

Technics

ORGAN

SX-EA3



SX-EA5



FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY. (for UNITED KINGDOM)

This appliance is supplied with a moulded three-pin mains plug for your safety and convenience.

A 5 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic/Technics Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT-OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.


IMPORTANT: —The wires in this mains lead are coloured in accordance with the following code:—

Blue:	Neutral
Brown:	Live

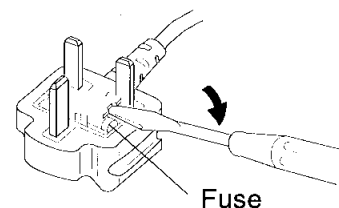
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three-pin plug, marked with the letter E or the Earth Symbol .

How to replace the fuse. Open the fuse compartment with a screwdriver and replace the fuse and fuse cover.



Technics

OWNER'S MANUAL

Caution

Voltage (except North America, Mexico, New Zealand and Europe)



Be sure the voltage adjuster located on the rear panel is in accordance with local voltage in your area before using this unit. Use a screwdriver to set the voltage adjuster to the local voltage.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

BEFORE YOU PLAY, PLEASE READ THE CAUTIONARY COPY APPEARING ON PAGE 2.

FOR CANADA

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

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION:	TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.	



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 appliance.

Before you play

For long and pleasurable use of this instrument, and to gain a thorough understanding of your **EA** organ, it is strongly recommended that you read through this Owner's Manual once.

The Owner's Manual is comprised of the following parts.

BASIC FUNCTIONS

This part includes an explanation of basic procedures and points you should be aware of for proper operation of your instrument.

PRACTICAL APPLICATIONS

This part comprises a detailed explanation of sound, effect, rhythm, **SEQUENCER**, **COMPOSER**, Disk Drive and MIDI.

REFERENCE GUIDE (separate booklet)

Reference guide for the contents of the sounds and rhythms etc.

Cautions for safest use of this unit

Installation location

1. A well-ventilated place.
Take care not to use this unit in a place where it will not receive sufficient ventilation, and not to permit the ventilation holes to be covered by curtains, or any similar materials.
2. Place away from direct sunlight and excessive heat from heating equipment.
3. A place where humidity, vibration and dust are minimized.

Power source

1. Be sure the line voltage selector is in accordance with local voltage in your area before connecting the plug to the socket.
2. DC power cannot be used.

Handling the power cord

1. Never touch the power cord, or its plug, with wet hands.
2. Don't pull the power cord.

Metal items inside the unit may result in electric shock or damage.

Do not permit metal articles to get inside the unit.

Be especially careful with regard to this point if children are near this unit. They should be warned never to try to put anything inside.

If, nevertheless, some such article does get inside, disconnect the power cord plug from the electrical outlet, and contact the store where the unit was purchased.

If water gets into the unit

Disconnect the power cord plug from the electrical outlet, and contact the store where it was purchased.

As a precaution, it is suggested that flower vases and other containers which hold liquids not be placed on the top of this unit.

If operation seems abnormal

Immediately turn off the power, disconnect the power cord plug from the electrical outlet, and contact the store where it was purchased.

Discontinue using the unit at once. Failure to do so may result in additional damage or some other unexpected damage or accident.

- Because the power source is located inside the unit, it is normal for the cabinet to become warm.

A word about the power cord

If the power cord is scarred, is partially cut or broken, or has a bad contact, it may cause a fire or serious electrical shock if used. NEVER use a damaged power cord for any appliance. Moreover, the power cord should never be forcibly bent.

Don't touch the inside parts of this unit.

Some places inside this unit have high voltage potential. Never try to remove the top or back panels of this unit, or to touch inside parts by hand or with tools.

Contact someone who is qualified in order to inspect the inside, or to replace a fuse, if such becomes necessary. Never attempt to do these things yourself.

Maintenance

The following suggestions will assist you in keeping the unit in top condition.

- Be sure to switch the instrument off after use, and do not switch the unit on and off in quick succession, as this places an undue load on the electronic components.
- To keep the luster of the surface and buttons, simply use a clean, damp cloth; polish with a soft, dry cloth. Polish may be used but do not use thinners or petro-chemical-based polishes.
- A wax-based polish may be used on the cabinet, although you will find that rubbing with a soft cloth will suffice.

**SERVICE MUST BE CARRIED OUT BY DEALER
OR OTHER QUALIFIED PERSON**

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Controls and functions: EA3

DIGITAL REVERB

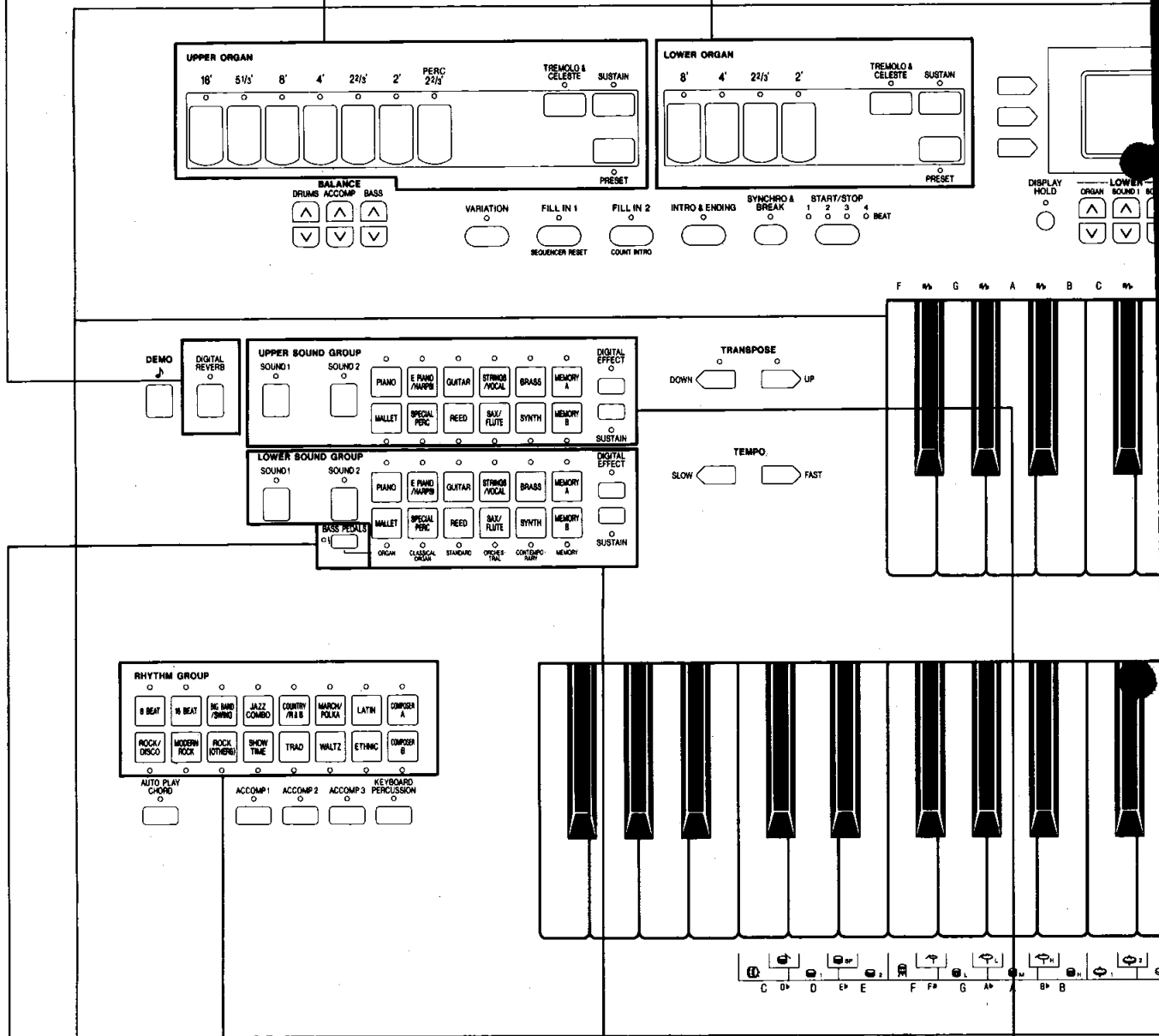
Add reverberation to the sound. (Refer to page 47.)

LOWER ORGAN

Select the organ sounds to be played on the lower keyboard. (Refer to page 36.)

UPPER ORGAN

Select the organ sounds to be played on the upper keyboard. (Refer to page 36.)



RHYTHM GROUP

Various rhythm patterns are available for each rhythm group. (Refer to page 52.)

LOWER SOUND GROUP

Select the sounds to be played on the lower keyboard. (Refer to page 44.)

BASS PEDALS

Select the sounds to be played on the pedal keyboard. (Refer to page 45.)

UPPER SOUND GROUP

Select the sounds to be played on the upper keyboard. (Refer to page 44.)

UPPER ORCHESTRAL CONDUCTOR

Select the part to be played on the upper keyboard. (Refer to page 35.)

PANEL MEMORY

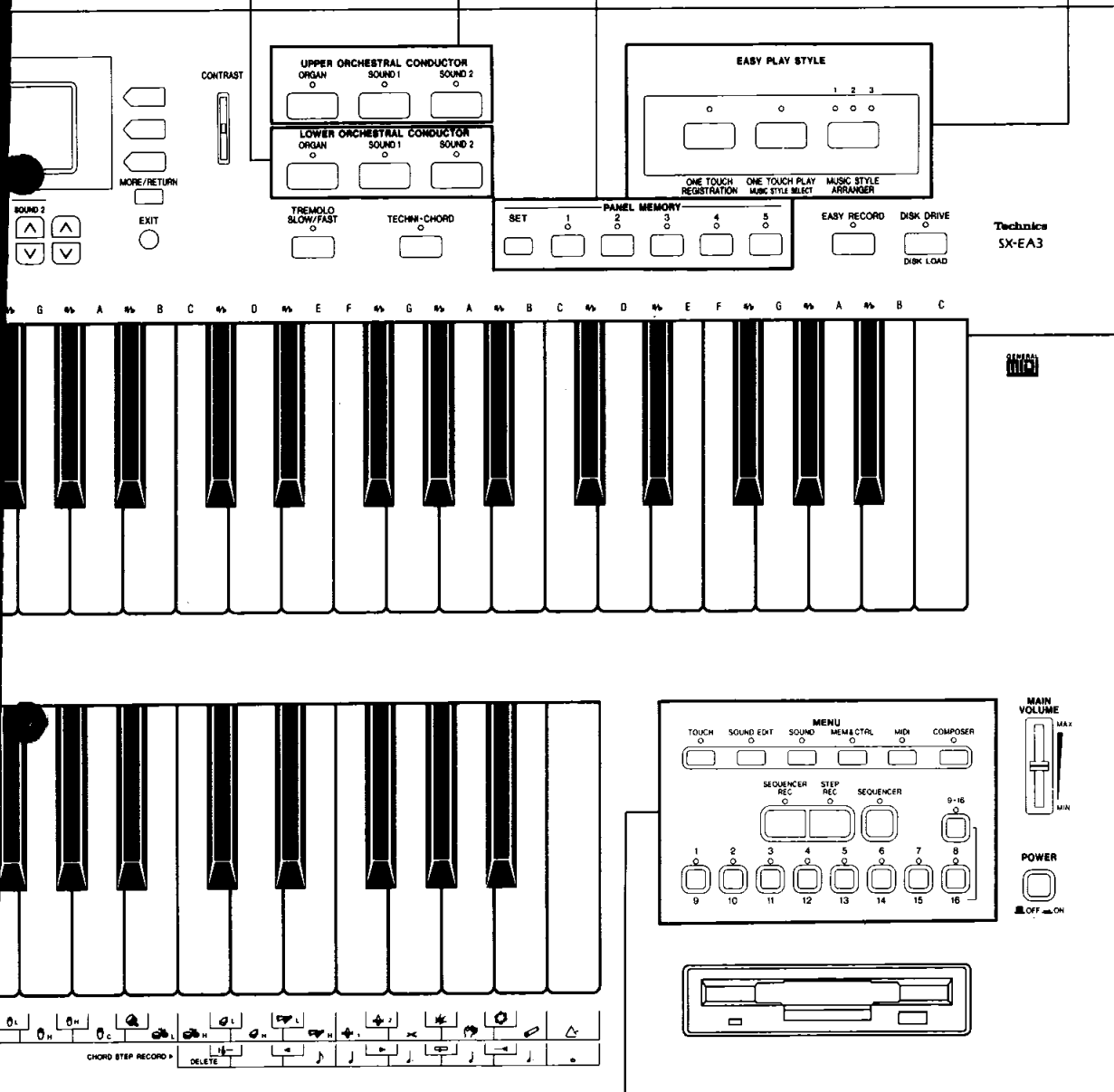
Store the current panel settings for instant recall. (Refer to page 51.)

LOWER ORCHESTRAL CONDUCTOR

Select the part to be played on the lower keyboard. (Refer to page 35.)

EASY PLAY STYLE

A simple operation provides automatic selection of the sounds, effects and various other panel settings which are suitable for the registration you chose.



These buttons are used when setting the functions for the **SEQUENCER**, **COMPOSER** or **MIDI**, and when custom-setting any of the programmable functions.

Controls and functions: EA5

DIGITAL REVERB

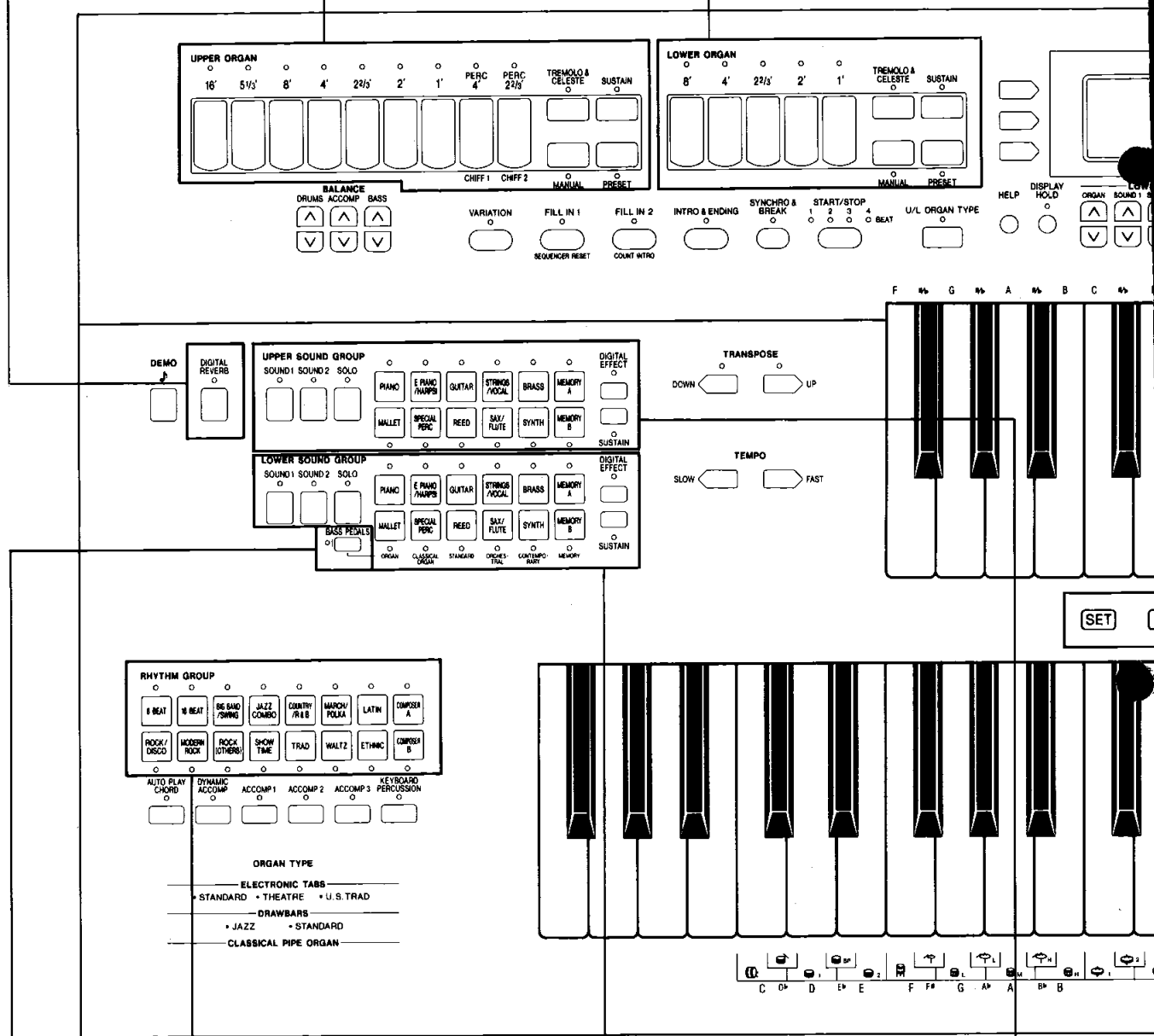
Add reverberation to the sound. (Refer to page 47.)

LOWER ORGAN

Select the organ sounds to be played on the lower keyboard. (Refer to page 40.)

UPPER ORGAN

Select the organ sounds to be played on the upper keyboard. (Refer to page 40.)



RHYTHM GROUP

Various rhythm patterns are available for each rhythm group. (Refer to page 52.)

LOWER SOUND GROUP

Select the sounds to be played on the lower keyboard. (Refer to page 44.)

BASS PEDALS

Select the sounds to be played on the pedal keyboard. (Refer to page 45.)

UPPER SOUND GROUP

Select the sounds to be played on the upper keyboard. (Refer to page 44.)

UPPER ORCHESTRAL CONDUCTOR

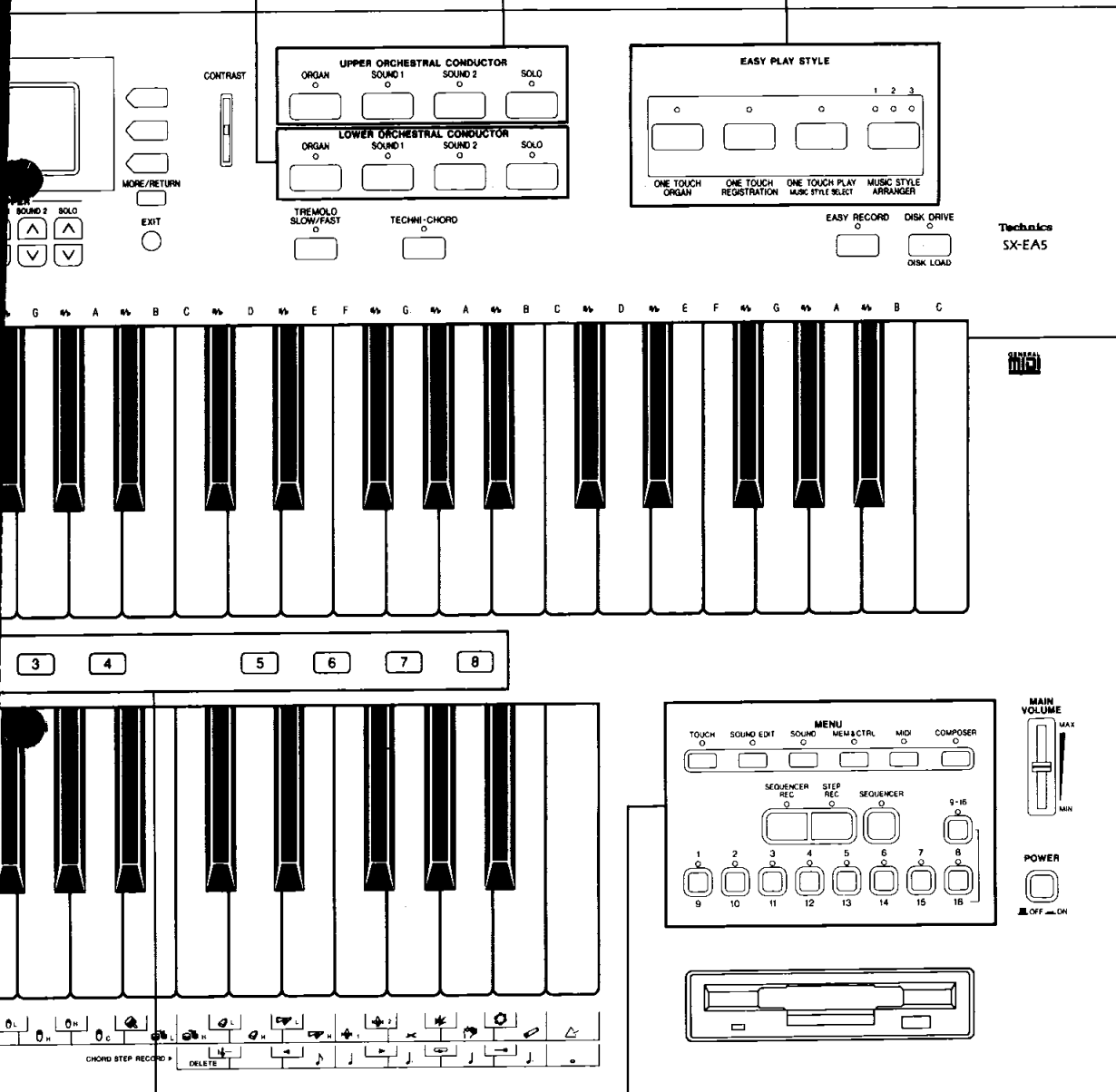
Select the part to be played on the upper keyboard. (Refer to page 35.)

EASY PLAY STYLE

A simple operation provides automatic selection of the sounds, effects and various other panel settings which are suitable for the registration you chose.

LOWER ORCHESTRAL CONDUCTOR

Select the part to be played on the lower keyboard. (Refer to page 35.)



Technics
SX-EAS

These buttons are used when setting the functions for the **SEQUENCER**, **COMPOSER** or **MIDI**, and when custom-setting any of the programmable functions.

PANEL MEMORY

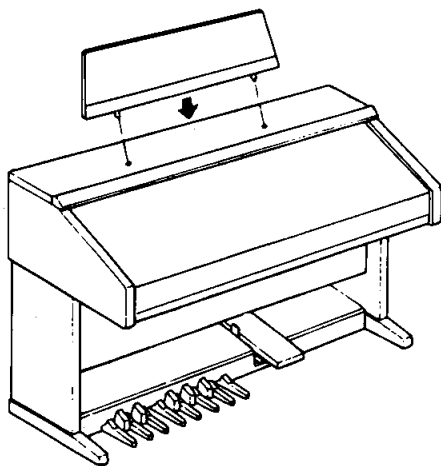
Store the current panel settings for instant recall. (Refer to page 51.)

Getting started

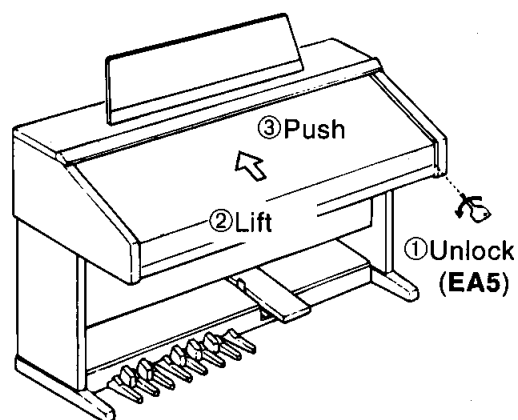
Before you play

A Plug the power cord into an outlet.

B **Music stand**
Insert the music stand in the two holes as shown in the figure.



C **Keyboard cover**
Open and close the cover slowly.



■ About the backup memory

The panel settings, **PANEL MEMORY** and MIDI settings etc. are maintained in the backup memory for about one week after the power to this instrument is turned off. Other stored memories, such as the **SEQUENCER**, **COMPOSER** and **SOUND MEMORY**, are maintained for about 80 minutes. If you wish to keep the memory contents, before you turn off the instrument, use the **SAVE** procedure to store the desired data on a disk for recall at a later time.

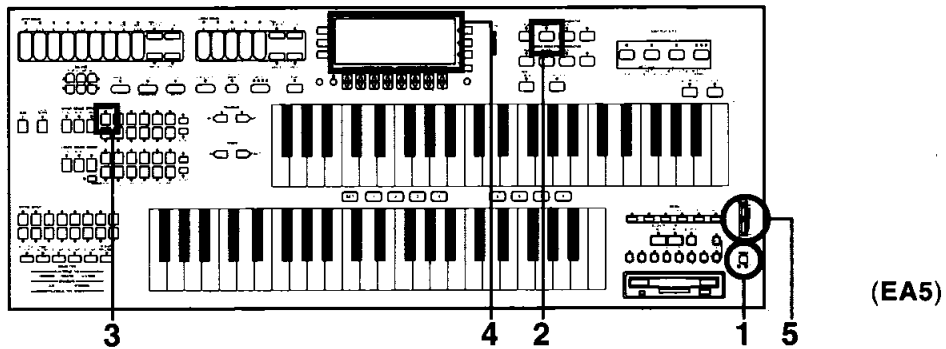
- The backup memory does not function until the power has been on for about 10 minutes.
- When you quit the operating mode, a warning display may appear to remind you to save the data.

■ Power-on settings

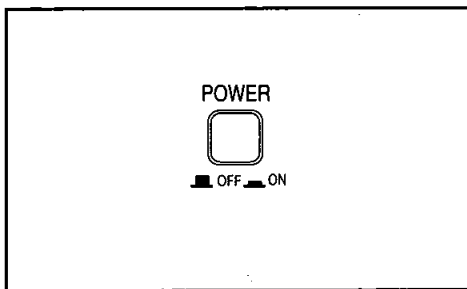
When the power to this instrument is turned on, **ORGAN** settings are automatically selected.

- If you wish to retain the settings which were in effect when you last turned off this instrument, set the **POWER-ON MODE** to **BACK UP**. (Refer to page 107.)

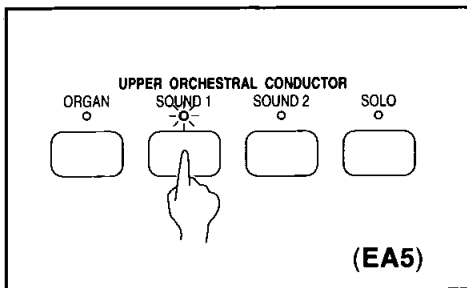
Playing



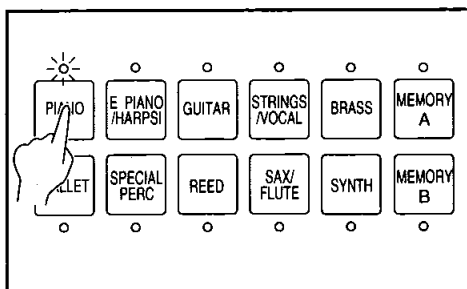
1 Press the **POWER** button to turn it on.



2 In the **UPPER ORCHESTRAL CONDUCTOR** section, press the **SOUND 1** button to turn it on.

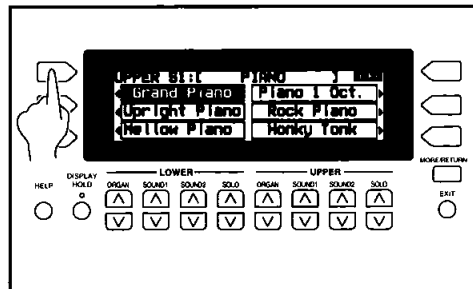


3 In the **UPPER SOUND GROUP** section, select **PIANO**.



- The display changes to the sound select display.

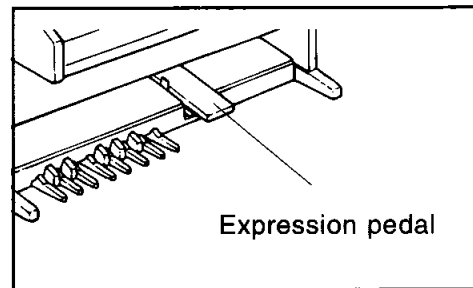
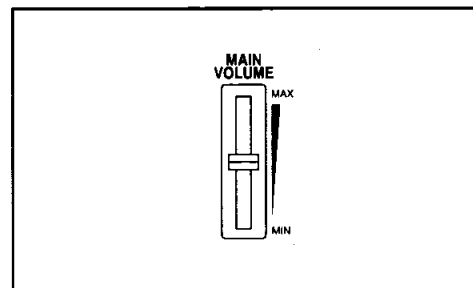
4 Select a sound from the list of piano sounds shown on the display.



- Playing the upper keyboard produces the **PIANO** sound.

5 Set the **MAIN VOLUME** to an appropriate level with the sliding control while playing the keyboards.

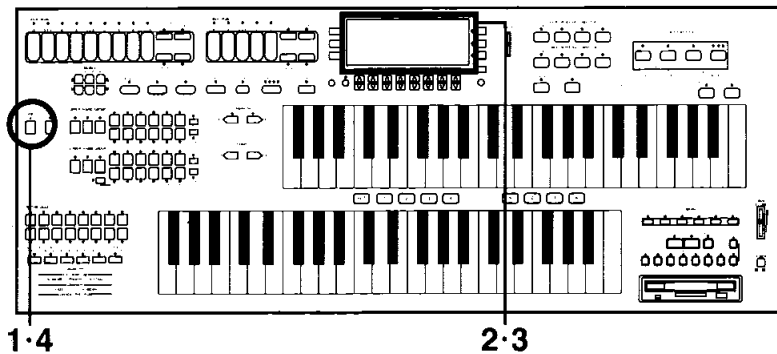
- Use the expression pedal to change the volume level as you play.



Expression pedal

Listen to the demonstration.

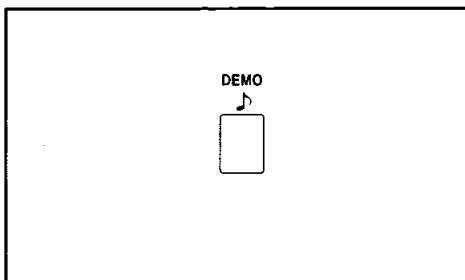
Listen to a particular sound or rhythm demonstration.



Basic functions

1

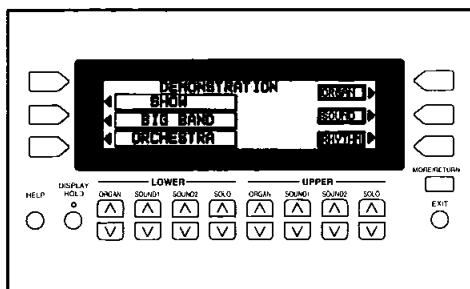
Press the **DEMO** button.



- The display changes to the DEMONSTRATION display.

2

Select **ORGAN**, **SOUND** or **RHYTHM** from the display.

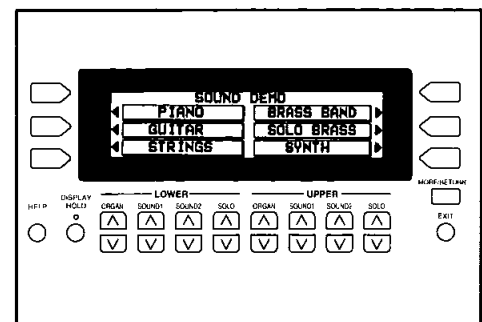


- A list of demonstration songs is shown on the display.

3

Press the button for the sound or rhythm demonstration performance you wish to hear.

<Example: SOUND>

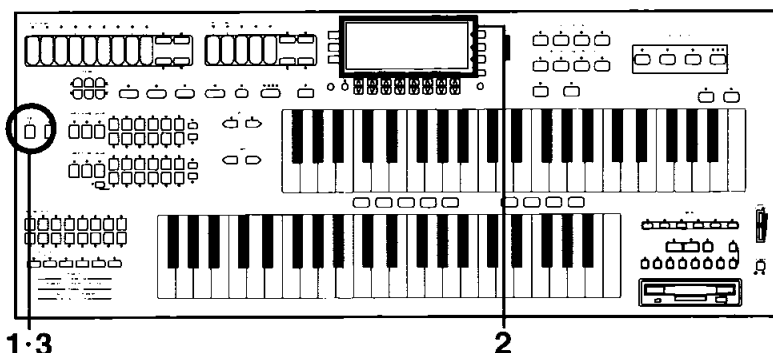


- The demonstration performance corresponding to your selection will begin.
- Repeat this procedure to listen to other sounds and rhythms.
- To change from a SOUND demonstration to a RHYTHM or ORGAN demonstration, for example, press the **EXIT** button to return to the DEMONSTRATION display and then proceed from step 2.
- To end the demonstration before it has finished, again press the button for the selected sound or rhythm.

4

When you are finished listening to the demonstration tunes, press the **DEMO** button again.

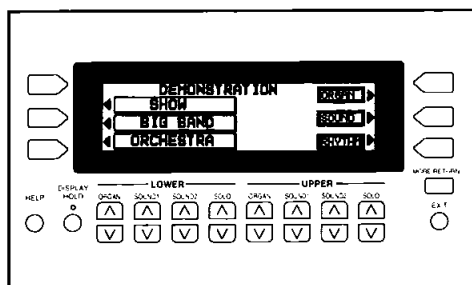
Listen to the style demonstration performance.



- 1** Press the **DEMO** button.
- The display changes to the DEMONSTRATION display.

- 3** When you are finished listening to the demonstration tunes, press the **DEMO** button again.

- 2** Use the buttons to the left of the display to select the style demonstration performance you wish to hear.

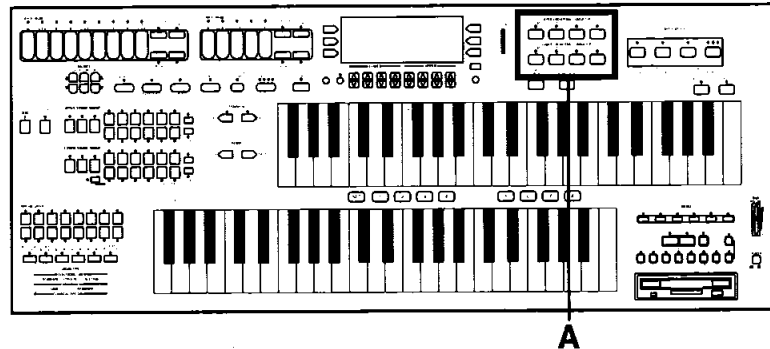


- The demonstration performance corresponding to your selection will begin.
- Repeat this procedure to listen to other styles.

- If you press and hold the **DEMO** button for a few seconds, or if you press first the **DEMO** button and then the **START/STOP** button, all the demonstration songs are played in order in a medley performance. The medley performance continues until the **START/STOP** button or the **DEMO** button is pressed again.
- During the medley performance, if you wish to skip from the current song to the next song, press the button for the highlighted song.
- Some of the buttons do not function while the demonstration performances are being played.

Selecting sounds: upper and lower keyboards

Orchestral Conductor



Parts

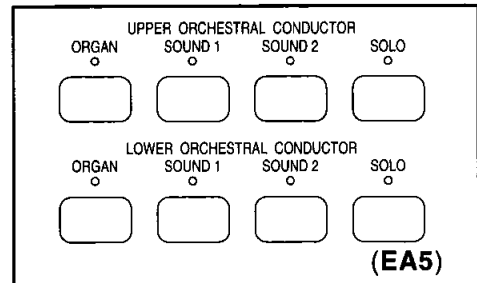
The following parts are available for the upper keyboard and lower keyboard.

ORGAN	Select an organ sound for this part.
SOUND 1 SOUND 2 SOLO (EA5)	Select a different sound for each part.

- After selecting a sound for each part, the **ORCHESTRAL CONDUCTOR** is used to assign parts to the keyboards.

A

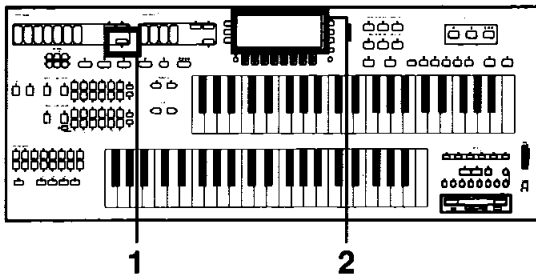
Use the **UPPER ORCHESTRAL CONDUCTOR** to select the part for the upper keyboard, and the **LOWER ORCHESTRAL CONDUCTOR** to select the part for the lower keyboard.



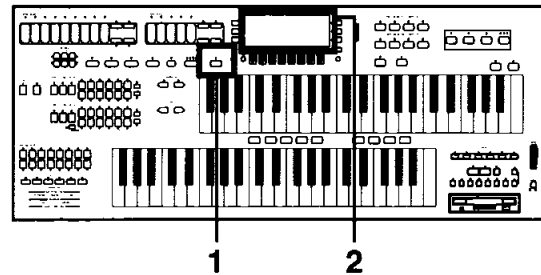
- Select the sounds for each part before assigning parts to the keyboards. (See below.)
- You can also combine sounds by turning on two or more buttons in the **ORCHESTRAL CONDUCTOR** at the same time. (**EA3**: Only two buttons can be turned on at the same time.)

ORGAN part

(EA3)

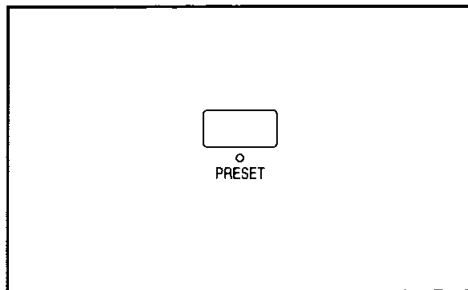


(EA5)



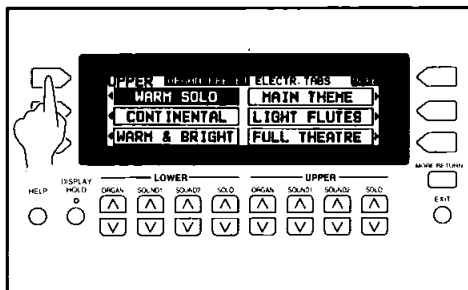
<EA3>

- 1 In the **UPPER ORGAN** section, press the **PRESET** button to turn it on.



- The display changes to the **ORGAN PRESET** display.

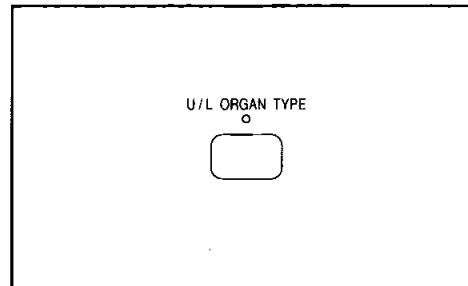
- 2 Select the desired organ sound on the display.



- Press the **MORE/RETURN** button to display more sounds.
- The selected organ sound is set for the upper keyboard. The **PRESET** button in the **LOWER ORGAN** section is used to select an organ sound for the lower keyboard.
- Press the **EXIT** button to go back to the previous display.

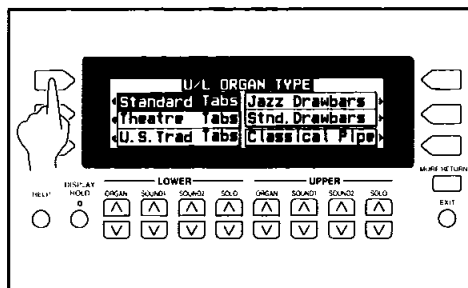
<EA5>

- 1 Press the **U/L ORGAN TYPE** button to turn it on.



- The display changes to the **U/L ORGAN TYPE** display.

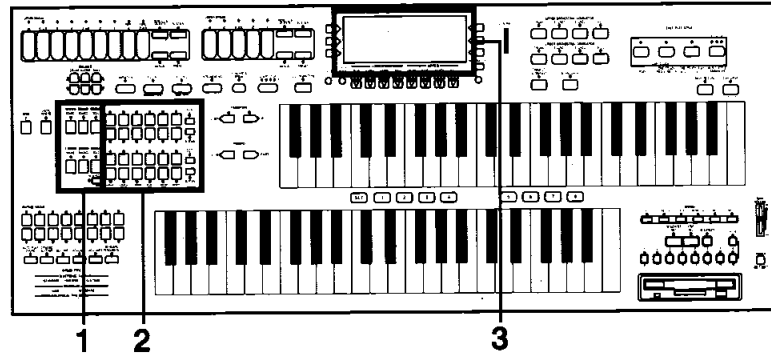
- 2 Select a type of organ sound from the display.



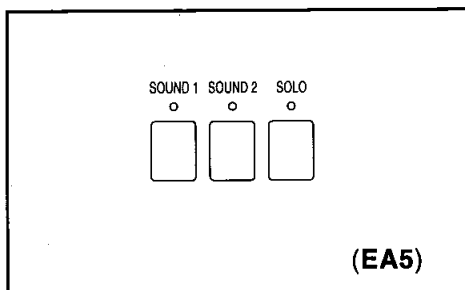
- The selected organ type is assigned to the upper and lower keyboards.
- Press the **EXIT** button to go back to the previous display.

SOUND parts

The sound for the upper keyboard is selected with the buttons in the **UPPER SOUND GROUP**, and the sound for the lower keyboard with the buttons in the **LOWER SOUND GROUP**.

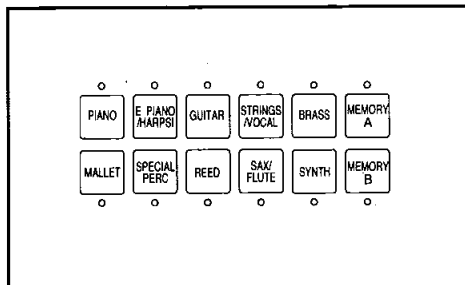


- 1** Press the **SOUND 1**, **2** or **SOLO** (**EA5**) button in the **UPPER SOUND GROUP** or **LOWER SOUND GROUP** to turn it on.



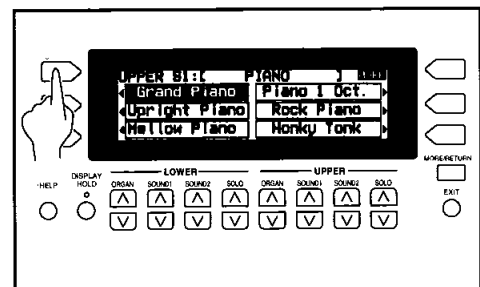
- **EA5**: The **SOLO** sound is monophonic, which means that only one note sounds at a time.

- 2** Press a sound button in the **UPPER SOUND GROUP** or **LOWER SOUND GROUP** to select a sound group.



- The display changes to a list of sounds.

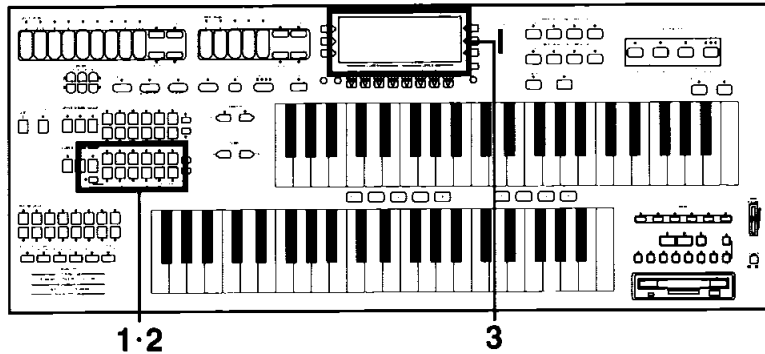
- 3** Select a sound for the part from the list on the display.



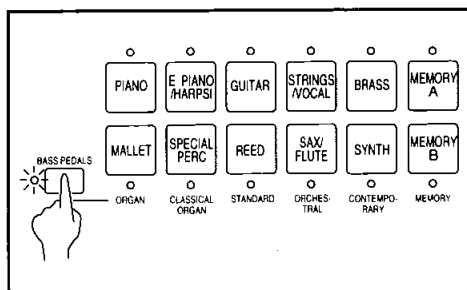
- When **MORE** is shown in the upper right corner of the display, you can press the **MORE/RETURN** button to view a different part of the list.
- Select sounds for the other parts in the same way.
- Press the **EXIT** button to go back to the previous display.

Selecting sounds: pedal keyboard

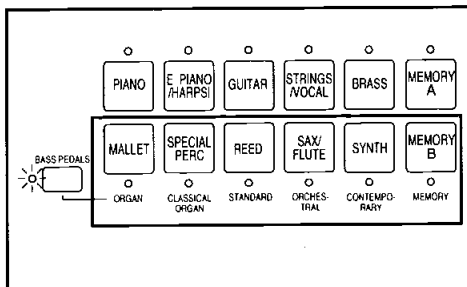
BASS part



- 1** In the **LOWER SOUND GROUP** section, press the **BASS PEDALS** button to turn it on.

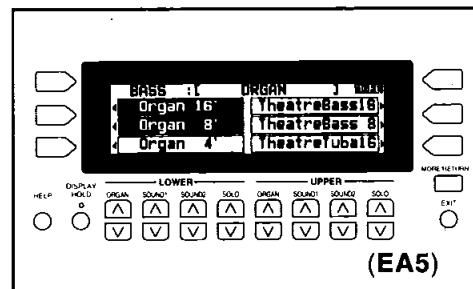


- 2** Select the sound group with the buttons in the lower row of the **LOWER SOUND GROUP** section.



- The names of the sound groups are shown below the buttons.
- The display changes to a list of sounds.

- 3** Select a sound from the display.

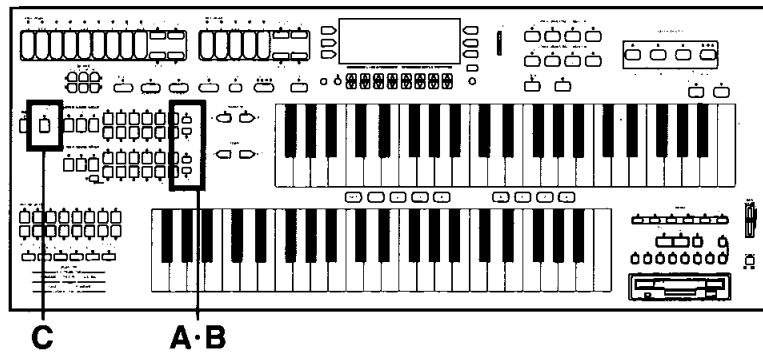


- When **MORE** is shown in the upper right corner of the display, you can press the **MORE/RETURN** button to view a different part of the list.
- Press the **EXIT** button to go back to the previous display.

- 4** When you are finished selecting a sound for the pedal keyboard, press the **BASS PEDALS** button to turn it off.

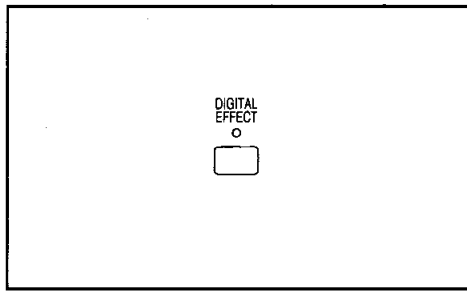
- To play the sound you selected, play the pedal keyboard.

Effects



Add a feeling of spaciousness to the sound.

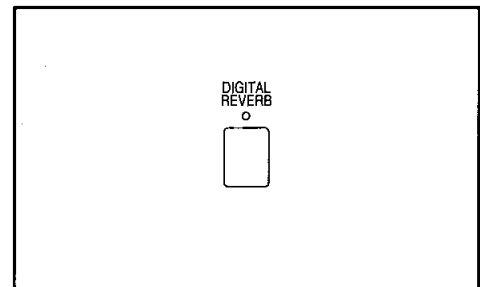
A Press the **DIGITAL EFFECT** button to turn it on.



- The sound is broader and deeper.

Add reverberation.

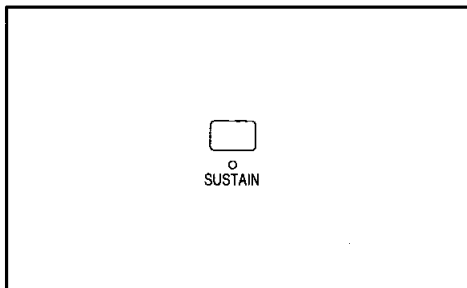
C Press the **DIGITAL REVERB** button to turn it on.



- The reverberation effect is applied to all sounds.

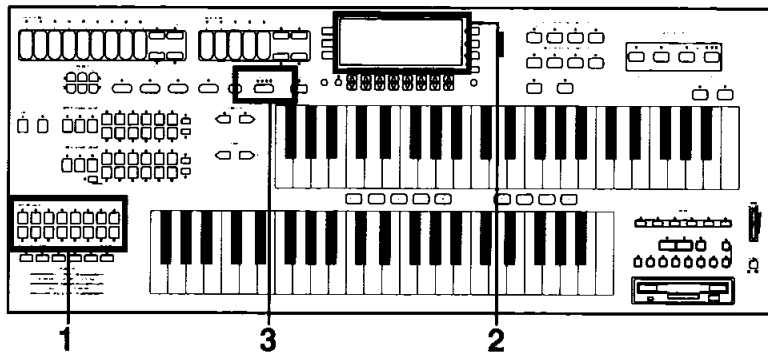
Add sustain.

B Press the **SUSTAIN** button to turn it on.



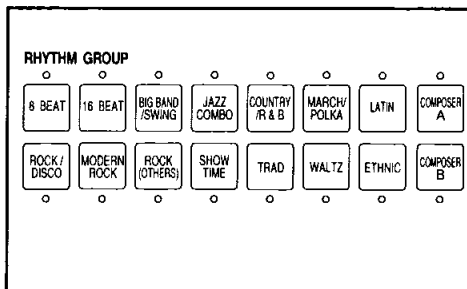
- Play and release a key. The tones fade out gradually after the key is released.

Playing automatic rhythms



1

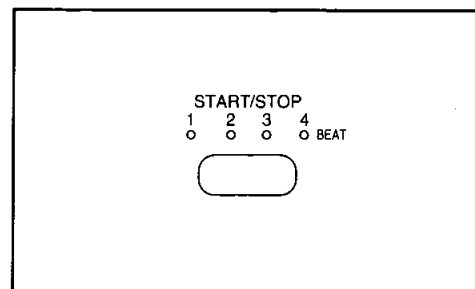
In the **RHYTHM GROUP** section, select a rhythm group.



- The display changes to a list of rhythms.

3

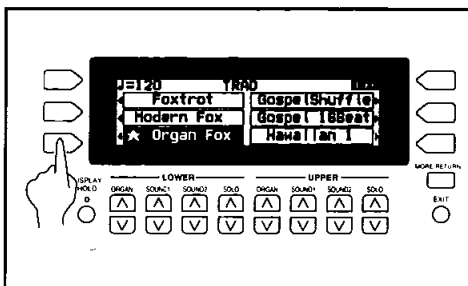
Start the rhythm by pressing the **START/STOP** button.



- Stop the rhythm by pressing the **START/STOP** button again.

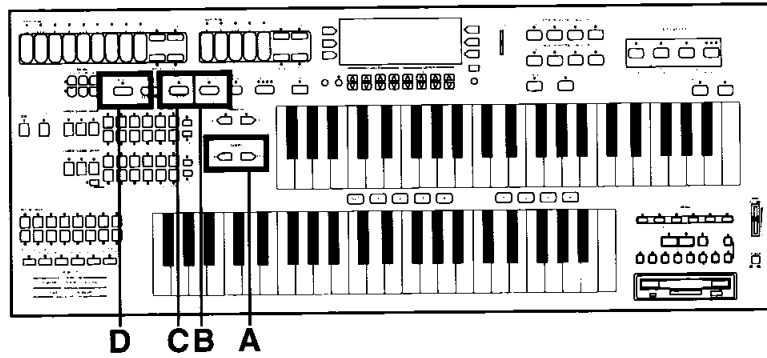
2

Select a rhythm from the display.



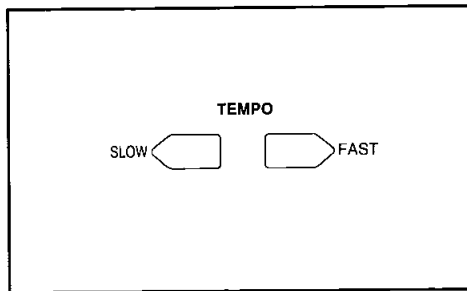
- When **MORE** is shown in the upper right corner of the display, you can press the **MORE/RETURN** button to view a different part of the list.
- Press the **EXIT** button to go back to the previous display.

- Rhythms marked with a **★** are especially effective for **ORGAN** sounds.



Adjust the tempo.

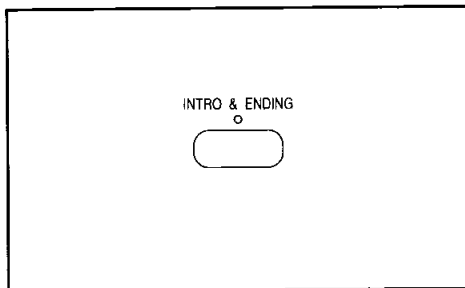
A Adjust the tempo with the **TEMPO** buttons.



- The tempo is shown in the display as "♩=".

Insert an intro pattern.

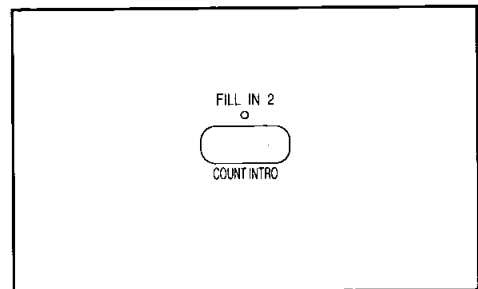
B To start your performance with an introduction, press the **INTRO & ENDING** button before starting the rhythm.



- An intro is played, after which the regular rhythm starts.

Insert a count.

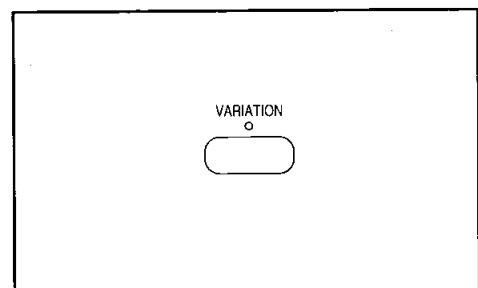
C To begin your performance with a one-measure count, press the **COUNT INTRO (FILL IN 2)** button before starting the rhythm.



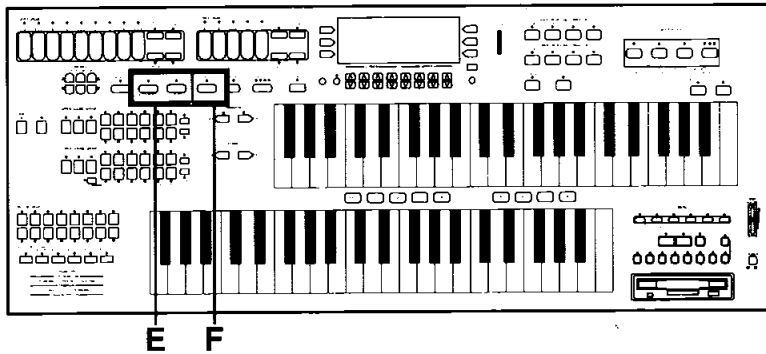
- A one-measure count is played, after which the normal rhythm pattern begins.

Select a variation pattern.

D During the rhythm performance, press the **VARIATION** button to turn it on.

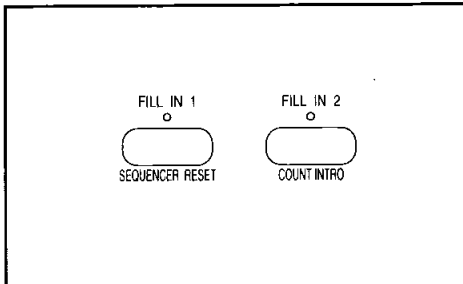


- The rhythm pattern changes to a flashier pattern.



Insert a fill-in pattern.

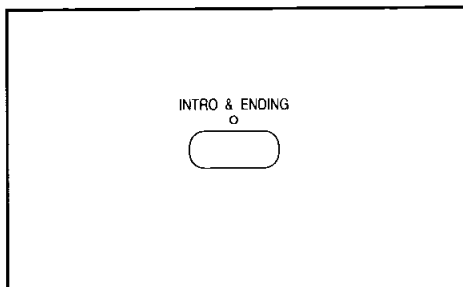
E While the preset rhythm pattern is playing, press either the **FILL IN 1** or **FILL IN 2** button.



- A fill-in pattern immediately starts to play.

Insert an ending pattern.

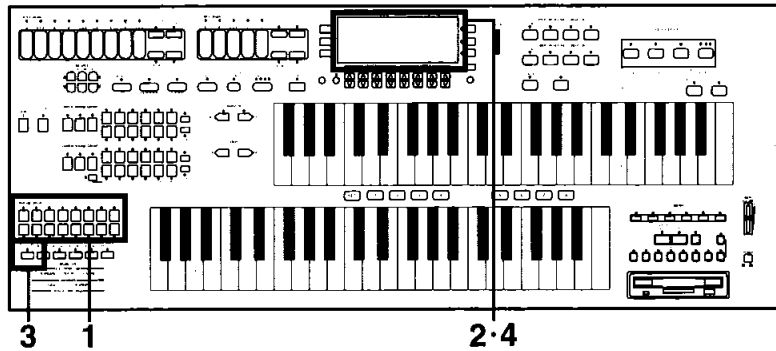
F While the rhythm is playing, press the **INTRO & ENDING** button.



- You will hear an ending pattern, and then the rhythm stops.

Automatic accompaniment

Use the AUTO PLAY CHORD

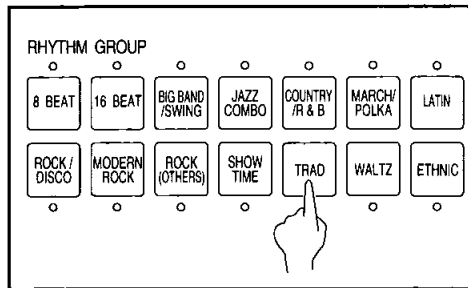


Use the **AUTO PLAY CHORD** with the following tune.



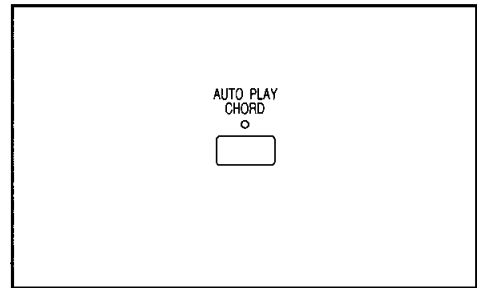
1

In the **RHYTHM GROUP** section, press the **TRAD** button.



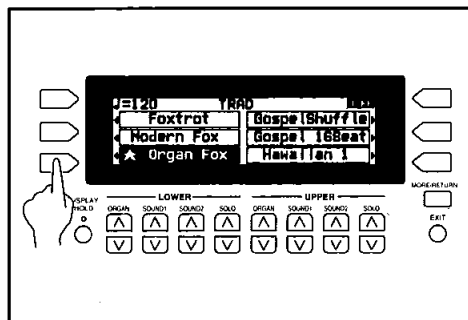
3

Press the **AUTO PLAY CHORD** button to turn it on.



2

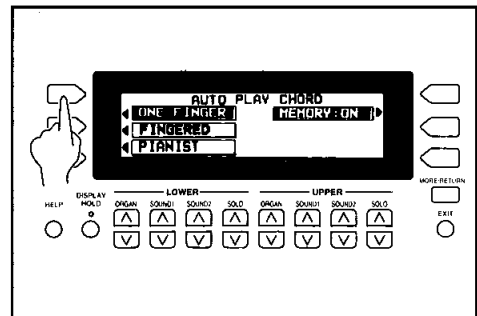
Select "Organ Fox" from the list of rhythms shown on the display.



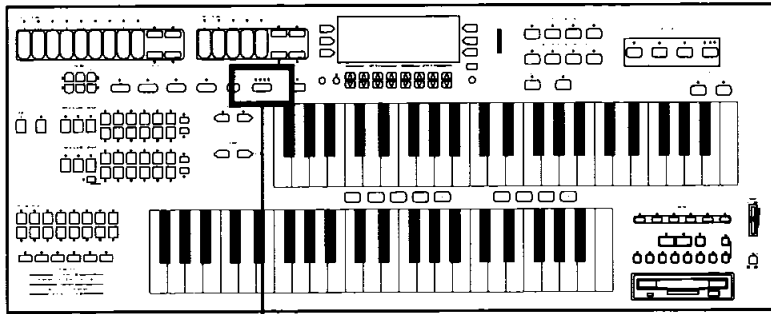
- Press the **EXIT** button to go back to the previous display.

4

Select **ONE FINGER** on the display.

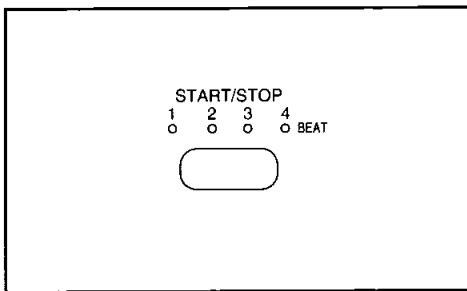


- After a few seconds, the display returns to the previous display.



5-7

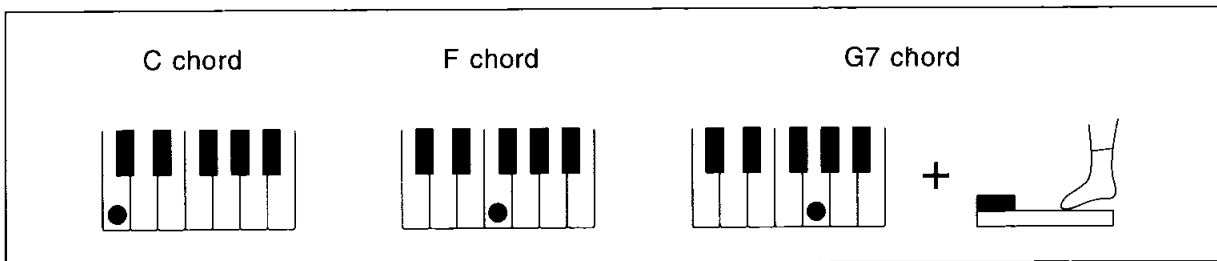
5 Press the **START/STOP** button to turn it on.



7 At the end of your performance, press the **START/STOP** button.

6 With your left hand, play chords on the lower keyboard, and with your right hand, play the melody on the upper keyboard.

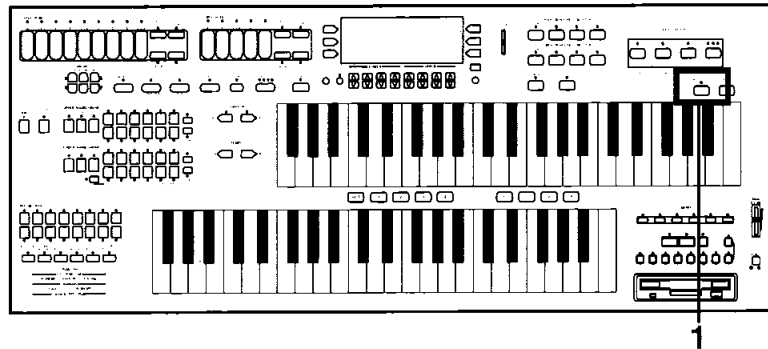
- When you play the lower keyboard, the automatic accompaniment begins to play.
- Where C, G7 and F are indicated in the music score, you can play the lower keyboard and pedal keyboard as shown in the figure below.



- In this example, you played chords by pressing the keys for the "root notes" (ONE FINGER chords). But you can also specify the chord by playing all the notes in the chord. (Refer to page 57.)

Record your performance

Use the **SEQUENCER** to record your performance.



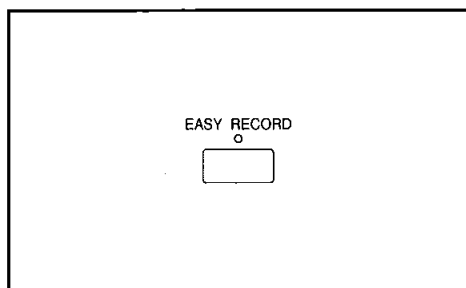
She Wore A Yellow Ribbon

March: Medium

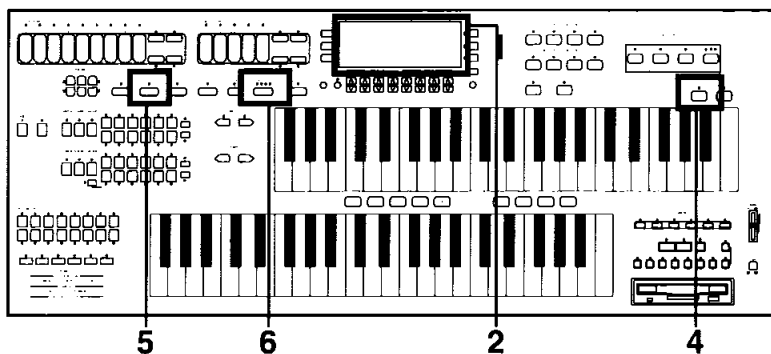
Two staves of musical notation for the piece 'She Wore A Yellow Ribbon'. The first staff is in treble clef with a common time signature (C). The second staff is in bass clef. The music is in 2/4 time. The first staff has a 'C' chord symbol above the first measure. The second staff has 'C', 'Am', 'Dm', and 'G7' chord symbols above the first four measures respectively. The notation includes eighth and quarter notes, rests, and chords.

1

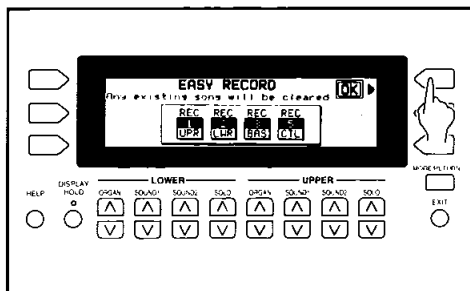
Press the **EASY RECORD** button to turn it on.



- The display changes.



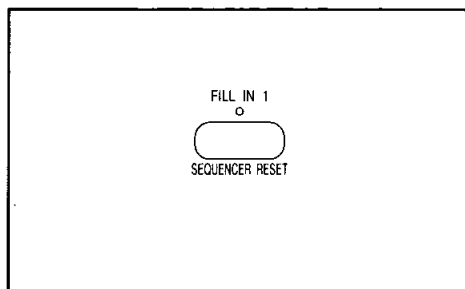
2 Press the OK button.



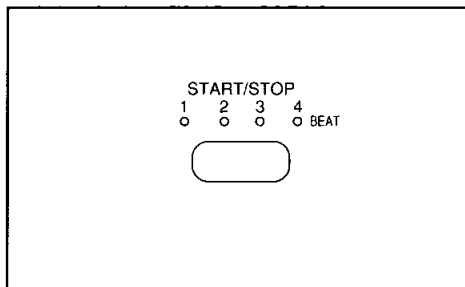
3 Play the song on the keyboards.

4 When you have finished playing, press the **EASY RECORD** button again to turn it off.

5 Press the **SEQUENCER RESET (FILL IN 1)** button.



6 Press the **START/STOP** button.

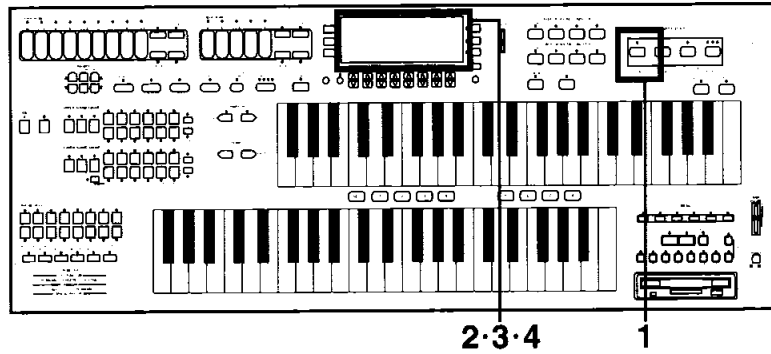


- Your performance is played back just as you recorded it.

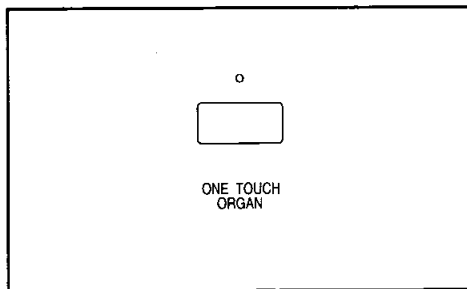
- You can also record several parts individually and then have them played back together for an ensemble performance. (Refer to page 68.)

Easy Play Style

Automatic setup of the ORGAN parts (EA5)

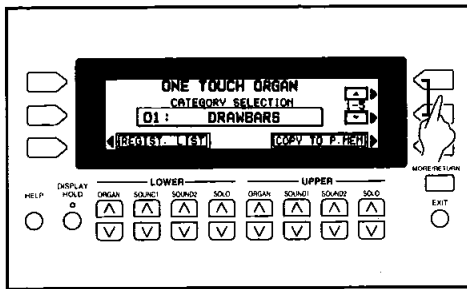


- 1** Press the **ONE TOUCH ORGAN** button to turn it on.



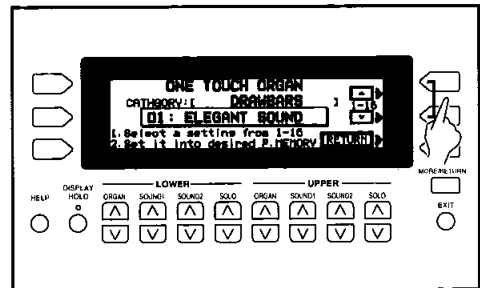
- The display changes.

- 2** Use the \wedge and \vee buttons to select a category (performance style).



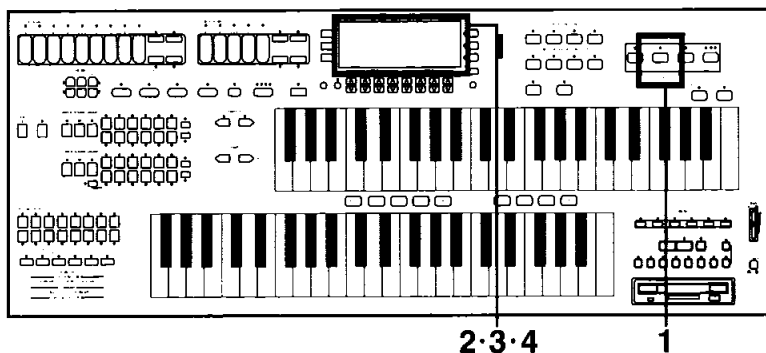
- 3** Press the **REGIST. LIST** button.
- The display changes.

- 4** Use the \wedge and \vee buttons to select a type of registration (01 to 16).

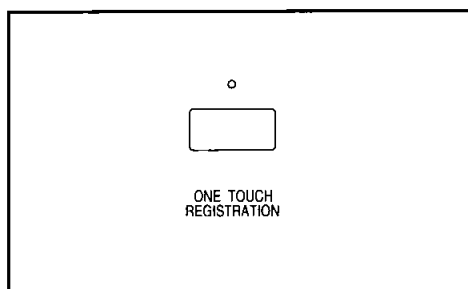


- The sounds and effects for each keyboard, and various other panel settings which are suitable for the type you chose are automatically selected.
- Press **ONE TOUCH ORGAN** button to turn it off and go back to the previous display.

Automatic setup of the **SOUND** parts

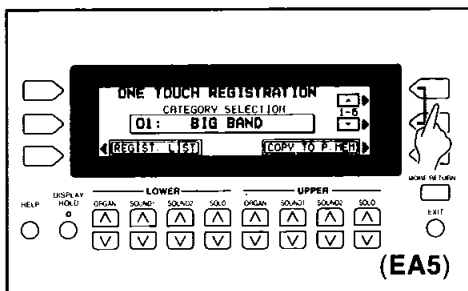


1 Press the **ONE TOUCH REGISTRATION** button to turn it on.



- The display changes.

2 Use the \wedge and \vee buttons to select a category (performance style).

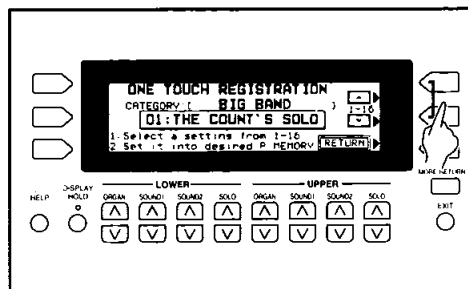


(EA5)

3 Press the **REGIST. LIST** button.

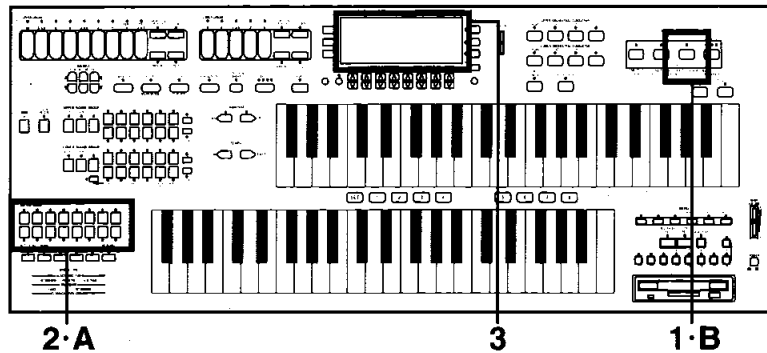
- The display changes.

4 Use the \wedge and \vee buttons to select a type of registration (01 to 16).



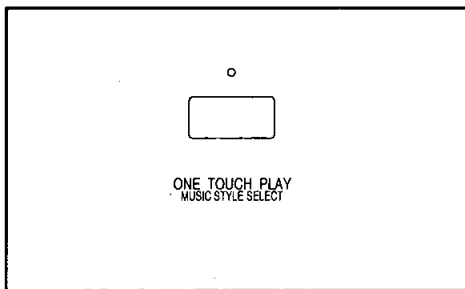
- The sounds and effects for each keyboard, and various other panel settings which are suitable for the type you chose are automatically selected.
- Press **ONE TOUCH REGISTRATION** button to turn it off and go back to the previous display.

Automatic setup for the style and rhythm



MUSIC STYLE SELECT

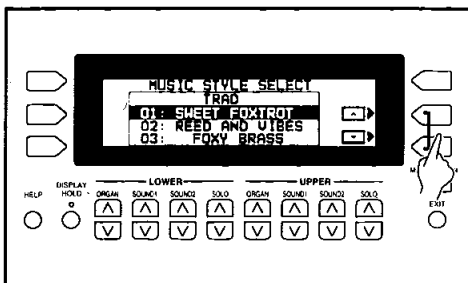
- 1** Press the **ONE TOUCH PLAY** button momentarily to turn it on.



- The display changes.

- 2** In the **RHYTHM GROUP** section, select a rhythm group.
- Do not select a rhythm from the **COMPOSER A** or **COMPOSER B** group.

- 3** Use the \wedge and \vee buttons to select a music style.



- The **AUTO PLAY CHORD** and the **SYNCHRO & BREAK** button turn on, and the sounds, effects, volume balance, rhythm and tempo which are best suited for the selected music style are automatically selected.

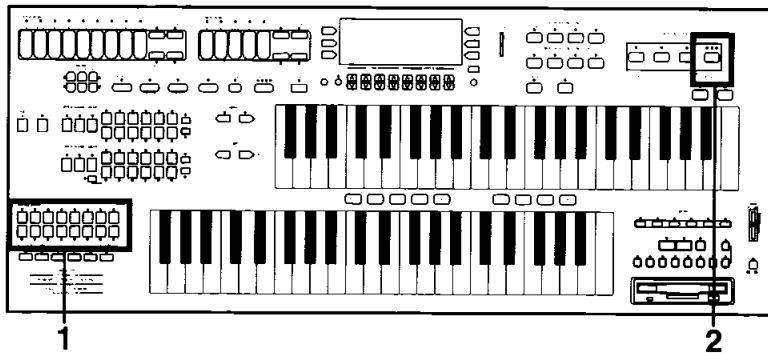
- When you play a chord on the lower keyboard, the automatic accompaniment begins to play. Play the melody on the upper keyboard.
- Press **ONE TOUCH PLAY** button to turn it off and go back to the previous display.

ONE TOUCH PLAY

- A** Select a rhythm pattern.
- Do not select a rhythm from the **COMPOSER A** or **COMPOSER B** group.

- B** Press the **ONE TOUCH PLAY** button until its indicator goes out.
- The **AUTO PLAY CHORD** and the **SYNCHRO & BREAK** button turn on, and the sounds, effects, volume balance and tempo are automatically set.

Arranger feature

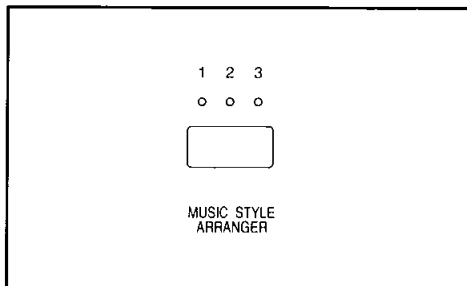


MUSIC STYLE ARRANGER

- 1** | Select a rhythm pattern.
- Do not select a rhythm from the **COMPOSER A** or **COMPOSER B** group.

- 2** | Press the **MUSIC STYLE ARRANGER** button to select the style (1, 2 or 3) you want at the beginning of your performance.

- 1: Simple pattern
- 2: Normal pattern
- 3: Flashy pattern



- The sounds and effects for each keyboard, the tempo, etc. suitable for the rhythm you chose are automatically selected.
- When you play a chord on the lower keyboard, the automatic accompaniment begins to play. Play the melody on the upper keyboard.
- While you are playing, press the **FILL IN 1** or **FILL IN 2** button. The specified **FILL IN** pattern plays, and then the music style changes.
- Each time the **FILL IN 1** button is pressed, the **FILL IN 1** pattern plays, and then the music style changes in the 3 → 2 → 1 order. And each time the **FILL IN 2** button is pressed, the **FILL IN 2** pattern plays, and then the style changes in the 1 → 2 → 3 order.

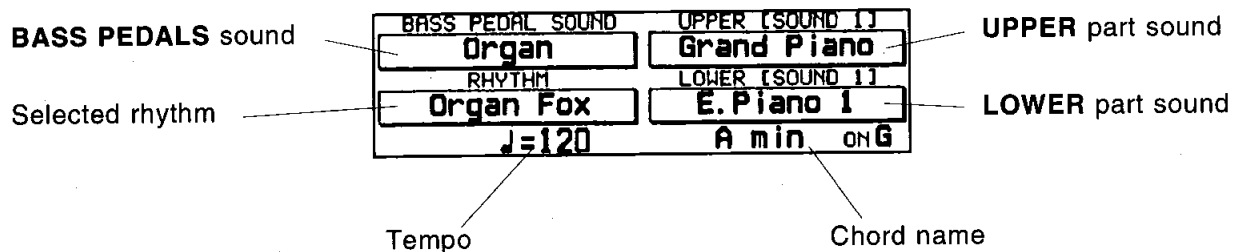
About the display

The display shows various information and is used for most of this instrument's operations.

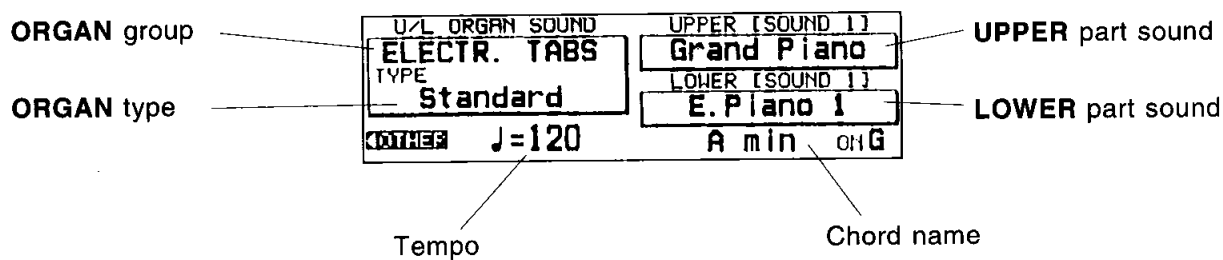
Normal display

This illustration shows the kind of information you see on the display during a normal performance.

[EA3]

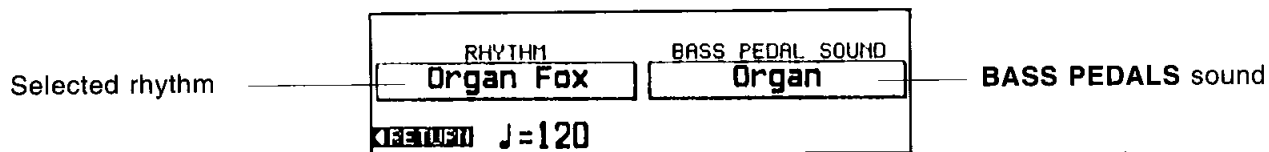


[EA5]



■ OTHER

If you press the button for OTHER, the display changes to the following.



- Press the RETURN button to return to the previous display.

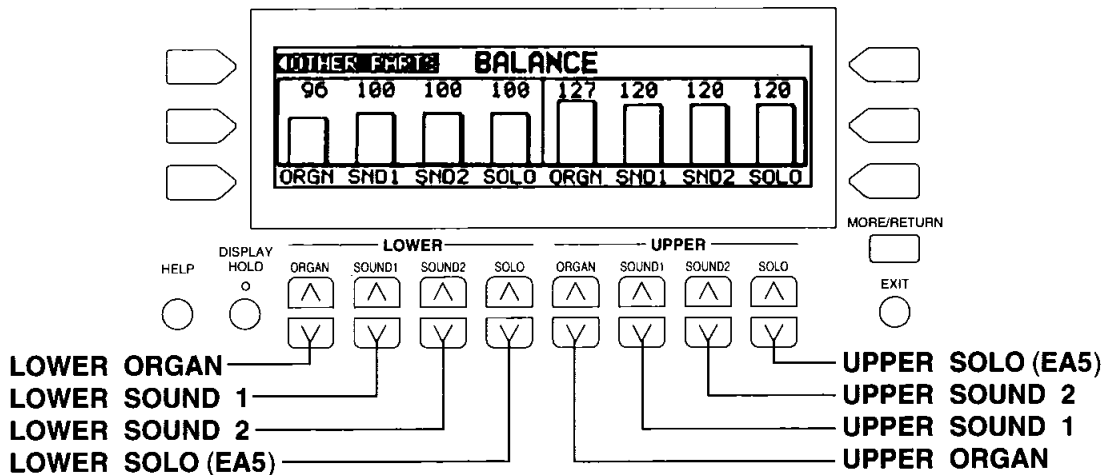
About the display

Volume balance

If you press one of the \wedge or \vee buttons directly below the display, the display changes to the **BALANCE** display. The volume balance of each part is shown as a bar graph and a number (0 to 127).

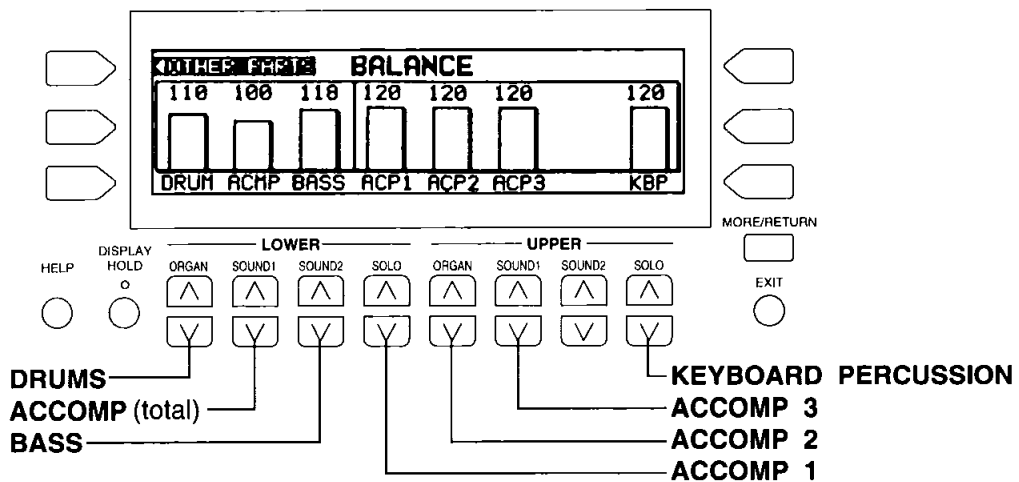
Use the \wedge and \vee buttons below the display to adjust the volume of each part.

- A few seconds after you change the settings, the display returns to the normal performance display.



■ OTHER PARTS

If you press the button for **OTHER PARTS**, the display changes to the **BALANCE** display for other parts.



- This button is also used to access the **PART** volume display. These parts are used in conjunction with **SEQUENCER** and **MIDI** functions.

- A few seconds after you change the setting, the display returns to the previous display.
- If you wish to keep the setting display, press the **DISPLAY HOLD** button.

About the display

MORE/RETURN

When there are additional parts to the current menu (for example, when a list of sounds is too long to be shown on one screen), a MORE indication is highlighted in the upper right corner of the display. Press the **MORE/RETURN** button below the display to view the next section of the menu.



■ Example of MORE display

UPPER S1: [PIANO] MORE	
◀ Grand Piano	Piano 1 Oct. ▶
◀ Upright Piano	Rock Piano ▶
◀ Mellow Piano	Honky Tonk ▶

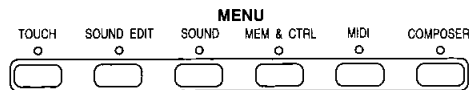


UPPER S1: [PIANO] RETURN	
◀ Piano 2 Oct.	E. Grand ▶
◀ Solo Piano 16"	Midi Grand ▶
◀ Bright Piano	Jangle Piano ▶

- When a RETURN indication is highlighted in the upper right corner of the display, press the **MORE/RETURN** button to return to the first part of the menu or list.

Menu display

The **MENU** and other buttons are used to control multiple functions. Pressing one of the buttons will access the corresponding menu display.



■ Example of menu display: MEM & CTRL [EA5]

MEMORY & CONTROL	
◀ INITIAL	P. MEM. MODE ▶
◀ FOOT SWITCH	M. S. A. MODE ▶
◀ POWER-ON MODE	

Select a function from the menu display by pressing the corresponding button to the left or right of the display indicated by the ◀ and ▶ arrows.

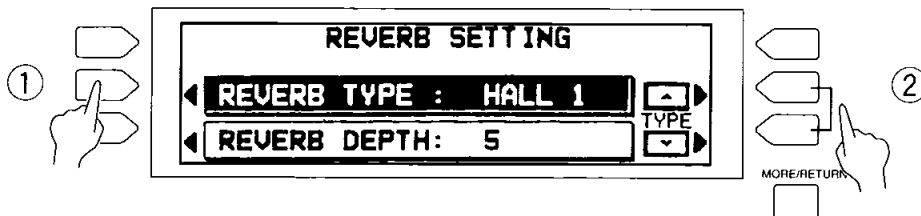
- In this manual, the steps describing how to select a function from a menu display are generally abbreviated as follows, for example: "On the **MEM & CTRL** menu display, select **FOOT SWITCH**."

About the display

Setting display

When setting various functions, the available operations are shown on the display. The buttons to the right, left and/or directly below the display are used to select and adjust the settings.

■ Example of setting display: REVERB



<Example of procedure to set a function>

- ① In the illustration above, two functions are shown on the setting display: REVERB TYPE and REVERB DEPTH. First select one of the functions by pressing the corresponding button indicated by the ◀ arrow. (The currently selected function is highlighted.)
 - In this manual, the procedure to indicate that you should press a button to select an item from the display is generally written simply as follows: "Select REVERB TYPE."

- ② The ^ and v buttons on the display are operated by pressing the corresponding buttons indicated by the ▶ arrows. These buttons are used, when appropriate, to change the setting for the selected function.
 - In this manual, this procedure is written as follows: "Use the ^ and v buttons to select the type."

EXIT button

While the setting display is shown, press this button to go back to the previous display.



DISPLAY HOLD button

Press this button to turn it on when you wish to maintain the current display. For example, even during a performance, you can monitor information which is not shown on the normal display.



- If any of the **MENU** buttons etc. is pressed, the **DISPLAY HOLD** mode is canceled.

CONTRAST

Adjust the contrast of the display.



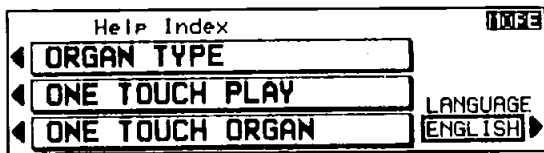
HELP display (EA5)

You can find an explanation of most of the instrument functions right on the display.

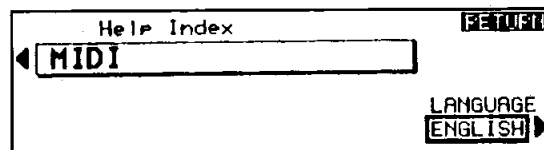
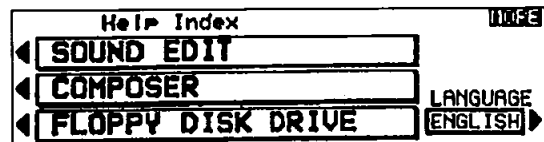
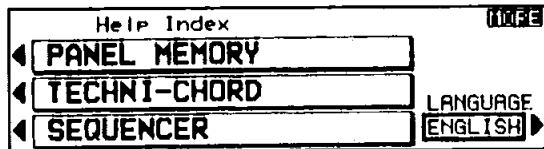
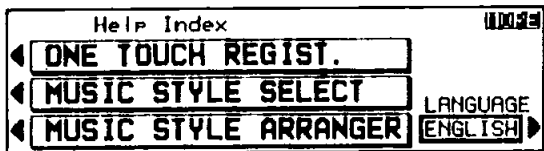
1. Press the **HELP** button (at the lower left of the display).



The following display appears.



Press the **MORE/RETURN** button to display other functions.



2. Select a function.

- Information about the selected function will appear on the display. There may be several "pages" of information, which you can view by pressing the **MORE/RETURN** button.
- If you press the **HELP** button while you are in the process of setting a function, the display may change directly to the **HELP** mode.
- For a detailed explanation of each function, please refer to the relevant pages in this manual.

ORGAN TYPE	page 38
ONE TOUCH PLAY	page 59
ONE TOUCH ORGAN	page 47
ONE TOUCH REGIST.	page 48
MUSIC STYLE SELECT	page 60
MUSIC STYLE ARRANGER	page 60
PANEL MEMORY	page 51
TECHNI-CHORD	page 50
SEQUENCER	page 62
SOUND EDIT	page 108
COMPOSER	page 83
FLOPPY DISK DRIVE	page 91
MIDI	page 116

Use the **LANGUAGE** button to select the language in which the messages are displayed.

- The **HELP** display messages and error messages are shown in the selected language.
- The appearance of the display on your instrument and the illustrated display in this manual may differ depending on the region in which your instrument was purchased and the selected display language.

3. When you have finished reading the message, press the **HELP** button again.

Part I Sounds and effects

The sounds for the upper keyboard, lower keyboard and pedal keyboard are grouped into "parts." A sound is selected for each part, and then the parts are assigned to the keyboards by the **ORCHESTRAL CONDUCTOR**.

Parts

You can assign three (**EA3**) or four (**EA5**) sound parts to the upper keyboard (**UPPER ORGAN, UPPER SOUND 1, UPPER SOUND 2** or **UPPER SOLO [EA5]**) and to the lower keyboard (**LOWER ORGAN, LOWER SOUND 1, LOWER SOUND 2** or **LOWER SOLO [EA5]**). The **BASS** part is used for the pedal keyboard. The sound for each part is selected with the buttons as shown in the diagram below.

	Part	Sound buttons
Upper keyboard	ORGAN	UPPER ORGAN
	SOUND 1 SOUND 2 SOLO (EA5)	UPPER SOUND GROUP
	ORGAN	LOWER ORGAN
Lower keyboard	SOUND 1 SOUND 2 SOLO (EA5)	LOWER SOUND GROUP
	ORGAN	LOWER ORGAN
	BASS	BASS PEDALS (LOWER SOUND GROUP)

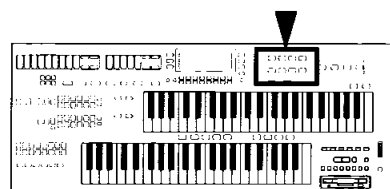
■ Touch Response

This instrument features Touch Response for the upper and lower keyboards. You control the volume by playing the keys harder or softer. The factory-preset settings for each keyboard and part are as follows.

- The settings can be adjusted. (Refer to page 105.)

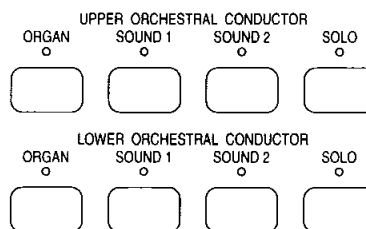
	Part	Touch setting
Upper keyboard	ORGAN	OFF
	SOUND 1, 2, SOLO (EA5)	ON
Lower keyboard	ORGAN	OFF
	SOUND 1, 2, SOLO (EA5)	ON

Orchestral Conductor



After a sound is selected for each part, the **ORCHESTRAL CONDUCTOR** buttons are used to assign a part to the upper keyboard and a part to the lower keyboard.

The **UPPER ORCHESTRAL CONDUCTOR** buttons are used to select the part for the upper keyboard, and the **LOWER ORCHESTRAL CONDUCTOR** buttons to select the part for the lower keyboard.



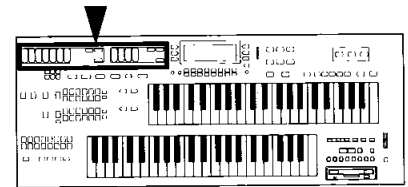
(EA5)

- When an **ORCHESTRAL CONDUCTOR** selection is changed, the display shows the currently selected sound for each part.
- By selecting sounds for each part beforehand, you can easily change from one sound to another during your performance just by selecting another **ORCHESTRAL CONDUCTOR** button.
- You can combine sounds by turning on two or more buttons in the **ORCHESTRAL CONDUCTOR** at the same time. (**EA3**: No more than two buttons can be turned on at the same time for each keyboard.)

The number of notes which can be produced simultaneously for each part is as follows:

[EA3]		
All parts:		32 notes
[EA5]		
ORGAN part:		32 notes
All other parts:		32 notes

Selecting sounds for the Organ parts (EA3)

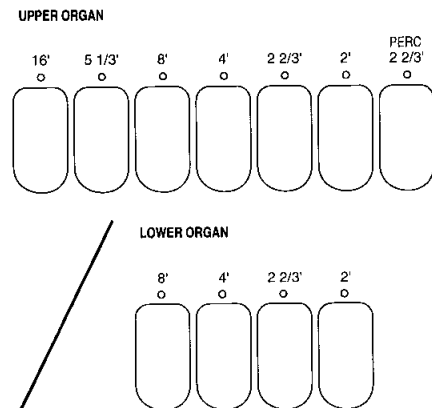


For the **ORGAN** parts, in addition to standard tab (flute) sounds you can choose from various types of preset sounds.

Tab sounds

These are standard flute sounds. The sounds are formed by combining sounds of different pitches (foot).

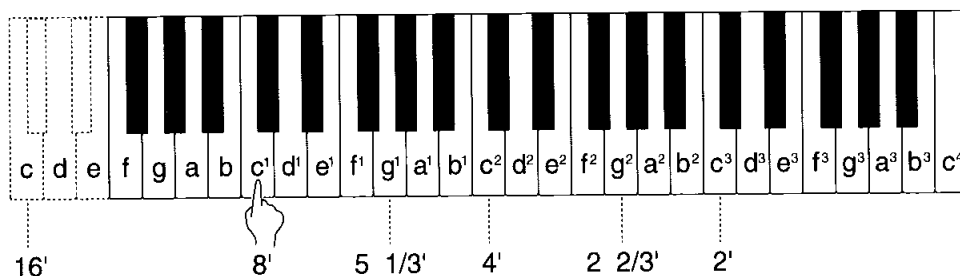
1. In the **ORCHESTRAL CONDUCTOR**, press the **ORGAN** button to turn it on.
 2. For the upper keyboard, use the **UPPER ORGAN** tab buttons to set the desired sound. For the lower keyboard, use the **LOWER ORGAN** tab buttons.
- Several tab buttons can be turned on, combining sounds to get the desired sound.



About foot marks

The foot indication on each tab button (for example **8'**) refers to the pitch of a rank of pipes in a pipe organ. If **8'** is used as the standard (the pitch as played on the keyboard), a **16'** rank pitch will be one octave below the **8'** rank pitch, and a **4'** rank pitch one octave above.

When the **C¹** key is pressed, the sounds of the different pitch ranks are as follows.



■ Percussives (upper keyboard)

PERC 2 2/3' adds a tone with a fast initial attack to the tab sounds. You can get a sharp sound by combining this sound with other tab sounds.

- When **PRESET** is on, the sound cannot be adjusted with the tab buttons. (Refer to the following section on "Preset sounds.")
- The volume balance for the **ORGAN** parts can be adjusted. (Refer to page 31.)

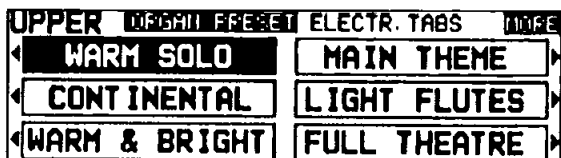
Preset sounds

Select the desired organ sound from various types of preset sounds.

1. Press the **PRESET** button to turn it on.



- When setting the organ sound for the upper keyboard, turn on the **PRESET** button in the **UPPER ORGAN** section. For the lower keyboard, turn on the **PRESET** button in the **LOWER ORGAN** section.
- When the **PRESET** button has been turned on for a keyboard, the tab buttons and **TREMOLO & CELESTE** button for that keyboard do not function.
- The display looks similar to the following.

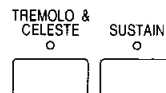


- Press the **MORE/RETURN** button to view the next page of the display. Each time the button is pressed, the display changes to show a different group of organ sounds: ELECTRONIC TAB group, DRAWBAR group and CLASSICAL PIPE group.

2. Select the desired organ sound.
 - The name of the selected sound is highlighted.
 - To play the selected organ sound on the keyboard, turn on the corresponding **ORGAN** button in the **ORCHESTRAL CONDUCTOR**.
3. Repeat steps 1 and 2 to set an organ sound for the other keyboard.
 - You can press the **EXIT** button to go back to the previous display.

Organ effects

Add effects to the **ORGAN** part sounds for each of the upper and lower keyboards.



■ TREMOLO & CELESTE

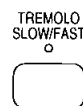
Add either a tremolo effect (a rapid oscillation in volume, like the effect of a rotating speaker) or a celeste effect (the effect of many instruments playing in unison) to the upper and/or lower **ORGAN** part sound.

Press the **TREMOLO & CELESTE** button to turn it on.

- A tremolo effect is applied to the **ORGAN** part sounds (factory-preset setting).
- This button does not work when the **PRESET** button is on.
- You can change this button's function to the celeste effect. (Refer to page 103.)

TREMOLO SLOW/FAST

When the **TREMOLO** effect is active, press the **TREMOLO SLOW/FAST** button to turn it on. The rotating speed of the speaker is accelerated.



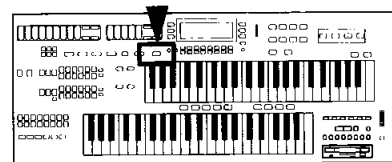
- The tremolo effect can be adjusted. (Refer to page 100.)

■ SUSTAIN

SUSTAIN is the gradual fading out of musical tones after the key is released.

- The length of the sustain can be adjusted. (Refer to page 46.)

Selecting a type of organ (EA5)

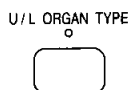


All types of organs are available for the **ORGAN** part. When you change from one type of organ to another, not only the sounds, but the entire configuration changes to that of the selected type, just as if you were playing a completely different instrument! You don't have just one organ, but many different types of organs, all in one instrument.

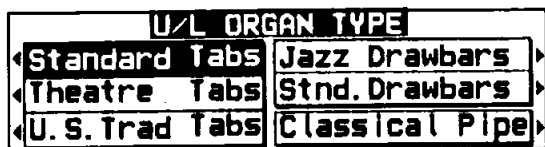
Organ type

Select the desired organ type from the representative types provided.

1. Press the **U/L ORGAN TYPE** button to turn it on.



- The display changes to the following.



2. Select an organ type from the display.

ELECTRONIC TABS group 	Standard type	Technics-type electronic organ sound
	Theatre type	Theatre-organ-type of electronic organ sound
	U.S. Trad type	Typical American electronic organ sound
DRAWBARS group 	Jazz type	Drawbar organ sound for jazz performance
	Standard type	Standard-type drawbar organ sound
CLASSICAL PIPE ORGAN 		Pipe organ sound for classical music performance

- On the display, the selected type is highlighted.
- The sounds for the **UPPER ORGAN** part and **LOWER ORGAN** part change to those for the selected type.
- To play the selected organ sound on each keyboard, turn on the **ORGAN** buttons in the **ORCHESTRAL CONDUCTOR**.
- You cannot select a different organ type for the upper keyboard and lower keyboard.

- You can adjust the volume for the upper and lower parts. (Refer to page 31.)
- Press the **EXIT** button to go back to the previous display.

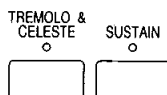
■ Adjusting the sound

The nuance of the sound for upper and lower keyboards can be changed independently.

Two methods are available. With **MANUAL** (page 40) you can control the various components of the sound. Or you can select one of the **PRESET** sounds (page 43) provided for each organ type.

Organ effects

Add effects to the **ORGAN** part sounds.



■ TREMOLO & CELESTE

Add either a tremolo effect (a rapid oscillation in volume, like the effect of a rotating speaker) or a celeste effect (the wide effect of many instruments playing in unison) to the upper and/or lower **ORGAN** part sound.

Press the **TREMLO & CELESTE** button to turn it on.

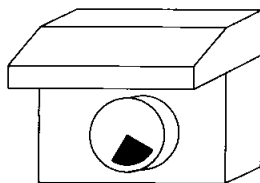
- A tremolo effect is applied to the **ORGAN** part sounds (factory-preset setting).
- You can change this button's function to the celeste effect. (Refer to page 103.)
- This button does not work when the **PRESET** button (page 43) for the same keyboard is on.

<TREMLO type>

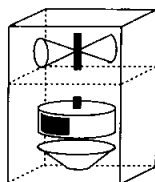
ELECTRONIC TABS group:

DRAWBARS group:

Single-rotor-type revolving speaker effect

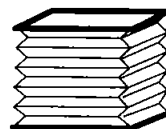


Double-rotor-type revolving speaker effect



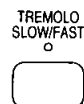
CLASSICAL PIPE ORGAN:

A distinctive vibrating effect, peculiar to pipe organs, of air flowing through the pipes (**TREMULANT**)



TREMLO SLOW/FAST

When the **TREMLO** effect is active, press the **TREMLO SLOW/FAST** button to turn it on. The rotating speed of the speaker is accelerated.



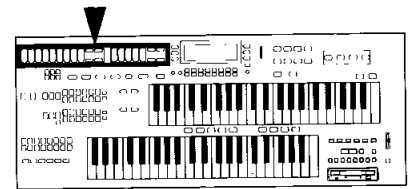
- The type of **TREMLO** and how it is applied can be adjusted. (Refer to page 100.)
- The **TREMLO & CELESTE** can be set to on or off for each tab sound and **EXTRA TAB VOICES** sound. (Refer to page 41.)

■ SUSTAIN

SUSTAIN is the gradual fading out of musical tones after the key is released.

- The length of the sustain can be adjusted. (Refer to page 46.)

Setting the Organ sound: Manual (EA5)



After selecting the desired organ type, you can change the nuance of the sound by using the tab buttons and the display to adjust its various components.

Outline of MANUAL settings

1. Select the organ type.
2. In the **UPPER ORGAN** or **LOWER ORGAN** section, press the **MANUAL** button to turn it on to change the sound for the respective keyboard.



3. Use the tab buttons and the display to select the desired sound. (Refer to the following section.)

■ Using the tab buttons

Organ sounds are obtained by combining different sound pitches (foot). By turning the tab buttons on and off, you can combine pitches to modify the selected organ sound.

■ Using the display

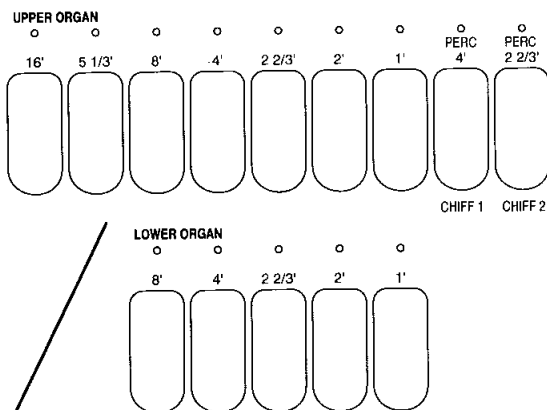
Special tabs (**EXTRA TAB VOICES**) and effects are provided for each individual organ group. These effects, used along with the tab buttons, allow you broad flexibility in creating the exact sound you want.

- The sound components which you can adjust differ depending on the type of organ.
- The settings are common for all the sounds in the same organ group.
- The settings are memorized independently for each organ group, so that whenever the **MANUAL** sound is selected for the same organ group, the sound you modified is automatically available.

Practical applications

Using the tab buttons to modify the sound

In the **UPPER ORGAN** or **LOWER ORGAN** section, use the tab buttons to change the sound for the respective keyboard.



- When an organ type from the **DRAWBARS** group is selected, the tab buttons work as drawbar-volume-setting buttons. In this case, press and hold the upper part of the button to decrease the volume, and the lower part to increase the volume. While the volume is being adjusted, the status of the drawbars is shown on the display. (Refer to page 42.)

■ Percussives (upper keyboard)

PERC adds a tone with a fast initial attack to the tab sounds. You can get a sharp sound by combining **PERC** sounds with other tab sounds.

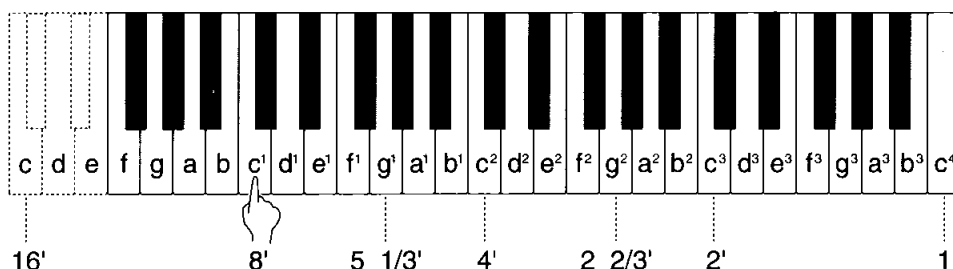
- Press the lower part of a tab button to turn it on, and the upper part to turn it off.

- When the **CLASSICAL PIPE ORGAN** is selected, the **PERC** buttons work as **CHIFF** buttons. "Chiff" is the characteristic sound of air being sent to the pipes in a pipe organ. (Refer to page 43.)

About foot marks

The foot indication on each tab button (for example 8') refers to the pitch of a rank of pipes in a pipe organ. If 8' is used as the standard (the pitch as played on the keyboard), a 16' rank pitch will be one octave below the 8' rank pitch, and a 4' rank pitch one octave above.

When the C¹ key is pressed, the sounds of the different pitch ranks are as follows.



Using the display to modify the sound

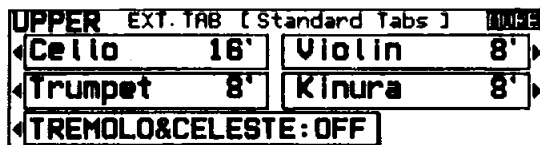
When a **MANUAL** button is turned on, or when a **MANUAL** button is on and the tab buttons are operated, the setting display is shown.

■ **ELECTRONIC TABS group**

EXTRA TAB VOICES settings

On the display, select the sounds you wish to add.

(Example: Upper keyboard)

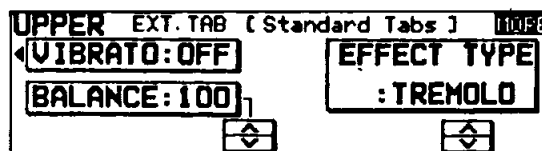


Press the **MORE/RETURN** button to change other settings.

- The setting switches between on and off each time the button is pressed.
- On the display, the selected sounds are highlighted.
- You can select more than one sound at the same time.

TREMLO&CELESTE:

Use this button to specify whether or not the tremolo or celeste effect is applied to the **EXTRA TAB VOICES**.



VIBRATO:

Use this button to specify whether or not the vibrato effect is applied to the **EXTRA TAB VOICES**.

BALANCE:

Adjust the volume of the **EXTRA TAB VOICES** in relation to the tab sounds from the panel buttons.

Use the **BALANCE** ^ and v buttons to adjust the volume (0 to 127).

- When set to 100, the volume of the **EXTRA TAB VOICES** is the same as the volume of the tab sounds.

EFFECT TYPE:

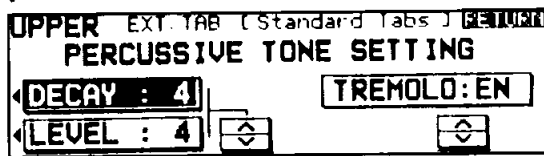
Use the **EFFECT TYPE** ^ and v buttons to select the type of effect (**TREMLO** or **CELESTE**).

- This setting is effective for both the upper and lower keyboard parts.
- This setting is memorized independently for each **ORGAN TYPE** group.

Practical applications

PERCUSSIVE TONE SETTING (upper keyboard only)

Adjust the PERC sound.



Select an attribute of the PERCUSSIVE TONE. Use the \wedge and \vee buttons to change the setting for the attribute.

DECAY:

Adjust the decay time (1 to 8).

LEVEL:

Adjust the volume (1 to 8).

TREMOLO:

Turn the tremolo effect on or off.

EN: The tremolo effect is on for the percussive tone.

DIS: The tremolo effect is off.

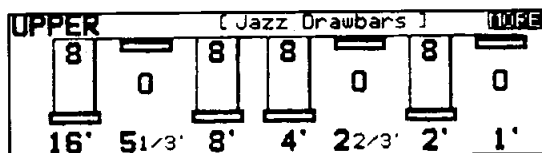
- If the **TREMOLO & CELESTE** button on the panel is off, the tremolo effect is not applied even when the TREMOLO is set to EN.

■ DRAWBARS group**Drawbar (tab volumes) adjustment**

Adjust with the respective tab buttons.

- The drawbars are shown on the display.

(Example: upper keyboard)



Press the **MORE/RETURN** button to change other settings.

- The numbers below the drawbars correspond to the feet numbers of the tab buttons.
- Select a setting from 0 to 8. When set to 0, no sound is produced.

Effect type setting

Select the type of effect.

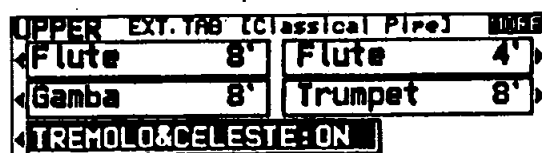
Percussive tone adjustment (upper keyboard only)

Adjust the PERC sound.

■ CLASSICAL PIPE ORGAN**EXTRA TAB VOICES settings**

On the display, select the sounds you wish to add.

- The setting switches between on and off each time the button is pressed.



Press the **MORE/RETURN** button to change other settings.

- On the display, the selected sound is highlighted.
- You can select more than one sound at the same time.

TREMOLO&CELESTE:

Use this button to specify whether or not the tremolo or celeste effect is applied to the EXTRA TAB VOICES.

VIBRATO:

Use this button to specify whether or not the vibrato effect is applied to the EXTRA TAB VOICES.

BALANCE:

Adjust the volume of the EXTRA TAB VOICES in relation to the tab sounds from the panel buttons. (Refer to page 41.)

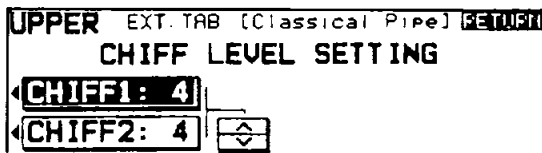
EFFECT TYPE:

Select the type of effect. (Refer to page 41.)

CHIFF LEVEL SETTING: (upper keyboard only)

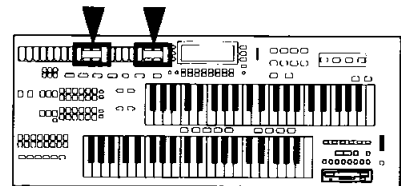
For pipe organ types, the **PERC** buttons are used to add CHIFF sounds. (Chiff is the characteristic sound of air being sent to the pipes in a pipe organ.) Two chiff sounds, 1 and 2, are available, and the volume can be adjusted for each.

- CHIFF 1 produces the chiff sound itself. CHIFF 2 does not work when all the tab and EXTRA TAB VOICES sounds are off.



1. Select CHIFF 1 or CHIFF 2.
2. Use the \wedge and \vee buttons to adjust the volume (1 to 8).
3. Repeat steps 1 and 2 as desired for the other chiff volume.

Setting the Organ sound: Preset (EA5)



After selecting the desired organ type, choose any of the many preset sounds provided for each type.

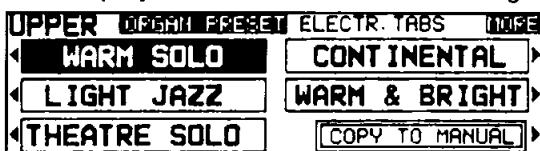
PRESET

Select one of the **PRESET** sounds provided for each organ type.

1. Select the organ type.
2. To change the organ sound for the upper keyboard, press the **PRESET** button to turn it on in the **UPPER ORGAN** section. For the lower keyboard, press the **PRESET** button to turn it on in the **LOWER ORGAN** section.
4. If necessary, repeat steps 2 and 3 to select a **PRESET** sound for the other keyboard.
 - The tab buttons (with foot indications) and **TREMOLO & CELESTE** button do not work for the **PRESET** sounds. If you wish to modify the sound, first make a copy of the **PRESET** sound (see below), and then modify the copy.



- The display looks similar to the following.



3. Select a sound from the list on the display.
 - Use the **MORE/RETURN** button to view different parts of the list.
 - The selected sound is memorized independently for each organ group, so that whenever the **PRESET** sound is selected for the same organ group, the sound you chose is automatically available.

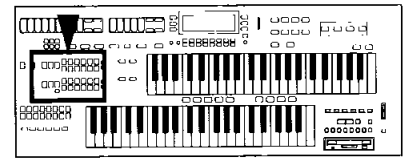
■ Copy a PRESET sound

When you copy a **PRESET** sound to the **MANUAL** memory, you can modify the copy as desired.

Note: When you copy a sound to the **MANUAL** memory, any sound which was previously copied to the memory is erased.

1. Select a **PRESET** sound.
2. Press the **COPY TO MANUAL** button.
 - A copy of the selected **PRESET** sound is stored in the **MANUAL** memory. You can now change the characteristics of the sound in the **MANUAL** memory. (Refer to page 40.)

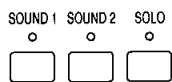
Selecting Sound part sounds



Select from a variety of sounds for the **SOUND 1**, **2** and **SOLO (EA5)** parts of the upper keyboard and lower keyboard.

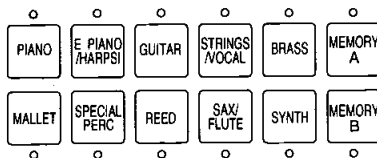
SOUND GROUP

1. In the **UPPER ORCHESTRAL CONDUCTOR** or **LOWER ORCHESTRAL CONDUCTOR**, press the **SOUND 1**, **2** or **SOLO (EA5)** button to select a part.

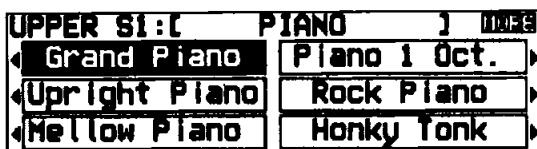


(EA5)

2. In the **UPPER SOUND GROUP** or **LOWER SOUND GROUP**, press one of the sound buttons to select a sound group.



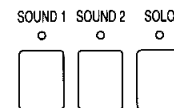
- A list of sounds available for each sound group can be found in the separate "REFERENCE GUIDE" provided.
 - **MEMORY A** and **MEMORY B** are reserved for storing sounds you modify. (Refer to page 108.)
3. Select the desired sound from the list on the display.



When **MORE** is shown in the upper right corner of the display, you can press the **MORE/RETURN** button to view a different part of the list.

- The selected sound is memorized independently for each sound group of each part, so that whenever the sound group is selected for the same part, the sound you chose is automatically available.

4. Repeat steps 1 to 3 to select the sound for the other parts.
 - You can adjust the volume of each part. (Refer to page 31.)
 - Press the **EXIT** button to go back to the previous display.
 - After presetting the sounds for each of the **SOUND 1**, **SOUND 2** and **SOLO (EA5)** parts in the **UPPER SOUND GROUP** or **LOWER SOUND GROUP**, use the **ORCHESTRAL CONDUCTOR** buttons to select parts and to mix sounds. (Refer to page 35.)



(EA5)

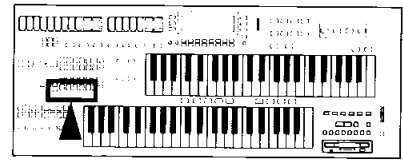
SOLO (EA5)

The **SOLO** sound is monophonic, which means that only one note can sound at a time. When only the **SOLO** part is selected for the upper keyboard, the **SOLO** sound is produced for the last key played.

When the **SOLO** part and another part are both selected for the upper keyboard, however, the **SOLO** sound is produced for the highest key played. This means that you can use the upper keyboard to play chords with your left hand and a **SOLO**-sound melody with your right hand, for example.

- If the interval between the highest note and the next lower note is more than one whole tone, the **SOLO** sound will not shift to the next lower key when the highest key is released.

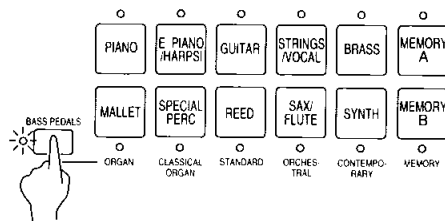
Selecting the bass part sound



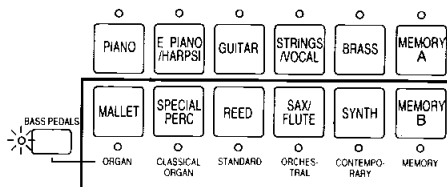
A variety of sounds for you to choose from is also available for the bass part (pedal keyboard).

BASS PEDALS

1. In the **LOWER SOUND GROUP** section, press the **BASS PEDALS** button to turn it on.



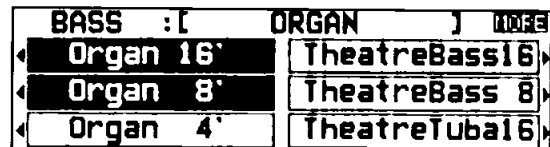
2. Select the sound group with the buttons in the lower row of the **LOWER SOUND GROUP**.



- The names of the sound groups are shown below the buttons.
- A list of sounds available for each sound group can be found in the separate "REFERENCE GUIDE" provided.
- **MEMORY** is reserved for storing sounds you modify. (Refer to page 108.)

3. Select the desired sound from the list on the display.

[EA5]

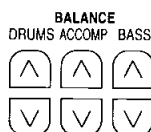


- The **BASS** sound is monophonic, which means that only one note sounds at a time.
- You can use the **OCTAVE** button to select the octave. The standard is 8', so the pitch is lowered by one octave when 16' is selected.
- For organ-type sounds (**ORGAN** and **CLASSICAL ORGAN** [EA5]) you can combine multiple sounds on the display (**BASS TABS**) to create a different sound. Or, when you press the **MORE/RETURN** button, you can select the **PRESET** sound.
- The selected sound is memorized independently for each sound group, so that whenever the sound group is selected, the sound you chose is automatically available.
- Press the **EXIT** button to go back to the previous display.
- When the **BASS PEDALS** button is turned off, the buttons in the **LOWER SOUND GROUP** revert to their original function.

Adjust the volume

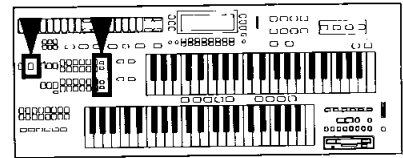
Adjust the volume of the **BASS** part in relation to the other parts.

Use the **BASS** buttons in the **BALANCE** section to adjust the volume of the **BASS** part (0 to 127).



- Each time the \wedge button is pressed, the volume increases, and each time the \vee button is pressed, the volume decreases.
- While the volume is being adjusted, the balance setting display is shown. A few seconds after you change the setting, the display returns to the previous display.

Add effects to the sounds



Various effects add character to the sounds.

DIGITAL EFFECT

DIGITAL EFFECT gives the sound richness and enhances your performance.



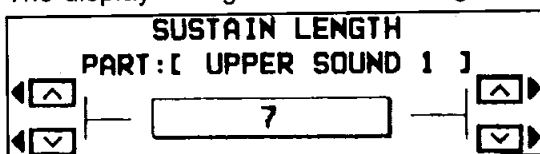
- In the **ORCHESTRAL CONDUCTOR** section, turn on the button for the part to which the effect will be applied.
 - For the pedal keyboard, press the **BASS PEDALS** button to turn it on.
- Press the **DIGITAL EFFECT** button to turn it on.
 - The **DIGITAL EFFECT** is applied to the part you selected in step 1.
- Repeat steps 1 and 2 for other parts as desired.
 - The **DIGITAL EFFECT** differs depending on the selected sound.
 - The on or off status of the **DIGITAL EFFECT** is preset for each sound, so that the **DIGITAL EFFECT** turns on when certain sounds are selected.

SUSTAIN

SUSTAIN is the gradual fading out of musical tones after the key is released.



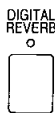
- In the **ORCHESTRAL CONDUCTOR** section, turn on the button for the part to which the effect will be applied.
 - For the pedal keyboard, press the **BASS PEDALS** button to turn it on.
- Press the corresponding **SUSTAIN** button to turn it on.
 - The display changes to the following.
- Use the \wedge and \vee buttons to adjust the length of the sustain (1 to 8).
 - A few seconds after changing the setting, the display returns to the previous display.
- Repeat steps 1 to 3 for other parts as desired.
 - The on or off status of the **SUSTAIN** is memorized for each part.
 - The **SUSTAIN** effect differs depending on the selected sound.



DIGITAL REVERB

DIGITAL REVERB applies a reverberation effect to the sound of the whole instrument, including the automatic rhythm sounds.

Press the **DIGITAL REVERB** button to turn it on.



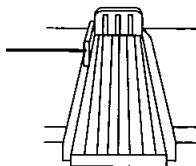
- The type and depth of the reverberation can be adjusted. (Refer to page 100.)
- The **DIGITAL REVERB** on/off setting can be set independently for each part. (Refer to page 99.)

Glide

The foot switch is used as a glide control.

1. Press the foot switch to the left with the side of your foot.

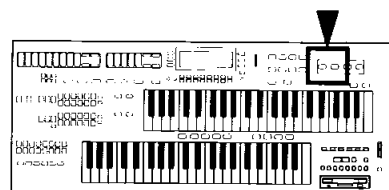
Foot switch



2. Release the foot switch.
 - The pitch returns to normal.
 - A fast glide effect is applied when the foot switch is released quickly.
 - You can adjust the pitch range of the glide effect, and specify whether the glide effect works for the lower keyboard. (Refer to page 103.)
 - You can assign a different function to this foot switch. (Refer to page 106.)
- The glide effect does not function for the pedal keyboard sounds and for some other sounds.

- The pitch of the instrument is lowered by about one semitone.

Automatic sound and effect settings



The sound and effect settings (registration) for each keyboard can be executed automatically in seconds. A great many automatic registrations are available for you to choose from.

ONE TOUCH ORGAN (EA5)

A wide variety of **ORGAN** registrations has been prepared for automatic panel setup.

1. Press the **ONE TOUCH ORGAN** button to turn it on.



ONE TOUCH ORGAN

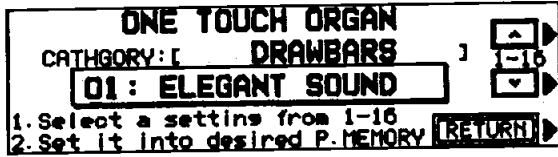
- The display looks similar to the following.



2. Use the ^ and v buttons to select the category (performance style) (01 to 05).

3. Press the REGIST. LIST button.

- The display looks similar to the following.



4. Use the 1-16 ^ and v buttons to select the name of a registration (01 to 16).

- The sounds and effects for each keyboard, the rhythm and various other panel settings which are suitable for the registration you chose are automatically selected.
- Press the RETURN button to go back to the previous display.
- When the **ONE TOUCH ORGAN** function is used, the **ACCOMP 1, 2 and 3** buttons turn off.

■ **Copy to the PANEL MEMORY**

The registration contents of the selected category can be copied to the **PANEL MEMORY** buttons (page 51) for easy recall.

Notes

- When this procedure is executed, any previously stored contents of the **PANEL MEMORY** buttons are replaced by the registrations of the selected category.
- Registrations 01 to 08 are copied to the **PANEL MEMORY**. If you wish to copy a different registration, do not use the COPY TO P.MEM function. Instead, select the desired registration and then store it in a **PANEL MEMORY** number. (Refer to page 51.)

1. Select the category.

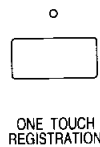
2. Press the COPY TO P.MEM button.

- A confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.
- The automatic registrations are copied to the **PANEL MEMORY 1 to 8** buttons.

ONE TOUCH REGISTRATION

Automatic settings for other parts are also available to choose from.

1. Press the **ONE TOUCH REGISTRATION** button to turn it on.



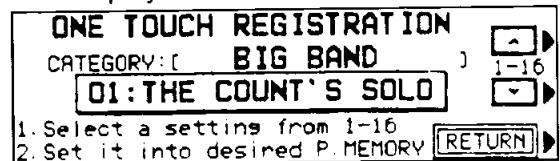
- The display looks similar to the following. [EA5]



2. Use the ^ and v buttons to select a style of performance (EA3: 01 to 07/EA5: 01 to 06).

3. Press the REGIST. LIST button.

- The display looks similar to the following.



4. Use the 1-16 ^ and v buttons to select a registration (01 to 16).

- The sounds and effects for each keyboard, and various other panel settings which are suitable for the registration you chose are automatically selected.
- Press the RETURN button to go back to the previous display.
- When the **ONE TOUCH REGISTRATION** function is used, the **ACCOMP 1, 2 and 3** buttons turn off.

■ Copy to the PANEL MEMORY

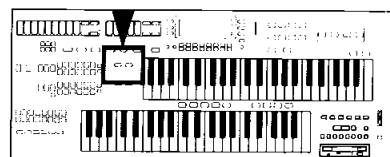
The registration contents of the selected category can be copied to the **PANEL MEMORY** buttons (page 51) for easy recall.

Notes

- When this procedure is executed, any previously stored contents of the **PANEL MEMORY** buttons are replaced by the registrations of the selected category.
- Registrations 01 to 05 (**EA3**), or 01 to 08 (**EA5**) are copied to the **PANEL MEMORY**. If you wish to copy a different registration, do not use the COPY TO P.MEM function. Instead, select the desired registration and then store it in a **PANEL MEMORY** number. (Refer to page 51.)

1. Select the category.
2. Press the COPY TO P.MEM button.
 - A confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.
 - The automatic registrations are copied to the **PANEL MEMORY 1 to 5 (EA3)** or **1 to 8 (EA5)** buttons.

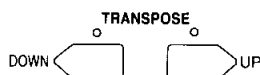
Transpose



The **TRANSPOSE** buttons are used to change the key (pitch) of the entire instrument in semi-tone steps across an entire octave.

Suppose you learn to play a song—in the key of C, for example—and decide you want to sing it, only to find it's either too high or too low for your voice. Your choice is to either learn the song all over again, in a different key, or to use the **TRANSPOSE** feature.

Adjust the key with the **TRANSPOSE** buttons (**UP** and **DOWN**).

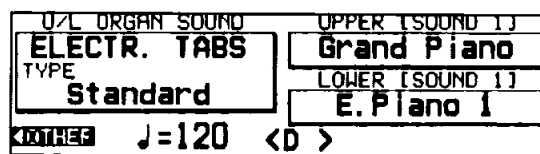


Each press of the **UP** button changes the key as follows: D^b → D → E^b → E → F → F[#].

Each press of the **DOWN** button changes the key as follows: B → B^b → A → A^b → G.

- If the two buttons are pressed at the same time, the key returns to C.
- When the **TRANSPOSE** function is active, the indicator for the **UP** or **DOWN** button remains lit.

- When the **TRANSPOSE** function is active, the transposed key is shown on the display. [**EA5**]

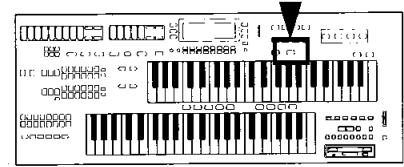


Actual key

<Example: transposed to D>

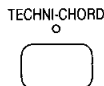
Played keys	Notes that sound
C major	D major

Techni-chord



TECHNI-CHORD transfers the chord notes you play on the lower keyboard to each melody note you play on the upper keyboard.

1. Press the **TECHNI-CHORD** button to turn it on.



2. Play the example below, playing the chords on the lower keyboard and the melody on the upper keyboard.

Left hand (chord)

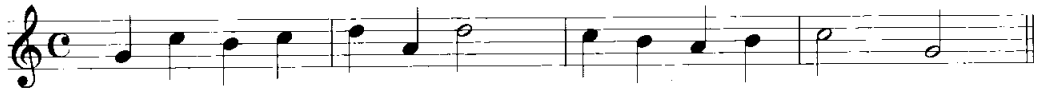
C

F

G

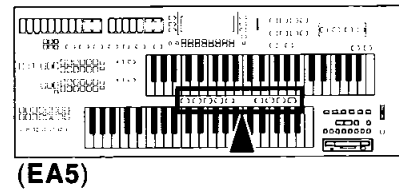
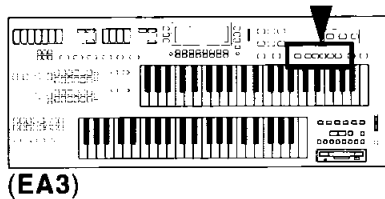
C

Right hand (melody)



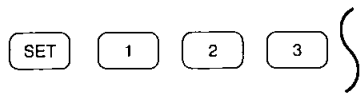
- The melody you play on the upper keyboard is automatically played in chords which are based on the chords you play on the lower keyboard.
- If more than one part is selected for the upper keyboard, **TECHNI-CHORD** works only for the leftmost of the parts with lit indicators in the **UPPER ORCHESTRAL CONDUCTOR**.
- **EA5: TECHNI-CHORD** does not work for the **SOLO** part.
- **TECHNI-CHORD** does not work for the lowermost keys (F to B) of the upper keyboard.
- This feature is very effective when used with the **AUTO PLAY CHORD**. (Refer to page 56.)
- The display can be used to select the desired harmony style. (Refer to page 102.)
- When the **TECHNI-CHORD** function is used with the **MEMORY** function of the **AUTO PLAY CHORD** set to **ON** and a chord is specified on the lower keyboard, harmony is added to the upper keyboard melody even after you release your fingers from the lower keyboard.

Panel Memory



PANEL MEMORY stores the panel setups of your instrument (up to 5 panel setups on the **EA3**, 8 on the **EA5**), allowing you to make complex changes at the touch of a single button.

1. Select the sounds, effects and volumes for all the parts.
2. With the **SET** button held down, press one of the numbered buttons of the **PANEL MEMORY**.
 - The current settings are now stored in the specified number button. To recall the settings, just press the respective number button in the **PANEL MEMORY**.
 - After recalling the settings by pressing a **PANEL MEMORY** number button, you can change the panel settings manually, but the memory contents of the **PANEL MEMORY** remain unchanged until you store them again.



(EA5)

■ PANEL MEMORY mode

You can define which panel settings are stored when the **PANEL MEMORY** is used.

1. Press and hold the **SET** button for a few seconds.
 - The display changes to the following.



2. Select the mode (**NORMAL** or **EXPAND**).

NORMAL: Stores sound and volume balance settings, etc.

EXPAND: Stores all instrument settings, including rhythm, **TRANSPOSE** status, tempo, etc.

- After a few seconds, the display exits the setting mode.

Suggestions for using PANEL MEMORY

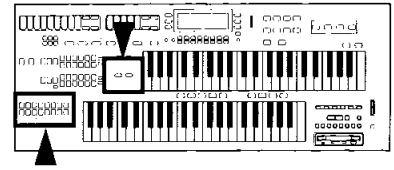
The initial factory setting of the **PANEL MEMORY** contains various settings which you may choose to use or to alter to your own taste. These can be restored at any time by initializing the **PANEL MEMORY**. (Refer to page 126.) Selecting the **EXPAND** mode will allow you to make full use of the initial factory settings of the **PANEL MEMORY**.

- You can change from one **PANEL MEMORY** to another by using a foot switch. (Refer to page 106.)

Part II Playing the rhythm

The rhythm section enhances the capabilities of your instrument with features such as automatic performance of the preset rhythm patterns and accompaniment patterns.

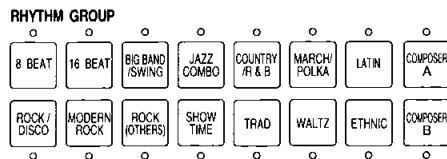
Selecting rhythms



After first selecting a **RHYTHM GROUP**, choose the desired rhythm from the display.

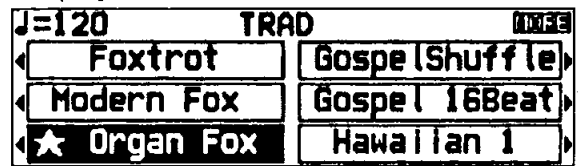
Select a rhythm.

1. In the **RHYTHM GROUP** section, select a rhythm group.



- A list of rhythms available for each rhythm group can be found in the separate "REFERENCE GUIDE" provided.
- **COMPOSER A** and **COMPOSER B** are reserved for storing rhythms you create yourself. (Refer to page 83.)

2. Select the desired rhythm from the list on the display.



When **MORE** is shown in the upper right corner of the display, you can press the **MORE/RETURN** button to view a different part of the list.

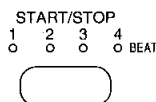
- Rhythms marked with a ★ are especially effective for an **AUTO PLAY CHORD** performance with **ORGAN** sounds.
- The selected rhythm is memorized independently for each rhythm group, so that whenever a **RHYTHM GROUP** button is pressed, the rhythm you chose is automatically available.
- Press the **EXIT** button to go back to the previous display.

Start the rhythm

There are two ways to start the rhythm.

■ Immediate rhythm start

1. Select a rhythm.
2. Press the **START/STOP** button to turn it on.



- The selected rhythm pattern immediately begins to play.
- You can stop the rhythm by pressing the **START/STOP** button again to turn it off.
- During the rhythm performance, the **BEAT** indicators above the **START/STOP** button light to indicate the beat. On the first beat of the measure, the red indicator lights. On the second and succeeding beats of the measure, the green indicators light in order.

■ Synchronized start

With the synchronized start feature, the rhythm pattern starts when you play a key on the lower keyboard or pedal keyboard.

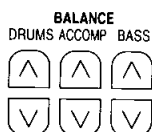
1. Select a rhythm.
2. Press the **SYNCHRO & BREAK** button to turn it on.



3. Play a key on the lower keyboard or a pedal on the pedal keyboard.
 - The rhythm pattern begins to play.
 - You can stop the rhythm by pressing the **START/STOP** button to turn it off.
 - The pedal keyboard does not work for synchronized start when the automatic accompaniment is used.

Adjust the volume

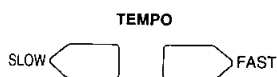
The volume of the rhythm is adjusted with the **DRUMS** buttons in the **BALANCE** section.



- While the volume is being adjusted, the balance-setting display is shown.
- If you wish to keep the setting display, press the **DISPLAY HOLD** button.

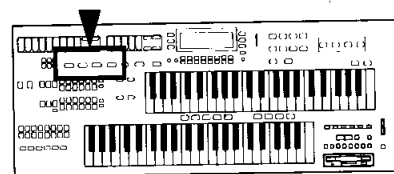
Adjust the tempo

The tempo of the rhythm pattern is adjusted with the **TEMPO** buttons.



- The tempo is shown on the display as a numerical value (♩ = 40 to 300).
- Keep either button pressed to change the tempo quickly.
- The tempo can be instantly reset to the standard tempo (♩ = 120) by pressing both buttons simultaneously.

Playing the rhythm

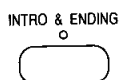


Intro, fill-in and ending patterns fitting each different rhythm pattern are permanently recorded in your instrument, thus allowing a versatile rhythm performance.

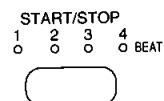
INTRO

Begin the rhythm performance with an intro pattern.

1. Press the **INTRO & ENDING** button to turn it on.



2. Press the **START/STOP** button to start the rhythm.



- An intro pattern is played, after which the normal rhythm pattern begins.

COUNT INTRO

You can begin the rhythm performance with a one-measure count.

1. Press the **COUNT INTRO (FILL IN 2)** button to turn it on.



2. Press the **START/STOP** button to start the rhythm.

- A one-measure count is played, after which the normal rhythm pattern begins.

VARIATION

Each rhythm pattern also has a variation pattern. Add drama to your performance by switching to the variation pattern at climactic points in the melody.

1. Select a rhythm and press the **START/STOP** button.

2. Press the **VARIATION** button to turn it on.

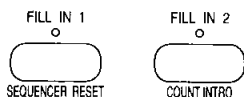


- The rhythm changes to a flashier pattern.
- Press the **VARIATION** button again to turn it off and go back to the normal rhythm pattern.
- This button does not function when the **MUSIC STYLE ARRANGER** is on. (Refer to page 60.)

FILL IN

You can insert a fill-in pattern any time during the rhythm performance. Choose from two different fill-in patterns.

1. Select a rhythm and press the **START/STOP** button.
2. Press the **FILL IN 1** or **FILL IN 2** button.

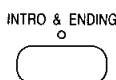


- A fill-in pattern is heard immediately for the remainder of the measure.
- When a **FILL IN** button is pressed on the last beat of the measure, the fill-in pattern continues to the end of the following measure.

ENDING

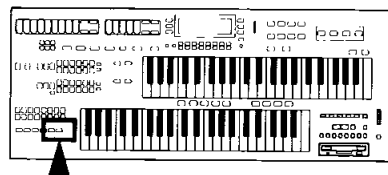
Finish the rhythm performance with an ending pattern.

1. Select a rhythm and press the **START/STOP** button.
2. Press the **INTRO & ENDING** button to turn it on.



- An ending pattern is produced, and then the rhythm performance stops.
- If you accidentally press the **INTRO & ENDING** button in the middle of the tune, you can press the **FILL IN 1** or **FILL IN 2** button. The ending pattern stops, and a fill-in pattern is produced, after which the normal rhythm performance continues.

Keyboard Percussion



A complete set of percussion instruments and other special sounds is at your fingertips. Use the lower keyboard to play the percussion performance.

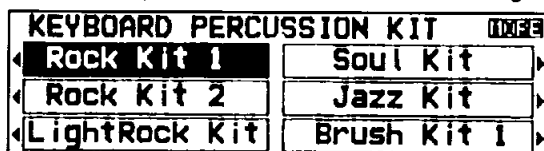
1. Press the **KEYBOARD PERCUSSION** button to turn it on.



2. Select the **KIT** of percussion instruments from the list on the display.

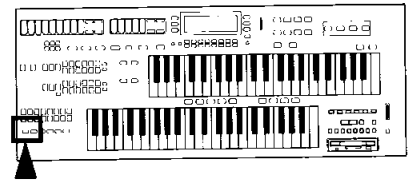
3. Play the lower keyboard.
 - Percussion instrument sounds are produced by the lower keyboard keys as indicated by the picture code above each key. For further explanation, refer to the separate "REFERENCE GUIDE" provided.
 - In the "Orchestral kit," the arrangement of percussion instruments is different.

- The display looks similar to the following.



Use the **MORE/RETURN** button to view different parts of the list of sound kits.

Auto Play Chord

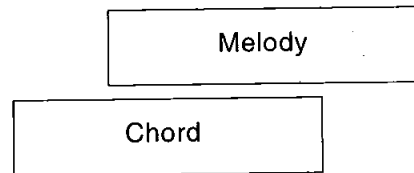


Simply by playing a chord on the lower keyboard, the **AUTO PLAY CHORD** function automatically plays an accompaniment pattern which matches perfectly the selected rhythm. With a real accompaniment as a background, you can concentrate on playing the melody.

How the AUTO PLAY CHORD works

When an **AUTO PLAY CHORD** mode is selected, an automatic accompaniment which matches the rhythm you have chosen is played in the chord which you specify on the lower keyboard. The melody is played on the upper keyboard.

- The accompaniment pattern of the **AUTO PLAY CHORD** is composed of five parts: **DRUMS, BASS, ACCOMP 1, ACCOMP 2 and ACCOMP 3.**

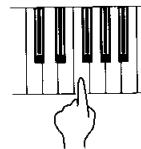


Playing chords

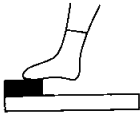
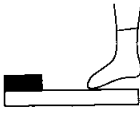
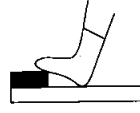
You can choose from one of the following three **AUTO PLAY CHORD** modes.

■ ONE FINGER mode


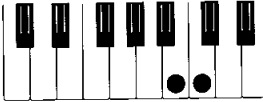

Press a key on the lower keyboard to specify the root note. The major chord (on the lower keyboard) and the bass note (on the pedal keyboard) corresponding to this root note are automatically played in an accompaniment pattern.



Minor, seventh and minor seventh chords are also easily produced as shown below.

minor chord	seventh chord	minor seventh chord
Play the root note on the lower keyboard and any black pedal.	Play the root note on the lower keyboard and any white pedal.	Play the root note on the lower keyboard and any black pedal and white pedal, at the same time.
		

You can also use just the lower keyboard to specify minor, seventh and minor seventh chords.

minor chord	seventh chord	minor seventh chord
Play the root note plus a black key to the left of it.	Play the root note plus a white key to the left of it.	Play the root note plus a black key and a white key to the left of it.
Example: Cm 	Example: C7 	Example: Cm7 

■ FINGERED mode

Indicate the chord by actually playing the chord keys on the lower keyboard. In the FINGERED mode, the **AUTO PLAY CHORD** recognizes more chord types, and thus the scope of your performance expression is expanded.



- The **AUTO PLAY CHORD** can distinguish the following played chords for each key (C is given as an example): C, C7, CM7, Caug, Cm, Cm7, Cdim, Cm7^{b5}, CmM7, Csus4, etc.

■ PIANIST mode

Indicate the chord by actually playing the chord keys on the lower keyboard. In addition to the chords recognized in the FINGERED mode, the **AUTO PLAY CHORD** also recognizes 9th and 13th chords.

- If a pedal is pressed while you are playing a chord in the FINGERED and PIANIST mode, only the bass pattern is produced in the key of the pressed pedal, thus making it possible to play chords such as "D on C."

How to use the AUTO PLAY CHORD

1. Select the desired rhythm and sounds, and set the tempo.
 - Rhythms marked with a ★ are especially effective for an **AUTO PLAY CHORD** performance with **ORGAN** sounds.
 - Turn on the **ACCOMP 1, 2 and/or 3** button as desired.
2. Press the **AUTO PLAY CHORD** button to turn it on.



- The display looks similar to the following.

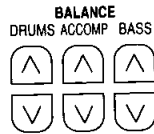


3. Use the buttons to the left of the display to select an **AUTO PLAY CHORD** mode.
 - After a few seconds, the display returns to the previous display.
 - When the **MEMORY** is set to **ON**, even when the keys are released, the chord is memorized and the accompaniment continues to play until you specify another chord.
4. Press the **START/STOP** button to begin the rhythm.
 - You can also start the rhythm by playing the lower keyboard (synchronized start). (Refer to page 53.)

5. Specify the chord on the lower keyboard.
 - An accompaniment pattern in the specified chord begins to play. Play the melody on the upper keyboard.
 - When you use **VARIATION, FILL IN, INTRO** and **ENDING**, the automatic accompaniment is also used in these patterns.
 - When the rhythm is off, if the **ONE FINGER** or **FINGERED** mode is selected and a chord is specified, the corresponding root note and chord notes are produced.
6. To stop the automatic accompaniment, press the **START/STOP** button.

Adjust the volume

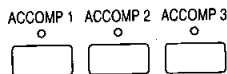
The volume for each part is adjusted with the respective **DRUMS**, **ACCOMP** or **BASS** buttons in the **BALANCE** section.



- While the volume is being adjusted, the balance setting display is shown.
- The volumes for the **ACCOMP 1**, **2** and **3** parts can be adjusted independently. (Refer to page 31.)
- If you wish to keep the setting display, press the **DISPLAY HOLD** button.

ACCOMP parts

The **ACCOMP** part of the automatic accompaniment is composed of three different parts. You can change the accompaniment by turning any or all of the three parts on or off.



- If all the **ACCOMP** parts are turned off, the **ACCOMP** part sound is not produced.

DYNAMIC ACCOMP (EA5)

DYNAMIC ACCOMP is a function which changes each accompaniment pattern of the **AUTO PLAY CHORD**.

1. Press the **DYNAMIC ACCOMP** button to turn it on.



2. Play the instrument with one of the **AUTO PLAY CHORD** modes on.

- Depending on how hard the keyboard keys are played or how complicated the melody phrase, for example, each **ACCOMP** part changes.

BREAK function

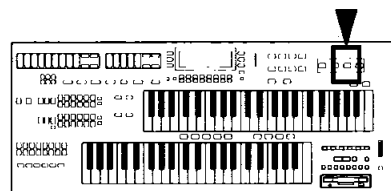
With the break function, the rhythm starts when the lower keyboard is played and stops when the fingers are removed from the keys.

1. Turn on the **AUTO PLAY CHORD** button and select a mode.
 - At this time, the **MEMORY** should be set to **OFF**.
2. Press the **SYNCHRO & BREAK** button to turn it on.



3. Specify a chord on the lower keyboard.
 - The automatic accompaniment begins to play (synchronized start).
4. Release the lower keyboard keys.
 - The automatic accompaniment stops. When the keys are pressed again, the automatic accompaniment starts from the first beat.

Automatic settings

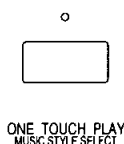


With the automatic settings, the panel settings change depending on the rhythm or music style you select. This lets you get a great sound straight away, even if you are playing this instrument for the first time.

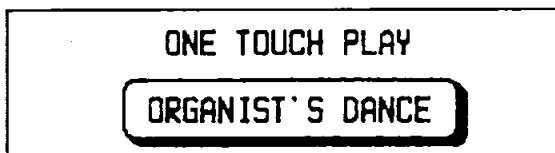
ONE TOUCH PLAY

Set up your instrument with a combination of sounds and balances suitable for your selected rhythm style.

1. Select a rhythm pattern.
 - Do not select a rhythm from the **COMPOSER A** or **COMPOSER B** group.
2. Press the **ONE TOUCH PLAY** button until its indicator goes out.



- The display looks similar to the following.



- The **AUTO PLAY CHORD** and the **SYNCHRO & BREAK** button turn on, and the sounds, effects, volume balance and tempo are automatically set.
3. Play the keyboards.
 - When a chord is specified on the lower keyboard, the automatic accompaniment begins to play. Play the melody on the upper keyboard.

Suggestions for using ONE TOUCH PLAY

- Press the **INTRO & ENDING** button before you play for a professional-sounding introduction.
- Use the **ONE TOUCH PLAY** registration as a starting point for your own registration.
- Alter the sounds, balance and tempo to your own taste and store your new registration in the **PANEL MEMORY** for future use. (Refer to page 51.)

MUSIC STYLE SELECT

With this feature, the panel settings are automatically set to match the selected music style.

1. Press the **ONE TOUCH PLAY (MUSIC STYLE SELECT)** button momentarily.
 - The display looks similar to the following.



2. In the **RHYTHM GROUP** section, select a rhythm group.
3. Use the \wedge and \vee buttons to select a music style.
 - The **AUTO PLAY CHORD** and the **SYNCHRO & BREAK** button turn on, and the sounds, effects, volume balance, rhythm and tempo which are best suited for the selected music style are automatically selected.
4. Play the keyboards.
 - When a chord is specified on the lower keyboard, the automatic accompaniment begins to play. Play the melody on the upper keyboard.

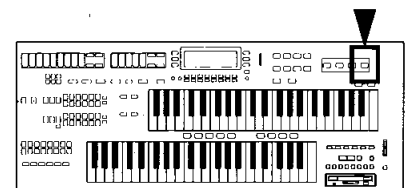
- To return to the normal performance display, press the **ONE TOUCH PLAY** button to turn it off, or press the **EXIT** button.

Suggestions for using MUSIC STYLE SELECT

- Press the **INTRO & ENDING** button before you play for a professional-sounding introduction.
- Use the **MUSIC STYLE SELECT** registration as a starting point for your own registration.
- Alter the sounds, balance and tempo to your own taste and store your new registration in the **PANEL MEMORY** for future use. (Refer to page 51.)

Practical applications

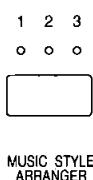
Music Style Arranger



The **MUSIC STYLE ARRANGER** helps you make professional registration changes during your performance. Select between three contrasting registrations at the touch of a button. The **MUSIC STYLE ARRANGER** will alter the accompaniment in character with the registration change, creating a polished-sounding arrangement.

How to use the MUSIC STYLE ARRANGER

1. Select a rhythm pattern.
2. Press the **MUSIC STYLE ARRANGER** button to select the style (1, 2 or 3) you want at the beginning of your performance.

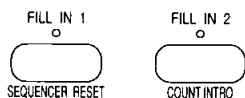


- 1: Simple pattern
- 2: Normal pattern
- 3: Flashy pattern

- Each time the **MUSIC STYLE ARRANGER** button is pressed, the style indication changes as follows: 1 → 2 → 3 → off.
- The panel settings change according to the selected rhythm and music style. The **AUTO PLAY CHORD** and the **SYNCHRO & BREAK** button turn on. When a key on the lower keyboard is pressed, the automatic accompaniment starts to play immediately.
- The **MUSIC STYLE ARRANGER** includes the rhythm **VARIATION** setting. Therefore, the **VARIATION** button does not function when the **MUSIC STYLE ARRANGER** is on.

How to change the music style during your performance

While you are playing your instrument with the **MUSIC STYLE ARRANGER** on, press the **FILL IN 1** or **FILL IN 2** button.



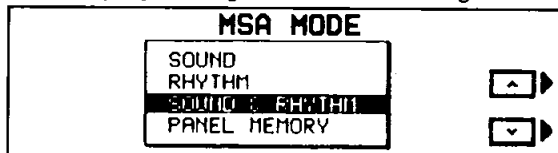
- Each time the **FILL IN 1** button is pressed, the **FILL IN 1** pattern plays, and then the music style changes in the **3 → 2 → 1** order. And each time the **FILL IN 2** button is pressed, the **FILL IN 2** pattern plays, and then the music style changes in the **1 → 2 → 3** order.

■ MUSIC STYLE ARRANGER mode

You can define which panel settings change when the **MUSIC STYLE ARRANGER** is on and a **FILL IN** button is pressed.

1. Press and hold the **MUSIC STYLE ARRANGER** button for a few seconds.

- The display changes to the following.



2. Select the mode.

SOUND

Only the sound changes.

RHYTHM

Only the rhythm changes.

SOUND & RHYTHM

Both the sound and rhythm change.

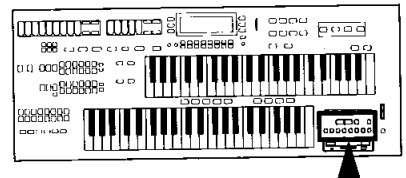
PANEL MEMORY

The **PANEL MEMORY** number (1 to 3) changes.

- If the **RHYTHM** or **PANEL MEMORY** mode is selected, settings such as the automatic accompaniment do not change.
- After a few seconds, the display exits the setting mode.
- You can also access this display with the **MEM & CTRL** button. (Refer to page 104.)

Part III Sequencer

Outline of the Sequencer



A sequencer records your performance in a similar way to a tape recorder. This instrument's **SEQUENCER** allows you to record in a variety of ways. You may want to record your entire performance in one go (especially if you are using **AUTO PLAY CHORD** to provide the accompaniment), or to build up a complex arrangement with several different parts playing together, like an orchestral score. This **SEQUENCER** has 16 tracks. This means that you can record 16 different parts. However, you don't have to use all 16 tracks. For some uses you may only need to use one or two tracks. The **SEQUENCER** enables you to edit your recorded performance. Unlike a tape recorder, you can change the sound or the tempo during playback, or correct wrong notes or timing errors.

SEQUENCER features

■ You can change the tempo without changing the pitch

When you record your performance at a slow tempo and play it back at a faster tempo, the pitch stays the same.

■ Consistent sound

Your performance is reproduced by a sound module as it reads digital data. So, unlike a recorded tape, the sound never deteriorates no matter how many times you play back your performance.

■ Edit your recorded performance

Comprehensive editing functions allow you to modify your recorded performance. Data can easily be erased, corrected or copied, providing an especially convenient tool for creating your original tunes.

■ Instant search

A recorded tape has to be rewound, but digital action means you can return to the beginning of your performance, or find any measure, instantly.

■ Save your performances on disks

All the data of your recorded performances can be stored on disks. The built-in Disk Drive also allows you to play commercially sold disks on your own instrument.

- Features and operation of the built-in Disk Drive are explained in Part V: Disk Drive (page 91).

Memory capacity

Expressed in terms of notes, the total number of notes which can be stored in all the tracks is about 28,000. The remaining memory available for recording is shown on the display as a percentage (MEM:%).

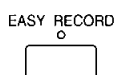
- When "Memory full!" appears on the display, no more data can be stored in the **SEQUENCER**.
- It is a good practice to save your recorded performances on disks before clearing any of the **SEQUENCER** memories. (Refer to page 95.)

SEQUENCER buttons

The buttons related to **SEQUENCER** recording and editing are briefly explained below.

■ EASY RECORD

Begin recording quickly without complicated set-up procedures.



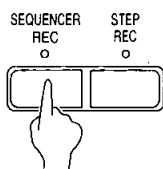
EASY RECORD (page 64)

This feature allows you to bypass the more complex recording procedures so you can record and play back your performance quickly and easily.

- You can also record an accompaniment from the **AUTO PLAY CHORD**.

■ SEQUENCER REC

Record your performance just as you play it on the keyboard.

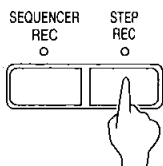


REALTIME RECORD (page 67)

Record your performance in up to 16 tracks and create your own orchestra or band.

■ STEP REC

Store the sounds note-by-note on the display.



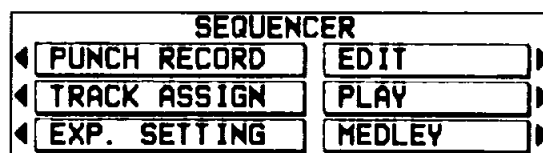
STEP RECORD (page 68)

For repeating patterns or those especially complicated phrases, this mode is convenient for recording the notes one-by-one.

- This mode can be used to store both the chord progression for the automatic accompaniment and the rhythm changes.

■ SEQUENCER

Edit the contents of your recorded performance. These features allow you to edit the contents of specific tracks or measures, and also to define the kind of playback you want.



PUNCH RECORD (page 80)

Correct a selected portion of your recorded performance.

TRACK ASSIGN (page 74)

Assign parts to up to 16 different tracks.

EXP. SETTING (page 74)

Specify how pedal operation data is handled during recording or playback.

EDIT (page 75)

The following editing features are available.

- SONG CLEAR:** Erase the recorded contents of all tracks.
- TRACK CLEAR:** Erase the contents of a specific track.
- TRACK MERGE:** Merge the recorded contents of two tracks and store in a third track.
- QUANTIZE:** Correct the timing of the recorded performance.
- MEAS. ERASE:** Erase the contents of specific measures.
- MEAS. COPY:** Copy the contents of specific measures.
- MEAS. DELETE:** Delete specific measures.
- MEAS. INSERT:** Insert measures at a specified point.
- VELOCITY CHANGE:** Modify velocity data (how hard the keys are played).

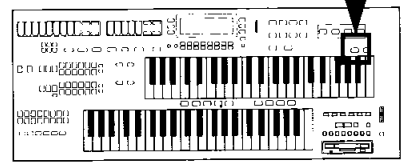
PLAY (page 82)

Adjust the settings related to playback operation.

MEDLEY (page 82)

Specify medley playback of songs recorded on a disk.

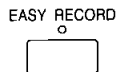
Easy Record



Suppose you are playing your instrument, and you wish to record and play back your performance to hear how it sounds. You can bypass the set-up procedures of the full-scale sequencer and begin recording quickly and easily.

Recording procedure

1. Set the desired sounds, effects, rhythms, etc.
2. Press the **EASY RECORD** button to turn it on.



- The display changes to the following.



Note that when you select the EASY RECORD mode, the following settings are automatically effected.

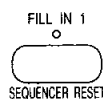
- Tracks available for recording are selected as follows.
 - 1: UPPER part (Record the upper keyboard performance.)
 - 2: LOWER part (Record the lower keyboard performance.)
 - 3: BASS part (Record the pedal keyboard performance.)
 - 5: CONTROL part (Record rhythm changes, changes in the panel button status, etc.)

3. Press the OK button.
 - Note that when you press the OK button, the contents of all **SEQUENCER** tracks are erased (SONG CLEAR).
 - The display changes to the **REALTIME RECORD** display.
4. Begin your performance.
 - Recording begins as soon as you start the rhythm or play a keyboard.
5. When you have finished recording, press the **EASY RECORD** button to turn it off.

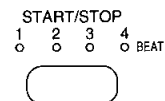
Practical applications

Playback

1. Press the **SEQUENCER RESET (FILL IN 1)** button.



2. Press the **START/STOP** button.



- Your recorded performance is played back automatically.

Sequencer parts

The **SEQUENCER** has 16 recording tracks. The track assignment and recorded contents are as outlined in the following table.

Part (Recorded keyboard)	Used for	Recorded contents
UPPER SOUND 1, 2 [US1, US2], UPPER SOLO [USL] (EA5) (Upper keyboard)	Recording the respective keyboard performance (realtime/step)	<ul style="list-style-type: none"> • Keyboard note data • Selected sounds, volumes • DIGITAL EFFECT, SUSTAIN on/off
LOWER SOUND 1, 2 [LS1, LS2], LOWER SOLO [LSL] (EA5) (Lower keyboard)		
UPPER ORGAN [UOR] (Upper keyboard)	Recording the ORGAN part performance (realtime/step)	<ul style="list-style-type: none"> • Keyboard note data • Tab settings, volume • Tab TREMOLO & CELESTE, SUSTAIN on/off • ORGAN TYPE settings (EA5) • EXTRA TAB VOICES settings (EA5) • EXTRA TAB VOICES effect setting (EA5)
LOWER ORGAN [LOR] (Lower keyboard)		
UPPER [UPR] (Upper keyboard)	Recording all parts of the respective keyboard performance (realtime/step)	<ul style="list-style-type: none"> • Same as recorded contents of UPPER/LOWER SOUND 1, 2, SOLO (EA5), and UPPER/LOWER ORGAN, above • ORCHESTRAL CONDUCTOR status
LOWER [LWR] (Lower keyboard)		
Part 3, 7 (EA3), 8 to 15 [P3, P7 to P15] (Upper keyboard)	Recording the respective part (realtime/step)	<ul style="list-style-type: none"> • Keyboard note data • Selected sounds, volume • DIGITAL EFFECT, SUSTAIN on/off
BASS [BAS] (Pedal keyboard)		
KEYBOARD PERCUSSION [KBP] (Lower keyboard)	Recording the keyboard performance using the KEYBOARD PERCUSSION (realtime/step)	<ul style="list-style-type: none"> • Selected sound (drum kit), volume
CHORD [CHD] (Lower keyboard)	Recording the chord progression for the AUTO PLAY CHORD (step)	<ul style="list-style-type: none"> • Chord progression • FILL IN 1, FILL IN 2, INTRO & ENDING on
RHYTHM [RHY]	Recording settings related to the rhythm (step)	<ul style="list-style-type: none"> • Rhythm settings and selection changes (including COMPOSER) • START/STOP on/off, FILL IN 1, FILL IN 2, INTRO & ENDING on • VARIATION on/off • Tempo setting

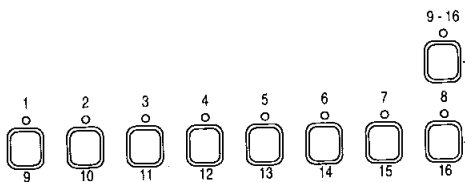
<continued on next page>

Part (Recorded keyboard)	Used for	Recorded contents
CONTROL [CTL]	Recording panel button settings and changes (realtime/step)	<ul style="list-style-type: none"> • Rhythm settings • DIGITAL REVERB on/off • AUTO PLAY CHORD status, volume balance • DYNAMIC ACCOMP on/off (EA5) • MUSIC STYLE ARRANGER status • START/STOP, VARIATION on/off, FILL IN 1, 2, INTRO & ENDING on • PANEL MEMORY settings • TRANSPOSE status • Tempo setting • Expression pedal operation • Glide on/off • ACCOMP part on/off • TECHNI-CHORD on/off

Practical applications

- You can use the TRACK ASSIGN function to assign parts to tracks as you wish. (Refer to page 74.)
- During recording, the MEASURE count on the display corresponds to the time signature of the selected rhythm. However, if rhythm data is stored in the RHYTHM part and that part is played back, the MEASURE count on the display corresponds to the stored rhythm data.
- For some sounds in the **UPPER** and **LOWER SOUND GROUP**, the stored octave may be different from the octave that was played during recording.

■ Factory-preset track assignment



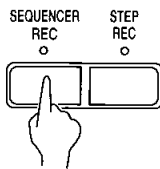
- | | |
|--|----------------------------|
| 1: UPPER SOUND 1 | 9: PART 9 |
| 2: UPPER SOUND 2 | 10: PART 10 |
| 3: PART3 (EA3)/
UPPER SOLO
(EA5) | 11: PART 11 |
| 4: LOWER SOUND 1 | 12: PART 12 |
| 5: LOWER SOUND 2 | 13: UPPER ORGAN |
| 6: CHORD | 14: LOWER ORGAN |
| 7: BASS | 15: RHYTHM |
| 8: CONTROL | 16: KEYBOARD
PERCUSSION |

Realtime Record

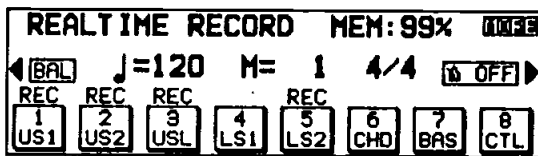
With REALTIME RECORD, your performance is recorded with the timing exactly as you played it on the keyboard. And with multi-track recording, you can use up to 16 tracks to record your performance.

Recording

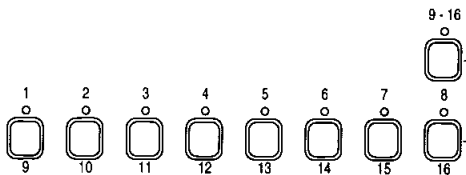
1. Set the sounds, effects, volumes, tempo, etc. for the parts you are going to record.
2. Press the **SEQUENCER REC** button to turn it on.



- The display looks similar to the following.
[EA5]



3. Use the buttons below the display to specify the tracks for the parts you are going to record. (For details about track assignment, refer to page 65.)
 - Press the buttons to display "REC" above the track numbers you are going to record.
 - For tracks 9 to 16, press the **MORE/RETURN** button and select the tracks.
 - You can select two or more tracks to record at one time.
 - At this time, the panel settings you selected in step 1 are stored.
- You can also use the **SEQUENCER** track buttons to select the tracks.



- To select tracks 9 to 16, make your selection while pressing the **9-16** button.
- The indicator for the selected track button flashes slowly. (For tracks 9 to 16, the indicator flashes when the **9-16** button is pressed.)

4. Use the **TEMPO** buttons to adjust the recording tempo.
 - The tempo is shown on the display as a numerical value (♩ =).
 - If you wish to record the tempo setting and tempo changes, record them in the **CONTROL** part, or use the **RHYTHM STEP RECORD**.

5. Turn the metronome on or off as desired with the **ON** or **OFF** button.
 - The metronome selection alternates between **ON** and **OFF** each time the button is pressed.
 - The metronome sound is not recorded.

6. Play the keyboard.
 - Recording begins.
 - You can also press the **START/STOP** button to start the rhythm and begin recording.
 - If the metronome is on, when you press the **START/STOP** button, a two-measure count plays, after which recording automatically begins. In this case, the rhythm does not start.
 - On the display, the following information is shown.

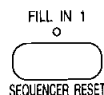
M=: Current measure number
Time signature
MEM: Remaining memory (%)

- If you wish to adjust the volume of each track or part during recording, press the **BAL** button to recall the **PART BALANCE** display. You can then adjust the volumes.
- If you make a mistake in recording, you can correct a specific portion of your performance without having to redo the whole part. (Refer to page 80.)

7. When you have finished recording, press the **SEQUENCER REC** button to turn it off.

Playback

1. Turn on the track buttons for the parts you wish to play back.
 - Tracks whose indicators are not lit will not be played back.
2. Press the **SEQUENCER RESET (FILL IN 1)** button.
3. Press the **START/STOP** button.
 - The recorded performance is played back automatically.



- The **SEQUENCER** returns to the beginning of the song and the beginning panel settings are recalled.

Multi-track recording

When recording several tracks, you can record one track while listening to the track or tracks already recorded.

1. Follow the procedure to record the first track.
 - When you turn the **SEQUENCER REC** button off, confirm that the indicator for the track you recorded is lit. Turn on the buttons for the tracks you wish to have played back.
2. Follow the procedure to record the next track.
 - When the **START/STOP** button is turned on, the track recorded in step 1 is played back. You can record the next track in time with this.
 - On the display "REC" indicates tracks which are being recorded, and "PLAY" indicates tracks which are being played back.
3. Repeat step 2 to record all the desired parts.

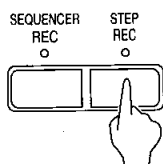
Step Record

STEP RECORD is simply a method of making a tune by storing the sounds note-by-note on the display. Instead of playing the keyboards directly as in the REALTIME RECORD mode, you can take your time to input each single note. This is an especially effective method for storing complicated passages that are difficult to play or when the exact timing of a part is critical.

Recording procedure

Record the keyboard performance and panel changes.

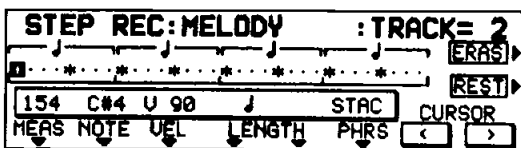
1. Press the **STEP REC** button to turn it on.



- The display looks similar to the following.
[EA5]

STEP RECORD PART SELECT								OK
1 US1	2 US2	3 USL	4 LS1	5 LS2	6 CHD	7 BAS	8 CTL	
9 P 9	10 P10	11 P11	12 P12	13 UOR	14 LOR	15 RHY	16 KBP	

2. Use the buttons below the display to specify the track for the part you are going to record.
 - For tracks 1 to 8, use the \wedge buttons, and for tracks 9 to 16, use the \vee buttons to select the track.
 - You can also use the **SEQUENCER** track buttons to select the track. In this case, to select tracks 9 to 16, make your selection while pressing the **9-16** button.
 - On the display, the selected track number is highlighted. Confirm that this is the correct track.
3. Press the OK button.
 - The display changes to the STEP RECORD input display.



- If you selected the track to which the CHORD part has been assigned, the display changes to the CHORD STEP RECORD display. (Refer to page 71.)
 - If you selected the track to which the RHYTHM part has been assigned, the display changes to the RHYTHM STEP RECORD display. (Refer to page 72.)
4. Use the MEAS \wedge and \vee buttons to select the measure.
 - This step is not necessary if you are recording from measure 1 of a blank track.
 5. Use the CURSOR $<$ and $>$ buttons to move the cursor (reverse video box) to the note position (dot) you are going to store.
 - Each dot represents one-eighth of a quarter-note (a thirty-second note).
 - When storing triplets, it may not be possible to match the timing exactly with the 1/32-note steps. However, if you select triplet-type notes for the note length (LENGTH) in step 6 below, the timing is automatically corrected.

6. Use the left LENGTH \wedge and \vee buttons to specify the note value. Select from ♩ , ♪ , ♫ , ♬ , ♭ , ♮ , ♯ , ♭ , ♮ , ♯ $\times 2$ to 4. (A 3 denotes a triplet-type note.)
 - For note values other than these, use the right LENGTH \wedge and \vee buttons to specify the note value to be added to that which you specified with the left buttons.

Example: To record a dotted quarter-note (♩.)
 $\text{♩.} + \text{♩}$

7. Use the PHRS \wedge and \vee buttons to specify the actual length of the produced sound for the desired legato or staccato effect.

TENU (tenuto):	Sound is produced for 100% of the note length.
NORM (normal):	80%
STAC (staccato):	50%
CUTT (cutting):	25%

8. Specify the pitch and velocity of the note by playing the keyboard.
 - The dot on the display where the note is stored changes to a * mark.
 - When recording chords, you can store multiple notes at one position.
 - Any panel setting changes—for example changes in the sound selection, button operation, etc.—are recorded at the cursor position.

REST

To store a rest, after specifying the note LENGTH, press the REST button. Points at which nothing is stored are read as rests.

ERAS

If you make a mistake, move the cursor to the error, and after displaying the data you wish to erase, press this button.

9. Repeat steps 5 through 8 to continue storing notes.

- To input data on another track, press the **EXIT** button and repeat the procedure from step 2.

10. When you have finished recording, press the **STEP REC** button to turn it off.

■ Correcting the data

1. In the STEP RECORD mode, specify the track you wish to correct.
2. Use the MEAS buttons to go to the measure you wish to modify. Use the CURSOR buttons to move the cursor to the point (*) you wish to edit.
 - The data stored at that point is shown on the display.
 - When multiple data is stored at one point, different data is displayed in order each time a CURSOR button is pressed. When a chord is recorded, a different note in the chord is displayed each time a CURSOR button is pressed.

3. Correct the data.

There are three types of data:

Performance data

NOTE data (note pitch) and VEL data (how hard the key was played), etc. are displayed. Use the relevant buttons to correct the data as desired.

Sound data

The name of the sound is displayed. Change the sound as desired (the sound setting display is interposed on the current display).

Control data

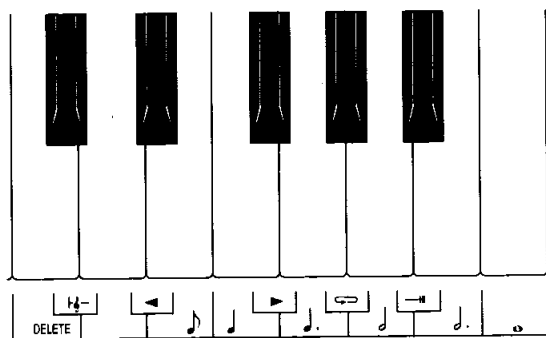
The name of the function is displayed. Change the data as desired.

- Press the ERAS button to erase the data which is displayed.

Store a chord progression

Store the chord progression for the **AUTO PLAY CHORD** in the track for the CHORD part. Then, when the **AUTO PLAY CHORD** is used during playback, even if you do not specify the chords with your left hand, the chords change automatically.

- The chord length is specified with the rightmost **CHORD STEP RECORD** keys of the lower keyboard.



Note value keys

- Whole note
- ◡ Dotted half-note
- ◡ Half-note
- ◡ Dotted quarter-note
- ◡ Quarter-note
- ◡ Eighth-note

Reset key

- ♩ Press to begin storing from the beginning.

Correction keys

- ◀ Move back one chord.
- ▶ Move forward one chord.
- DELETE Press to erase data.

Repeat key

- ↺ Press to end the chord-storing procedure and to specify automatic repeat playback of the stored progression.

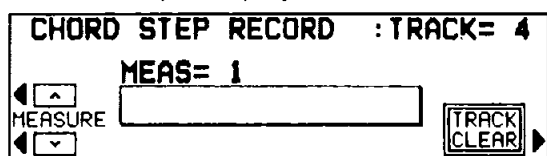
End key

- H Press after the whole chord progression has been stored.

■ Example of storing a chord progression

C	C	F	G7	C	Am
♩	♩	♩	♩	♩	♩

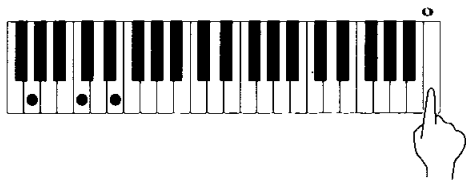
1. Press the **STEP REC** button to turn it on.
2. Use the buttons below the display or **SEQUENCER** track buttons to select the track to which the CHORD part is assigned.
 - On the display, the track for the CHORD part (CHD) is highlighted. Confirm that this is the correct track.
 - Make the necessary settings, such as the upper and lower keyboard sounds, the rhythm settings, the on/off status of the **ACCOMP 1, 2 and 3** buttons, etc.
3. Press the OK button.
 - The display changes to the CHORD STEP RECORD input display similar to the following.



4. Store the chords on the lower keyboard.

<Measure 1, measure 2>

While playing a C chord with your left hand, press the ♩ key one time with your right hand.



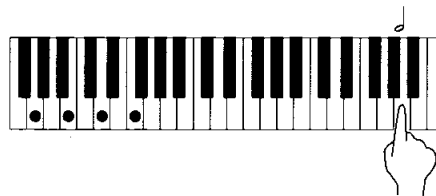
- A "beep" tone indicates that the chord has been successfully stored.
- The chord name is shown on the display.

<Measure 3>

- (1) While playing an F chord, press the ♩ key one time.



- (2) While playing a G7 chord, press the ♩ key one time.



<Measure 4>

- (1) While playing a C chord, press the ♩ key one time.
- (2) While playing an Am chord, press the ♩ key one time.

- You can press the **INTRO & ENDING** button or a **FILL IN** button on the panel to store the desired pattern at the cursor position. (An intro can be stored only at the beginning.)
 - Store a rest by pressing a note value key without specifying a chord.
 - Chords can also be specified with the one-finger method.
5. At the end of the chord progression, press the End key (—H).
 - The instrument exits the recording mode.
 - During playback, playback of the recorded chord progression stops at this point. For automatic repeat playback of the chord progression, press the Repeat key (<=>) instead of the End key (—H).
 - If you press the **INTRO & ENDING** button instead of the End key (—H), when you play back your performance, an ending pattern will be produced and then the performance will stop.
 - When you play back the track for the CHORD part, the chords of the automatic accompaniment change in accordance with the stored chord progression.

■ **Correct the recorded chord progression**

1. Select CHORD STEP RECORD on the display.
2. Use the MEASURE ^ and v buttons to go to the measure you wish to modify. Use the ◀ and ▶ Correction keys to move the cursor to the point you wish to edit.
 - The measure number, beat number, specified chord name, specified note length, and function (INTRO, FILL IN, etc.) are shown on the display.
 - To move to the end of the chord progression, while pressing the Reset key (⌘), press the ◀ key.
 - You can specify the desired measure and go to it instantly. (Refer to page 73.)
 - The lengths of rests are indicated as follows.

Example:

- ⌘ 1-beat rest (quarter rest)
- γ 1/2-beat rest (eighth rest)
- ⌘ × 1 + γ 1-1/2-beat rest
(dotted quarter rest)
- ⌘ × 10 10-beat rest

3. Correct the chord data.

Chord data

When the chord name is displayed at the cursor position, you can press the DELETE key to erase the data and then store a new chord.

- If you do not erase the displayed data before entering the new chord data, the new data is inserted at this point, and the displayed data is merely shifted by the note value of the new chord.
- Rests can also be erased. Each time the DELETE key is pressed, the rest is erased in units of $\frac{1}{2} \times 1$. The γ rest is erased last.

Control data

The name of the stored function (INTRO, FILL, etc.) is displayed. You can press the DELETE key to erase the data which is displayed.

■ **TRACK CLEAR**

To erase all data from the current track, press the TRACK CLEAR button, and then press the YES button on the confirmation display.

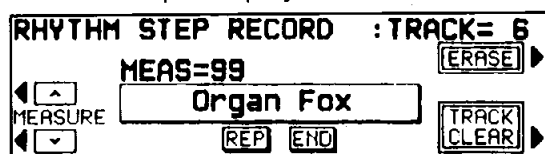
- If you wish to cancel the clear procedure, press the NO button.

Store a rhythm progression

Data for the rhythm progression can be stored by measures with the step recording method.

- The rhythm progression is recorded in the track for the RHYTHM part.

1. Press the STEP REC button to turn it on.
2. Use the buttons below the display or SEQUENCER track buttons to select the track to which the RHYTHM part is assigned.
 - On the display, the track for the RHYTHM part (RHY) is highlighted. Confirm that this is the correct track.
3. Press the OK button.
 - The display changes to the RHYTHM STEP RECORD input display similar to the following.



4. Use the MEASURE ^ and v buttons to select the measure you wish to record.

5. Use the panel buttons to store the rhythm data.
 - Data which can be stored

START/STOP

Changes in the rhythm selection
COUNT INTRO, INTRO, FILL IN, VARIATION, ENDING
 Tempo changes

- Be sure to store the START/STOP data in the measure in which the rhythm starts.
- If you are storing a COUNT INTRO or INTRO, store this data before the START/STOP data.
- When the TEMPO buttons are used to set the tempo, the numerical tempo value is shown on the display. Press the YES button to store the specified tempo, or press the NO button to cancel the new tempo value.

6. Repeat steps 4 and 5 to continue storing the rhythm progression.
 - If you wish to stop the rhythm, press the START/STOP button at the correct timing.

7. At the end of the rhythm progression, press the REP button or the END button.

REP: During playback, the recorded rhythm progression is repeated.

END: During playback, playback of the recorded rhythm progression stops at this point.

- The instrument exits the recording mode.

■ **Correct the recorded rhythm progression**

1. Follow the procedure to select the RHYTHM STEP RECORD display.
2. Use the MEASURE ^ and v buttons to go to the measure you wish to modify.
3. Correct the rhythm data.
 - Press the ERASE button to erase the displayed data.
 - If you select a rhythm with a different time signature, the time signature of all subsequent measures will also change.
 - If data has already been recorded in other tracks, you cannot select a rhythm with a different time signature.

■ **TRACK CLEAR**

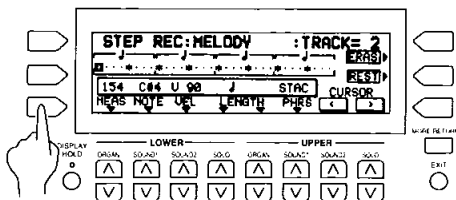
To erase all data from the current track, press the TRACK CLEAR button, and then press the YES button on the confirmation display.

- If you wish to cancel the clear procedure, press the NO button.

Specifying the measure to edit

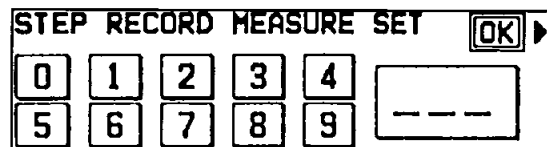
When editing in the STEP RECORD mode (performance, chord progression, rhythm progression), you can go to a specified measure instantly.

1. In the STEP RECORD mode, specify the track you wish to correct.
2. Press the lowermost button on the left side of the display.
(Example: Performance track)



- The display changes.
- For the CHORD or RHYTHM track, press either **LOWER ORGAN** balance button.

3. Specify the measure number by pressing the corresponding balance buttons.



- Use the upper balance buttons to enter digits from the upper row in the display, and the lower balance buttons to enter digits from the lower row in the display.

4. Press the OK button.
 - The display changes to show the specified measure.

Practical applications

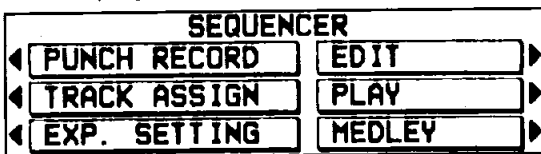
Track Assign

Each **SEQUENCER** part is already assigned to a track number. However, you can use the TRACK ASSIGN function to assign parts to tracks as you wish. This function is also used to designate the tracks used for the rhythm data and chord progression data.

1. Press the **SEQUENCER** button to turn it on.



- The display looks similar to the following.



2. On the **SEQUENCER** menu display, select **TRACK ASSIGN**.
- The display looks similar to the following.

TRACK ASSIGN			
TRACK	PART	LOCAL CONTROL	MIDI-OUT CHANNEL
TR 1	UPPER	ON	CH --

3. Use the **TRACK** \wedge and \vee buttons to select the track.

4. Use the **PART** \wedge and \vee buttons to select the part for the specified track.

- Select one of the following parts: UPPER, LOWER, BASS, CHORD, CONTROL, RHYTHM, KB.PERC, U.SND 1, 2, U.SOLO (EA5), U.ORGAN, L.SND 1, 2, L.SOLO (EA5), L.ORGAN, PART 3, 7 (EA3), PART 8 to 15. (For an explanation of each **SEQUENCER** part, refer to page 65.)

- When a part other than the RHYTHM, CONTROL or CHORD part is assigned, the track assign procedure is completed at this point.
- The RHYTHM, CONTROL and CHORD parts cannot be assigned to more than one track.
- You can use the **LOCAL CONTROL** \wedge and \vee buttons to turn the LOCAL CONTROL on or off, and the **MIDI-OUT CHANNEL** \wedge and \vee buttons to assign the BASIC CHANNEL. (For a detailed explanation of these MIDI functions, refer to page 119.)

5. When assigning the RHYTHM, CONTROL or CHORD part, press the **OK** button.

- The confirmation display appears to warn you that currently stored data in the tracks concerned will be erased. Press the **YES** button to confirm that you wish to execute the specified track assignment. Or press the **NO** button to stop the track assignment.

Expression pedal recording settings

Specify whether or not expression pedal operation data is recorded with the performance.

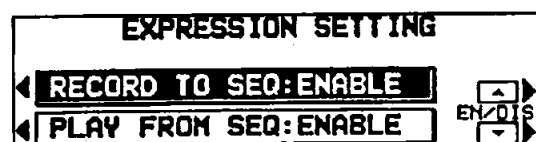
EXPRESSION SETTING

You can specify whether or not expression pedal operation data is recorded with your performance. And you can also specify whether the recorded expression pedal operation data is read when your performance is played back.

1. Press the **SEQUENCER** button to turn it on.

2. Select **EXP. SETTING**.

- The display looks similar to the following.



3. Select RECORD TO SEQ. Use the EN/DIS \wedge and \vee buttons to specify if the expression pedal performance is recorded.

ENABLE: The expression pedal operation data is recorded (factory-preset setting).

DISABLE: The data is not recorded.

4. Select PLAY FROM SEQ, and use the EN/DIS \wedge and \vee buttons to specify if the recorded expression pedal performance is played back.

ENABLE: The recorded expression pedal data is played back (factory-preset setting).

DISABLE: The data is not played back.

- The setting is automatically changed to DISABLE when data which were saved on a previous model Technics Organ (GN/FN Series Organ, for example) are loaded.

Editing the recorded performance

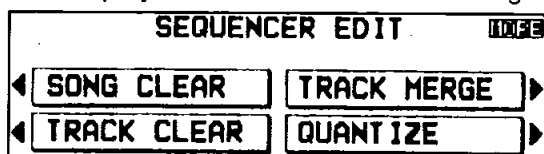
The edit feature allows you to erase or change portions of your performance after it has been recorded.

Select the edit function

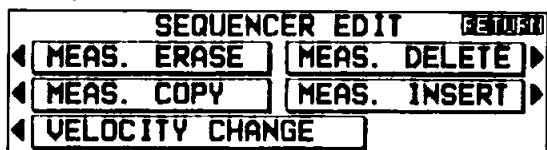
1. Press the SEQUENCER button to turn it on.

2. Select EDIT.

- The display looks similar to the following.



Press the MORE/RETURN button to view the next part of the edit menu.



3. Select the function to edit.

- The display changes in accordance with your selection.

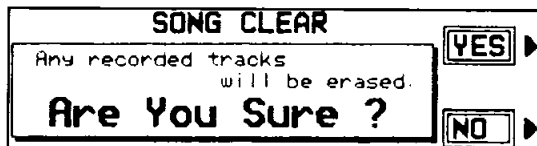
4. Perform the editing procedures (explained in detail below).

- During the editing procedure, you can press the EXIT button to go back to the SEQUENCER EDIT display.

SONG CLEAR

Erase the recorded contents of all tracks.

- Press the YES button to execute the function, or press the NO button to cancel the function.

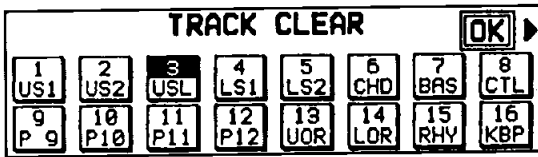


- When the data has been erased, "Completed!" appears on the display, and the instrument returns to the normal performance mode.

TRACK CLEAR

Erase the contents of a specific track.

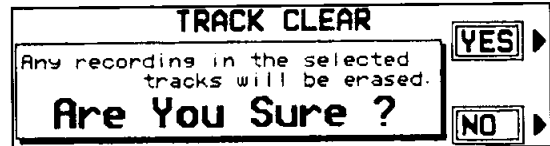
[EA5]



- Use the buttons below the display or the **SEQUENCER** track buttons to select the track or tracks you wish to clear.
 - On the display, the selected tracks are highlighted.

- Press the OK button.

- The following confirmation display appears.

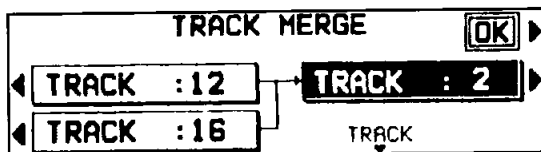


- Press the YES button to execute the function, or press the NO button to cancel the function.
- When the data has been erased, "Completed!" appears on the display.

TRACK MERGE

Merge the recorded contents of two tracks (source tracks) and store the merged contents in a third track (destination track).

- When the TRACK MERGE function is executed, the data is erased from the two source tracks.



- Select the two source tracks (left half of the display).
 - Use the buttons on the left side of the display to select one of the source tracks, and use the TRACK ^ and v buttons to specify the track number. Repeat for the other source track.
 - This function does not work for the CONTROL, RHYTHM and CHORD tracks.
 - If the part assigned to the upper source track ("upper" meaning its position on the TRACK MERGE display) is different from the part assigned to the lower source track, when the parts are merged in the destination track, the new track is assigned the same part as the upper track.

- Select the destination track (right half of the display).

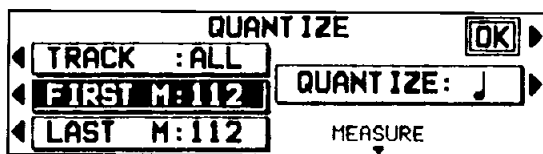
- Press the button on the right side of the display to select the destination track, and use the TRACK ^ and v buttons to specify the track number.

- Press the OK button.

- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

QUANTIZE

The QUANTIZE function can correct the timing of your performance after it has been recorded. If the rhythm is slightly out of sync or inexact, it will automatically be corrected to the specified quantize level.

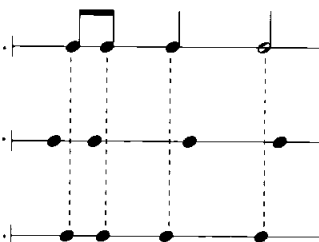


1. Select TRACK. Use the TRACK \wedge and \vee buttons to specify the track number.
 - This function does not work for the CONTROL, RHYTHM and CHORD tracks.
 - If ALL is selected, all the tracks are quantized.
2. Select FIRST M. Use the MEASURE \wedge and \vee buttons to specify the start point (measure number).

Rhythm as written in the score.

Timing of actual performance.

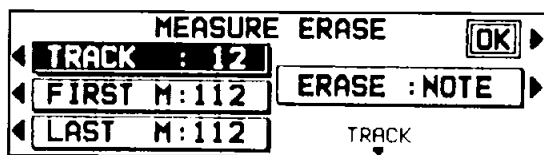
Quantized performance (♩ level).



3. Select LAST M. Use the MEASURE \wedge and \vee buttons to specify the end point (measure number).
4. Select QUANTIZE. Use the VALUE \wedge and \vee buttons to specify the quantize level.
 - Select from ♩, ♪, ♫, ♮, ♯, ♭, ♮, ♯, ♭. (A 3 denotes a triplet-type note.)
5. Press the OK button.
 - The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

MEASURE ERASE

Erase the recorded contents of specific measures. You can also specify which type of data is to be erased.



1. Select TRACK. Use the TRACK \wedge and \vee buttons to specify the track number.
 - This function does not work for the RHYTHM part or CHORD part in which a repeat command has been stored.
 - If ALL is selected, data is erased from the specified measures of all the tracks at one time.
2. Select FIRST M. Use the MEASURE \wedge and \vee buttons to specify the start point (measure number).
3. Select LAST M. Use the MEASURE \wedge and \vee buttons to specify the end point (measure number).

4. Select ERASE. Use the VALUE \wedge and \vee buttons to specify the type of data to be erased.

ALL: All data is erased.

NOTE: Only note data.

CONTROL: Only control data (volume, effect and other panel settings as well as selection changes) is erased.

5. Press the OK button.
 - The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

MEASURE COPY

Copy measures from one track (source track) to another track (destination track).

- On the destination track, the new data replaces the current measure contents.

MEASURE COPY	
TRACK : 12	TO TRACK: 5
FIRST M: 112	START M: 32
LAST M: 112	MEASURE
	OK

1. Select TRACK. Use the TRACK \wedge and \vee buttons to specify the source track.
 - This function does not work for the RHYTHM part or CHORD part in which a repeat command has been stored.
 - If ALL is selected, the specified measures are copied to all tracks at the same time.
2. Select FIRST M. Use the MEASURE \wedge and \vee buttons to specify the start point (measure number) on the source track.
3. Select LAST M. Use the MEASURE \wedge and \vee buttons to specify the end point (measure number) on the source track.
4. Select TO TRACK. Use the TRACK \wedge and \vee buttons to specify the destination track.
 - Measures in a track for the CONTROL, RHYTHM or CHORD part can be copied only to the same track.
5. Select START M. Use the MEASURE \wedge and \vee buttons, to specify the start point (measure number) on the destination track.
6. Press the OK button.
 - The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.
 - If ALL was selected, measure data will be copied to all the tracks and there will be no more empty tracks.

MEASURE DELETE

Delete specified measures from a track.

- The length of the performance accordingly decreases by the number of deleted measures.

MEASURE DELETE	
TRACK : 12	OK
FIRST M: 112	
LAST M: 112	MEASURE

1. Select TRACK. Use the TRACK \wedge and \vee buttons to select the track from which measures are to be deleted.
 - This function does not work for the CHORD or RHYTHM track in which the repeat function has been stored.
 - If ALL is selected, the specified measures are deleted from all the tracks at one time.
2. Select FIRST M. Use the MEASURE \wedge and \vee buttons, to specify the first measure to delete.
3. Select LAST M. Use the MEASURE \wedge and \vee buttons to specify the last measure to delete.
4. Press the OK button.
 - The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

MEASURE INSERT

Insert specified measures at a specified point.

- The length of the performance accordingly increases by the number of inserted measures.

MEASURE INSERT	
TRACK : 12	TO TRACK: 5
FIRST M: 112	START M: 32
LAST M: 112	MEASURE
	OK

1. Select TRACK. Use the TRACK \wedge and \vee buttons to select the source track.
 - This function does not work for the CHORD or RHYTHM track in which the repeat function has been stored.
 - If ALL is selected, the measures are inserted in all tracks at the same time.
2. Select FIRST M. Use the MEASURE \wedge and \vee buttons to specify the first measure on the source track from which to copy.
3. Select LAST M. Use the MEASURE \wedge and \vee buttons to specify the last measure on the source track from which to copy.
4. Select TO TRACK. Use the TRACK \wedge and \vee buttons to specify the destination track.
 - Measures from the CHORD, RHYTHM or CONTROL track can only be inserted in the same track.
5. Select START M. Use the MEASURE \wedge and \vee buttons to specify the insert point on the destination track.
6. Press the OK button.
 - The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.
 - If ALL was selected, measure data will be inserted in all the tracks and there will be no more empty tracks.

VELOCITY CHANGE

Modify the recorded velocity in specific measures of specific tracks (except for the CONTROL, RHYTHM and CHORD tracks).

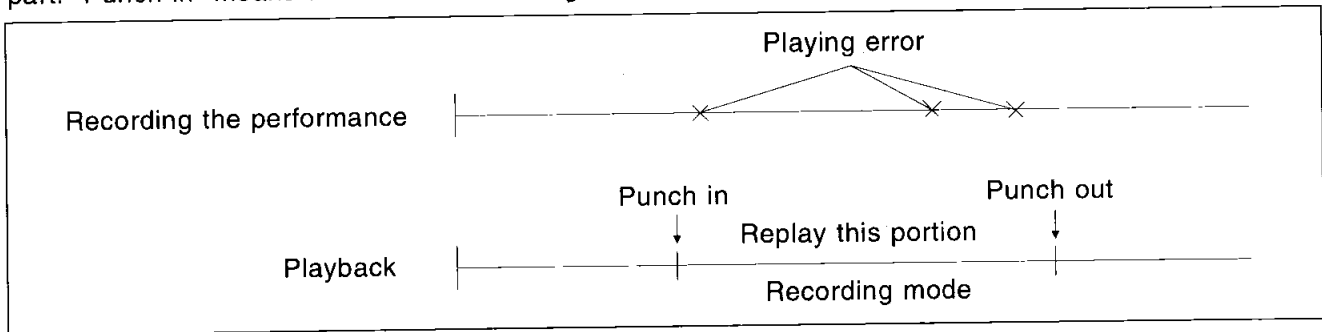
VELOCITY CHANGE	
TRACK : 12	OK
FIRST M: 112	VELOCITY: +40
LAST M: 112	VALUE

1. Select TRACK. Use the TRACK \wedge and \vee buttons to specify the track number.
 - If ALL is selected, all the tracks are modified.
2. Select FIRST M. Use the MEASURE \wedge and \vee buttons to specify the start point (measure number) of the velocity change.
3. Select LAST M. Use the MEASURE \wedge and \vee buttons to specify the end (measure number) of the velocity change.
4. Select VELOCITY. Use the VALUE \wedge and \vee buttons to specify the change in velocity (-127 to +127).
 - The value you select will be added to or deleted from the current velocity.
5. Press the OK button.
 - The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

VELOCITY CHANGE	
Are You Sure ?	YES
	NO

Punch record

If you make a playing error during REALTIME RECORD or would like to change the recording for some other reason, you can correct a selected portion of the performance without having to redo the whole part. "Punch in" means to enter the recording mode, and "punch out" means to exit it.



1. Press the **SEQUENCER** button to turn it on.
 2. Select PUNCH RECORD on the display.
 - The display looks similar to the following.
- | | | | |
|--------------------------|--------------|------|--------|
| ◀ AUTO PUNCH | PUNCH RECORD | MORE | P IN ▶ |
| J=120 M= 1 4/4 [D OFF] ▶ | | | |
| PLAY | PLAY | 3 | 4 |
| 1 US1 | 2 US2 | USL | LS1 |
| | | 5 | 6 |
| | | LS2 | CHD |
| | | | 7 |
| | | | 8 |
| | | | CTL |
3. Select the tracks you wish to play back during punch recording.
 - Use the buttons below the display to display "PLAY" above the track numbers you are going to play back.
 - To view the display for tracks 9 to 16, press the **MORE/RETURN** button.
 - If you use the **SEQUENCER** track buttons to select the tracks, press the track buttons to turn the indicators on.
 4. Select the track which contains the portion you want to correct.
 - Use the buttons below the display to display "REC" above the track numbers you are going to record.
 - If you use the **SEQUENCER** track buttons to select the tracks, press the track buttons to make the indicators flash.
 5. Press the **START/STOP** button to begin playback of the specified track.
 6. During playback, press the P IN button at the point you want to begin recording.
 - Recording begins as soon as the button is pressed. Begin playing at this point.
 - The P IN button switches to the P OUT button.
 7. Press the P OUT button at the point you want to stop recording.
 - Recording stops immediately.
 8. When you have finished correcting the performance, press the **SEQUENCER** button to turn it off.
 - You can also begin punch-in recording by playing the keyboard. You can specify the punch-in/punch-out points with the foot switch. (Refer to page 106.)

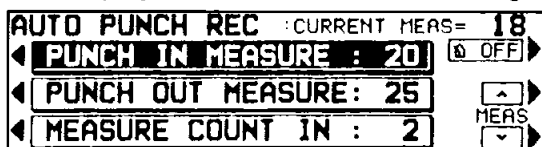
■ AUTO PUNCH RECORD

You can set the punch-in and punch-out points beforehand, so that recording automatically begins and ends at the specified points.

1. On the **SEQUENCER** menu display, select **PUNCH RECORD**, and then select the track which contains the portion you want to correct.

2. Press the **AUTO PUNCH** button.

- The display looks similar to the following.



3. Select **PUNCH IN MEASURE**. Use the **MEAS** \wedge and \vee buttons to specify the number of the punch-in measure.

4. Select **PUNCH OUT MEASURE**. Use the **MEAS** \wedge and \vee buttons to specify the number of the punch-out measure.

- The number of the **PUNCH OUT MEASURE** must be higher than the number of the **PUNCH IN MEASURE**.
- The specified **PUNCH OUT MEASURE** is not recorded.

5. Select **MEASURE COUNT IN**. Use the **MEAS** \wedge and \vee buttons to specify the number of lead-in measures you wish to have played back before the punch-in measure.

- Playback will begin from the measure indicated by **CURRENT MEAS** on the display.
- Set the metronome to on or off with the **ON** or **OFF** button.

6. Press the **START/STOP** button.

- Playback begins from the measure specified in step 5.

7. Correct the performance.

- The mode changes automatically to the recording mode at the specified punch-in measure. Begin playing at this point. The mode automatically changes back to the playback mode at the specified punch-out measure.
- Note that, even when you have set the punch-in and punch-out measures, you can begin recording before the punch-in measure starts by playing the keyboard or pressing a foot switch to which the **PUNCH IN/OUT** function has been assigned.

8. When you have finished correcting the performance, press the **SEQUENCER** button to turn it off.

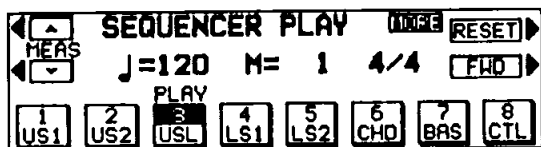
Playback from a specific measure

You can specify the measure from which you wish playback to begin.

1. Press the **SEQUENCER** button to turn it on.

2. Select **PLAY** on the display.

- The display looks similar to the following.



3. Select the tracks you wish to have played back.

4. Use the **MEAS** \wedge and \vee buttons to specify the beginning measure of playback.

- "M=" indicates the current measure number.
- You can quick-search for the desired measure while listening to the recorded performance by holding down the **FWD** button. (This button does not work during normal playback.)
- You can press the **RESET** button to return to the beginning of the first measure and recall the panel status which was in effect at the beginning of recording. (This button does not work during playback.)

5. Press the **START/STOP** button.

- The recorded performance is played back from the specified measure.
- When playback is begun from a measure in which an **INTRO**, **COUNT INTRO**, **FILL IN** or **ENDING** is recorded, the corresponding function does not work.

6. To stop playback, press the **START/STOP** button again.

- If the **START/STOP** button is pressed again, playback will continue from the point it was interrupted.
- When playback a tune which does not include rhythms, the **BEAT 1** indicator for the **START/STOP** button lights.

Sequencer Medley

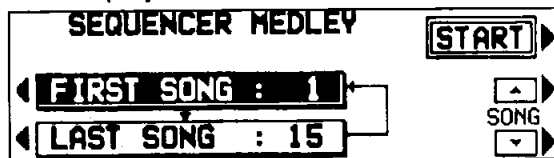
You can have the songs on a disk played back continuously in order.

1. Insert the disk into the Disk Drive.

2. Press the **SEQUENCER** button to turn it on.

3. Select **MEDLEY** on the display.

- The display looks similar to the following.



4. Select **FIRST SONG**. Use the **SONG** \wedge and \vee buttons to specify the first song you wish to have played.

5. Select **LAST SONG**. Use the **SONG** \wedge and \vee buttons to specify the last song.

6. Press the **START** button.

- The songs from the specified range are repeatedly played back in order.
- If you press the **START/STOP** button during medley play, the song currently playing will stop, and playback continues from the next recorded song on the disk.

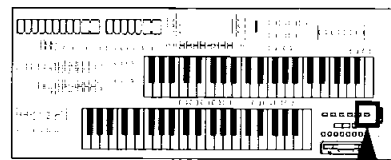
7. To stop medley play, press the **STOP** button.

8. Press the **SEQUENCER** button to turn it off.

- Only data which has been saved in the Technics file format can be played in a medley performance
- The procedure for saving your **SEQUENCER** performances on a disk is explained in Part V: Disk Drive (page 91).

Part IV Composer

Outline of the Composer



The **COMPOSER** enables you to create your own accompaniment patterns or to edit preset accompaniment patterns. Your original pattern is then stored in a memory and can be used just like the preset rhythms in the **RHYTHM GROUP** section.

■ Example of a rhythm pattern

The musical notation shows five parts of an accompaniment pattern over two measures. ACCOMP 1 is a treble clef staff with eighth notes. ACCOMP 2 is a treble clef staff with eighth notes and rests. ACCOMP 3 is a treble clef staff with eighth notes and rests. BASS is a bass clef staff with eighth notes. DRUMS is a bass clef staff with 'x' marks indicating drum hits.

Components of a rhythm pattern

You can store up to 12 different rhythms (6 each in banks **A** and **B**).

- Each pattern is comprised of five parts: **DRUMS**, **BASS**, and **ACCOMP 1**, **2** and **3**.
- When you set the **COMPOSER** mode to the **EXPAND MODE**, you can also create **INTRO**, **FILL IN** and **ENDING** patterns. (Refer to page 90.)
- The recorded contents can be saved on a disk for recall at a later time. (Refer to page 95.)

Two ways to record in the COMPOSER

There are two ways to create and record a rhythm.

■ Edit a preset rhythm

Use the **COPY** function to copy a preset rhythm to a **MEMORY**, change parts of it, and then store it as a new rhythm.

■ Create a completely new rhythm

Clear the memories and compose a completely new rhythm from scratch.

- You can use either or both of two recording methods. Realtime recording allows you to store your rhythm exactly as play it on the keyboard. But for difficult phrases, you may want to use the **STEP RECORD** mode to store the notes one by one, just as you might write a music score.

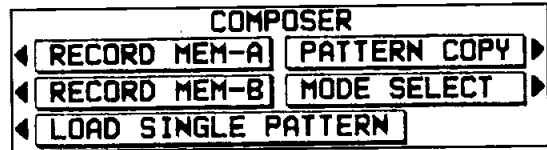
Memory capacity

Expressed in terms of notes, the total number of notes which can be stored in all the **COMPOSER** memories is about 8,600. The remaining memory available for recording is shown on the **RECORD** display as a percentage.

- When "Memory full!" appears on the display, no more data can be stored in the **COMPOSER**.
- It is a good practice to save your completed rhythm patterns on disks before clearing any of the **COMPOSER** memories.

COMPOSER menu

When you press the **COMPOSER** button to turn it on, the display changes to the following.



■ Summary of the COMPOSER menu items

RECORD MEM-A

Create rhythm patterns in the **COMPOSER A** bank.

RECORD MEM-B

Create rhythm patterns in the **COMPOSER B** bank.

MODE SELECT (page 90)

Specify whether or not you are making your own **INTRO**, **FILL IN** and **ENDING** patterns.

PATTERN COPY

Copy a rhythm pattern into a memory.

LOAD SINGLE PATTERN

Recall the desired **COMPOSER** data from data saved on a disk.

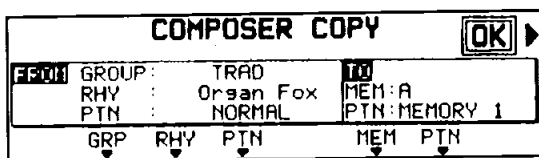
- The items on this menu are also on the **DISK DRIVE** menu, and the procedures are the same. (Refer to page 97.)

Setting up to create a rhythm pattern

First decide whether you are going to "Edit a preset rhythm pattern" or "Create a completely new rhythm." Below are the instructions for preparing to edit a preset rhythm pattern. If you are going to create a completely new rhythm pattern, follow the instructions on page 85.

Edit a preset rhythm pattern

1. On the **COMPOSER** menu display, select **PATTERN COPY**.
 - The display looks similar to the following.



2. Select a rhythm group, name and pattern to copy (**FROM**).
 - Use the **GRP** \wedge and \vee buttons to specify the rhythm group.
 - Use the **RHY** \wedge and \vee buttons to specify the rhythm name.
 - Use the **PTN** \wedge and \vee buttons to specify the rhythm pattern (**NORMAL**, **INTRO**, **FILL IN 1**, **FILL IN 2**, **ENDING**, **VARIATION**, **F IN 1 VARI** or **F IN 2 VARI**).
 - You can also select the rhythm group and rhythm name with the panel buttons.

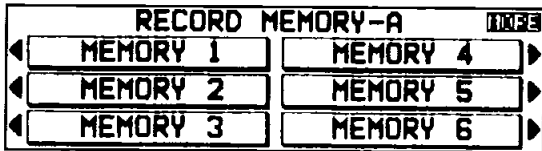
3. Select a memory bank and pattern name to copy to (**TO**).
 - Use the **MEM** \wedge and \vee button to specify the memory bank (A or B).
 - Use the **PTN** \wedge and \vee buttons to specify the pattern (**MEMORY 1** to **12**, **FILL IN 1**, **FILL IN 2**, **INTRO** or **ENDING**).

4. Press the **OK** button.
 - When copying has been successfully completed, "COPY COMPLETED!" appears on the display.

5. Press the **EXIT** button.

6. On the **COMPOSER** menu display, select the bank to which you copied the rhythm pattern (the memory bank you selected in step 3).
 - Select **RECORD MEM-A** or **RECORD MEM-B**.

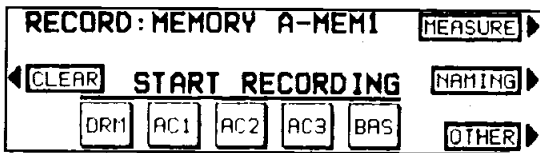
- The display looks similar to the following.



Use the **MORE/RETURN** button to show the INTRO, FILL IN, etc. menu. (Refer to page 90.)

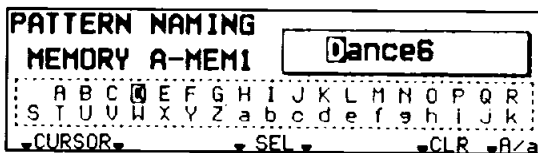
- Select the pattern name to which you copied the pattern (the pattern name you selected in step 3).

- The display looks similar to the following.



- If you wish to name your new rhythm pattern, select **NAMING**.

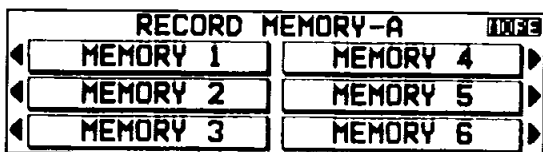
- FILL IN, INTRO and ENDING patterns cannot be named.
- If you do not input a name for your rhythm pattern, the name becomes the same as the original rhythm from which you copied.
- The display looks similar to the following.



Create a completely new rhythm

Here are the preparatory steps to compose a completely new rhythm from scratch.

- On the **COMPOSER** menu display, select a bank in which to record the rhythm.
- Select **RECORD MEM-A** or **RECORD MEM-B**.
- The display looks similar to the following.



Use the **MORE/RETURN** button to show the INTRO, FILL IN, etc. menu.

- Type a new name for your rhythm pattern (up to 13 characters).

- Use the **CURSOR** buttons to highlight the character position in the name box. Use the **SEL** buttons to select the character. Repeat these steps to type the whole name.
- To erase the name, press the **CLR** button.
- Use the **A/a** button to switch between upper case and lower case characters.

- Press the **EXIT** button.

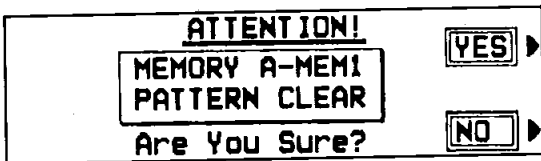
- The display returns to the previous display.

- In the **START RECORDING** area on the display, select the rhythm part you want to record first.

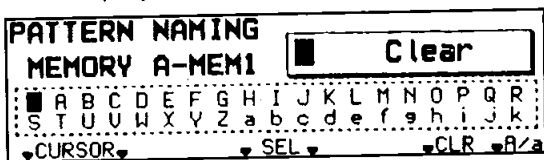
DRM: **DRUMS**
 AC1: **ACCOMP 1**
 AC2: **ACCOMP 2**
 AC3: **ACCOMP 3**
 BAS: **BASS**

- Press the **ACCOMP 1, 2 and 3** buttons to turn them on.
- The pattern you copied and the metronome sound start, and recording begins. (Refer to page 87.)

- Press the CLEAR button.
 - The following confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.



- Select NAMING.
 - FILL IN, INTRO and ENDING patterns cannot be named.
 - The display looks similar to the following.



- Type a name for your rhythm pattern (up to 13 characters).
 - Use the CURSOR buttons to highlight the character position in the name box. Use the SEL buttons to select the character. Repeat these steps to type the whole name.
 - To erase the name, press the CLR button.
 - Use the A/a button to switch between upper case and lower case characters.

- Press the EXIT button.
 - The display returns to the previous display.
- Adjust the various recording settings. (Refer to the following section on "Recording settings.")
- When all the settings have been completed, press the EXIT button.
 - The display returns to the previous display.
- In the START RECORDING area on the display, select the rhythm part you want to record first.

DRM: DRUMS
 AC1: ACCOMP 1
 AC2: ACCOMP 2
 AC3: ACCOMP 3
 BAS: BASS

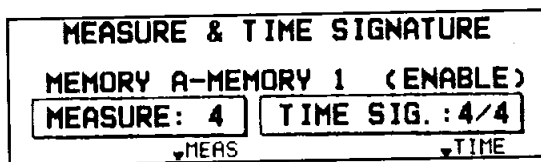
- Press the ACCOMP 1, 2 and 3 buttons to turn them on.
- The metronome sound starts, and recording begins. (Refer to page 87.)

Practical applications

Recording settings

MEASURE & TIME SIGNATURE

Press the MEASURE button.



MEASURE

Use the MEAS ^ and v buttons to specify the number of measures in your repeating pattern (1 to 8).

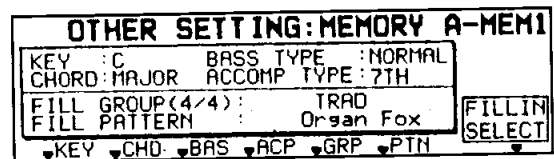
TIME SIG.

Use the TIME ^ and v buttons to specify the time signature (1/4 to 8/4).

- These settings can be adjusted only when the pattern was cleared by the CLEAR function.

OTHER SETTING

Press the OTHER button.



KEY

Use the KEY ^ and v buttons to specify the root note of the chords you wish to record.

CHORD

Use the CHD ^ and v buttons to specify the type of chord you wish to record (MINOR or MAJOR).

BASS TYPE

Use the BAS ^ and v buttons to specify the type of phrase progression for the BASS part (NORMAL or 7TH).

ACCOMP TYPE

Use the ACP \wedge and \vee buttons to specify the type of phrase progression for the **ACCOMP** parts (NORMAL or 7TH).

FILL IN SELECT

You can select fill-in, intro and ending patterns from a preset rhythm pattern. These preset patterns are produced when a **FILL IN** button or the **INTRO & ENDING** button is pressed during playback of your new rhythm pattern.

FILL GROUP

Use the GRP \wedge and \vee buttons to specify the rhythm group.

FILL PATTERN

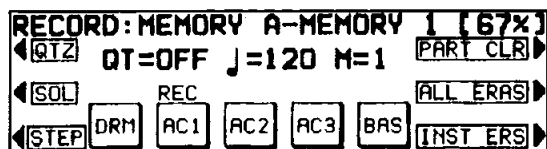
Use the PTN \wedge and \vee buttons to specify the rhythm name.

- This setting is effective only when the **COMPOSER** mode is set to the NORMAL MODE. (Refer to page 90.)
- If you changed the FILL GROUP or FILL PATTERN selection, press the FILL IN SELECT button. When the settings have been successfully stored, "COPY COMPLETED!" appears on the display.
- You cannot select a rhythm with a time signature different from that of the TIME SIG. you specified.

Record your rhythm pattern

Store each part of the rhythm pattern as you perform it on the keyboard.

Recording procedure



1. Adjust the tempo.

- The tempo can be freely adjusted when you play back the rhythm pattern, so record at the tempo which is easiest for you to play.

2. Select the sound.

- For the **DRUMS** part, select sounds from the **KEYBOARD PERCUSSION** sound group.
- For the **ACCOMP 1**, **ACCOMP 2**, and **ACCOMP 3** parts, select sounds from the **LOWER SOUND GROUP**. For the **BASS** part, select sounds from the **BASS PEDALS** sound group.
- For some sounds, the stored octave may be different from the octave that was played during recording.
- Only one sound can be selected for each part, and it cannot change in the middle of the pattern.
- Turn on the **ACCOMP 1**, **2** and **3** buttons.

3. Record the part on the lower keyboard.



- The specified number of measures are repeatedly played back, during which time any newly played notes are added to those already recorded. The current measure number is shown on the display as "M=."
 - Record the performance in C major for correct chord progressions during playback. To record the performance in a different scale, specify a **KEY** and **CHORD** when you adjust the recording settings (page 86).
4. When you have finished recording one part, use the part buttons below the display to select the next part to record.
 5. Repeat steps 1 through 4 to record all the parts of the rhythm.
 - If you wish to continue creating other patterns, press the **EXIT** button to go back to the pattern selection display.
 6. When you have finished recording the rhythm, press the **COMPOSER** button to turn it off.

■ The display during recording STEP

When you press this button, the display changes to the STEP RECORD display, on which you can store the notes one by one. (Refer to page 89.)

PART CLR

Press this button if you wish to erase all recorded contents of the currently selected part.

ALL ERAS

The performance recorded in the selected part is erased for as long as this button is pressed.

INST ERS

When the DRM part is selected, the DRM part can be cleared instrument by instrument. Hold down this button and specify the instrument sound to be deleted by pressing the corresponding instrument key on the keyboard, after which only the specified instrument will be erased for as long as this button is kept pressed.

QTZ

Set the desired quantize level to smooth out any unevenness in the timing of your performance. Each time this button is pressed, the indicated level changes. The quantize level is shown as "QT=" Select from $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, OFF, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$. (A 3 denotes a triplet-type note.)

SOL

When you press this button while you are recording, only the part which is currently being recorded is played back. When SOL is on, a MUTE mark is shown above the other part names on the display.

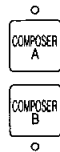
- To turn off the SOL function, press this button again.

■ Maximum simultaneous tones

The maximum number of notes which can sound simultaneously for each part is 8. Even if you record more notes at one timing, only 8 are produced when the pattern is played back.

Playback

1. In the RHYTHM GROUP section, select the bank in which the desired rhythm is stored (COMPOSER A or COMPOSER B).



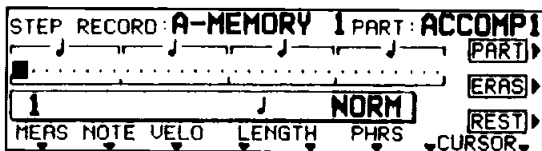
- The list of available rhythms is shown on the display.
2. Select the desired rhythm from the list on the display.
 3. Press the **START/STOP** button.
 - The **DRUMS** part begins to play back.
 - The **BASS** and **ACCOMP** parts are played back when you use the **AUTO PLAY CHORD**.
 - Turn on the **ACCOMP 1, 2** and/or **3** button as necessary.

Step Record

Use STEP RECORD to store the notes one-by-one on the display. This is a convenient way to store complicated patterns that are difficult to play.

Recording procedure

1. While you are recording, press the STEP button.
- The display changes to the STEP RECORD display similar to the following.



2. Use the MEAS buttons to select the measure you wish to record.
3. Use the CURSOR buttons to move the cursor to the note position (dot) you are going to store.
 - Each dot represents one-eighth of a quarter-note (a thirty-second note).
 - When storing triplets, it may not be possible to match the timing exactly with the 1/32-note steps. However, if you select triplet-type notes for the note length (LENGTH) in step 4 below, the timing is automatically corrected.
4. Use the left LENGTH ^ and v buttons to specify the note value. Select from or $\times 2$ to 4. (A 3 denotes a triplet-type note.)
 - For note values other than these, use the right LENGTH ^ and v buttons to specify the note value to be added to that which you specified with the left buttons.

Example: To record a dotted quarter-note ()

+
5. Use the PHRS ^ and v buttons to specify the actual length of the produced sound for the desired legato or staccato effect.
 - TENU (tenuto): Sound is produced for 100% of the note length.
 - NORM (normal): 80%
 - STAC (staccato): 50%
 - CUTT (cutting): 25%
6. Specify the pitch and velocity of the note by playing the keyboard.
 - The dot on the display where the note is stored changes to a * mark.
 - When recording chords, you can store multiple notes at one position.

REST
To store a rest, after specifying the note LENGTH, press the REST button.

 - Points at which nothing is stored are read as rests.

ERAS
If you make a mistake, move the cursor to the error, and after displaying the data you wish to erase, press this button.
7. Repeat steps 3 through 6 to continue storing notes.
 - To record a different part, use the PART button to select another part.
 - When recording the **ACCOMP** parts, turn on the **ACCOMP 1, 2 and 3** buttons.
 - You may decide to record one part in realtime and another part in the STEP RECORD mode. You can easily switch between the two modes any time during recording. To return to the realtime recording display while in the STEP RECORD mode, press the **EXIT** button.

Correcting the data

1. In the STEP RECORD mode, specify the part you wish to correct.
2. Use the MEAS buttons to go to the measure you wish to modify. Use the CURSOR buttons to move the cursor to the point you wish to edit.
 - The data stored at that point is shown on the display.
 - When a chord is recorded, a different note in the chord is displayed each time a CURSOR button is pressed.
3. Correct the data.

Performance data

NOTE data (note pitch) and VELO data (how hard the key was played), etc. are displayed. Use the relevant buttons to correct the data as desired.

Sound data

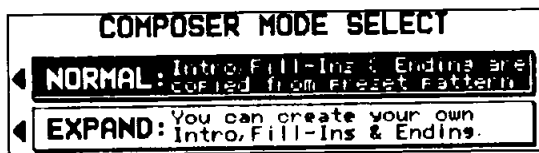
The name of the sound is displayed. Change the sound as desired (the sound setting display is interposed on the current display).

- Only one sound can be selected for each part, and it cannot change in the middle of the pattern.
- Press the ERAS button to erase the data which is displayed.

Composer Mode

Two playback modes are available for you to choose from. If you wish to use the intro, fill-in and ending patterns from a preset rhythm when you play back your new rhythm pattern, select NORMAL MODE. For creating and playing back your original intro, fill-in and ending patterns, select EXPAND MODE.

1. On the COMPOSER menu display, select MODE SELECT.
 - The display changes to the following.



2. Use the buttons to the left of the display to select the mode.

NORMAL

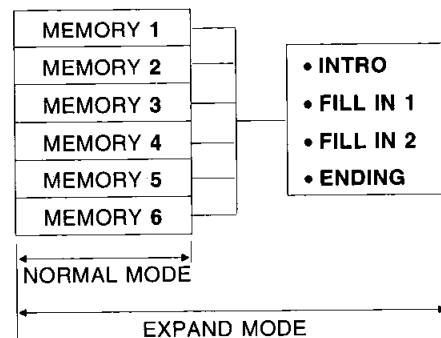
When a **FILL IN** button or the **INTRO & ENDING** button is pressed during playback, the corresponding pattern for a preset rhythm is played back. The rhythm which is played back is the one you specified for **FILL IN SELECT** on the **OTHER SETTING** display (page 86).

EXPAND

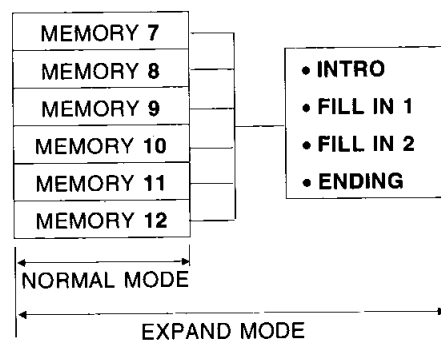
When a **FILL IN** button or the **INTRO & ENDING** button is pressed during playback, the corresponding pattern you created is played back.

- Only one each **FILL IN 1**, **FILL IN 2**, **INTRO** and **ENDING** pattern can be created for each of the two banks (**COMPOSER A** and **COMPOSER B**). The fill-in patterns, etc. for each bank are used for all the basic rhythms in the same bank.

<Bank A>



<Bank B>



Part V Disk Drive

The Disk Drive enables you to store **COMPOSER** memories and **SEQUENCER** data etc. for future use.

Internal memory and Disk Drive

The storable internal memory is fixed at a limited capacity, but this external memory device expands the storable memory infinitely.

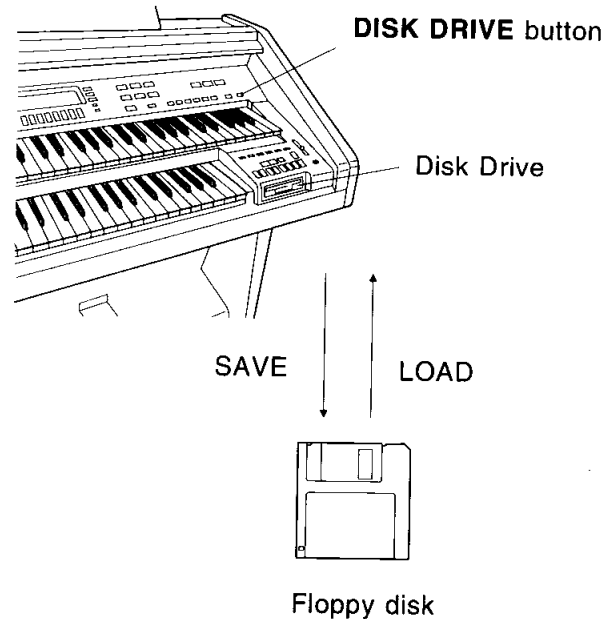
You may choose to store only **SEQUENCER** or **COMPOSER** data, for example, and you can specify exactly what kind of data you wish to load into your instrument's memory from the disk.

- You can use 3.5 inch 2DD (720 KB) or 2HD (1.44 MB) disks.
- Specific formats are handled as follows.

		SAVE	LOAD
TECHNICS File FORMAT		○	○
Standard MIDI File	FORMAT 0	○	○
	FORMAT 1	×	○

FORMAT 0: There is one track on the disk, and it contains the 16 MIDI channels.

FORMAT 1: There is an unlimited number of tracks on the disk, each of which can contain the 16 MIDI channels.



■ Playback of commercial software

Disks recorded using the Disk Drive of this instrument can, of course, be played back on your organ. But this instrument also reads song data from disks recorded in the Standard MIDI File format, enabling you to play commercial song disks on this instrument. In addition, by saving this instrument's **SEQUENCER** data in the Standard MIDI File format, you can play it back on an external sequencer.

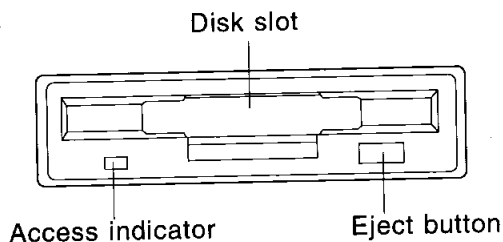
About Standard MIDI Files

"Standard MIDI File" is a standardized format which makes it possible for music data to be exchanged among different sequencers. Data stored in this format on sequencers of different models can be played back on this instrument, and vice versa.

- Only files with the ".MID" extension can be loaded.
- No more than 128 KB of data can be loaded into this instrument.

Warning: Standard MIDI Files ensure the compatibility of data such as KEY ON, KEY OFF, VELOCITY, PROGRAM NUMBER. It does not guarantee 100% faithful reproduction of recorded music which is replete with such data. For exact playback of music, it may be necessary to perform extensive adjustments of all the sound generator settings. As you the listener are the ultimate judge of what sounds best, you should perform such adjustments to your satisfaction.

Main parts of the Disk Drive



Eject button

Press to remove the disk from the Disk Drive.

Access indicator

Lights when data is being loaded from or saved to a disk.

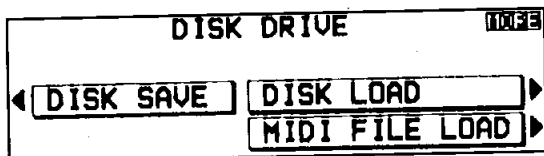
- To prevent data loss, do not remove the disk from the Disk Drive or turn off the power when the access indicator is lit.

Outline of procedure

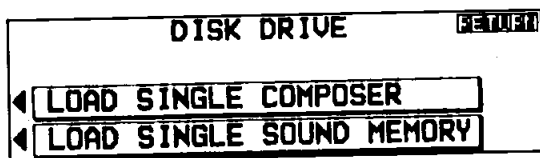
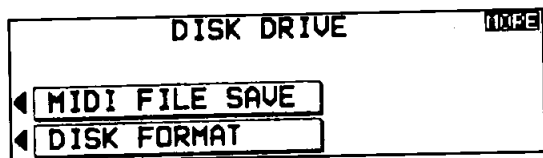
1. Press the **DISK DRIVE** button to turn it on.



- The display changes to the following.



Press the **MORE/RETURN** button to see the next page of the menu.



DISK SAVE (page 95)

Save data from your instrument's memory to a disk.

DISK LOAD (page 93)

Load data from a disk into your instrument's memory.

MIDI FILE LOAD (page 93)

Load song data which was stored in the Standard MIDI File format into your instrument's memory.

MIDI FILE SAVE (page 96)

Save data from your instrument's memory in the Standard MIDI File format to a disk.

DISK FORMAT (page 94)

Format new disks or erase the contents of recorded disks so they can be used by this instrument.

LOAD SINGLE COMPOSER (page 97)

Load **COMPOSER** data from a disk into a specified memory number.

LOAD SINGLE SOUND MEMORY (page 97)

Load **SOUND** data from a disk into a specified memory number.

2. Select the desired menu and follow the procedures on the corresponding display.

- Press the **EXIT** button to go back to the previous display. To go to another menu, use the **EXIT** button to go back to the menu display

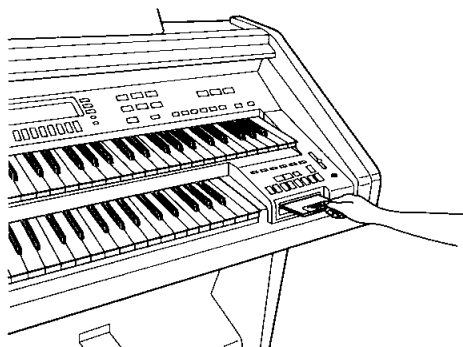
3. When you have finished setting the functions, press the **DISK DRIVE** button to turn it off.

Loading data

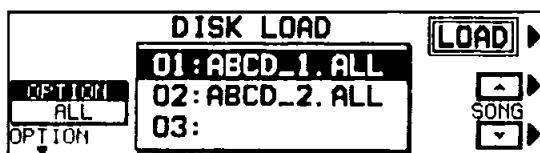
Recall (load) the data from the disk to your instrument's memories. Please note that the load procedure causes any data which is currently stored in the relevant memories to be erased.

DISK LOAD

1. Insert the disk with the stored data into the Disk Drive. Push it all the way in until you hear a click.



2. On the **DISK DRIVE** menu display, select **DISK LOAD**.
- The display looks similar to the following.



3. Use the **SONG** \wedge and \vee buttons to select the number of the song file to load.
- Files in which data is currently stored are indicated by the file name following the file number.

4. Use the **OPTION** \wedge and \vee buttons to specify the kind of data you wish to load from the disk to your instrument.

- The **OPTION** which was specified during the **SAVE** procedure is automatically selected. Skip this step if you do not wish to change the selection. (Refer to page 95.)
- Select from **ALL**, **SEQUENCER**, **COMPOSER**, **SOUND MEMORY** and **PANEL MEMORY**.

5. Press the **LOAD** button.

- The **DISK LOAD** operation begins.
- When the operation has been successfully completed, "Completed!" is shown on the display.
- If song data was loaded, you can press the **START/STOP** button to begin playback.

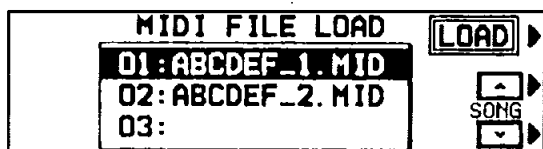
- Data saved on a Technics **GN/FN** Series Organ can be loaded only if the **OPTION** is set to **ALL**. In addition when **GN/FN** Series song data is played back, due to the difference in features, the interpretation may not be consistent or some recorded sounds and setting may be ignored. In this case, make the necessary adjustments on this instrument.

You can also access the **DISK LOAD** display by pressing the **DISK DRIVE** button for a few seconds.

MIDI FILE LOAD

Data which has been saved in the Standard MIDI File format can be loaded into this instrument's **SEQUENCER**.

1. Insert the disk on which data is saved in Standard MIDI File format into the Disk Drive.
 2. On the **DISK DRIVE** menu display, select **MIDI FILE LOAD**.
- The display looks similar to the following.



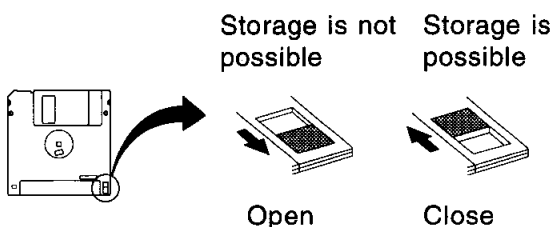
3. Use the SONG \wedge and \vee buttons to select the name of the file with the desired data.
4. Press the LOAD button.
 - The MIDI FILE LOAD operation begins.
 - When the operation has been successfully completed, "Completed!" is shown on the display.
 - Press the **START/STOP** button to begin playback of the song data.

Formatting a disk

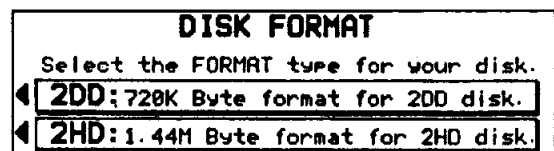
New disks can be used only after they have been formatted. Follow the procedure below to format a new disk or erase the contents of a recorded disk.

DISK FORMAT

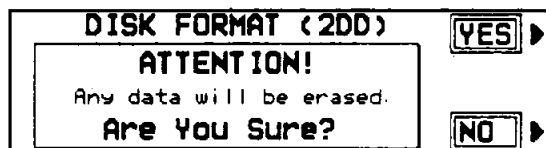
- This procedure clears the entire contents of the disk.
- Reformat a disk if it cannot be saved to or loaded from properly because of exposure to a magnetic field.
- You can use 3.5 inch 2DD (720KB) or 2HD (1.44MB) disks.
- Be sure to specify the type of format which is suitable for the disk.
- Although 2HD disks can hold more data and are convenient for quick loading and saving, 2DD disks are generally used for musical instruments. Therefore, you may not be able to use your 2HD disk data with other musical instrument models.
- To format the disk, the write-protect window must be closed, as illustrated.



1. Insert the disk into the Disk Drive slot. Push it all the way in until you hear a click.
2. On the **DISK DRIVE** menu display, select DISK FORMAT.
 - The display changes to the following.



3. Select the type of format (2DD or 2HD).
 - Be sure to select the type which is the same as your disk type.
 - The display looks similar to the following. (Example: 2DD was specified.)



4. Press the YES button to format the disk, or press the NO button to cancel the format.
 - After about 1-2 minutes, formatting is completed and "Completed!" is shown on the display.
 - Once a disk has been formatted, the disk drive will automatically discern the disk type when loading or saving.

Saving data

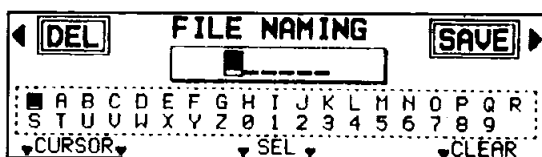
Use the Disk Drive to save the recorded data and panel settings on a disk. A formatted disk should be in place in the Disk Drive.

- It is a good idea to save Technics File format data and Standard MIDI File format data in separate disks.

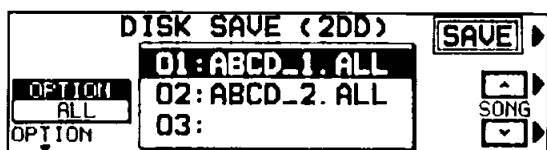
DISK SAVE

This procedure is used to save the performance data and settings of this instrument just as they are (Technics File format).

1. On the **DISK DRIVE** menu display, select **DISK SAVE**.
- The display changes to the following.



2. Type a name for the new data file (up to 6 characters).
 - Use the **CURSOR** buttons to highlight the character position in the name box. Use the **SEL** buttons to select the alphanumeric character. Repeat these steps to type the whole name.
 - To erase the name, press the **CLEAR** button.
3. Press the **SAVE** button.
 - The display looks similar to the following.



4. Use the **SONG** \wedge and \vee buttons to select the file number in which to save the data (01 to 20).
 - Files in which data is currently stored are indicated by the file name following the file number.
 - The maximum number of songs which can be saved may be less than 20 if you are saving many songs which use a lot of memory.
 - The maximum number of songs which can be saved is 10 if you are saving only songs with the **OPTION** set to **ALL**.
 - For effective use of disk memory, if it is not necessary to save the **COMPOSER** data, clear the **COMPOSER** memories before saving to disk.
 - More data can be saved by using a 2HD disk.

5. Use the **OPTION** \wedge and \vee buttons to specify the kind of data you wish to store in the data file on the disk.

ALL <ALL>

All the data from this instrument is saved.

SEQUENCER <SEQ>

Only data from the **SEQUENCER**

COMPOSER <CMP>

Only data from the **COMPOSER**

SOUND MEMORY <SND>

Only data stored in the **SOUND** memories

PANEL MEMORY <PNL>

Only data stored in the **PANEL MEMORY**

- The abbreviated indication (in < > brackets) for the selected data type appears after the file name.
- The **MASTER TUNING** setting is not saved. (Refer to page 102.)

6. Press the **SAVE** button.

- When the operation has been successfully completed, "Completed!" is shown on the display.
- If you attempt to save data to a file number in which data is currently saved, the display changes to the confirmation display. Press the **NO** button if you wish to cancel the procedure. When the **YES** button is pressed, the **DISK SAVE** operation begins.

■ FILE delete

To erase a song from a disk, on the **FILE NAMING** display, press the **DEL** button. Then on the **DISK FILE DELETE** display, select the number of the song you wish to erase, and press the **DEL** button. The display changes to the confirmation display. Press the **YES** button to erase the song, or press the **NO** button to cancel the procedure.

MIDI FILE SAVE

The data from this instrument's **SEQUENCER** can be saved in the Standard MIDI File format.

- What you can save in the Standard MIDI File format is ordinary performance data, such as note data. Data such as **SEQUENCER** data for the chord and rhythm parts, **COMPOSER** data, **PANEL MEMORY** data, etc. is not saved. If you wish to also save the special Technics data, first use the DISK SAVE procedure to save the data to a disk, and then follow the MIDI FILE SAVE below.
- Standard MIDI Files are generally saved in the GM mode, but can be saved in the Technics mode.

1. On the **DISK DRIVE** menu display, select MIDI FILE SAVE.

- The display changes to the FILE NAMING display.

2. Type a name for the new data file (up to 8 characters).

- Use the CURSOR buttons to highlight the character position in the name box. Use the SEL buttons to select the alphanumeric character. Repeat these steps to type the whole name.
- To erase the name, press the CLEAR button.
- Avoid using the numbers from 01 to 20 as the first two letters of the name.

3. Press the SAVE button.

- The display looks similar to the following.



4. Use the SONG ^ and v buttons to select the name of the file in which to save the data.

- To save in a new file, select a blank line.

5. Press the SAVE button.

- When the operation has been successfully completed, "Completed!" is shown on the display.
- If you attempt to save data to a file name in which data is currently saved, the display changes to the confirmation display. Press the NO button if you wish to cancel the procedure. When the YES button is pressed, the MIDI FILE SAVE operation begins.

■ EA HEADER

You can save the sound, volume and other settings for each part as data at the beginning of the file. Select On to save the data, or Off if you do not wish to have the data saved at the file beginning.

■ ONE MEASURE SPACE

When there is various data other than performance data stored at the beginning of a file, the start of playback may be delayed. This can be avoided by inserting a one-measure space before the beginning of the performance. Select On to insert a one-measure space, or Off if you do not wish to insert the space.

- When set to On, a space is added each time a file is saved. Therefore, if you have already saved a file once with this option set to On, please set it to Off each time the file is subsequently saved.

■ FILE delete

To erase a song from a disk, on the FILE NAMING display, press the DEL button. Then on the MIDI FILE DELETE display, select the number of the song you wish to erase, and press the DEL button. The display changes to the confirmation display. Press the YES button to erase the song, or press the NO button to cancel the procedure.

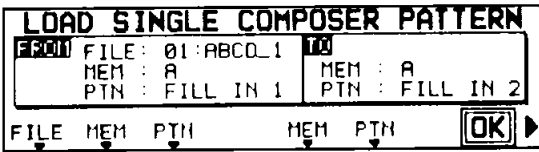
Single data type load

You can load **COMPOSER** or **SOUND** data into the memories you specify.

LOAD SINGLE COMPOSER PATTERN

Load the desired **COMPOSER** data from a disk into a specific **COMPOSER** memory.

1. Insert the disk with the stored **COMPOSER** data into the Disk Drive.
2. On the **DISK DRIVE** menu display, select **LOAD SINGLE COMPOSER**.
 - The display looks similar to the following.



3. Select a file, memory name and pattern to load from the disk (FROM).

FILE: Use the \wedge and \vee buttons to specify the file number on the disk.

MEM: Use the \wedge and \vee buttons to select the memory bank (A or B).

PTN: Use the \wedge and \vee buttons to specify the pattern name.

4. Select the memory bank and pattern to load to (TO).

MEM: Use the \wedge and \vee buttons to select the memory bank (A or B).

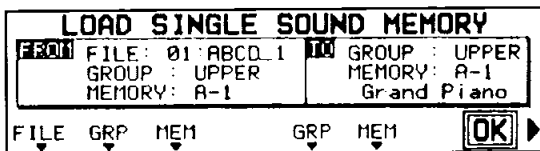
PTN: Use the \wedge and \vee buttons to specify the pattern name.

5. Press the OK button.
 - When the operation has been successfully completed, "Completed!" is shown on the display.
 - The **LOAD SINGLE COMPOSER PATTERN** procedure can also be begun from the **COMPOSER** menu display. (Refer to page 84.)

LOAD SINGLE SOUND MEMORY

Load the desired **SOUND** data from a disk into a specific **SOUND** memory.

1. Insert the disk with the stored **SOUND** data into the Disk Drive.
2. On the **DISK DRIVE** menu display, select **LOAD SINGLE SOUND MEMORY**.
 - The display looks similar to the following.



3. Select a file and memory name to load from the disk (FROM).

FILE: Use the \wedge and \vee buttons to specify the file number on the disk.

GRP: Use the \wedge and \vee buttons to select the memory group.

MEM: Use the \wedge and \vee buttons to select the memory bank.

4. Select the memory to load to (TO).

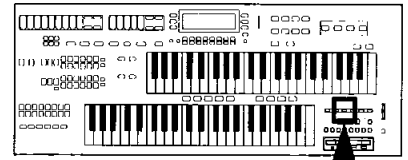
GRP: Use the \wedge and \vee buttons to select the memory group.

MEM: Use the \wedge and \vee buttons to select the memory bank.

5. Press the OK button.
 - When the operation has been successfully completed, "Completed!" is shown on the display.

Part VI Adjusting the sounds

Sound mode



The **SOUND** mode is used for making fine adjustments to the functions related to sound, such as tone, volume and effects.

SOUND menu

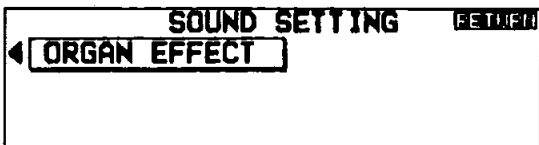
1. Press the **SOUND** button to turn it on.



- The display changes to the following.



Press the **MORE/RETURN** button to show the following display.



- Refer to the summary of **SOUND** menu items below.
2. Select the desired menu and follow the procedures on the corresponding setting display.
 - The functions and their adjustment are explained in detail on the following pages.
3. When you have finished setting the functions, press the **SOUND** button to turn it off.
 - When the current display is a setting display, you can press the **EXIT** button to go back to the previous display. To show other menus, use the **EXIT** button to return to the **SOUND** menu display and make another selection.

■ Summary of the SOUND menu items

PART SETTING (page 99)

Set the various sound attributes for each part.

PAN (EA5): Adjust the stereo balance of each part.

SUSTAIN: Turn the sustain on or off and adjust the sustain length for each part.

REVERB: Turn the reverb on or off for each part.

VOLUME: Adjust the volume for each part.

KEY SHIFT: Adjust the key of each part in semi-tone increments.

TUNING: Fine-tune the pitch of each part.

BEND: Set the pitch range when MIDI pitch bend data is received.

ASSIGN: Specify whether polyphonic, monophonic or solo sound is output for each part.

TECHNI-CHORD TYPE (page 102)

Select the **TECHNI-CHORD** harmony style.

TREMOLO SPEED (page 100)

Adjust the speed of the tremolo.

MASTER TUNE (page 102)

Select the type of tuning for the instrument.

REVERB (page 100)

Select the type and depth of the **DIGITAL REVERB**.

GLIDE RANGE (page 103)

Adjust the settings for the glide effect.

ORGAN EFFECT (page 103)

Select the type of effect applied to the **ORGAN** parts.

■ A word about parts

The organization of the sound parts is as follows.

Normal parts

UPPER SOUND 1, 2, SOLO (EA5), UPPER ORGAN, LOWER SOUND 1, 2, SOLO (EA5), LOWER ORGAN, BASS, K.B.P., PART 3, 7 (EA3), PART 8 to 15

- K.B.P. is reserved for **KEYBOARD PERCUSSION**.
- PART parts are used in **SEQUENCER** and MIDI functions.

AUTO PLAY CHORD part CHORD

Sound setting

Set the various sound attributes for each part.

PART SETTING

1. On the **SOUND** menu display, select **PART SETTING**.

- The display looks similar to the following. [EA5]

PART SETTING					MORE
SOUND: Grand Piano					
PART	PAN	SUSTAIN	REV	VOL	
U. SND1	---	OFF	5 ON	127	
PART	PAN	ON/OFF	LNTH	REV	VOL

Press the **MORE/RETURN** button to view the next page of the display.

PART SETTING					RETURN
SOUND: Grand Piano					
PART	KEY SHFT	TUNING	BEND	ASSIGN	
U. SND2	0	0	2	POLY	
PART	KEY	TUN	BEND	ASS	

2. Use the **PART** buttons to select a part.

- If necessary, select the sound for the part. (Only **KEYBOARD PERCUSSION** sounds can be selected for K.B.P.)
- Use the **UPPER SOUND GROUP** buttons to select the PART 3 and PART 7 to 15 sounds.
- The sound for the selected part is shown on the upper portion of the display.

3. Use the buttons along the bottom of the display to select the attribute you wish to adjust.

PAN (EA5)

Adjust the stereo balance of each part.

- A thick vertical line on the display indicates the selected position.

ON/OFF

Set the sustain to on or off.

LNTH

Adjust the length of the sustain (1 to 8).

- For some sounds, the length of the sustain does not change even if the number is changed.

REV (REVERB)

Set the reverb to on or off.

VOL (VOLUME)

Adjust the volume (0 to 127).

KEY

Raise or lower the pitch in semitone increments (-12 to +12).

- A value of 1 means a shift of one semitone. To raise (or lower) the pitch one octave, set the value to +12 (or -12).

TUN

Fine-tune the pitch of each part (-128 to +127).

BEND

Set the pitch range when MIDI pitch bend data is received (0 to 12).

- Increments are in semitones.

ASS

Select the output mode for each part (POLY, MONO or SOLO).

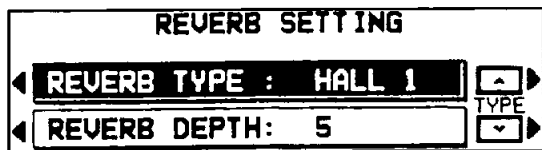
- For information about the SOLO part, refer to page 44.
- EA5: The POLY output mode cannot be selected for the SOLO sound parts.
- Only the VOL and REV setting can be adjusted for K.B.P.
- The PAN, KEY, TUN, BEND and ASS settings cannot be changed for the CHORD part.
- The ASS setting cannot be changed for PART 3, 7 to 15, and BASS part.

4. Repeat steps 2 and 3 for each part as desired.

REVERB SETTING

Select the type and depth of the **DIGITAL REVERB**.

1. On the **SOUND** menu display, select REVERB.
 - The display looks similar to the following.



2. Select REVERB TYPE.
3. Use the TYPE \wedge and \vee buttons to select the type of reverb.
 - Select from ROOM 1, 2, HALL 1, 2, 3 and CATHEDRAL.

4. Select REVERB DEPTH.
5. Use the DEPTH \wedge and \vee buttons to adjust the depth of the reverb (1 to 10).

You can also access this display by pressing and holding the **DIGITAL REVERB** button for a few seconds.

- In this case, you can press the **EXIT** button to return to the previous display.

TREMOLO

Tremolo is a rapid oscillation in volume, producing the effect of a rotating speaker. The type of tremolo and how it is applied can be adjusted.

1. On the **SOUND** menu display, select TREMOLO SPEED.
 - The display changes to the following.



[EA3]



2. **EA5**: Use the TYPE \wedge and \vee buttons to select the type of speaker (STANDARD TREMOLO, THEATRE TREMOLO, U.S. TRAD TREMOLO, JAZZ ROTOR, STANDARD ROTOR, TREMULANT).
 - ROTOR refers to the rotating units in a rotary speaker.
3. Modify the parameters (explained below).
 - Use the buttons to the left of the display to select the item, the PARAMETER \wedge and \vee buttons to select the parameter, and the VALUE \wedge and \vee buttons to change the value.
 - In order to confirm the effect, the **TREMOLO & CELESTE** button must be set to TREMOLO. (Refer to page 103.)
 - **EA5**: When an ORGAN TYPE is selected, the parameters automatically revert to the factory-preset settings.

You can also access this display by pressing and holding the **TREMOLO SLOW/FAST** button for a few seconds.

- In this case, you can press the **EXIT** button to return to the previous display.

■ Parameters (EA3)

TREBLE/BASS SPEED (FAST)	The speed when the rotor is turning fast.
TREBLE/BASS SPEED (SLOW)	The speed when the rotor is turning slowly.
TREBLE/BASS WIND UP	The time it takes to reach the (TREBLE/BASS) FAST speed when the speed is changed from slow to fast.
TREBLE/BASS WIND DOWN	The time it takes to reach the (TREBLE/BASS) SLOW speed when the speed is changed from fast to slow.

■ Parameters (EA5)

STANDARD TREMOLO, THEATRE TREMOLO, U.S. TRAD TREMOLO

Like a single-rotor-type speaker.

TREBLE/BASS SPEED (FAST)	The speed when the rotor is turning fast.
TREBLE/BASS SPEED(SLOW)	The speed when the rotor is turning slowly.
TREBLE/BASS WIND UP	The time it takes to reach the (TREBLE/BASS) FAST speed when the speed is changed from slow to fast.
TREBLE/BASS WIND DOWN	The time it takes to reach the (TREBLE/BASS) SLOW speed when the speed is changed from fast to slow.

JAZZ ROTOR, STANDARD ROTOR

Like a double-rotor-type speaker.

TREBLE SPEED (FAST)	The speed when the treble rotor is turning fast.
TREBLE SPEED (SLOW)	The speed when the treble rotor is turning slowly.
BASS SPEED (FAST)	The speed when the bass rotor is turning fast.
BASS SPEED (SLOW)	The speed when the bass rotor is turning slowly.
TREBLE WIND UP	The time it takes for the treble rotor to reach the TREBLE (FAST) speed when the speed is changed from slow to fast.
TREBLE WIND DOWN	The time it takes for the treble rotor to reach the TREBLE (SLOW) speed when the speed is changed from fast to slow.
BASS WIND UP	The time it takes for the bass rotor to reach the BASS (FAST) speed when the speed is changed from slow to fast.
BASS WIND DOWN	The time it take for the bass rotor to reach the BASS (SLOW) speed when the speed is changed from fast to slow.

TREMULANT

This is a distinctive vibrating effect, peculiar to pipe organs, of air flowing through the pipes.

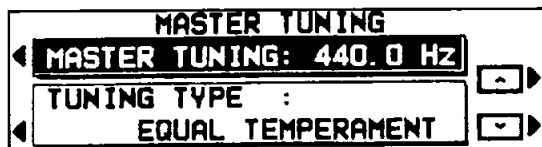
MODULATOR 1 SPEED	Speed of effect applied to tab sounds.
MODULATOR 2 SPEED	Speed of effect applied to EXTRA TAB VOICES.
MODULATOR 1 DEPTH	Depth of effect applied to tab sounds.
MODULATOR 2 DEPTH	Depth of effect applied to EXTRA TAB VOICES.

MASTER TUNING

This setting is used to fine-tune the pitch of the entire instrument. This is convenient when playing with other instruments or with a recorded performance. You can also select from two types of tuning.

1. On the **SOUND** menu display, select MASTER TUNE.

- The display changes to the following.



2. Select MASTER TUNING.

3. Use the \wedge and \vee buttons to adjust the pitch within a range of 427.3 to 453.0 Hz.

- The decimal can be set to 0, 3 or 6.

4. Select TUNING TYPE.

5. Use the \wedge and \vee buttons to select the type of tuning.

EQUAL TEMPERAMENT

One octave is divided into pitches of equally spaced intervals.

PIANO TUNING

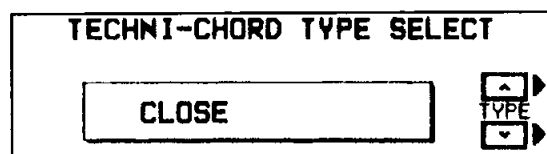
Standard acoustic piano tuning, in which the lower pitches are tuned slightly lower and the higher pitches are tuned slightly higher.

TECHNI-CHORD TYPE

Select the desired harmony style for the **TECHNI-CHORD**.

1. On the **SOUND** menu display, select TECHNI-CHORD.

- The display changes to the following.



2. Use the \wedge and \vee buttons to select the harmony style.

- Select from CLOSE, OPEN 1, 2, DUET, COUNTRY, THEATRE, HYMN, BLOCK, BIG BAND BRASS, BIG BAND REEDS, OCTAVE, HARD ROCK and FANFARE.
- When the OCTAVE, HARD ROCK or FANFARE style is selected, the **TECHNI-CHORD** is always active for the upper keyboard.
- For a detailed explanation of the different harmony styles, refer to the separate "REFERENCE GUIDE" provided.

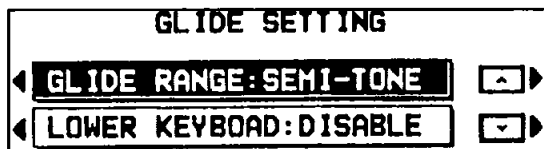
You can also access this display by pressing and holding the **TECHNI-CHORD** button for a few seconds.

- In this case, you can press the **EXIT** button to return to the previous display.

GLIDE SETTING

Adjust the pitch range of the glide effect, and specify whether the glide effect works for the lower keyboard.

1. On the **SOUND** menu display, select **GLIDE RANGE**.
 - The display changes to the following.



2. Select **GLIDE RANGE**.

3. Use the \wedge and \vee buttons to change the setting.

WHOLE TONE

The pitch changes by as much as a whole tone.

SEMI-TONE

The pitch changes by as much as a semitone.

4. Select **LOWER KEYBOARD**.

5. Use the \wedge and \vee buttons to enable or disable the glide effect for the lower keyboard.

DISABLE

The glide effect does not work for the lower keyboard.

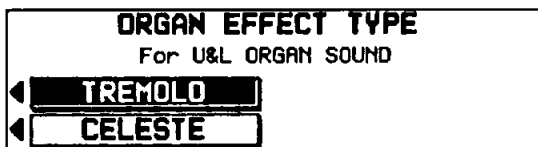
ENABLE

The glide effect works for the lower keyboard.

ORGAN EFFECT

Select the type of effect which is applied by the **TREMOLO & CELESTE** button to the **ORGAN** parts.

1. On the **SOUND** menu display, select **ORGAN EFFECT**.
 - The display changes to the following.



2. Select the type of effect (**TREMOLO** or **CELESTE**).

- This setting is effective for both the upper and lower keyboard parts.
- This setting is memorized independently for each **ORGAN** group. (**EA3**: The **UPPER** setting is effective for both keyboards.)
- **EA5**: When a **MANUAL** button is on, the setting display can be used to change the setting. (Refer to page 41.)

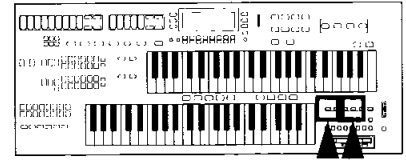
You can also access this display by pressing and holding the **TREMOLO & CELESTE** button for a few seconds.

- In this case, a few seconds after you change the setting, the display returns to the previous display.

Part VII Adjusting the functions

Various functions on your instrument can be custom-set to match your personal tastes and style of play, giving you maximum versatility and control of your instrument.

Outline of procedure



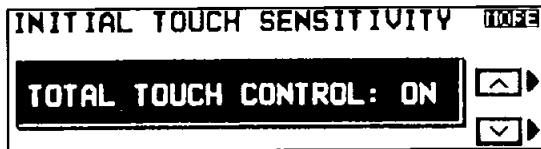
TOUCH

Specify whether the touch response function works for this instrument. You can also turn touch response on or off for each keyboard, and for each part.

1. Press the **TOUCH** button to turn it on.



- The display looks similar to the following.



2. Set **TOTAL TOUCH CONTROL** to ON or OFF.
3. Adjust the settings for each keyboard and part. (Refer to page 105.)
 - Press the **MORE/RETURN** button to adjust the functions.
4. When you have finished adjusting the functions, press the **TOUCH** button to turn it off.

Practical applications

CONTROL

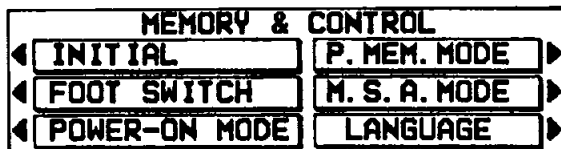
Make various settings related to the operation of your instrument.

1. Press the **MEM & CTRL** button to turn it on.



- The following menu display appears.

[EA3]



FOOT SWITCH (page 106)

Assign the desired functions to the foot switch.

POWER-ON MODE (page 107)

Specify the sound settings which are in effect when the power to this instrument is turned on.

LANGUAGE (EA3) (page 107)

Select the language in which the messages are displayed.

- Information regarding the following settings can be found on the pages indicated.

INITIAL	page 126
P. MEM. MODE	page 51
M.S.A. MODE	page 61

2. Select the desired menu and follow the procedures on the corresponding setting display.
 - Press the **EXIT** button to go back to the previous display. To go to another menu, use the **EXIT** button to go back to the menu display.
3. When you have finished setting the functions, press the **MEM & CTRL** button again to turn it off.

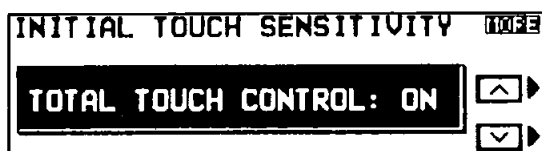
Touch functions

Select the item and perform the setting procedures.

INITIAL TOUCH SENSITIVITY

Adjust the degree of touch response for the upper keyboard and the lower keyboard.

1. Press the **TOUCH** button to turn it on.
 - The display looks similar to the following.



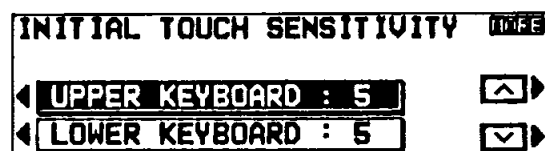
2. Use the \wedge and \vee buttons to enable or disable the touch function.

ON: Use the touch function.

OFF: Do not use the function.

3. If ON was selected in step 2, press the **MORE/RETURN** button.

- The display changes to the following.

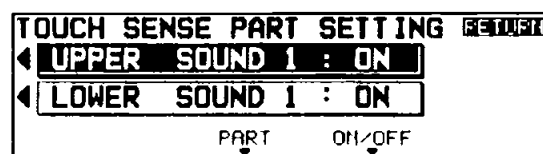


4. Select the keyboard (UPPER or LOWER).
5. Use the \wedge and \vee buttons to adjust the degree of touch sensitivity.
 - Select from OFF, 1 to 9. The higher the number, the greater the change in volume corresponding to how hard or softly the keyboard is played. When set to OFF, the volume is the same no matter how hard or softly the keyboard is played.
6. Repeat steps 4 and 5 for the other keyboards as desired.

TOUCH SENSE PART SETTING

Specify for each part whether the touch sensitivity setting is effective.

1. On the INITIAL TOUCH SENSITIVITY display, press the **MORE/RETURN** button to show the following display.



2. Select the keyboard of the part (UPPER or LOWER).
3. Use the **PART** buttons to select the part (ORGAN, SOUND 1, 2 or SOLO [EA5]).
4. Use the **ON/OFF** buttons to set the touch sensitivity to ON or OFF for the part.
5. Repeat steps 3 and 4 for each part as necessary.
6. Repeat steps 2 to 5 for the other keyboard.

Control functions

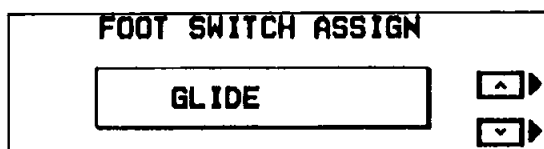
Select the item and perform the setting procedures.

FOOT SWITCH

You can assign different functions to the foot switch.

1. On the **MEM & CTRL** menu display, select **FOOT SWITCH**.

- The display looks similar to the following.



2. Use the \wedge and \vee buttons to select the desired function for the switch.

■ Functions which can be assigned to the foot switch

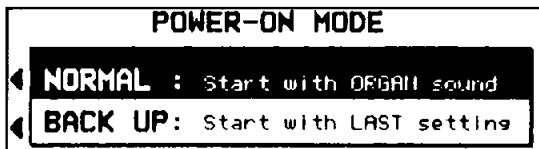
P.MEMORY 1 to 5 (EA3)	Turns on a specific PANEL MEMORY button (1 to 5).
P.MEMORY 1 to 8 (EA5)	Turns on a specific PANEL MEMORY button (1 to 8).
P. MEM INC.	Turns on the next higher PANEL MEMORY button.
START/STOP	Turns the START/STOP button on/off.
VARIATION	Turns the VARIATION button on/off.
FILL IN 1, 2	Turns the FILL IN 1 or 2 button on/off.
ENDING	Turns the INTRO & ENDING button on/off.
SUSTAIN	Turns the sustain effect on/off.
TREMOLO	Turns the TREMOLO SLOW/FAST button on/off.
GLIDE (factory-preset setting)	Turns the Glide effect on/off.
TECH-CHORD	Turns the TECHNI-CHORD button on/off.
PUNCH SW	Switches the PUNCH IN/PUNCH OUT mode.

POWER ON MODE

Specify the sounds which are in effect for the upper and lower keyboards when the power to this instrument is turned on.

1. On the **MEM & CTRL** menu display, select **POWER-ON MODE**.

 - The display looks similar to the following.



2. Select the mode.

NORMAL: When the power to this instrument is turned on, ORGAN sounds are selected (factory-preset setting).

BACK UP: The sounds which were in effect when you last turned off this instrument are selected.

LANGUAGE (EA3)

Select the language in which the messages are displayed.

1. On the **MEM & CTRL** menu display, select **LANGUAGE**.

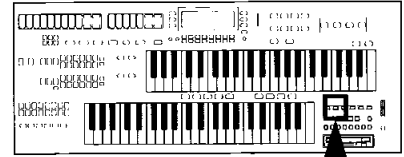
 - The display looks similar to the following.



2. Use the \wedge and \vee buttons to select the language.

Part VIII Creating sounds

Outline of the Sound Edit



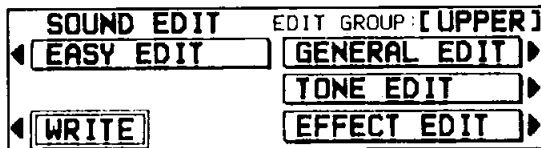
SOUND EDIT enables you to create your own new sound by altering one of the preset sounds. Your new sound can be stored in one of the sound memory locations. **SOUND EDIT** has two methods of use. You can edit in detail using functions more commonly associated with a synthesizer, or you can use **EASY EDIT** which allows you to change some basic parameters on just two display pages.

Outline of procedure

1. Select a preset sound on which to build your new sound.
 - Select sounds from the **UPPER SOUND GROUP**, **LOWER SOUND GROUP** or **BASS PEDALS**.
 - The **ORGAN** or **CLASSICAL ORGAN** sound cannot be selected from the **BASS PEDALS** group.
2. Press the **SOUND EDIT** button to turn it on.



- The indicator for the sound button you selected in step 1 flashes.
- The display changes to the following.



EASY EDIT (page 109)

The most often used edit functions—such as brightness and attack speed—are assembled on two displays for easy sound modification.

GENERAL EDIT (page 110)

Editing functions which apply to the entire sound.

OCTAVE SHIFT

Place the sound in the optimum octave range.

VIBRATO

Set the vibrato effect for the sound.

AUTOBEND & TRILL

Adjust the pitch change during the attack.

TONE EDIT (page 112)

Modify the tones which make up the sound.

TONE

Set the sound of each tone.

VOLUME & PITCH

Adjust the volume and pitch of each tone.

ENVELOPE

Adjust the change in volume over time for each tone.

FILTER

Adjust the amount of frequency cut in specific frequency ranges.

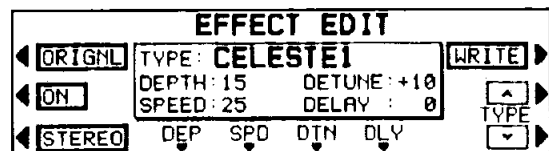
EFFECT EDIT (page 114)

Select the type and degree of **DIGITAL EFFECT** for the sound.

3. Select the desired menu and follow the procedures on the corresponding setting display.

<Example: EFFECT EDIT>

[EA5]



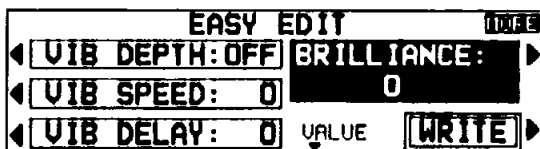
- Press the **EDITED** (or **ORIGNL**) button to switch between the modified sound (**EDITED**) and the original sound (**ORIGNL**). This allows you to compare the edited sound to the original sound as you are modifying it. Play the keyboard for the part you selected in step 1 to confirm the sound.
 - When the current display is a setting display, you can press the **EXIT** button to go back to the previous display. To show other menus, use the **EXIT** button to return to the **SOUND EDIT** menu display and make another selection.
4. When the sound is just the way you like it, press the **WRITE** button to store your new sound. (Refer to page 114.)
 - The **WRITE** button appears on all the editing displays and may be pressed whenever you wish to store the new sound.

- While editing a sound, if you change to a different sound, a confirmation display appears. Press the YES button if you wish to change the sound, or press the NO button if you wish to cancel the change. (Only a sound for the part you selected in step 1 can be edited.)
- While editing a sound, the **ORCHESTRAL CONDUCTOR** and part buttons do not work. In addition, only the sound part selected in step 1 can be edited.

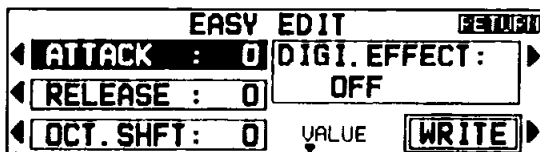
Easy Edit

The most commonly used edit functions are consolidated on two displays, providing convenient and quick editing operation.

1. On the **SOUND EDIT** menu display, select **EASY EDIT**.
 - The display changes to the following.



Press the **MORE/RETURN** button to view the next section of the menu.



2. Select a sound attribute to modify.

VIB DEPTH

Set vibrato depth.

VIB SPEED

Set vibrato speed.

VIB DELAY

Set time delay between key played and vibrato start.

BRILLIANCE

Adjust the brightness of the sound.

ATTACK

Adjust attack time.

RELEASE

Adjust time of sound fade-out after key is released.

OCT.SHFT

Shift the octave range.

DIGI.EFFECT

Select type of effect.

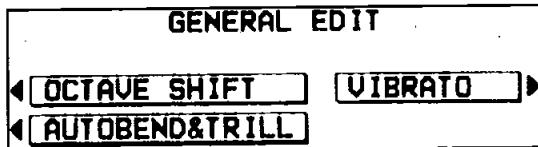
3. Use the **VALUE** \wedge and \vee buttons to specify the value of the attribute.
 - Selecting the type of **DIGITAL EFFECT** is explained in the section on **EFFECT EDIT** (page 114).
 - An effect may remain unchanged when **EASY EDIT** is used to set the value, if **GENERAL EDIT** or **TONE EDIT** was first used to set the value to its upper or lower limit. For example, when changing the **OCTAVE SHIFT** value of the **UPPER SOUND GROUP** "Brass" sound, the octave can be shifted only two octaves up (+2) or one octave down (-1). Even if you set the **OCTAVE SHIFT** value to -2, the octave will shift down by only one octave.
4. Repeat steps 2 and 3 to modify other sound attributes as desired.
5. Press the **WRITE** button to store your new sound.
 - Storing your new sound is explained on page 114.
 - If a sound is stored in the **EASY EDIT** mode, and is later selected in the **EASY EDIT** mode, the displayed value of an attribute may be different from the value when it was stored. The sound itself, however, is exactly as it was stored.

General Edit

These editing functions pertain to the entire sound.

Selecting attributes

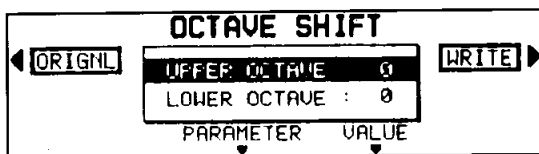
1. On the **SOUND EDIT** menu, select **GENERAL EDIT**.
 - The display looks similar to the following.



2. Select the attribute you wish to modify.
 - The display changes to the setting display for the selected attribute.
3. Modify each attribute (explained below).
 - When you have finished modifying an attribute, press the **EXIT** button to return to the **GENERAL EDIT** display, select another attribute and continue modifying the sound.

OCTAVE SHIFT

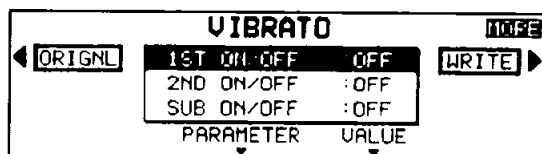
The octave of the output sound can be specified separately for the upper and lower keyboards.



1. Use the **PARAMETER** \wedge and \vee buttons to specify the keyboard.
2. Use the **VALUE** \wedge and \vee buttons to raise or lower the pitch by octaves (-2 to 2).
 - To lower the pitch one octave (or two octaves), set the value to -1 (or -2). To raise the pitch one octave (or two octaves), set the value to 1 (or 2).
3. Repeat steps 1 and 2 for the other keyboard if desired.

VIBRATO

Modify the vibrato attributes of the sound.



1. Use the PARAMETER \wedge and \vee buttons to select the item.

1ST ON/OFF

Set the vibrato for the 1st tone to on or off. (For an explanation of tones, refer to page 112.)

2ND ON/OFF

Set the vibrato for the 2nd tone to on or off.

SUB ON/OFF

Set the vibrato for the SUB tone to on or off.

PCH MOD DEP

Adjust the pitch range of the vibrato (0 to 30).

VOL MOD DEP

Adjust the volume range of the vibrato (0 to 30).

SPEED

Set the vibrato speed (0 to 30).

DELAY

Set the delay time (0 to 30).

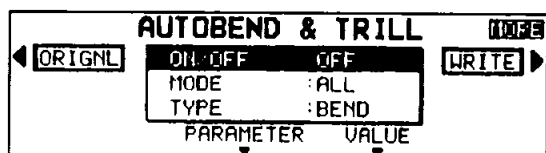
- Delay time is the time elapsed from when the keyboard key is pressed until the vibrato effect begins.

2. Use the VALUE buttons to adjust the attributes.

3. Repeat steps 1 and 2 to modify other attributes as desired.

AUTOBEND & TRILL

The AUTOBEND & TRILL causes a change in pitch during the attack period.



1. Use the PARAMETER \wedge and \vee buttons to select the item.

ON/OFF

ON: This effect is on for the sound.

OFF: This effect is off for the sound.

TOUCH: This effect is applied only when the keyboard is played hard.

MODE

1ST: The effect is applied only to the 1st tone.

2ND: The effect is applied only to the 2nd tone.

ALL: The effect is applied to all the tones.

INVERSE: The effect is applied to all the tones, but is inverted for the 2nd tone.

TYPE

BEND: The pitch change is continuous.

TRILL: The pitch changes in steps.

PATTERN

BEND types: UP, UP-DOWN, UP-DROP, DELAY-UP

TRILL types: DOWN-UP, UP-DOWN, MELODY, 5-UP

- A list of AUTOBEND & TRILL patterns (PATTERN) can be found in the separate "REFERENCE GUIDE" provided.

DEPTH

Specify the amount of pitch bend (-30 to +30).

SPEED

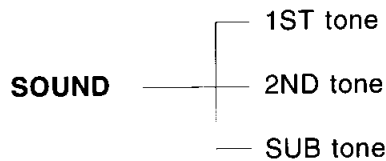
Specify the time it takes for the altered pitch (auto bend pitch) to become the normal pitch (key pitch) (0 to 30).

2. Use the VALUE \wedge and \vee buttons to adjust the attributes.

3. Repeat steps 1 and 2 to modify other attributes as desired.

Tone Edit

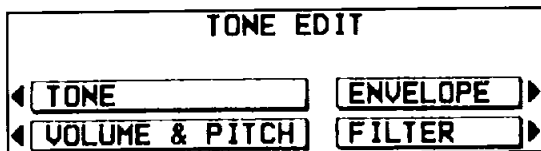
Modify the separate tones which comprise the sound. A sound may be made up of at most three tones.



- The essence of the sound is created by the combination of the 1ST tone and 2ND tone.
- Depending on the sound output status of the instrument, the SUB tone may not be generated.

Selecting attributes

1. On the **SOUND EDIT** menu, select **TONE EDIT**.
- The display looks similar to the following.

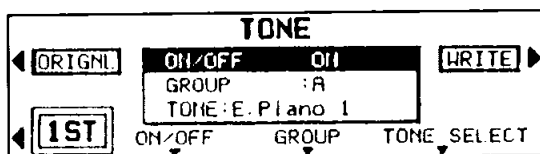


- The attributes which can be modified are shown. The attributes are modified for each tone.

2. Select the attribute you wish to modify.
 - The display changes to the setting display for the selected attribute.
3. Modify each attribute (explained below).
 - When you have finished modifying an attribute, press the **EXIT** button to go back to the **TONE EDIT** display, select another attribute and continue modifying the sound.

TONE

Set the sound of each tone.



1. Select the tone to modify (1ST, 2ND or SUB).
2. Use the \wedge and \vee buttons at the bottom of the display to change the setting.

ON/OFF

- ON: The tone is generated.
- OFF: The tone is not generated.

GROUP

Select the group to which the tone is assigned.

- Tones are classified in groups named A to N. A list of tones can be found in the separate "REFERENCE GUIDE" provided.

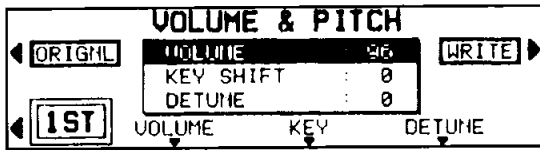
TONE SELECT

- Select the kind of tone.

3. Repeat steps 1 and 2 for the other tones as desired.

VOLUME & PITCH

Set the volume and pitch of each tone.



1. Select the tone to modify (1ST, 2ND or SUB).
2. Use the \wedge and \vee buttons at the bottom of the display to change the setting.

VOLUME

Adjust the volume of the tone (0 to 127).

KEY SHIFT

Specify the amount of key-shift in semitone increments (-24 to +24).

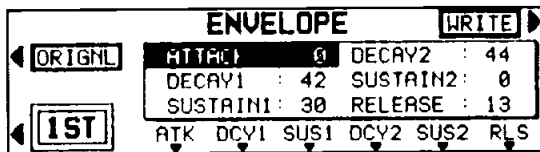
DETUNE

Fine-adjustment of the pitch (-50 to +50).

- Slight differences in the DETUNE values between the tones add fullness to the sound.
3. Repeat steps 1 and 2 for the other tones as desired.

ENVELOPE

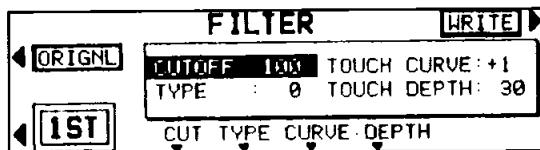
Specify how the volume changes over time, from the time the key is played to the time the sound dies out.



1. Select the tone to modify (1ST, 2ND or SUB).
2. Use the \wedge and \vee buttons at the bottom of the display to change the setting.
 - For details about the envelope, refer to the separate "REFERENCE GUIDE" provided.
3. Repeat steps 1 and 2 for the other tones as desired.

FILTER

Make major changes to the sound by eliminating specific frequency ranges.



1. Select the tone to modify (1ST, 2ND or SUB).
2. Use the \wedge and \vee buttons at the bottom of the display to change the setting.

CUT OFF

Set the frequency range which is cut by the filter (0 to 127).

TYPE

0: Low-pass filter

Low-range signals are unchanged. High-range signals are cut according to the CUT value.

1 to 4: Low-pass filter + high-boost filter

A low-pass filter which emphasizes high-range signals when the CUT value is large.

- With this type of filter, the higher the number, the lower the range that is emphasized.

5 to 6: Low-pass filter + resonance

A low-pass filter which emphasizes the harmonic components of frequencies close to the CUT value.

- There is little emphasis when the CUT value is small.
- With this type of filter, the higher the number, the greater the amount of emphasis.

THRU: No filter effect is applied.

TOUCH CURVE

Set the cut-off frequency in relation to key velocity (-3 to +3).

- For details about CURVE types, refer to the separate "REFERENCE GUIDE" provided.

TOUCH DEPTH

Set the filter strength in proportion to key velocity (0 to 50).

3. Repeat steps 1 and 2 for the other tones as desired.

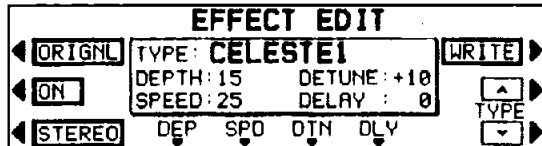
Effect Edit

Select the type of effect which is applied to your new sound when the **DIGITAL EFFECT** button is on, and modify the effect.

1. On the **SOUND EDIT** menu, select **EFFECT EDIT**.

- The display looks similar to the following.

[EA5]



- The display for the effect type which is best-suited for the sound currently being edited is selected.

2. Use the **TYPE** \wedge and \vee buttons to select the type of effect.

- Select from the following types: CELESTE 1, 2, CHORUS 1, 2, ENSEMBLE 1, 2, TREMOLO, ORGAN TREMOLO, SINGLE DELAY, REPEAT DELAY, SOLO EFFECT 1, 2.

3. Use the buttons along the bottom of the display to select the attribute you wish to adjust.

- For a detailed explanation of the parameters of each type of effect, refer to the separate "REFERENCE GUIDE" provided.
- When the type is changed, the parameters revert to the factory-preset values.

■ EDITED/ORIGNL button

Press the **EDITED** (or **ORIGNL**) button to switch between the modified sound (**EDITED**) and the original sound (**ORIGNL**). This allows you to compare the edited sound to the original sound as you are modifying it. The button alternates between **EDITED** and **ORIGNL** each time it is pressed.

■ ON/OFF button

Specify whether the **DIGITAL EFFECT** button turns on or off when the sound is selected. When set to **ON**, the **DIGITAL EFFECT** button turns on automatically when the sound is selected. The button alternates between **ON** and **OFF** each time it is pressed.

■ STEREO/MONO button (EA5)

Select stereo (**STEREO**) or monaural (**MONO**) output of the effect. The button alternates between **STEREO** and **MONO** each time it is pressed.

Store the new sound

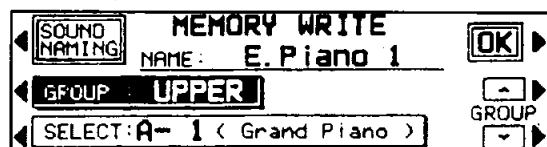
The **MEMORY** buttons in the sound section are memory banks reserved for the sounds you create with the **SOUND EDIT**. You can store your original sounds in the memories, and then select them just like the factory-preset sounds.

Warning: Your new sound will be erased if you exit the **SOUND EDIT** mode without first storing it in a memory.

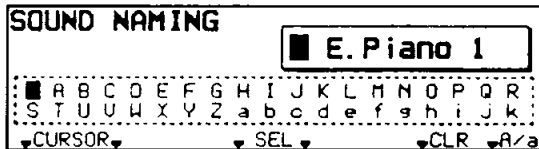
Procedure

1. When you have edited the sound to just the way you like it, press the **WRITE** button.
- The **WRITE** button appears on all the editing displays and may be pressed whenever you wish to store the new sound.

- The display changes to the **MEMORY WRITE** display.



- To assign a name to your new sound, press the **SOUND NAMING** button.
 - If you do not assign a name to your sound, the name becomes the same as the original sound from which you started. In this case, skip to step 5.
 - The display changes to the **SOUND NAMING** display.



- Type a new name for your sound (up to 13 characters).
 - Use the **CURSOR** buttons to highlight the character position in the name box. Use the **SEL** buttons to select the character. Repeat these steps to type the whole name.
 - To erase the name, press the **CLR** button.
 - Use the **A/a** button to switch between upper case and lower case characters.
- When you have finished typing the name, press the **EXIT** button.
 - The display returns to the **MEMORY WRITE** display.

- Select **GROUP**. Use the **GROUP** \wedge and \vee buttons to select the group in which to store the sound.

UPPER: The sound is stored in the **UPPER SOUND GROUP** memory.

LOWER: The sound is stored in the **LOWER SOUND GROUP** memory.

BASS: The sound is stored in the **BASS PEDALS** memory.

- Select **SELECT**. Use the **SELECT** \wedge and \vee buttons to select the memory number in which to store the new sound.

- If you selected **UPPER** or **LOWER** in step 5, select a memory number from **A1** to **A18** or from **B1** to **B18**. If you selected **BASS** in step 5, select a memory number from **1** to **16**.

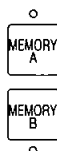
- Press the **OK** button.

- The new sound is stored, and "WRITE COMPLETED!" is shown on the display.
- The **SOUND EDIT** mode is turned off.
- The stored sound memories can be saved on a disk for recall at a later time. (Refer to page 95.)

Select a new sound

You can select your original sound just like the factory-preset sounds.

- In the sound group section in which the new sound is stored, press the **MEMORY** button to turn it on.
 - For sounds stored in the **UPPER** or **LOWER SOUND GROUP** section, press the relevant **MEMORY A** or **MEMORY B** button (the bank in which you stored the sound during the **MEMORY WRITE** procedure).



- The list of sounds in the selected bank is shown on the display.
- Select the desired sound from the list on the display.

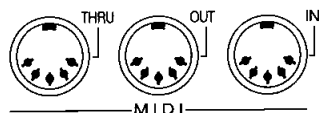
Part IX MIDI

What is MIDI?

MIDI (Musical Instrument Digital Interface) is the international standard for digital communication of electronic musical instrument data. This means that any equipment which has a MIDI terminal—such as electronic musical instruments and personal computers—can easily exchange digital data with other MIDI equipment without resorting to complicated conversions or connections.

About the MIDI terminals

(Beneath the right side of the lower keyboard)



IN: The terminal by which this instrument receives data from other equipment.

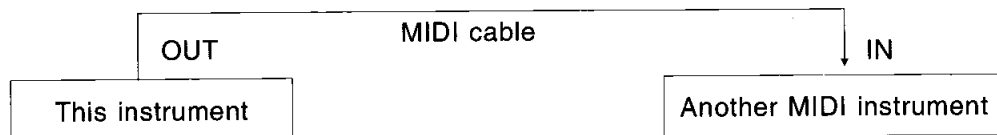
OUT: The terminal that transmits data from this instrument to other equipment.

THRU: The terminal that transfers data from the **IN** terminal directly.

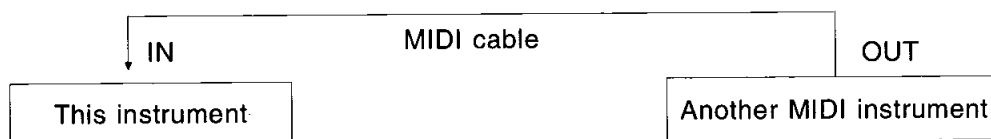
- For these connections, use a commercially available MIDI cable.

Connection examples

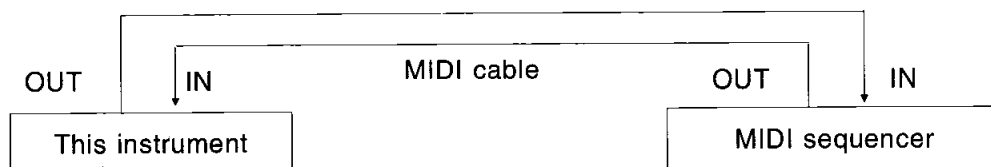
- To generate sound from a connected instrument by playing this instrument



- To generate sound from this instrument by operating a connected instrument



- To connect with a MIDI sequencer or a personal computer



MIDI channels

Many different kinds of performance data are sent using just one MIDI cable. This is possible because MIDI signals are sent and received through 16 different "basic channels" (numbered 1 to 16). In order for the exchange of data to take place, the channels on the transmission side must match the channels on the receiving side. This characteristic also makes it possible to link multiple sound generators and to control each by matching specific channels.

The following kinds of data can be transmitted/received.

■ NOTE data

This is the most basic kind of MIDI data which is exchanged, and is used to specify which keys are played and how hard they are played.

NOTE NUMBER: Number specifying which key is played.

NOTE ON: Specifies that a key is played.

NOTE OFF: Specifies that a key is released.

VELOCITY: Specifies how hard a key is struck.

- MIDI notes are assigned numbers from 0 to 127, with middle C (C3) as 60. NOTE pitches are in semitone increments, with the higher numbers assigned to the higher pitches.

■ PROGRAM CHANGE

This is sound change data. When a different sound is selected on the transmitting instrument, the sound on the receiving instrument also changes.

■ CONTROL CHANGE

These are volume, sustain, effect, etc. data used to enhance performance expression. Each function is distinguished by its control number, and the function which can be changed by the control differs depending on the instrument.

GENERAL MIDI

GENERAL MIDI (GM) is the standard which enables MIDI data exchange between different models or equipment of different manufacture. Program change numbers and their corresponding sounds, percussion instrument sounds, note numbers, etc. are data-compatible between equipment using this standard.

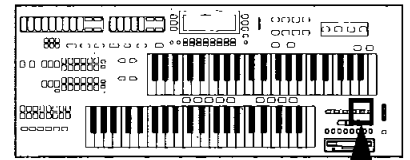
Song data created on the equipment of one manufacturer can be played back on the equipment of a different manufacturer, as long as both conform to the GENERAL MIDI standard.

This instrument conforms to this standard and can be used as a GENERAL MIDI sound generator.

Equipment which conforms to GENERAL MIDI standards is indicated by the following logo.



Outline of MIDI functions



Select the various settings which are used for MIDI operation of the instrument.

Outline of procedure

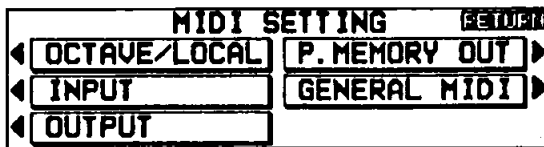
1. Press the **MIDI** button to turn it on.



- The display changes to the following menu.



Press the **MORE/RETURN** button to see the next page of the menu.



CHANNEL (page 119)

Assign a MIDI channel to each part.

CONTROL (page 119)

Enable or disable the exchange of various control data.

REALTIME (page 120)

Make the **REALTIME COMMAND** and **CLOCK** settings.

MIDI PRESETS (page 123)

Establish the optimum settings depending on how this instrument is connected to other equipment.

COMMON (page 121)

Functions which are common to all parts.

SETTING 1

P. CHANGE TO P. MEM
NOTE ONLY
INTRO-FILL-END
APC CONTROL

SETTING 2

TRANPOSE
P.CHANGE MODE
DRUMS TYPE
SONG SELECT
SETUP LOAD

OCTAVE/LOCAL (page 120)

Make the **OCTAVE** and **LOCAL CONTROL** settings for each part.

INPUT (page 124)

Various settings related to data reception.

OUTPUT (page 124)

Various settings related to data transmission.

P. MEMORY OUT (page 122)

P.MEMORY LOCAL CONTROL

Settings related to **LOCAL CONTROL** by **PANEL MEMORY** operation.

P.MEMORY PROGRAM CHANGE

Settings related to **PROGRAM CHANGE** by **PANEL MEMORY** operation.

GENERAL MIDI (page 125)

Specify whether this instrument is compatible with **GENERAL MIDI** standard instruments.

2. Select the menu and perform the setting procedures.

- During the setting display, you can press the **EXIT** button to go back to the previous display. To show other menus, use the **EXIT** button to return to the **MIDI SETTING** menu display, and make another selection.

3. When you have finished adjusting the settings, press the **MIDI** button to turn it off.

MIDI Implementation Chart

Although MIDI makes it easy for you to connect various instruments for an enhanced performance, it does not necessarily follow that all MIDI data can be exchanged. For example, if the transmitting instrument handles data that the receiving instrument can not, then such data cannot be successfully sent. For data to be exchanged, both instruments must be able to handle it. You can find out what kind of data can be sent or received by each instrument by referring to the MIDI Implementation Chart for each instrument. The MIDI Implementation Chart for this instrument can be found in the separate "REFERENCE GUIDE" provided.

MIDI data format

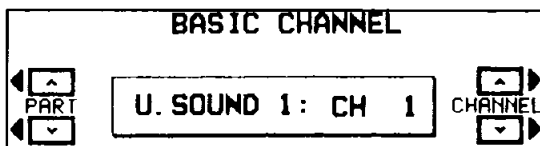
A detailed explanation of how MIDI data of this instrument is organized can be found in the separate "REFERENCE GUIDE" provided.

Setting the functions

Select the relevant menu and perform the procedure to set the functions.

BASIC CHANNEL

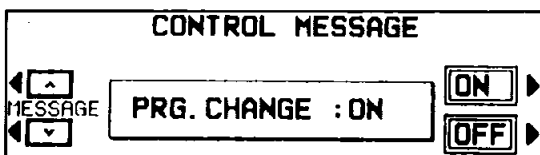
Channel numbers have already been assigned to parts (factory-presets), but you can reassign channel numbers to parts as desired.



1. Use the PART \wedge and \vee buttons to select the part.
2. Use the CHANNEL \wedge and \vee buttons to select a basic channel for the part (OFF, 1 to 16).
 - A part which has been set to OFF cannot be used to transmit or receive MIDI data.
3. Repeat steps 1 and 2 for each part as desired.

CONTROL MESSAGE

Enable or disable the exchange of various control data.



1. Use the MESSAGE \wedge and \vee buttons to select the control message.

2. Use the ON and OFF buttons to specify on or off for the control message.

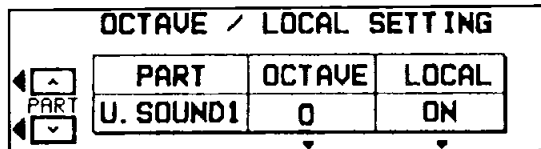
ON: Data for the control operation is exchanged.

OFF: Data for the control operation is not exchanged.

 - The BANK SELECT setting is effective only when PRG. CHANGE is set to ON.
 - The EFF. & REV. setting controls the **DIGITAL EFFECT, TREMOLO & CELESTE** and **DIGITAL REVERB** on/off.
 - The TUNING setting is the on/off setting for the TUNING and KEY SHIFT settings.
3. Repeat steps 1 and 2 for each control as desired.

OCTAVE/LOCAL SETTING

Set the octave shift value for key notes transmitted from this instrument (OCTAVE), and specify whether this instrument's sound generator is enabled when MIDI data is transmitted (LOCAL CONTROL).



1. Use the PART \wedge and \vee buttons to select the part.
2. Use the \wedge and \vee buttons at the bottom of the display to change the setting for the corresponding function.

OCTAVE (-3 to 3)

- Set the octave shift value. Octave shift is set for transmitted data only; however the transmitted and received octave shifts are linked. For example, if the transmitted octave shift is set to 1, the received octave shift is automatically set to -1.

LOCAL (ON/OFF)

- When set to ON, the performance from this instrument is transmitted as MIDI data and also sounds from this instrument. When set to OFF, the performance from this instrument is transmitted as MIDI data but does not sound from this instrument.

3. Repeat steps 1 and 2 for each part as desired.

REALTIME MESSAGE

Enable or disable the exchange of **START/STOP** data (REALTIME COMMAND), and select the CLOCK mode.



1. Use the buttons to the left of the display to select a function (REALTIME COMMAND or CLOCK).
2. Use the ON and OFF buttons, or the \wedge and \vee buttons, to change the setting.

REALTIME COMMAND

- ON: Rhythm and **SEQUENCER** start/stop, continue, and song position pointer data can be transmitted/received.
- OFF: This data cannot be transmitted/received.

CLOCK

INTERNAL: This instrument's internal CLOCK is used to control the performance. The CLOCK of the connected equipment is disabled.

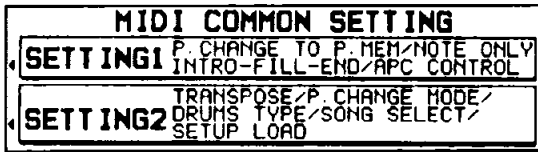
MIDI: The CLOCK of the connected equipment is used to control the performance. This instrument's CLOCK is disabled.

- When MIDI is selected, the tempo is displayed as "—" and the rhythm and **SEQUENCER** are disabled until the CLOCK signal is received from the connected instrument.

3. Repeat steps 1 and 2 as desired.

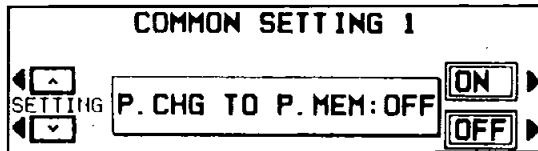
COMMON SETTING

Set the functions which are common to all parts.



■ COMMON SETTING 1

1. On the MIDI COMMON SETTING menu display, select SETTING 1.
- The display changes to the following.



2. Use the SETTING \wedge and \vee buttons to select the function.

P. CHG TO P. MEM

Enable or disable the exchange of PROGRAM CHANGE numbers for the U.SOUND 1 part by operation of the **PANEL MEMORY** buttons. The **PANEL MEMORY 1** to **5 (EA3)**/1 to **8 (EA5)** buttons correspond to PROGRAM CHANGE numbers 0 to 4 (**EA3**)/ 0 to 7 (**EA5**).

NOTE ONLY

Of the performance data, specify whether or not only NOTE data is exchanged.

INTRO-FILL-END

Enable or disable the exchange of intro, fill-in and ending data.

- Data is exchanged on the channel for the **DRUMS** part.

APC CONTROL

Enable the exchange of data for the on/off status of the **AUTO PLAY CHORD**'s ONE FINGER, FINGERED and PIANIST modes.

- Data is exchanged on the channel for the **AC-COMP 1** part.

3. Use the ON and OFF buttons to select on or off.

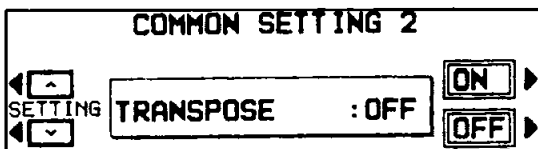
ON: Data exchange is enabled.

OFF: Data exchange is disabled.

4. Repeat steps 2 and 3 for the other settings as desired.

■ COMMON SETTING 2

1. On the MIDI COMMON SETTING menu display, select SETTING 2.
- The display changes to the following.



2. Use the SETTING \wedge and \vee buttons to select the function.

TRANSPOSE

ON: The NOTE number of the transposed note is transmitted/received.

OFF: The NOTE number of the played key is transmitted/received.

P. CHNG MODE

NORMAL: The PROGRAM CHANGE numbers follow the order of the sound buttons as they are lined up on the panel.

TECH: PROGRAM CHANGE numbers are standardized among all Technics models which are set to this mode. The PROGRAM CHANGE number assigned to a given sound on one model is assigned to the same sound on all models which are set to the same mode.

GM: PROGRAM CHANGE numbers follow the GM standard.

- The PROGRAM CHANGE numbers for each mode can be found in the separate "REFERENCE GUIDE" provided.

DRUMS TYPE

NORMAL: Keyboard percussion instrument sounds correspond to this instrument's key note numbers.

TECH: Keyboard percussion instrument sounds correspond to the same key note numbers for connected Technics models set to this type. (The closest instrument sound is automatically selected.)

GM: Keyboard percussion instrument sounds follow the GM standard.

SONG SELECT

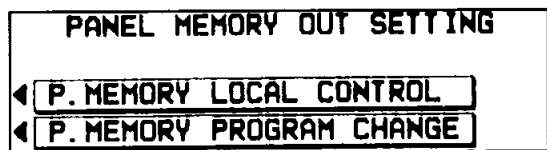
ON: Song number data can be exchanged.
OFF: Song number data cannot be exchanged.

SETUP LOAD

ON: When disk data is loaded, the MIDI settings stored on the disk are automatically recalled.
OFF: MIDI settings stored on the disk are not recalled.

- Use the ^ and v button, or the ON and OFF buttons, to change the settings.
- Repeat steps 2 and 3 for the other functions as desired.

PANEL MEMORY OUT SETTING



■ PANEL MEMORY LOCAL CONTROL

During a performance, you can change the sound generator setting and MIDI mode setting by changing the **PANEL MEMORY** selection.

- On the PANEL MEMORY OUT SETTING menu display, select P.MEMORY LOCAL CONTROL.
- The display changes to the following.

PANEL MEMORY LOCAL CONTROL				
P. M	ON/OFF	PART	LCL CTL	MIDI
1	OFF	U. SOUND1	ON	ON
P. MEM	ON/OFF	PART	LOCAL	MIDI

- Use the P.MEM ^ and v buttons to specify the **PANEL MEMORY** number.
- Use the ON/OFF ^ and v buttons to turn the specified **PANEL MEMORY LOCAL CONTROL** on or off.

ON: The **PANEL MEMORY** settings of this instrument are effective.

OFF: The **PANEL MEMORY** settings of this instrument are not effective.

- Use the PART ^ and v buttons to select a part (U.SOUND1, 2, SOLO [EA5], L.SOUND1, 2, SOLO [EA5], BASS).
- Use the LOCAL or MIDI ^ and v buttons to select the mode.

LOCAL

ON: The performance from this instrument sounds from this instrument.
OFF: The performance from this instrument does not sound from this instrument.

MIDI

ON: Performance data and control data are transmitted.
OFF: Performance data and control data are not transmitted.

- Repeat steps 4 and 5 for each part as desired.
- Repeat steps 2 through 6 for each **PANEL MEMORY** number as desired.

■ PANEL MEMORY PROGRAM CHANGE

Specify how **PANEL MEMORY** operation affects transmission of **PROGRAM CHANGE** data for the **SOUND 1, 2, SOLO (EA5)** and **BASS** parts.

1. On the **PANEL MEMORY OUT SETTING** menu display, select **P.MEMORY PROGRAM CHANGE**.
 - The display changes to the following.

PANEL MEMORY PROGRAM CHANGE			
P. M ON/OFF	PART	PRG. CHG	BANK
1 OFF	U. SOUND1	OFF	0
P. MEM ON/OFF	PART	PRG. CHG	BANK

2. Use the **P.MEM** \wedge and \vee buttons to specify a **PANEL MEMORY** number.
3. Use the **ON/OFF** \wedge and \vee buttons to turn the specified **PANEL MEMORY PROGRAM CHANGE** output to on or off.

ON: The **PANEL MEMORY** settings of this instrument are effective.

OFF: The **PANEL MEMORY** settings of this instrument are not effective.

4. Use the **PART** \wedge and \vee buttons to select a part (**U.SOUND1, 2, SOLO [EA5], L.SOUND1, 2, SOLO [EA5], BASS**).
5. Use the **PRG.CNG** \wedge and \vee buttons to specify a **PROGRAM CHANGE** number (0 to 127, **OFF**), and the **BANK** \wedge and \vee buttons to specify a **BANK SELECT** number (0 to 255).
6. Repeat steps 4 and 5 for each part as desired.
7. Repeat steps 2 through 6 for each **PANEL MEMORY** number as desired.

MIDI PRESETS

Establish the optimum settings depending on how this instrument is connected to other equipment, and on whether this instrument is used as the master or the slave.

MIDI PRESETS		OK
MASTER	SLAVE	
EA Organ	Keyboard type1	\wedge
	(without APC)	\vee

1. Use the \wedge and \vee buttons to select the connection setup.
 - The **MASTER** is the instrument used to transmit data, and the **SLAVE** is the instrument used to receive the data.

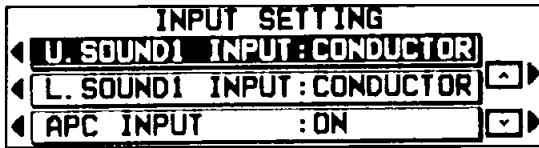
Without APC
AUTO PLAY CHORD is not used.

With APC
 Performance includes **AUTO PLAY CHORD** performance.

2. Press the **OK** button.
 - When the settings have been successfully stored, "Completed!" appears on the display.
 - Detailed information about the **MIDI PRESETS** can be found in the separate "REFERENCE GUIDE" provided.

INPUT SETTING

Make the settings which determine how various performance data is treated during data reception.



1. Use the buttons to the left of the display to select the item.

- U.SOUND 1 INPUT, or L.SOUND 1 INPUT CONDUCTOR: When data for the U.SOUND 1, or L.SOUND 1, part is received, the **ORCHESTRAL CONDUCTOR** of this instrument determines which part it is used for.
- DIRECT: When data for the U.SOUND 1, or L.SOUND 1, part is received, it is treated only as **UPPER SOUND 1**, or **LOWER SOUND 1**, data.

APC INPUT

ON: Input data for the **ACCOMP 1, 2, 3, BASS, DRUMS** and **CHORD** parts is received.

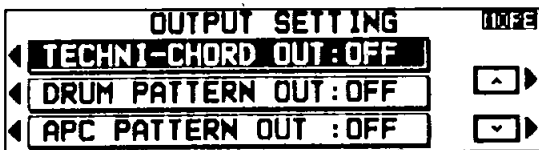
OFF: Data for the above parts is not received.

- Use the ^ and v buttons to change the setting.
- Repeat steps 1 and 2 for each item as desired.

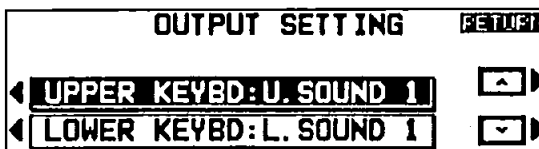
- Basic channels should be assigned to the automatic accompaniment parts before exchanging data.

OUTPUT SETTING

Make the settings which determine how various performance data is treated during data transmission.



Press the **MORE/RETURN** button to view the next page of display.



1. Use the buttons to the left of the display to select the item.

TECHNI-CHORD OUT

ON: Keyboard notes generated by the **TECHNI-CHORD** function are also transmitted.

OFF: Only key note data of the pressed keys is transmitted.

DRUM PATTERN OUT

ON: Data from the **DRUMS** part is transmitted.

OFF: Data from the **DRUMS** part is not transmitted.

APC PATTERN OUT

ON: The data for the **ACCOMP 1, 2, 3, BASS** and **CHORD** parts is transmitted.

OFF: The data for the above parts is not transmitted.

UPPER KEYBD/LOWER KEYBD

CONDUCTOR: Upper and lower keyboard note data is transmitted on the basic channels corresponding to the selected **ORCHESTRAL CONDUCTOR** parts.

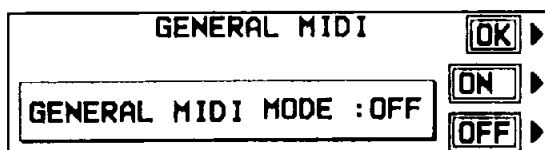
U/L.SOUND 1: Upper and lower keyboard note data is transmitted on the basic channel to which the **SOUND 1** part is assigned.

- Use the ^ and v buttons to change the setting.
- Repeat steps 1 and 2 for each item as desired.

- Basic channels should be assigned to the automatic accompaniment parts before exchanging data.

GENERAL MIDI

Make the GENERAL MIDI settings. (A brief explanation of GENERAL MIDI is on page 117.)



1. Use the ON and OFF buttons to specify whether or not this instrument should be compatible with GENERAL MIDI standard instruments.
 - This setting is automatically set to ON if data is loaded from a disk for which the GM mode was set to on, or from a disk for which the GM mode has not been specified.
 - If ON is selected, the status of this instrument changes to the GENERAL MIDI status, and the sounds and operations which can be selected are limited. In addition, the arrangement of percussion sounds on the keyboard changes. (Refer to the separate "REFERENCE GUIDE" provided.)
 - If GENERAL MIDI on/off data is received from connected MIDI equipment, the received data has priority.
2. Press the OK button.
 - The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

Warning

- The **SEQUENCER** memory is cleared when the GENERAL MIDI mode is changed.
- If the power is turned off while the GENERAL MIDI mode is ON, the setting is automatically set to OFF and the **SEQUENCER** memory is cleared.

Initialize

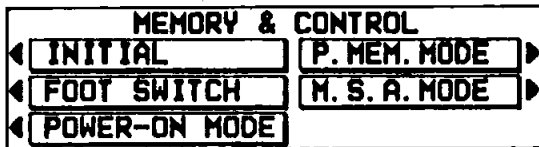
This instrument has many settable functions and storable memories. However, you can return the settings and memories to the factory-preset status.

INITIAL

1. Press the **MEM & CTRL** button to turn it on.

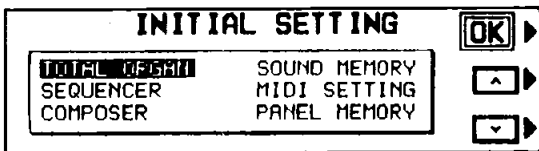


- The display changes to the following.
[EA5]



2. Select INITIAL.

- The display changes to the following.



3. Use the \wedge and \vee buttons to select the desired type of initialization (TOTAL ORGAN, COMPOSER, SEQUENCER, SOUND MEMORY, MIDI SETTING, PANEL MEMORY).

4. Press the OK button.

- The display changes to the confirmation display. Press the YES button if you wish to execute the initialization. Press the NO button if you wish to cancel the procedure.
- When you press the YES button, initialization begins. When initialization is completed, the instrument returns to the normal performance mode.

- You can also reset all the instrument settings with the following procedure: Turn off the **POWER** button once. Then, while pressing the three lower left buttons in the **RHYTHM GROUP** section at the same time, turn the **POWER** button on again.

■ About the backup memory

The panel settings, **PANEL MEMORY** and MIDI settings etc. are maintained in the backup memory for about one week after the power to this instrument is turned off. Other stored memories, such as the **SEQUENCER**, **COMPOSER** and **SOUND MEMORY**, are maintained for about 80 minutes. If you wish to keep the memory contents, before you turn off the instrument, use the **SAVE** procedure to store the desired data on a disk for recall at a later time.

- The backup memory does not function until the power has been on for about 10 minutes.
- When you quit the operating mode, a warning display may appear to remind you to save the data.

■ Power-on settings

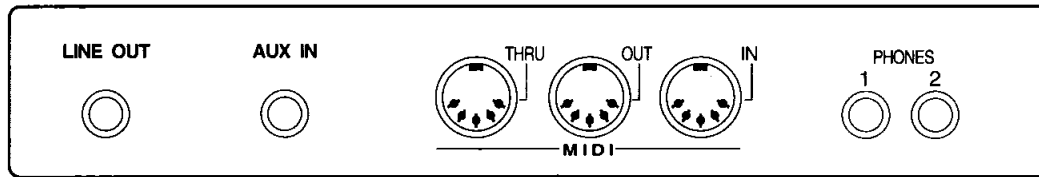
When the power to this instrument is turned on, **ORGAN** settings are automatically selected.

- If you wish to retain the settings which were in effect when you last turned off this instrument, set the **POWER-ON MODE** to **BACK UP**. (Refer to page 107.)

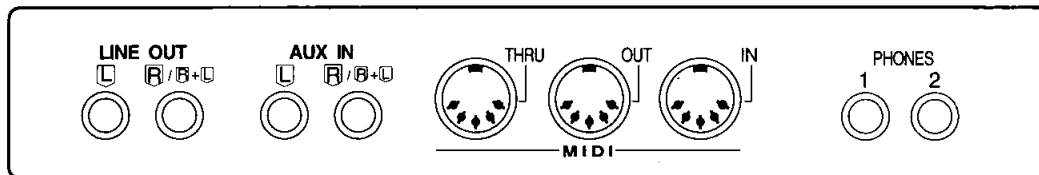
Connections

(Beneath the right side of the lower keyboard)

[EA3]



[EA5]



LINE OUT (output level 1.0 Vrms, 600 Ω)

By connecting an external high-power amplifier, the sound can be reproduced at a high volume.

- **EA5:** To output monaural sound, connect the external equipment to the **R/R+L** terminal. (Do not connect the **L** terminal.)

AUX IN (input level 500 mV, 33 k Ω)

Other instruments such as a keyboard can be connected to the organ so that the signal is output from the organ.

- **EA5:** To receive monaural sound, connect instruments to the **R/R+L** terminal. (In this case, do not use the **L** terminal.)

MIDI (Refer to page 116.)

PHONES

For silent practice, headphones may be used. When plugged in, this instrument's speaker system is automatically switched off, and the sound is heard only through the headphones.

Assembly

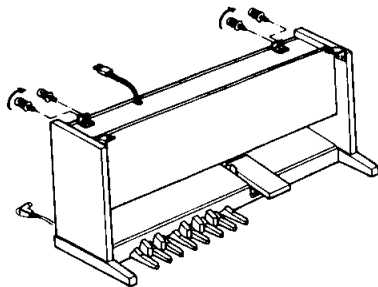
- **Do not remove the tape from the sliding cover until the instrument is fully assembled.**

If the upper organ unit is being held without then tape affixed, the cover may retract into the unit and its surface become scratched.

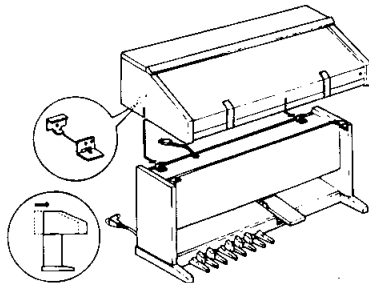
- **Securely tighten the four screws only AFTER they are all properly inserted.**

If each screw is tightened at the time it is inserted, the remaining screws may not fit properly in the holes. In this situation, applying undue force to tighten the screws may damage the screw threads.

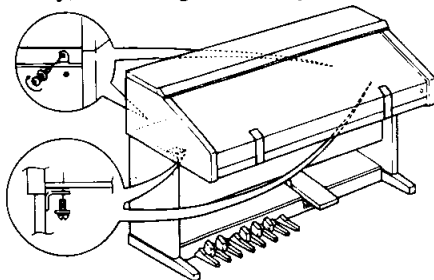
1. Remove the four screws from the metal brackets on the lower unit. Lay the cords so they hang down over the back of the unit.



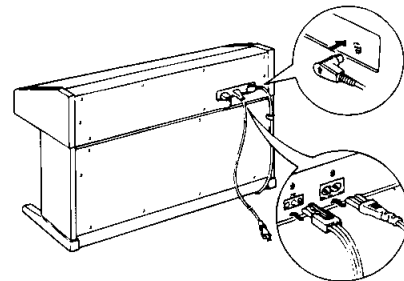
2. Position the upper unit on top of the lower unit, fitting the metal projections on the upper unit into the holes of the metal brackets on the lower unit.



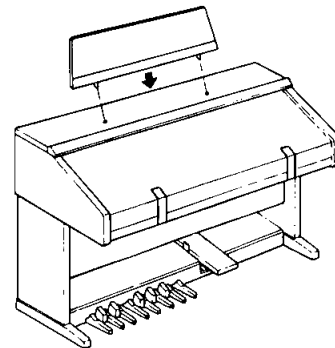
3. Use the four screws removed in step 1 to affix the upper unit to the lower unit. Screw them in loosely at first, making sure that they fit correctly in the holes. Then tighten them securely, ensuring that they are not crooked.



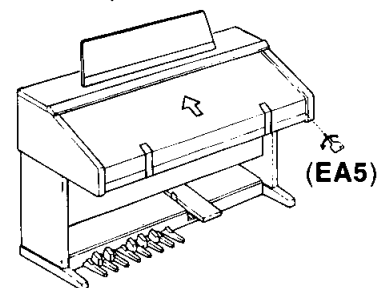
4. Connect the two cords from the lower unit and the power cord to the terminals on the upper unit.



5. Insert the music stand into the holes in the upper unit.



6. Remove the tape from the sliding cover.



Confirm

Check the following after assembling.

- Does the upper part of the organ slide or rattle?
→ Secure the screws firmly.

- Are the three cords fully connected to the terminals?
→ If no sound is heard, check the cords and make sure they are securely connected.

Symptoms which appear to be signs of trouble

The following changes in performance may occur in the Technics Organ but do not indicate trouble.

	Phenomenon	Remedy
Sounds and effects	The buttons, keys, etc. malfunction.	<ul style="list-style-type: none"> • Turn off the POWER button once, then turn it on again. If this procedure is not successful, turn off the POWER button once. Then, while pressing the three lower left buttons in the RHYTHM GROUP section (ROCK/DISCO, MODERN ROCK and ROCK [OTHERS]) at the same time, turn the POWER button on again. (Note that, in this case, all programmable settings, functions and memories return to their factory-preset status.)
	No sound is produced when the keys are pressed.	<ul style="list-style-type: none"> • The MAIN VOLUME is at the minimum setting. Adjust the volume with the MAIN VOLUME control. • The volumes for the selected parts are set to the minimum levels. Use the balance buttons to set the volumes of the relevant parts to appropriate levels. (Refer to page 31.) • The local control for a part performed on the keyboard is set to OFF. Set the LOCAL CONTROL to ON. (Refer to page 120.)
	The volume is very low when the keyboard is played.	<ul style="list-style-type: none"> • The speaker cord is not connected to the terminal on the rear panel. Connect the speaker cord so that the plug is fully inserted into the terminal. • The volume setting in the SEQUENCER contents is very low. Follow the INITIAL procedure to reset the settings. (Refer to page 126.)
	Some sounds cannot be selected.	<ul style="list-style-type: none"> • When the GENERAL MIDI mode is set to ON, the sounds which can be selected and operations which can be executed are limited. Set the GENERAL MIDI mode to OFF to return the instrument to its normal operation. (Refer to page 125.)
	The pedal keyboard sound is not produced. The expression pedal does not work.	<ul style="list-style-type: none"> • The pedal cord is not connected to the terminal on the rear panel. Connect the pedal cord so that the plug is fully inserted into the terminal.
	Only percussive instrument sounds are produced when the lower keyboard is played.	<ul style="list-style-type: none"> • The KEYBOARD PERCUSSION button is on.
	The foot switch does not operate properly.	<ul style="list-style-type: none"> • Any functional on and off operation other than the factory presets are storable in this switch. Store your favorite functions to turn them on and off. (Refer to page 106.)
	The sound of the lower keyboard does not stop.	<ul style="list-style-type: none"> • The MEMORY button of the AUTO PLAY CHORD is on. Turn off the MEMORY button.
Rhythm	The rhythm does not start.	<ul style="list-style-type: none"> • The DRUMS volume is set to the minimum level. Use the balance buttons to set the DRUMS volume to an appropriate level. • In the RHYTHM GROUP section, a rhythm in COMPOSER A or COMPOSER B with no stored pattern was selected. Select a different rhythm. • A SEQUENCER track button is on. When you are not playing back the SEQUENCER performance, turn off the track buttons. • CLOCK is set to MIDI. Set CLOCK to INTERNAL. (Refer to page 120.) • The rhythm does not work when the GENERAL MIDI mode is set to ON. Set the GENERAL MIDI mode to OFF. (Refer to page 125.)

Phenomenon		Remedy
AUTO PLAY CHORD	No sound is produced for the automatic accompaniment.	<ul style="list-style-type: none"> In the RHYTHM GROUP section, a rhythm in COMPOSER A or COMPOSER B with no stored pattern was selected. Select a different rhythm.
	No sound is produced for the automatic accompaniment, or only the sounds of some parts are produced.	<ul style="list-style-type: none"> Some or all of the ACCOMP 1, 2 and 3 buttons are turned off. Press the buttons to turn them on. The ACCOMP volume (in the BALANCE section) is set to the minimum. Adjust the volume to a suitable level.
SEQUENCER	Storage is not possible.	<ul style="list-style-type: none"> The remaining memory capacity of the SEQUENCER is 0. Follow the SONG CLEAR or TRACK CLEAR procedure to erase the memory. (Refer to pages 75 and 76.)
	Multi-track storage is not possible.	<ul style="list-style-type: none"> The playback track has been selected, but the START/STOP button has not been pressed. A flashing track indicator shows the track which is ready for recording, and a lit track indicator shows a track which is ready for playback. To record one track while listening to another (playback) track, press the START/STOP button to begin playback. (Refer to page 68.)
	The playback measure indication is different from when the performance was recorded.	<ul style="list-style-type: none"> The number of measures corresponds to the time signature of the rhythm selected at the start of recording. To change the rhythm in the middle of the song, record the rhythm change in the RHYTHM part. (Refer to page 72.)
COMPOSER	Storage is not possible.	<ul style="list-style-type: none"> The remaining memory capacity of the COMPOSER is 0.
	Setting the time signature and number of measures is not possible.	<ul style="list-style-type: none"> The time signature and number of measures cannot be changed for a pattern which is currently recorded in the COMPOSER. If you wish to change the time signature and/or measure data, first follow the procedure to clear the memory. (Refer to page 86.)
	The playback timing of the rhythm pattern is different from the timing with which it was recorded.	<ul style="list-style-type: none"> The QUANTIZE function was on when the pattern was recorded and the timing was automatically corrected. Set the quantize level to a smaller note unit or to OFF when recording. (Refer to page 88.)
Disk Drive	The Disk Drive produces a noise during recording or playback.	<ul style="list-style-type: none"> This occurs when the Disk Drive is reading a disk. It does not indicate a problem.
	When the procedure to load from a disk is performed, the contents of the keyboard memory are erased.	<ul style="list-style-type: none"> When performing the load operation from a disk, the keyboard memory changes to that of the data loaded from the disk. If you wish to preserve a song which is stored in the keyboard memory, save it on a disk before performing the load procedure. (Refer to page 95.)
Other	Noise from a radio or TV can be heard.	<ul style="list-style-type: none"> This sometimes occurs when electrical equipment such as a radio or TV is used near the instrument. Try moving such electrical equipment further away from the instrument. The sound may be coming from a nearby broadcast station or amateur radio station. If the sound is bothersome, consult your dealer or service center.
	The cabinet becomes warm during use.	<ul style="list-style-type: none"> This instrument has a built-in power source that heats the cabinet to some degree. This is not an indication of trouble.

Error messages

No.	Contents
00	The data on the disk that you are using is for a different product. The format of the disk is not correct.
01	An error has occurred while the disk was loading. Please try again!
02	There is no disk in the Disk Drive.
03	The file that you tried to load is empty.
05	An error has occurred while the disk was saving. Please try again!
06	The disk that you are using is write protected. Please remove the write protection and try again.
07	The disk that you are using is full. Please use another disk.
08	An error has occurred while the disk was formatting. The disk that you are using may be faulty. Please try formatting another disk.
10	The data is already copy protected.
20	A problem has occurred with your SEQUENCER Data. This might be due to a damaged or faulty disk.
21	Memory full
22	It is necessary to press PUNCH OUT to complete this procedure.
23	It is impossible to change the time signature because it has already been set in the existing tracks.
24	A rhythm track already exists. It is impossible to assign two tracks to rhythm.
25	It is only possible to change the velocity on a melody track.

No.	Contents
26	It is only possible to merge melody tracks. Tracks such as rhythm, chord and control cannot be merged.
27	It is only possible to copy melody tracks. Tracks such as rhythm, chord and control cannot be copied.
28	This song is too long to be saved as a MIDI file.
29	The MIDI file that you have tried to load exceeds the memory capacity of this organ and cannot be played. The SEQUENCER memory has been cleared.
30	It is not possible to change the time signature or measure length of a COMPOSER pattern after it has been recorded. If you want to proceed, you must first clear the entire COMPOSER pattern.
31	The time signature of the pattern from which you are copying is different from the COMPOSER memory that you are using. Either: Change the time signature of the COMPOSER memory or: Copy from a pattern that has the same time signature.
32	Memory full
43	The file that you are trying to load was saved on a previous Technics Organ. It is only possible to load using the "ALL" option.
44	It is impossible to edit a Drum Kit or an ORGAN/CLASSICAL ORGAN bass sound. Select a different sound.
46	Data insert is possible only with melody tracks. RHYTHM , CHORD and CONTROL tracks cannot be used with data insert.

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Specifications

		SX-EA3	SX-EA5	
KEYBOARD	UPPER	44 KEYS		
	LOWER	44 KEYS		
	PEDAL	13 KEYS		
SOUND GENERATOR		PCM		
MAXIMUM NUMBER OF NOTES PRODUCED SIMULTANEOUSLY		32 NOTES	ORGAN PART: 32 NOTES, ALL OTHER PARTS: 32NOTES	
SOUNDS	ORCHESTRAL CONDUCTOR (UPPER, LOWER)	ORGAN, SOUND 1, SOUND 2		
	SOUND GROUP (UPPER, LOWER)	90 SOUNDS	100 SOUNDS	
		GROUPS: PIANO, E PIANO/HARPSI, GUITAR, STRINGS/VOCAL, BRASS, MALLET, SPECIAL PERC. REED, SAX/FLUTE, SYNTH	GROUPS: PIANO, E PIANO/HARPSI, GUITAR, STRINGS/VOCAL, BRASS, MALLET, SPECIAL PERC. REED, SAX/FLUTE, SYNTH	
	ORGAN	TYPE	—	
		PRESET	16 (UPPER/LOWER)	27 (UPPER/LOWER)
TAB		<UPPER> 16', 5-1/3', 8', 4', 2-2/3', 2', PERC 2-2/3' <LOWER> 8', 4', 2-2/3', 2'	<UPPER> 16', 5-1/3', 8', 4', 2-2/3', 2', 1, PERC 4', PERC 2-2/3' <LOWER> 8', 4', 2-2/3', 2', 1'	
BASS PEDALS	23 SOUNDS	41 SOUNDS		
		GROUPS: ORGAN, CLASSICAL ORGAN, STANDARD, ORCHESTRAL, CONTEMPORARY		
EFFECTS	TREMOLO & CELESTE	UPPER/LOWER ORGAN, TREMOLO SLOW/FAST		
	SUSTAIN	UPPER/LOWER ORGAN, UPPER/LOWER SOUND GROUP, BASS PEDALS		
	DIGITAL EFFECT	UPPER/LOWER SOUND GROUP, BASS PEDALS		
	DIGITAL REVERB	○		
TRANPOSE		G-C-F [♯]		
RHYTHM		100 RHYTHMS GROUPS: 8 BEAT, 16 BEAT, BIG BAND/SWING, JAZZ COMBO, COUNTRY/R&B, MARCH/POLKA, LATIN, ROCK/DISCO, MODERN ROCK, ROCK (OTHERS), SHOW TIME, TRAD, WALTZ, ETHNIC		
CONTROLS		MAIN VOLUME, BALANCE, START/STOP, INTRO & ENDING, FILL IN 1, 2, VARIATION, COUNT INTRO, SYNCHRO & BREAK, TEMPO, EXPRESSION PEDAL, FOOT SWITCH		
KEYBOARD PERCUSSION		○		
AUTO PLAY CHORD		ONE FINGER, FINGERED, PIANIST, MEMORY	ONE FINGER, FINGERED, PIANIST, MEMORY, DYNAMIC ACCOMP	
EASY PLAY STYLE		ONE TOUCH REGISTRATION, ONE TOUCH PLAY/MUSIC STYLE SELECT, MUSIC STYLE ARRANGER	ONE TOUCH ORGAN, ONE TOUCH REGISTRATION, ONE TOUCH PLAY/MUSIC STYLE SELECT, MUSIC STYLE ARRANGER	
TECHNI-CHORD		○		
PANEL MEMORY		SET, 1-5	SET, 1-8	
SEQUENCER		16 TRACKS STORAGE CAPACITY: APPROX. 28,000 NOTES INPUT MODES: EASY RECORD, REALTIME RECORD, STEP RECORD FUNCTIONS: PUNCH RECORD, TRACK ASSIGN, EXPRESSION SETTING, EDIT (SONG CLEAR, TRACK CLEAR, TRACK MERGE, QUANTIZE, MEASURE ERASE, MEASURE COPY, MEASURE DELETE, MEASURE INSERT, VELOCITY CHANGE), PLAY, MEDLEY		
COMPOSER		5 PARTS: ACCOMP 1, 2, 3, BASS, DRUMS STORAGE CAPACITY: APPROX. 8600 NOTES INPUT MODES: REALTIME RECORD, STEP RECORD FUNCTIONS: MODE SELECT, PATTERN COPY, LOAD SINGLE COMPOSER PATTERN MEMORY: 2 BANKS × 6		
DISK DRIVE		3.5 inch DISK DRIVE FOR 2HD, 2DD FUNCTIONS: DISK SAVE, DISK LOAD, MIDI FILE SAVE, MIDI FILE LOAD, DISK FORMAT, LOAD SINGLE COMPOSER PATTERN, LOAD SINGLE SOUND MEMORY		
SOUND		PART SETTING (SUSTAIN, REVERB, VOLUME, KEY, TUNING, BEND, ASSIGN), TECHNI-CHORD TYPE, TREMOLO SPEED, MASTER TUNE, REVERB, GLIDE RANGE, ORGAN EFFECT	PART SETTING (PAN, SUSTAIN, REVERB, VOLUME, KEY, TUNING, BEND, ASSIGN), TECHNI-CHORD TYPE, TREMOLO SPEED, MASTER TUNE, REVERB, GLIDE RANGE, ORGAN EFFECT	
MEMORY & CONTROL		INITIAL, FOOT SWITCH, POWER ON MODE, PANEL MEMORY MODE, MUSIC STYLE ARRANGER MODE, LANGUAGE	INITIAL, FOOT SWITCH, POWER ON MODE, PANEL MEMORY MODE, MUSIC STYLE ARRANGER MODE	
SOUND EDIT		EASY EDIT, GENERAL EDIT (OCTAVE SHIFT, VIBRATO, AUTOBEND & TRILL), TONE EDIT (TONE, VOLUME & PITCH, ENVELOPE, FILTER), EFFECT EDIT MEMORY: 2 BANKS × 18 (UPPER/LOWER) 1 BANK × 16 (BASS)		
MIDI		MIDI PRESETS, CHANNEL, CONTROL, REALTIME, COMMON, OCTAVE/LOCAL, INPUT, OUTPUT, PANEL MEMORY OUT, GENERAL MIDI		

	SX-EA3	SX-EA5
DISPLAY	LCD (240 × 64 DOTS) CONTRAST, EXIT, DISPLAY HOLD, MORE/RETURN	
HELP	—	○
DEMO		○
TERMINALS	PHONES 1, 2, LINE OUT, AUX IN, MIDI (IN, OUT, THRU)	PHONES 1, 2, LINE OUT (R/R+L, L), AUX IN (R/R+L, L), MIDI (IN, OUT, THRU)
OUTPUT	60 W	120 W
SPEAKERS	20 cm × 1, 6.5 cm × 2, (13 cm × 6 cm) × 1	20 cm × 2, 6.5 cm × 2, (13 cm × 6 cm) × 2
POWER REQUIREMENT	155 W 105 W (NORTH AMERICA AND MEXICO)	290 W 190 W (NORTH AMERICA AND MEXICO)
	AC120/220/240 V 50/60 Hz AC120 V 60 Hz (NORTH AMERICA AND MEXICO) AC230 V 50/60 Hz (NEW ZEALAND) AC230–240 V (EUROPE)	
DIMENSIONS (W×H×D)	111.3 cm × 115.8 cm × 60.3 cm (43-13/16" × 45-19/32" × 23-3/4")	111.3 cm × 117.4 cm × 60.3 cm (43-13/16" × 46-7/32" × 23-3/4")
NET WEIGHT (WITHOUT BENCH)	59 kg (130.1 lbs.)	68 kg (149.9 lbs.)

- Design and specifications are subject to change without notice.

MEMO

