played back.

**Song Header:** See *Header*.

**Standard MIDI File:** A standardized file format that can be read by most sequencers and sequencer programs. There are two formats: "0" (all data on one track) and "1" (each MIDI channel on a separate track). The EM-2000 uses the former.

**Style:** See *Music Style*.

**Style Converter:** A convenient function that allows you to use excerpts of a Song (→Standard MIDI File) for creating new Music Styles.

**Style Morphing:** See *Morphing*.

**Tone:** A sound assigned to one of the EM-2000's →Parts. The following parts use →Drum Sets rather than Tones: ADR (Accompaniment Drums), MDR (Manual Drums), and Song part 10.

**TX:** A widely used abbreviation for *transmit*. It usuaully refers to MIDI parameters. Example: "TX Ch" means "transmission channel".

**Velocity:** A special MIDI command used to describe the force with which you strike a key. This determines the volume and the brightness of the notes being played.

# 16. World distributors

## Information

When you need repair service, call your nearest Roland Service Center or authorized Roland distributor in your country as shown below.

**ARGENTINA**
**Instrumentos Musicales S.A.**
Florida 638
(1005) Buenos Aires
ARGENTINA
TEL: (01) 394 4029

**BRAZIL**
**Roland Brasil Ltda.**
R. Coronel Octaviano da Silveira
203 05522-010
Sao Paulo BRAZIL
TEL: (011) 843 9377

**CANADA**
**Roland Canada Music Ltd.**
**(Head Office)**
5480 Parkwood Way Richmond
B. C., V6V 2M4 CANADA
TEL: (0604) 270 6626

**Roland Canada Music Ltd.**
**(Toronto Office)**
Unit 2, 109 Woodbine Downs
Blvd, Etobicoke, ON
M9W 6Y1 CANADA
TEL: (0416) 213 9707

**MEXICO**
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Av. Toluca No. 323 Col. Olivar de
los Padres 01780 Mexico D.F.
MEXICO
TEL: (525) 668 04 80

**La Casa Wagner de**
**Guadalajara s.a. de c.v.**
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C.P.44100 MEXICO
TEL: (03) 613 1414

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REP. DE PANAMA
TEL: 26 3322

**U. S. A.**
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7200 Dominion Circle
Los Angeles, CA. 90040-3696,
U. S. A.
TEL: (0213) 685 5141

**VENEZUELA**
**Musicland Digital C.A.**
Av. Francisco de Miranda,
Centro Parque de Cristal, Nivel
C2 Local 20 Caracas
VENEZUELA
TEL: (02) 285 9218

**AUSTRALIA**
**Roland Corporation**
**Australia Pty. Ltd.**
38 Campbell Avenue
Dee Why West. NSW 2099
AUSTRALIA
TEL: (02) 9982 8266

**NEW ZEALAND**
**Roland Corporation (NZ) Ltd.**
97 Mt. Eden Road, Mt. Eden,
Auckland 3, NEW ZEALAND
TEL: (09) 3098 715

**CHINA**
**Beijing Xinghai Musical**
**Instruments Co., Ltd.**
6 Huangmuchang Chao Yang
District, Beijing, CHINA
TEL: (010) 6774 7491

**HONG KONG**
**Tom Lee Music Co., Ltd.**
**Service Division**
22-32 Pun Shan Street, Tsuen
Wan, New Territories,
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TEL: 2415 0911

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**Rivera Digitec (India) Pvt. Ltd.**
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off Dr. Edwin Moses Road,
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TEL: (022) 498 3079

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Jakarta 10130,
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TEL: (021) 6335416

**KOREA**
**Cosmos Corporation**
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261 2nd Floor Nak-Won Arcade
Jong-Ro ku, Seoul. KOREA
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140 & 142, Jalan Bukit Bintang
55100 Kuala Lumpur, MALAYSIA
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Bras Basah Complex,
SINGAPORE 180231
TEL: 3367886

**CRISTOFORI MUSIC PTE**
**LTD**
Blk 3014, Bedok Industrial Park E,
# 02-2148, SINGAPORE 489980
TEL: 243 9555

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**ROLAND TAIWAN**
**ENTERPRISE CO., LTD.**
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N.Road Sec.2, Taipei, TAIWAN,
R.O.C.
TEL: (02) 2561 3339

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Bangkok 10100, THAILAND
TEL: (02) 2248821

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**Saigon Music Distributor**
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Ho chi minh City
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State of BAHRAIN
TEL: 211 005

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KUWAIT
TEL: 5719499

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Chahine Building, Achrafieh
Beirut, LEBANON
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86/6 Taksim, Istanbul TURKEY
TEL: (0212) 2499324

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**Instruments Co.**
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P.O. Box 8050DUBAI, U.A.E
TEL: (04) 360715

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H-2046 Torokbalint, HUNGARY
TEL: (23) 511011

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**The Dublin Service Centre**
**Audio Maintenance Limited**
11 Brunswick Place Dublin 2
Republic of IRELAND
TEL: (01) 677322

**ITALY**
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Viale delle Industrie, 8
20020 Arese Milano, ITALY
TEL: (02) 937 781

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**Roland Scandinavia Avd.**
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NORWAY
TEL: 273 0074

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**P. P. H. Brzostowicz Marian**
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TEL: (022) 679 44 19

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TEL: (02) 38 4456

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TEL: 095 209 2193

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P.O.Box 180
295400 Munkachevo, UKRAINE
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**Office**
Atlantic Close, Swansea
Enterprise Park SWANSEA
West Glamorgan SA7 9FJ,
UNITED KINGDOM
TEL: (01792) 700139

As of August, 1, 1998

# Notes

**For E.C. Countries**

This product complies with EC directives
- LOW VOLTAGE 73/23
- EMC 89/336"

Dieses instrument entspricht folgenden EG-Verordnungen:
- NIEDRIGE SPANNUNG 73/23
- EMC 89/336"

Cet instrument est conforme aux directives CE suivantes:
- BASSE TENSION 73/23
- EMC 89/336"

CE

Questo prodotto é conforme alle seguenti direttive CEE
- BASSA TENSIONE 73/23
- EMC 89/336"

Dit instrument beantwoordt aan de volgende EG richtlijnen:
- LAGE SPANNING 73/23
- EMC 89/336"

Este producto cumple con las siguientes directrices de la CE
- BAJO VOLTAJE 73/23
- EMC 89/336"

**For the USA**

# FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

**For Canada**

**CLASS B** **NOTICE**

This digital apparatus does not exceed the Class B limits for radio noise emissions set out in the Radio Interference Regulations of the Canadian Department of Communications.

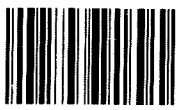
**CLASS B** **AVIS**

Cet appareil numérique ne dépasse pas les limites de la classe B au niveau des émissions de bruits radioélectriques fixés dans le Réglement des signaux parasites par le ministère canadien des Communications.

Roland®

**K6018318**

UPC K6018318



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