



E-600



INTELLIGENT KEYBOARD

MIDI Implementation



Section 1. Receive data

■ Channel Voice Messages

● Note off

Status	2nd byte	3rd byte
8nH	kkH	vvH
9nH	kkH	00H

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 kk = note number : 00H-7FH (0-127)
 vv = note off velocity : 00H-7FH (0-127)

- * For Drum Parts, these messages are received when Rx.NOTE OFF = ON for each Instrument.
- * The velocity values of Note Off messages are ignored.

● Note on

Status	2nd bytes	3rd byte
9nH	kkH	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 kk = note number : 00H-7FH (0-127)
 vv = note on velocity : 01H-7FH (1-127)

- * Not received when Rx.NOTE MESSAGE = OFF. (Initial value is ON)
- * For Drum Parts, not received when Rx.NOTE ON = OFF for each Instrument.

● Polyphonic Key Pressure

Status	2nd bytes	3rd byte
AnH	kkH	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 kk = note number : 00H-7FH (0-127)
 vv = key pressure : 00H-7FH (0-127)

- * Not received when Rx.POLY PRESSURE (PAf) = OFF. (Initial value is ON)
- * The resulting effect is determined by System Exclusive messages. With the initial settings, there will be no effect.

● Control Change

- * When Rx.CONTROL CHANGE = OFF, all control change messages except for Channel Mode messages will be ignored.
- * The value specified by a Control Change message will not be reset even by a Program Change, etc.

○ Bank Select (Controller number 0, 32)

Status	2nd bytes	3rd byte
BnH	00H	mmH
BnH	20H	llH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 mm, ll = Bank number : 00H, 00H-7FH, 7FH (bank.1-bank.16384), Initial Value = 00 00H (bank.1)

- * Not received when Rx.BANK SELECT = OFF. "Rx.BANK SELECT" is set to OFF by "Turn General MIDI System On," and set to ON by "GS RESET." (Power-on default value is ON.)
- * Bank Select processing will be suspended until a Program Change message is received.
- * The GS format "Variation number" is the value of the Bank Select MSB (Controller number 0) expressed in decimal.

○ Modulation (Controller number 1)

Status	2nd bytes	3rd byte
BnH	01H	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 vv = Modulation depth : 00H-7FH (0-127)

- * Not received when Rx.MODULATION = OFF. (Initial value is ON)
- * The resulting effect is determined by System Exclusive messages. With the initial settings, this is Pitch Modulation Depth.

○ Portamento Time (Controller number 5)

Status	2nd bytes	3rd byte
BnH	05H	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 vv = Portamento Time : 00H-7FH (0-127), Initial value = 00H (0)

- * This adjusts the rate of pitch change when Portamento is ON or when using the Portamento Control. A value of 0 results in the fastest change.

○ Data Entry (Controller number 6, 38)

Status	2nd bytes	3rd byte
BnH	06H	mmH
BnH	26H	llH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 mm, ll = the value of the parameter specified by RPN/NRPN

○ Volume (Controller number 7)

Status	2nd bytes	3rd byte
BnH	07H	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 vv = Volume : 00H-7FH (0-127), Initial Value = 64H (100)

- * Volume messages are used to adjust the volume balance of each Part.
- * Not received when Rx.VOLUME = OFF. (Initial value is ON)

○ Pan (Controller number 10)

Status	2nd bytes	3rd byte
BnH	0AH	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 vv = pan : 00H-40H-7FH (Left-Center-Right), Initial Value = 40H (Center)

- * For Rhythm Parts, this is a relative adjustment of each Instrument's pan setting.
- * Not received when Rx.PANPOT = OFF. (Initial value is ON)

○ Expression (Controller number 11)

Status	2nd bytes	3rd byte
BnH	0BH	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 vv = Expression : 00H-7FH (0-127), Initial Value = 7FH (127)

- * It can be used independently from Volume messages. Expression messages are used for musical expression within a performance: e.g., expression pedal movements, crescendo and decrescendo.
- * Not received when Rx.EXPRESSION = OFF. (Initial value is ON)

○ Hold 1 (Controller number 64)

Status	2nd bytes	3rd byte
BnH	40H	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 vv = Control value : 00H-7FH (0-127)

- * Not received when Rx.HOLD1 = OFF. (Initial value is ON)

○ Portamento (Controller number 65)

Status	2nd bytes	3rd byte
BnH	41H	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 vv = Control value : 00H-7FH (0-127) 0-63 = OFF, 64-127 = ON

- * Not received when Rx.PORTAMENTO = OFF. (Initial value is ON)

○ Sostenuato (Controller number 66)

Status	2nd bytes	3rd byte
BnH	42H	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
 vv = Control value : 00H-7FH (0-127) 0-63 = OFF, 64-127 = ON

- * Not received when Rx.SOSTENUTO = OFF. (Initial value is ON)

E-600 MIDI IMPLEMENTATION

○ Soft (Controller number 67)

Status 2nd bytes 3rd byte
BnH 43H vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
vv = Control value : 00H-7FH (0-127) 0-63 = OFF, 64-127 = ON

- * Not received when Rx.SOFT = OFF. (Initial value is ON)

○ Portamento control (Controller number 84)

Status 2nd bytes 3rd byte
BnH 54H kkH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
kk = source note number : 00H-7FH (0-127)

- * A Note-on received immediately after a Portamento Control message will change continuously in pitch, starting from the pitch of the Source Note Number.
- * If a voice is already sounding for a note number identical to the Source Note Number, this voice will continue sounding (i.e., legato) and will, when the next Note-on is received, smoothly change to the pitch of that Note-on.
- * The rate of the pitch change caused by Portamento Control is determined by the Portamento Time value.

Example 1.

On MIDI (Description)	Result
90 3C 40(Note on C4)	C4 on
B0 54 3C(Portamento Control from C4)	no change (C4 voice still sounding)
90 40 40(Note on E4)	glide from C4 to E4
80 3C 40(Note off C4)	no change
80 40 40(Note off E4)	E4 off

Example 2.

On MIDI (Description)	Result
B0 54 3C(Portamento Control from C4)	no change
90 40 40(Note on E4)	E4 is played with glide from C4 to E4
80 40 40(Note off E4)	E4 off

○ Effect 1 (Reverb Send Level) (Controller number 91)

Status 2nd bytes 3rd byte
BnH 5BH vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
vv = Control value : 00H-7FH (0-127). Initial Value = 28H (40)

- * This message adjusts the Reverb Send Level of each Part.

○ Effect 3 (Chorus Send Level) (Controller number 93)

Status 2nd bytes 3rd byte
BnH 5DH vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
vv = Control value : 00H-7FH (0-127). Initial Value = 00H (0)

- * This message adjusts the Chorus Send Level of each Part.

○ NRPN MSB/LSB (Controller number 99, 98)

Status 2nd bytes 3rd byte
BnH 63H mmH
BnH 62H llH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
mm = upper byte of the parameter number specified by NRPN
ll = lower byte of the parameter number specified by NRPN

- * NRPN can be received when Rx.NRPN = ON. "Rx.NRPN" is set to OFF by power-on reset or by receiving "Turn General MIDI System On," and it is set to ON by "GS RESET."
- * The value set by NRPN will not be reset even if Program Change or Reset All Controllers is received.

NRPN

The NRPN (Non Registered Parameter Number) message allows an extended range of control changes to be used.

To use these messages, you must first use NRPN MSB and NRPN LSB messages to specify the parameter to be controlled, and then use Data Entry messages to specify the value of the specified parameter. Once an NRPN parameter has been specified, all Data Entry messages received on that channel will modify the value of that parameter. To prevent accidents, it is recommended that you set RPN Null (RPN Number = 7FH/7FH) when you have finished setting the value of the desired parameter. Refer to Section 4. Supplementary material "Examples of actual MIDI messages" -Example 4> (page 14). On the GS devices, Data entry LSB (llH) of NRPN is ignored, so it is no problem to send Data entry MSB (mmH) only (without Data entry LSB).

On the E-600, NRPN can be used to modify the following parameters.

NRPN	Data entry
MSB LSB	MSB Description
01H 08H	mmH Vibrato rate (relative change on specified channel) mm: 0EH-40H-72H(-50 - 0 - +50)
01H 09H	mmH Vibrato depth (relative change on specified channel) mm : 0EH-40H-72H(-50 - 0 - +50)
01H 0AH	mmH Vibrato delay (relative change on specified channel) mm : 0EH-40H-72H(-50 - 0 - +50)
01H 20H	mmH TVF cutoff frequency (relative change on specified channel) mm : 0EH-40H-72H(-50 - 0 - +50)
01H 21H	mmH TVF resonance (relative change on specified channel) mm : 0EH-40H-72H(-50 - 0 - +50)
01H 63H	mmH TVF&TVA Env.Attack time (relative change on specified channel) mm : 0EH-40H-72H(-50 - 0 - +50)
01H 64H	mmH TVF&TVA Env.Decay time (relative change on specified channel) mm : 0EH-40H-72H(-50 - 0 - +50)
01H 66H	mmH TVF&TVA Env.Release time (relative change on specified channel) mm : 0EH-40H-72H(-50 - 0 - +50)
18H rrH	mmH Pitch coarse of drum instrument (relative change on specified drum instrument) rr : key number of drum instrument mm : 00H-40H-7FH(-63 - 0 - +63 semitone)
1AH rrH	mmH TVA level of drum instrument (absolute change on specified drum instrument) rr : key number of drum instrument mm : 00H-7FH(zero-maximum)
1CH rrH	mmH Panpot of drum instrument (absolute change on specified drum instrument) rr : key number of drum instrument mm : 00H, 01H-40H-7FH(Ramdom, Left-Center-Right)
1DH rrH	mmH Reverb send level of drum instrument (absolute change on specified drum instrument) rr : key number of drum instrument mm : 01H-7FH(zero-maximum)
1EH rrH	mmH Chorus send level of drum instrument (absolute change on specified drum instrument) rr : key number of drum instrument mm : 01H-7FH(zero-maximum)

- * Parameters marked "relative change" will change relative to the preset value.
- * Parameters marked "absolute change" will be set to the absolute value of the parameter, regardless of the preset value.

○ RPN MSB/LSB (Controller number 101, 100)

Status 2nd bytes 3rd byte
BnH 65H mmH
BnH 64H llH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
mm = upper byte of parameter number specified by RPN
ll = lower byte of parameter number specified by RPN

- * Not received when Rx.RPN = OFF. (Initial value is ON)
- * The value specified by RPN will not be reset even by messages such as Program Change or Reset All Controller.

****RPN****

The RPN (Registered Parameter Number) messages are expanded control changes, and each function of an RPN is described by the MIDI Standard.

To use these messages, you must first use RPN MSB and RPN LSB messages to specify the parameter to be controlled, and then use Data Entry messages to specify the value of the specified parameter. Once an RPN parameter has been specified, all Data Entry messages received on that channel will modify the value of that parameter. To prevent accidents, it is recommended that you set RPN Null (RPN Number = 7FH/7FH) when you have finished setting the value of the desired parameter. Refer to Section 4. "Examples of actual MIDI messages" <Example 4> (page 14).

On the E-600, RPN can be used to modify the following parameters.

RPN	Data entry	
<u>MSB LSB</u>	<u>MSB LSB</u>	<u>Explanation</u>
00H 00H	mmH ---	Pitch Bend Sensitivity mm : 00H-18H(0-24 semitones), Initial Value = 02H (2 semitones) ll : ignored (processed as 00h) specify up to 2 octaves in semitone steps
00H 01H	mmH llH	Master Fine Tuning mm, ll : 00 00H - 40 00H - 7F 7FH (-100 - 0 - +99.99 cents), Initial Value = 40 00H (0 cent) ll : ignored (processed as 00h) specify up to 2 octaves in semitone steps Refer to 4. Supplementary material, "About tuning" (page 15)
00H 02H	mmH ---	Master Coarse Tuning mm : 28H - 40H - 58H(-24 - 0 - +24 semitones), Initial Value = 40H (0 cent) ll : ignored (processed as 00h)
7FH 7FH	--- ---	RPN null Set condition where RPN and NRPN are unspecified. The data entry messages after set RPN null will be ignored. (No Data entry messages are required after RPN null). Settings already made will not change. mm, ll : ignored

● **Program Change**

Status	2nd bytes
CnH	ppH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
pp = Program number : 00H-7FH (prog.1-prog.128)

- * Not received when Rx.PROGRAM CHANGE = OFF. (Initial value is ON)
- * After a Program Change message is received, the sound will change beginning with the next Note-on. Voices already sounding when the Program Change message was received will not be affected.
- * For Drum Parts, Program Change messages will not be received on bank numbers 129-16384 (the value of Control Number 0 is other than 0 (00H)).

● **Channel Pressure**

Status	2nd bytes
DnH	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
vv = Channel Pressure : 00H-7FH (0-127)

- * Not received when Rx.CH PRESSURE (CAI) = OFF. (Initial value is ON)
- * The resulting effect is determined by System Exclusive messages. With the initial settings there will be no effect.

● **Pitch Bend Change**

Status	2nd byte	3rd bytes
EnH	llH	mmH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
mm, ll = Pitch Bend value : 00 00H - 40 00H - 7F 7FH (-8192 - 0 - +8191)

- * Not received when Rx.PITCH BEND = OFF. (Initial value is ON)
- * The resulting effect is determined by System Exclusive messages. With the initial settings the effect is Pitch Bend.

■ **Channel Mode Messages**

● **All Sounds Off (Controller number 120)**

Status	2nd byte	3rd bytes
BnH	78H	00H

n = MIDI channel number : 0H-FH (ch.1-ch.16)

- * When this message is received, all currently-sounding notes on the corresponding channel will be turned off immediately.

● **Reset All Controllers (Controller number 121)**

Status	2nd byte	3rd bytes
BnH	79H	00H

n = MIDI channel number : 0H-FH (ch.1-ch.16)

- * When this message is received, the following controllers will be set to their reset values.

Controller	Reset value
Pitch Bend Change	+0 (Center)
Polyphonic Key Pressure	0 (off)
Channel Pressure	0 (off)
Modulation	0 (off)
Expression	127 (max)
Hold 1	0 (off)
Portamento	0 (off)
Sostenuto	0 (off)
Soft	0 (off)
RPN	unset; previously set data will not change
NRPN	unset; previously set data will not change

● **All Notes Off (Controller number 123)**

Status	2nd byte	3rd bytes
BnH	7BH	00H

n = MIDI channel number : 0H-FH (ch.1-ch.16)

- * When All Notes Off is received, all notes on the corresponding channel will be turned off. However if Hold 1 or Sostenuto is ON, the sound will be continued until these are turned off.

● **OMNI OFF (Controller number 124)**

Status	2nd byte	3rd bytes
BnH	7CH	00H

n = MIDI channel number : 0H-FH (ch.1-ch.16)

- * The same processing will be carried out as when All Notes Off is received.

● **OMNI ON (Controller number 125)**

Status	2nd byte	3rd bytes
BnH	7DH	00H

n = MIDI channel number : 0H-FH (ch.1-ch.16)

- * OMNI ON is only recognized as "All notes off"; the Mode doesn't change (OMNI OFF remains).

● **MONO (Controller number 126)**

Status	2nd byte	3rd bytes
BnH	7EH	mmH

n = MIDI channel number : 0H-FH (ch.1-ch.16)
mm = mono number : 00H-10H (0-16)

- * The same processing will be carried out as when All Sounds Off and All Notes Off is received, and the corresponding channel will be set to Mode 4 (M = 1) regardless of the value of "mono number."

● POLY (Controller number 127)

Status	2nd byte	3rd bytes
BnH	7FH	00H

n = MIDI channel number : 0H-FH (ch.1-ch.16)

- The same processing will be carried out as when All Sounds Off and All Notes Off is received, and the corresponding channel will be set to Mode 3.

■ System Realtime Message

● Active Sensing

Status
FEH

- When Active Sensing is received, the unit will begin monitoring the intervals of all further messages. While monitoring, if the interval between messages exceeds 420 ms, the same processing will be carried out as when All Sounds Off, All Notes Off and Reset All Controllers are received, and message interval monitoring will be halted.

■ System Exclusive Message

Status	Data byte	Status
F0H	iiH, ddH,, eeH	F7H

F0H: System Exclusive Message status

ii = ID number: an ID number (manufacturer ID) to indicate the manufacturer whose Exclusive message this is. Roland's manufacturer ID is 41H.

ID numbers 7EH and 7FH are extensions of the MIDI standard; Universal Non-realtime Messages (7EH) and Universal Realtime Messages (7FH).

dd,....,ee = data: 00H-7FH (0-127)

F7H: EOX (End Of Exclusive)

The System Exclusive Messages received by the E-600 are; messages related to mode settings, Universal Realtime System Exclusive messages and Data Set (DT1).

● System exclusive messages related to mode settings

These messages are used to initialize a device to GS or General MIDI mode, or change the operating mode. When creating performance data, a "Turn General MIDI System On" message should be inserted at the beginning of a General MIDI score, and a "GS Reset" message at the beginning of a GS music data. Each song should contain only one mode message as appropriate for the type of data. (Do not insert two or more mode setting messages in a single song.)

"Turn General MIDI System On" and "Turn General MIDI System Off" use Universal Non-realtime Message format. "GS Reset" use Roland system exclusive format "Data Set 1 (DT1)."

○ Turn General MIDI System On

This is a command message that resets the internal settings of the unit to the General MIDI initial state (General MIDI System-Level 1). After receiving this message E-600, will automatically be set to the proper condition for correctly playing a General MIDI score.

Status	Data byte	Status
F0H	7EH, 7FH, 09H, 01H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
01H	Sub ID#2 (General MIDI On)
F7H	EOX (End Of Exclusive)

- When this message is received, Rx.BANK SELECT will be OFF and Rx.NRPN will be OFF.
- There must be an interval of at least 50 ms between this message and the next message.

○ General MIDI System Off

Status	Data byte	Status
F0H	7EH, 7FH, 09H, 02H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	sub-ID#1 (General MIDI message)
02H	sub-ID#2 (General MIDI Off)
40H	EOX (End of exclusive)

- There must be an interval of at least 50 ms between this message and the next.

○ GS reset

GS Reset is a command message that resets the internal settings of a device to the GS initial state. This message will appear at the beginning of GS music data, and a GS device that receives this message will automatically be set to the proper state to correctly playback GS music data.

Status	Data byte	Status
F0H	41H, 10H, 42H, 12H, 40H, 00H, 7FH, 00H, 41H	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
10H	Device ID (dev: 00H-1FH (1-32), Initial value is 10H (17))
42H	Model ID (GS)
12H	Command ID (DT1)
40H	Address MSB
00H	Address
7FH	Address LSB
00H	Data (GS reset)
41H	Checksum
F7H	EOX (End Of Exclusive)

- When this message is received, Rx.NRPN will be ON.
- There must be an interval of at least 50 ms between this message and the next.

○ Exit GS mode

Status	Data byte	Status
F0H	41H, 10H, 42H, 12H, 40H, 00H, 7FH, 7FH, 42H	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
10H	Device ID
42H	Model ID (GS)
12H	Command ID (DT1)
40H	Address MSB
00H	:
7FH	Address LSB
7FH	Data (Exit GS mode)
42H	Checksum
F7H	EOX (End of exclusive)

- There must be an interval of at least 50 ms between this message and the next.

● Universal Realtime System Exclusive Messages

○ Master volume

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 01H, 11H, mmH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control messages)
01H	Sub ID#2 (Master Volume)
11H	Master volume lower byte
mmH	Master volume upper byte
F7H	EOX (End Of Exclusive)

- The lower byte (11H) of Master Volume will be handled as 00H.

Identity Request Message

Status	Data byte	Status
F0H	7FH, 10H, 06H, 01H	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
10H	Device ID
06H	Sub ID#1 (General Information)
01H	Sub ID#2 (Identity Request)
F7H	EOX (End Of Exclusive)

* The "dev" is own device number or 7FH (Broadcast)

Data transmission

E-600 can receive the various parameters using System Exclusive messages.

The exclusive message of GS format data has a model ID of 42H and a device ID of 10H (17), and it is common to all the GS devices.

Data set 1 DT1

This is the message that actually performs data transmission, and is used when you wish to transmit the data.

Status	Data byte	Status
F0H	41H, 10H, 42H, 12H, aaH, bbH, ccH, ddH, ... eeH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
10H	Device ID
42H	Model ID (GS)
12H	Command ID (DT1)
aaH	Address MSB: upper byte of the starting address of the transmitted data
bbH	Address: middle byte of the starting address of the transmitted data
ccH	Address LSB: lower byte of the starting address of the transmitted data
ddH	Data: the actual data to be transmitted. Multiple bytes of data are transmitted starting from the address.
:	:
:	:
eeH	Data
sum	Checksum
F7H	EOX (End Of Exclusive)

- * The amount of data that can be transmitted at one time depends on the type of data, and data can be received only from the specified starting address and size. Refer to the Address and Size given in Section 3 (page 8).
- * Data larger than 128 bytes must be divided into packets of 128 bytes or less. If "Data Set 1" is transmitted successively, there must be an interval of at least 40 ms between packets.
- * Regarding the checksum please refer to section 4 (page 14).

Section 2. Transmit data

Arranger and composer data can not be transmitted.

Channel Voice Messages

Note off

Status	2nd byte	3rd byte
8nH	kkH	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)

kk = note number : 00H-7FH (0-127)

vv = note off velocity : 00H-7FH (0-127)

* Note off message is sent out with the velocity of 40H.

Note on

Status	2nd bytes	3rd byte
9nH	kkH	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)

kk = note number : 00H-7FH (0-127)

vv = note on velocity : 01H-7FH (1-127)

Control Change

Bank Select (Controller number 0, 32)

Status	2nd bytes	3rd byte
BnH	00H	mmH
BnH	20H	llH

n = MIDI channel number : 0H-FH (ch.1-ch.16)

mm, ll = Bank number : 00H-7FH (bank.1-bank.16384)

Modulation (Controller number 1)

Status	2nd bytes	3rd byte
BnH	01H	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)

vv = Modulation depth : 00H-7FH (0-127)

Volume (Controller number 7)

Status	2nd bytes	3rd byte
BnH	07H	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)

vv = Volume : 00H-7FH (0-127)

Hold 1 (Controller number 64)

Status	2nd bytes	3rd byte
BnH	40H	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)

vv = Control value : 00H-7FH (0-127)

Sostenuto (Controller number 66)

Status	2nd bytes	3rd byte
BnH	42H	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)

vv = Control value : 00H-7FH (0-127) 0-63 = OFF, 64-127 = ON

Soft (Controller number 67)

Status	2nd bytes	3rd byte
BnH	43H	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)

vv = Control value : 00H-7FH (0-127)

Effect 1 (Reverb Send Level) (Controller number 91)

Status	2nd bytes	3rd byte
BnH	5BH	vvH

n = MIDI channel number : 0H-FH (ch.1-ch.16)

vv = Control value : 00H-7FH (0-127)

■ Individual Parameters

Individual Parameter Transmission transmits data (or requests data) for one parameter as one exclusive message (one packet of "F0 F7"). In Individual Parameter Transmission, you must use the Address and Size listed in the following "Parameter Address Map." Addresses marked at "#" cannot be used as starting addresses.

● System Parameters

Parameters related to the system of the device are called System Parameters.

Address (H)	Size (H)	Data (H)	Parameter	Description	Default Value (H)	Description
40 00 00	00 00 04	0018-07E8	MASTER TUNE	-100.0 - +100.0 [cent]	00 04 00 00	0 [cent]
40 00 01#			Use nibblized data.			
40 00 02#						
40 00 03#						
* Refer to section 4. Supplementary material, "About tuning" (page 15).						
40 00 04	00 00 01	00-7F	MASTER VOLUME (= F0 7F 7F 04 01 00 vv F7)	0-127	7F	127
40 00 05	00 00 01	28-58	MASTER KEY-SHIFT	-24 - +24 [semitones]	40	0 [semitones]
40 00 06	00 00 01	01-7F	MASTER PAN	-63 (LEFT) - +63 (RIGHT)	40	0 (CENTER)
40 00 7F	00 00 01	00	MODE SET (Rx. only)	00 = GS Reset 127 = Exit GS	***	
* Refer to "System exclusive messages related to Mode settings" (page 6).						
40 01 10	00 00 10	00-40	VOICE RESERVE	Part 10 (Drum Part)	02	2
40 01 11#				Part 1	06	6
40 01 12#				Part 2	02	2
40 01 13#				Part 3	02	2
40 01 14#				Part 4	02	2
40 01 15#				Part 5	02	2
40 01 16#				Part 6	02	2
40 01 17#				Part 7	02	2
40 01 18#				Part 8	02	2
40 01 19#				Part 9	02	2
40 01 1A#				Part 11	00	0
40 01 :#				:		
40 01 1F#				Part 16	00	0
* The sum total of voices in the voice reserve function must be equal to or less than the number of the maximum polyphony. The maximum polyphony of the E-600 is 64. For compatibility with other GS models, it is recommended that the maximum polyphony be equal or less than 24.						
40 01 30	00 00 01	00-07	REVERB MACRO	00: Room 1 01: Room 2 02: Room 3 03: Hall 1 04: Hall 2 05: Plate 06: Delay 07: Panning Delay	04	Hall 2
40 01 31	00 00 01	00-07	REVERB CHARACTER	0-7	04	4
40 01 32	00 00 01	00-07	REVERB PRE-LPF	0-7	00	0
40 01 33	00 00 01	00-7F	REVERB LEVEL	0-127	40	64
40 01 34	00 00 01	00-7F	REVERB TIME	0-127	40	64
40 01 35	00 00 01	00-7F	REVERB DELAY FEEDBACK	0-127	00	0
* REVERB MACRO is a macro parameter that allows global setting of reverb parameters. When you select the reverb type with REVERB MACRO, each reverb parameter will be set to the most suitable value.						
* REVERB CHARACTER is a parameter that changes the reverb algorithm. The value of REVERB CHARACTER corresponds to the REVERB MACRO of the same number.						
40 01 38	00 00 01	00-07	CHORUS MACRO	00: Chorus 1 01: Chorus 2 02: Chorus 3 03: Chorus 4 04: Feedback Chorus 05: Flanger 06: Short Delay 07: Short Delay (FB)	02	Chorus 3
40 01 39	00 00 01	00-07	CHORUS PRE-LPF	0-7	00	0
40 01 3A	00 00 01	00-7F	CHORUS LEVEL	0-127	40	64
40 01 3B	00 00 01	00-7F	CHORUS FEEDBACK	0-127	08	8
40 01 3C	00 00 01	00-7F	CHORUS DELAY	0-127	50	80
40 01 3D	00 00 01	00-7F	CHORUS RATE	0-127	03	3
40 01 3E	00 00 01	00-7F	CHORUS DEPTH	0-127	13	19
40 01 3F	00 00 01	00-7F	CHORUS SEND LEVEL TO REVERB	0-127	00	0
* CHORUS MACRO is a macro parameter that allows global setting of chorus parameters. When you use CHORUS MACRO to select the chorus type, each chorus parameter will be set to the most suitable value.						
40 03 00	00 00 02	00 - 7F	EFX TYPE (MSB, LSB)	00 00 - 7F 7F	00 01	Thru
* Refer to EFX Type Table (page 16)						

E-600 MIDI IMPLEMENTATION

* This EFX Type is current EFX type of this system. When part EFX type is same to this EFX type, that part connect to EFX.

40 03 03	00 00 01	00 - 7F	EFX Parameter 1
40 03 04	00 00 01	00 - 7F	EFX Parameter 2
40 03 05	00 00 01	00 - 7F	EFX Parameter 3
40 03 06	00 00 01	00 - 7F	EFX Parameter 4
40 03 07	00 00 01	00 - 7F	EFX Parameter 5
40 03 08	00 00 01	00 - 7F	EFX Parameter 6
40 03 09	00 00 01	00 - 7F	EFX Parameter 7
40 03 0A	00 00 01	00 - 7F	EFX Parameter 8
40 03 0B	00 00 01	00 - 7F	EFX Parameter 9
40 03 0C	00 00 01	00 - 7F	EFX Parameter 10
40 03 0D	00 00 01	00 - 7F	EFX Parameter 11
40 03 0E	00 00 01	00 - 7F	EFX Parameter 12
40 03 0F	00 00 01	00 - 7F	EFX Parameter 13
40 03 10	00 00 01	00 - 7F	EFX Parameter 14
40 03 11	00 00 01	00 - 7F	EFX Parameter 15
40 03 12	00 00 01	00 - 7F	EFX Parameter 16
40 03 13	00 00 01	00 - 7F	EFX Parameter 17
40 03 14	00 00 01	00 - 7F	EFX Parameter 18
40 03 15	00 00 01	00 - 7F	EFX Parameter 19
40 03 16	00 00 01	00 - 7F	EFX Parameter 20

* Each parameter will be changed by EFX type. Refer to EFX Parameter Map. (page 16)

40 03 17 00 00 01 00 - 7F EFX Send Level to Reverb
 * Set to 0 when EFX type is changed.

40 03 18 00 00 01 00 - 7F EFX Send Level to Chorus
 * Set to 0 when EFX type is changed.

40 03 1A	00 00 01	00 - 7F	EFX Depth	Dry 100% - EFX 100%	7F	
40 03 1B	00 00 01	00 - 7F	EFX Control Source 1	00: OFF 01 - 5F: Control Change No. 71: CAf 72: Bender	00	
40 03 1C	00 00 01	00 - 7F	EFX Control Depth 1		7F	-100% - +100%
40 03 1D	00 00 01	00 - 7F	EFX Control Source 2	*Refer to EFX Control Source 1	00	
40 03 1E	00 00 01	00 - 7F	EFX Control Depth 2		7F	-100% - +100%

* Marked #1 or #2 can be controlled by EFX CONTROL SOURCE 1 or 2.

● Part Parameters

E-600 has 16 parts. Parameters that can be set individually for each Part are called Part parameters.

If you use exclusive messages to set Part parameters, specify the address by Block number rather than Part Number (normally the same number as the MIDI channel). The Block number can be specified as one of 16 blocks, from 0 (H) to F (H).

The relation between Part number and Block number is as follows.

x...BLOCK NUMBER (0-F),	Part 1 (MIDI ch = 1) x = 1
	Part 2 (MIDI ch = 2) x = 2
	: : :
	Part 9 (MIDI ch = 9) x = 9
	Part10 (MIDI ch = 10) x = 0
	Part11 (MIDI ch = 11) x = A
	Part12 (MIDI ch = 12) x = B
	: : :
	Part16 (MIDI ch = 16) x = F

Address (H)	Size (H)	Data (H)	Parameter	Description	Default Value (H)	Description
40 1x 00	00 00 02	00-7F	TONE NUMBER	CC#00 VALUE 0-127	00	0
40 1x 01#		00-7F		P.C. VALUE 1-128	00	1
40 1x 02	00 00 01	00-10	Rx. CHANNEL	1-16, OFF		Same as the Part Number
40 1x 03	00 00 01	00-01	Rx. PITCH BEND	OFF/ON	01	ON
40 1x 04	00 00 01	00-01	Rx. CH PRESSURE (CAf)	OFF/ON	01	ON
40 1x 05	00 00 01	00-01	Rx. PROGRAM CHANGE	OFF/ON	01	ON
40 1x 06	00 00 01	00-01	Rx. CONTROL CHANGE	OFF/ON	01	ON
40 1x 07	00 00 01	00-01	Rx. POLY PRESSURE (PAf)	OFF/ON	01	ON
40 1x 08	00 00 01	00-01	Rx. NOTE MESSAGE	OFF/ON	01	ON
40 1x 09	00 00 01	00-01	Rx. RPN	OFF/ON	01	ON
40 1x 0A	00 00 01	00-01	Rx. NRPN	OFF/ON	00 (01*)	OFF (ON*)
* Rx. NRPN is set to OFF by power-on or by receiving "Turn General MIDI System On," and it will be set ON when "GS RESET" is received.						
40 1x 0B	00 00 01	00-01	Rx. MODULATION	OFF/ON	01	ON
40 1x 0C	00 00 01	00-01	Rx. VOLUME	OFF/ON	01	ON
40 1x 0D	00 00 01	00-01	Rx. PANPOT	OFF/ON	01	ON
40 1x 0E	00 00 01	00-01	Rx. EXPRESSION	OFF/ON	01	ON
40 1x 0F	00 00 01	00-01	Rx. HOLD1	OFF/ON	01	ON
40 1x 10	00 00 01	00-01	Rx. PORTAMENTO	OFF/ON	01	ON
40 1x 11	00 00 01	00-01	Rx. SOSTENUTO	OFF/ON	01	ON

40 1x 12	00 00 01	00-01	Rx. SOFT	OFF/ON	01	ON
40 1x 13	00 00 01	00-01	MONO/POLY MODE (= CC# 126 01 / CC# 127 00)	Mono/Poly	01	Poly
40 1x 14	00 00 01	00-02	ASSIGN MODE	0 = SINGLE 1 = LIMITED-MULTI 2 = FULL-MULTI	00 at x = 0 01 at x ≠ 0	SINGLE at x = 0 LIMITED-MULTI at x ≠ 0
* ASSIGN MODE is the parameter that determines how voice assignment will be handled when sounds overlap on identical note numbers in the same channel (i.e., repeatedly struck notes). This is initialized to a mode suitable for each Part, so for general purposes there is no need to change this.						
40 1x 15	00 00 01	00-02	USE FOR RHYTHM PART	0 = OFF 1 = MAP1 2 = MAP2	00 at x = 0 01 at x = 0	OFF at x ≠ 0 MAP1 at x ≠ 0
* This parameter sets the Drum Map of the Part used as the Drum Part. E-600 can simultaneously (in different Parts) use up to two Drum Maps (MAP1, MAP2). With the initial settings, Part10 (MIDI CH = 10, x = 0) is set to MAP1 (1), and other Parts are set to normal instrumental Parts (OFF (0)).						
40 1x 16	00 00 01	28-58	PITCH KEY SHIFT	-24 - +24 [semitones]	40	0 [semitones]
40 1x 17	00 00 02	08-F8	PITCH OFFSET FINE	-12.0 - +12.0 [Hz]	08 00	0 [Hz]
40 1x 18#	Use nibblized data.					
* PITCH OFFSET FINE allows you to alter, by a specified frequency amount, the pitch at which notes will sound. This parameter differs from the conventional Fine Tuning (RPN #1) parameter in that the amount of frequency alteration (in Hertz) will be identical no matter which note is played. When a multiple number of Parts, each of which has been given a different setting for PITCH OFFSET FINE, are sounded by means of an identical note number, you can obtain a Celeste effect.						
40 1x 19	00 00 01	00-7F	PART LEVEL (= CC# 7)	0-127	64	100
40 1x 1A	00 00 01	00-7F	VELOCITY SENSE DEPTH	0-127	40	64
40 1x 1B	00 00 01	00-7F	VELOCITY SENSE OFFSET	0-127	40	64
40 1x 1C	00 00 01	00-7F	PART PANPOT (= CC# 10, except RANDOM)	-64 (RANDOM), -63 (LEFT) - +63 (RIGHT)	40	0 (CENTER)
40 1x 1D	00 00 01	00-7F	KEY RANGE LOW	(C-1)-(G9)	00	C-1
40 1x 1E	00 00 01	00-7F	KEY RANGE HIGH	(C-1)-(G9)	7F	G 9
40 1x 1F	00 00 01	00-5F	CC1 CONTROLLER NUMBER	0-95	10	16
40 1x 20	00 00 01	00-5F	CC2 CONTROLLER NUMBER	0-95	11	17
40 1x 21	00 00 01	00-7F	CHORUS SEND LEVEL (= CC# 93)	0-127	00	0
40 1x 22	00 00 01	00-7F	REVERB SEND LEVEL (= CC# 91)	0-127	28	40
40 1x 23	00 00 01	00-01	Rx. BANK SELECT	OFF/ON	01 (00*)	ON (OFF*)
* Rx. BANK SELECT is set to ON by power-on or by receiving "GS RESET," and will be set OFF when "Turn General MIDI System On" is received.						
40 1x 24	00 00 01	00-01	Rx.BANK SELECT LSB	OFF/ON	00	OFF
* E-600 can be recognise Bank Select LSB (40H-43H) even if this message is OFF.						
40 1x 25	00 00 01	00-01	TONE REMAIN	OFF/ON	01	ON
40 1x 28	00 00 03	00-7F	Bank Select LSB Range	LSB (from)	40	40H
40 1x 29#	LSB (to)					
40 1x 30	00 00 01	0E-72	TONE MODIFY 1 Vibrato rate (= NRP# 8)	-50 - +50	40	0
40 1x 31	00 00 01	0E-72	TONE MODIFY 2 Vibrato depth (= NRP# 9)	-50 - +50	40	0
40 1x 32	00 00 01	0E-72	TONE MODIFY 3 TVF cutoff frequency (= NRP# 32)	-50 - +50	40	0
40 1x 33	00 00 01	0E-72	TONE MODIFY 4 TVF resonance (= NRP# 33)	-50 - +50	40	0
40 1x 34	00 00 01	0E-72	TONE MODIFY 5 TVF&TVA Env.attack (= NRP# 99)	-50 - +50	40	0
40 1x 35	00 00 01	0E-72	TONE MODIFY 6 TVF&TVA Env.decay (= NRP# 100)	-50 - +50	40	0
40 1x 36	00 00 01	0E-72	TONE MODIFY 7 TVF&TVA Env.release (= NRP# 102)	-50 - +50	40	0
40 1x 37	00 00 01	0E-72	TONE MODIFY 8 Vibrato delay (= NRP# 10)	-50 - +50	40	0
40 1x 40	00 00 0C	00-7F	SCALE TUNING C	-64 - +63 [cent]	40	0 [cent]
40 1x 41#	00-7F	00-7F	SCALE TUNING C#	-64 - +63 [cent]	40	0 [cent]
40 1x 42#	00-7F	00-7F	SCALE TUNING D	-64 - +63 [cent]	40	0 [cent]
40 1x 43#	00-7F	00-7F	SCALE TUNING D#	-64 - +63 [cent]	40	0 [cent]
40 1x 44#	00-7F	00-7F	SCALE TUNING E	-64 - +63 [cent]	40	0 [cent]
40 1x 45#	00-7F	00-7F	SCALE TUNING F	-64 - +63 [cent]	40	0 [cent]
40 1x 46#	00-7F	00-7F	SCALE TUNING F#	-64 - +63 [cent]	40	0 [cent]
40 1x 47#	00-7F	00-7F	SCALE TUNING G	-64 - +63 [cent]	40	0 [cent]
40 1x 48#	00-7F	00-7F	SCALE TUNING G#	-64 - +63 [cent]	40	0 [cent]
40 1x 49#	00-7F	00-7F	SCALE TUNING A	-64 - +63 [cent]	40	0 [cent]
40 1x 4A#	00-7F	00-7F	SCALE TUNING A#	-64 - +63 [cent]	40	0 [cent]
40 1x 4B#	00-7F	00-7F	SCALE TUNING B	-64 - +63 [cent]	40	0 [cent]

* SCALE TUNING is a function that allows fine adjustment to the pitch of each note in the octave. The pitch of each identically-named note in all octaves will change simultaneously. A setting of ±10 cent (40H) is equal temperament. Refer to section 4. Supplementary material, "The Scale Tune Feature"(page 15).

E-600 MIDI IMPLEMENTATION

40 2x 00	00 00 01	28-58	MOD PITCH CONTROL	-24 - +24 [semitone]	40	0 [semitones]
40 2x 01	00 00 01	00-7F	MOD TVF CUTOFF CONTROL	-9600 - +9600 [cent]	40	0 [cent]
40 2x 02	00 00 01	00-7F	MOD AMPLITUDE CONTROL	-100.0 - +100.0 [%]	40	0 [%]
40 2x 03	00 00 01	00-7F	MOD LFO1 RATE CONTROL	-10.0 - +10.0 [Hz]	40	0 [Hz]
40 2x 04	00 00 01	00-7F	MOD LFO1 PITCH DEPTH	0-600 [cent]	0A	47 [cent]
40 2x 05	00 00 01	00-7F	MOD LFO1 TVF DEPTH	0-2400 [cent]	00	0 [cent]
40 2x 06	00 00 01	00-7F	MOD LFO1 TVA DEPTH	0-100.0 [%]	00	0 [%]
40 2x 07	00 00 01	00-7F	MOD LFO2 RATE CONTROL	-10.0 - +10.0 [Hz]	40	0 [Hz]
40 2x 08	00 00 01	00-7F	MOD LFO2 PITCH DEPTH	0-600 [cent]	00	0 [cent]
40 2x 09	00 00 01	00-7F	MOD LFO2 TVF DEPTH	0-2400 [cent]	00	0 [cent]
40 2x 0A	00 00 01	00-7F	MOD LFO2 TVA DEPTH	0-100.0 [%]	00	0 [%]
40 2x 10	00 00 01	40-58	BEND PITCH CONTROL	0-24 [semitone]	42	2 [semitones]
40 2x 11	00 00 01	00-7F	BEND TVF CUTOFF CONTROL	-9600 - +9600 [cent]	40	0 [cent]
40 2x 12	00 00 01	00-7F	BEND AMPLITUDE CONTROL	-100.0 - +100.0 [%]	40	0 [%]
40 2x 13	00 00 01	00-7F	BEND LFO1 RATE CONTROL	-10.0 - +10.0 [Hz]	40	0 [Hz]
40 2x 14	00 00 01	00-7F	BEND LFO1 PITCH DEPTH	0-600 [cent]	00	0 [cent]
40 2x 15	00 00 01	00-7F	BEND LFO1 TVF DEPTH	0-2400 [cent]	00	0 [cent]
40 2x 16	00 00 01	00-7F	BEND LFO1 TVA DEPTH	0-100.0 [%]	00	0 [%]
40 2x 17	00 00 01	00-7F	BEND LFO2 RATE CONTROL	-10.0 - +10.0 [Hz]	40	0 [Hz]
40 2x 18	00 00 01	00-7F	BEND LFO2 PITCH DEPTH	0-600 [cent]	00	0 [cent]
40 2x 19	00 00 01	00-7F	BEND LFO2 TVF DEPTH	0-2400 [cent]	00	0 [cent]
40 2x 1A	00 00 01	00-7F	BEND LFO2 TVA DEPTH	0-100.0 [%]	00	0 [%]
40 2x 20	00 00 01	28-58	CAI PITCH CONTROL	-24 - +24 [semitone]	40	0 [semitones]
40 2x 21	00 00 01	00-7F	CAI TVF CUTOFF CONTROL	-9600 - +9600 [cent]	40	0 [cent]
40 2x 22	00 00 01	00-7F	CAI AMPLITUDE CONTROL	-100.0 - +100.0 [%]	40	0 [%]
40 2x 23	00 00 01	00-7F	CAI LFO1 RATE CONTROL	-10.0 - +10.0 [Hz]	40	0 [Hz]
40 2x 24	00 00 01	00-7F	CAI LFO1 PITCH DEPTH	0-600 [cent]	00	0 [cent]
40 2x 25	00 00 01	00-7F	CAI LFO1 TVF DEPTH	0-2400 [cent]	00	0 [cent]
40 2x 26	00 00 01	00-7F	CAI LFO1 TVA DEPTH	0-100.0 [%]	00	0 [%]
40 2x 27	00 00 01	00-7F	CAI LFO2 RATE CONTROL	-10.0 - +10.0 [Hz]	40	0 [Hz]
40 2x 28	00 00 01	00-7F	CAI LFO2 PITCH DEPTH	0-600 [cent]	00	0 [cent]
40 2x 29	00 00 01	00-7F	CAI LFO2 TVF DEPTH	0-2400 [cent]	00	0 [cent]
40 2x 2A	00 00 01	00-7F	CAI LFO2 TVA DEPTH	0-100.0 [%]	00	0 [%]
40 2x 30	00 00 01	28-58	PAI PITCH CONTROL	-24 - +24 [semitone]	40	0 [semitones]
40 2x 31	00 00 01	00-7F	PAI TVF CUTOFF CONTROL	-9600 - +9600 [cent]	40	0 [cent]
40 2x 32	00 00 01	00-7F	PAI AMPLITUDE CONTROL	-100.0 - +100.0 [%]	40	0 [%]
40 2x 33	00 00 01	00-7F	PAI LFO1 RATE CONTROL	-10.0 - +10.0 [Hz]	40	0 [Hz]
40 2x 34	00 00 01	00-7F	PAI LFO1 PITCH DEPTH	0-600 [cent]	00	0 [cent]
40 2x 35	00 00 01	00-7F	PAI LFO1 TVF DEPTH	0-2400 [cent]	00	0 [cent]
40 2x 36	00 00 01	00-7F	PAI LFO1 TVA DEPTH	0-100.0 [%]	00	0 [%]
40 2x 37	00 00 01	00-7F	PAI LFO2 RATE CONTROL	-10.0 - +10.0 [Hz]	40	0 [Hz]
40 2x 38	00 00 01	00-7F	PAI LFO2 PITCH DEPTH	0-600 [cent]	00	0 [cent]
40 2x 39	00 00 01	00-7F	PAI LFO2 TVF DEPTH	0-2400 [cent]	00	0 [cent]
40 2x 3A	00 00 01	00-7F	PAI LFO2 TVA DEPTH	0-100.0 [%]	00	0 [%]
40 2x 40	00 00 01	28-58	CC1 PITCH CONTROL	-24 - +24 [semitone]	40	0 [semitones]
40 2x 41	00 00 01	00-7F	CC1 TVF CUTOFF CONTROL	-9600 - +9600 [cent]	40	0 [cent]
40 2x 42	00 00 01	00-7F	CC1 AMPLITUDE CONTROL	-100.0 - +100.0 [%]	40	0 [%]
40 2x 43	00 00 01	00-7F	CC1 LFO1 RATE CONTROL	-10.0 - +10.0 [Hz]	40	0 [Hz]
40 2x 44	00 00 01	00-7F	CC1 LFO1 PITCH DEPTH	0-600 [cent]	00	0 [cent]
40 2x 45	00 00 01	00-7F	CC1 LFO1 TVF DEPTH	0-2400 [cent]	00	0 [cent]
40 2x 46	00 00 01	00-7F	CC1 LFO1 TVA DEPTH	0-100.0 [%]	00	0 [%]
40 2x 47	00 00 01	00-7F	CC1 LFO2 RATE CONTROL	-10.0 - +10.0 [Hz]	40	0 [Hz]
40 2x 48	00 00 01	00-7F	CC1 LFO2 PITCH DEPTH	0-600 [cent]	00	0 [cent]
40 2x 49	00 00 01	00-7F	CC1 LFO2 TVF DEPTH	0-2400 [cent]	00	0 [cent]
40 2x 4A	00 00 01	00-7F	CC1 LFO2 TVA DEPTH	0-100.0 [%]	00	0 [%]
40 2x 50	00 00 01	28-58	CC2 PITCH CONTROL	-24 - +24 [semitone]	40	0 [semitones]
40 2x 51	00 00 01	00-7F	CC2 TVF CUTOFF CONTROL	-9600 - +9600 [cent]	40	0 [cent]
40 2x 52	00 00 01	00-7F	CC2 AMPLITUDE CONTROL	-100.0 - +100.0 [%]	40	0 [%]
40 2x 53	00 00 01	00-7F	CC2 LFO1 RATE CONTROL	-10.0 - +10.0 [Hz]	40	0 [Hz]
40 2x 54	00 00 01	00-7F	CC2 LFO1 PITCH DEPTH	0-600 [cent]	00	0 [cent]
40 2x 55	00 00 01	00-7F	CC2 LFO1 TVF DEPTH	0-2400 [cent]	00	0 [cent]
40 2x 56	00 00 01	00-7F	CC2 LFO1 TVA DEPTH	0-100.0 [%]	00	0 [%]
40 2x 57	00 00 01	00-7F	CC2 LFO2 RATE CONTROL	-10.0 - +10.0 [Hz]	40	0 [Hz]
40 2x 58	00 00 01	00-7F	CC2 LFO2 PITCH DEPTH	0-600 [cent]	00	0 [cent]
40 2x 59	00 00 01	00-7F	CC2 LFO2 TVF DEPTH	0-2400 [cent]	00	0 [cent]
40 2x 5A	00 00 01	00-7F	CC2 LFO2 TVA DEPTH	0-100.0 [%]	00	0 [%]
40 4x 23	00 00 02	00 - 7F	PART EFX TYPE (MSB, LSB) 00 00 - 7F 7F		00 00	0
* This EFX type is same to EFX type of System Parameter. When this EFX type is same to EFX type of System parameter (see the page.9), the part connect to EFX.						
40 4x 25#	00 00 01	00 - 7F	PART EFX MACRO	00 00		0
40 4x 26#	00 00 01	00 - 7F	PART EFX DEPTH	00 00		0

40 4x 51	00 00 0B	00-7F	FOOTAGE SET	always 00	00	0
40 4x 52#		00-7F	PERCUSSION	00(OFF) 01(4, Short) 02(2+2/3, Short) 41(4, Long) 42(2+2/3, Long)	00	OFF
40 4x 53#		00-7F	FOOTAGELEVEL 16'	00(OFF), 0F(ON)	00	OFF
40 4x 54#		00-7F	FOOTAGELEVEL 5+1/3'	00(OFF), 0F(ON)	00	OFF
40 4x 55#		00-7F	FOOTAGELEVEL 8'	00(OFF), 0F(ON)	00	OFF
40 4x 56#		00-7F	FOOTAGELEVEL 4'	00(OFF), 0F(ON)	00	OFF
40 4x 57#		00-7F	FOOTAGELEVEL 2+2/3'	00(OFF), 0F(ON)	00	OFF
40 4x 58#		00-7F	FOOTAGELEVEL 2'	00(OFF), 0F(ON)	00	OFF
40 4x 59#		00-7F	FOOTAGELEVEL 1+3/5'	00(OFF), 0F(ON)	00	OFF
40 4x 5A#		00-7F	FOOTAGELEVEL 1+1/3'	00(OFF), 0F(ON)	00	OFF
40 4x 5B#		00-7F	FOOTAGELEVEL 1'	00(OFF), 0F(ON)	00	OFF

● Drum Setup Parameters

* m: Map number (0 = MAP1, 1 = MAP2)

* rr: drum part note number (00H-7FH)

Address (H)	Size (H)	Data (H)	Parameter	Description
41 m1 rr	00 00 01	00-7F	PLAY NOTE NUMBER	Pitch coarse
41 m2 rr	00 00 01	00-7F	LEVEL (= NRPN# 26)	TVA level
41 m3 rr	00 00 01	00-7F	ASSIGN GROUP NUMBER	Non, 1-127
41 m4 rr	00 00 01	00-7F	PANPOT (= NRPN# 28, except RANDOM)	-64 (RANDOM), -63 (LEFT) - +63 (RIGHT)
41 m5 rr	00 00 01	00-7F	REVERB SEND LEVEL (= NRPN# 29)	0.0-1.0 Multiplicand of the part reverb depth
41 m6 rr	00 00 01	00-7F	CHORUS SEND LEVEL (= NRPN# 30)	0.0-1.0 Multiplicand of the part chorus depth
41 m7 rr	00 00 01	00-01	Rx. NOTE OFF	OFF/ON
41 m8 rr	00 00 01	00-01	Rx. NOTE ON	OFF/ON

* When the Drum Set is changed, DRUM SETUP PARAMETER values will all be initialized.

Section 4. Supplementary material

● Decimal and Hexadecimal table

In MIDI documentation, data values and addresses/sizes of exclusive messages etc. are expressed as hexadecimal values for each 7 bits.

The following table shows how these correspond to decimal numbers.

Dec.	Hex.	Dec.	Hex.	Dec.	Hex.	Dec.	Hex.
0	00H	32	20H	64	40H	96	60H
1	01H	33	21H	65	41H	97	61H
2	02H	34	22H	66	42H	98	62H
3	03H	35	23H	67	43H	99	63H
4	04H	36	24H	68	44H	100	64H
5	05H	37	25H	69	45H	101	65H
6	06H	38	26H	70	46H	102	66H
7	07H	39	27H	71	47H	103	67H
8	08H	40	28H	72	48H	104	68H
9	09H	41	29H	73	49H	105	69H
10	0AH	42	2AH	74	4AH	106	6AH
11	0BH	43	2BH	75	4BH	107	6BH
12	0CH	44	2CH	76	4CH	108	6CH
13	0DH	45	2DH	77	4DH	109	6DH
14	0EH	46	2EH	78	4EH	110	6EH
15	0FH	47	2FH	79	4FH	111	6FH
16	10H	48	30H	80	50H	112	70H
17	11H	49	31H	81	51H	113	71H
18	12H	50	32H	82	52H	114	72H
19	13H	51	33H	83	53H	115	73H
20	14H	52	34H	84	54H	116	74H
21	15H	53	35H	85	55H	117	75H
22	16H	54	36H	86	56H	118	76H
23	17H	55	37H	87	57H	119	77H
24	18H	56	38H	88	58H	120	78H
25	19H	57	39H	89	59H	121	79H
26	1AH	58	3AH	90	5AH	122	7AH
27	1BH	59	3BH	91	5BH	123	7BH
28	1CH	60	3CH	92	5CH	124	7CH
29	1DH	61	3DH	93	5DH	125	7DH
30	1EH	62	3EH	94	5EH	126	7EH
31	1FH	63	3FH	95	5FH	127	7FH

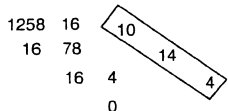
- Decimal values such as MIDI channel, bank select, and program change are listed as one (1) greater than the values given in the above table.
- A 7-bit byte can express data in the range of 128 steps. For data where greater precision is required, we must use two or more bytes. For example, two hexadecimal numbers aa bbH expressing two 7-bit bytes would indicate a value of aa x 128 + bb.
- In the case of values which have a ± sign, 00H = -64, 40H = ±0, and 7FH = +63, so that the decimal expression would be 64 less than the value given in the above chart. In the case of two types, 00 00H = -8192, 40 00H = ±0, and 7F 7FH = +8191. For example if aa bbH were expressed as decimal, this would be aa bbH - 40 00H = aa x 128 + bb - 64 x 128.
- Data marked "nibbled" is expressed in hexadecimal in 4-bit units. A value expressed as a 2-byte nibble 0a 0bH has the value of a x 16 + b.

<Example 1> What is the decimal expression of 5AH ?
From the preceding table, 5AH = 90

<Example 2> What is the decimal expression of the value 12 34H given as hexadecimal for each 7 bits?
From the preceding table, since 12H = 18 and 34H = 52
18 x 128 + 52 = 2356

<Example 3> What is the decimal expression of the nibbled value 0A 03 09 0D ?
From the preceding table, since 0AH = 10, 03H = 3, 09H = 9, 0DH = 13
(10 x 16 + 3) x 16 + 9 = 41885

<Example 4> What is the nibbled expression of the decimal value 1258?



Since from the preceding table, 0 = 00H, 4 = 04H, 14 = 0EH, 10 = 0AH, the answer is 00 04 0E 0AH.

● Examples of actual MIDI messages

<Example 1> 92 3E 5F

9n is the Note-on status, and n is the MIDI channel number. Since 2H = 2, 3EH = 62, and 5FH = 95, this is a Note-on message with MIDI CH = 3, note number 62 (note name is D4), and velocity 95.

<Example 2> CE 49

CnH is the Program Change status, and n is the MIDI channel number. Since EH = 14 and 49H = 73, this is a Program Change message with MIDI CH = 15, program number 74 (Flute in GS).

<Example 3> EA 00 28

EnH is the Pitch Bend Change status, and n is the MIDI channel number. The 2nd byte (00H = 0) is the LSB and the 3rd byte (28H = 40) is the MSB, but Pitch Bend Value is a signed number in which 40 00H (= 64 x 128 + 0 = 8192) is 0, so this Pitch Bend Value is 28 00H - 40 00H = 40 x 128 + 0 - (64 x 128 + 0) = 5120 - 8192 = -3072

If the Pitch Bend Sensitivity is set to 2 semitones, -8192 (00 00H) will cause the pitch to change -200 cents, so in this case -200 x (-3072) / (-8192) = -75 cents of Pitch Bend is being applied to MIDI channel 11.

<Example 4> B3 64 00 65 00 06 0C 26 00 64 7F 65 7F

BnH is the Control Change status, and n is the MIDI channel number. For Control Changes, the 2nd byte is the control number, and the 3rd byte is the value. In a case in which two or more messages consecutive messages have the same status, MIDI has a provision called "running status" which allows the status byte of the second and following messages to be omitted. Thus, the above messages have the following meaning.

B3	64 00	MIDI ch.4, lower byte of RPN parameter number: 00H
(B3)	65 00	(MIDI ch.4) upper byte of RPN parameter number: 00H
(B3)	06 0C	(MIDI ch.4) upper byte of parameter value: 0CH
(B3)	26 00	(MIDI ch.4) lower byte of parameter value: 00H
(B3)	64 7F	(MIDI ch.4) lower byte of RPN parameter number: 7FH
(B3)	65 7F	(MIDI ch.4) upper byte of RPN parameter number: 7FH

In other words, the above messages specify a value of 0C 00H for RPN parameter number 00 00H on MIDI channel 4, and then set the RPN parameter number to 7F 7FH.

RPN parameter number 00 00H is Pitch Bend Sensitivity, and the MSB of the value indicates semitone units, so a value of 0CH = 12 sets the maximum pitch bend range to ±12 semitones (1 octave). (On GS sound sources the LSB of Pitch Bend Sensitivity is ignored, but the LSB should be transmitted anyway (with a value of 0) so that operation will be correct on any device.)

Once the parameter number has been specified for RPN or NRPN, all Data Entry messages transmitted on that same channel will be valid, so after the desired value has been transmitted, it is a good idea to set the parameter number to 7F 7FH to prevent accidents. This is the reason for the (B3) 64 7F (B3) 65 7F at the end.

It is not desirable for performance data (such as Standard MIDI File data) to contain many events with running status as given in <Example 4>. This is because if playback is halted during the song and then rewound or fast-forwarded, the sequencer may not be able to transmit the correct status, and the sound source will then misinterpret the data. Take care to give each event its own status.

It is also necessary that the RPN or NRPN parameter number setting and the value setting be done in the proper order. On some sequencers, events occurring in the same (or consecutive) clock may be transmitted in an order different than the order in which they were received. For this reason it is a good idea to slightly skew the time of each event (about 1 tick for TPQN = 96, and about 5 ticks for TPQN = 480).

* TPQN: Ticks Per Quarter Note

● Example of an Exclusive message and calculating a Checksum

Roland Exclusive messages are transmitted with a checksum at the end (before F7) to make sure that the message was correctly received. The value of the checksum is determined by the address and data (or size) of the transmitted exclusive message.

uHow to calculate the checksum (hexadecimal numbers are indicated by 'H')

The checksum is a value derived by adding the address, size and checksum itself and inverting the lower 7 bits.

Here's an example of how the checksum is calculated. We will assume that in the exclusive message we are transmitting, the address is aa bb cCH and the data or size is dd ee fFH.

$$\begin{aligned}
 aa + bb + cc + dd + ee + ff &= \text{sum} \\
 \text{sum} / 128 &= \text{quotient} \dots \text{remainder} \\
 128 - \text{remainder} &= \text{checksum}
 \end{aligned}$$

* Checksum is 0 if the remainder is 0.

<Example> Setting REVERB MACRO to ROOM 3
 According to the "Parameter Address Map," the REVERB MACRO Address is 40 01 30H, and ROOM 3 is a value of 02H. Thus,

F0	41	10	42	12	40 01 30	02	22	E7
(1)	(2)	(3)	(4)	(5)	Address	data	Checksum	(6)

(1) Exclusive Status, (2) ID (Roland), (3) Device ID (17),
 (4) Model ID (GS), (5) Command ID (DT1), (6) End of Exclusive

Next we calculate the checksum.

40H + 01H + 30H + 02H = 64 + 1 + 48 + 2 = 115 (sum)
 115 (sum) / 128 = 0 (quotient) ... 115 (remainder)
 checksum = 128 - 115 (remainder) = 13 = 0DH

This means that F0 41 10 42 12 40 01 30 02 0D F7 is the message we transmit.

● About tuning

In MIDI, individual Parts are tuned by sending RPN #1 (Master Fine Tuning) to the appropriate MIDI channel.

In MIDI, an entire device is tuned by either sending RPN #1 to all MIDI channels being used, or by sending a System Exclusive MASTER TUNE (address 40 00 00H).

RPN #1 allows tuning to be specified in steps of approximately 0.012 cents (to be precise, 100/8192 cent), and System Exclusive MASTER TUNE allows tuning in steps of 0.1 cent. One cent is 1/100th of a semitone.

The values of RPN #1 (Master Fine Tuning) and System Exclusive MASTER TUNE are added together to determine the actual pitch sounded by each Part.

Frequently used tuning values are given in the following table for your reference. Values are in hexadecimal (decimal in parentheses).

Hex in A41	cent	RPN #1	Sys.Ex. 40 00 00
445.0	+19.56	4C 43 (+1603)	00 04 0C 43 (+196)
444.0	+15.67	4A 03 (+1283)	00 04 09 03 (+157)
443.0	+11.76	47 44 (+964)	00 04 07 06 (+118)
443.0	+7.85	45 03 (+645)	00 04 04 05 (+70)
441.0	+3.93	42 03 (+325)	00 04 02 07 (+39)
440.0	0.00	40 00 (0)	00 04 00 00 (0)
439.0	-3.91	3D 3D (-325)	00 03 0D 05 (-39)
438.0	-7.89	3A 7A (-646)	00 03 0B 01 (-79)

<Example> Set the tuning of MIDI channel 3 to A4 = 442.0 Hz
 Send RPN#1 to MIDI channel 3. From the above table, the value is 45 03H.

B2	64 00	MIDI ch.3, lower byte of RPN parameter number: 00H
(B2)	65 01	(MIDI ch.3) upper byte of RPN parameter number: 01H
(B2)	06 45	(MIDI ch.3) upper byte of parameter value: 45H
(B2)	26 03	(MIDI ch.3) lower byte of parameter value: 03H
(B2)	64 7F	(MIDI ch.3) lower byte of RPN parameter number: 7FH
(B2)	65 7F	(MIDI ch.3) upper byte of RPN parameter number: 7FH

● The Scale Tune Feature (address: 40 1x 40)

The scale Tune feature allows you to finely adjust the individual pitch of the notes from C through B. Though the settings are made while working with one octave, the fine adjustments will affect all octaves. By making the appropriate Scale Tune settings, you can obtain a complete variety of tuning methods other than equal temperament. As examples, three possible types of scale setting are explained below.

○ Equal Temperament

This method of tuning divides the octave into 12 equal parts. It is currently the most widely used form of tuning, especially in occidental music. On E-600, the default settings for the Scale Tune feature produce equal temperament.

○ Just Temperament (Keytone C)

The three main chords resound much more beautifully than with equal temperament, but this benefit can only be obtained in one key. If transposed, the chords tend to become ambiguous. The example given involves settings for a key in which C is the keytone.

○ Arabian Scale

By altering the setting for Scale Tune, you can obtain a variety of other tunings suited for ethnic music. For example, the settings introduced below will set the unit to use the Arabian Scale.

Example Settings

Note name	Equal Temperament	Just Temperament (Keytone C)	Arabian Scale
C	0	0	-6
C#	0	-8	+45
D	0	+4	-2
D#	0	+16	-12
E	0	-14	-51
F	0	-2	-8
F#	0	-10	+43
G	0	+2	-4
G#	0	+14	+47
A	0	-16	0
A#	0	+14	-10
B	0	-12	-49

The values in the table are given in cents. Refer to the explanation of Scale Tuning on page 11 to convert these values to hexadecimal, and transmit them as exclusive data.

For example, to set the tune (C-B) of the Part1 Arabian Scale, send the data as follows:
 F0 41 10 42 12 40 11 40 3A 6D 3E 34 0D 38 6B 3C 6F 40 36 0F 50 F7

Copyright(c) 1999 ROLAND EUROPE
 All right reserved. No part of this publication may reproduced in any form without the written permission of ROLAND EUROPE.

● EFX Type Table

MSB	LSB	Type
01H	00H	Equalizer
01H	01H	Spectrum
01H	02H	Enhancer
01H	03H	Humanizer
01H	10H	Overdrive
01H	11H	Distortion
01H	20H	Phaser
01H	21H	Auto Wah
01H	22H	Rotary
01H	23H	Stereo Flanger
01H	24H	Step Flanger
01H	25H	Tremolo
01H	26H	Auto Pan
01H	30H	Compressor
01H	31H	Limiter
01H	40H	Hexa Chorus
01H	41H	Tremolo Chorus
01H	42H	Stereo Chorus
01H	43H	Space D
01H	44H	2Band Chorus
01H	45H	Space Chorus
01H	46H	Wave Chorus
01H	50H	Stereo Delay
01H	51H	Modulation Delay
01H	52H	Triple Tap Delay
01H	53H	Quadruple Tap Delay
01H	54H	Time Controllable Delay
01H	55H	Reverb
01H	56H	Gate Reverb
01H	60H	Feedback Pitch Shifter
01H	61H	2 Voice Pitch Shifter
01H	72H	Lo-Fi1
01H	73H	Lo-Fi2
02H	00H	Overdrive -> Chorus
02H	01H	Overdrive -> Flanger
02H	02H	Overdrive -> Delay
02H	03H	Distortion -> Chorus
02H	04H	Distortion -> Flanger
02H	05H	Distortion -> Delay
02H	06H	Enhancer -> Chorus
02H	07H	Enhancer -> Flanger
02H	08H	Enhancer -> Delay
02H	09H	Chorus -> Delay
02H	0AH	Flanger -> Delay
02H	0BH	Chorus -> Flanger
02H	0CH	Band Pass Delay
03H	00H	Rotary Multi
04H	03H	Clean Guitar Multi1
04H	04H	Clean Guitar Multi2
04H	06H	Rhodes Multi
05H	00H	Keyboard Multi
11H	00H	Chorus / Delay
11H	01H	Flanger / Delay
11H	02H	Chorus / Flanger

● EFX Parameter Map

* Marked #1 or #2 can be controlled by EFX CONTROL SOURCE1 or 2.

● 01H, 00H: Equalizer

No.	Parameter	Value	Default	Description
1	Low Frequency	00 - 01	01	00: 200Hz, 01: 400Hz
2	Low Gain	31 - 4F	45	-15dB - +15dB (00: 0dB)
3	High Frequency	00 - 01	01	00: 4000Hz, 01: 8000Hz
4	High Gain	31 - 4F	40	-15dB - +15dB (00: 0dB)
5	Mid 1 Frequency	00 - 7F	4C	00: 200Hz - 7F: 6300Hz
6	Mid 1 Q	00 - 04	00	00: 0.5, 01: 1.0, 02: 2.0, 03: 4.0, 04: 9.0
7	Mid 1 Gain	41 - 4F	48	-15dB - +15dB
8	Mid 2 Frequency	00 - 7F	38	00: 200Hz - 7F: 6300Hz
9	Mid 2 Q	00 - 04	00	00: 0.5, 01: 1.0, 02: 2.0, 03: 4.0, 04: 9.0
10	Mid 2 Gain	41 - 4F	39	-15dB - +15dB
20	Level (#1)	00 - 7F	70	

● 01H, 01H: Spectrum

No	Parameter	Value	Default	Description
1	Band 1 Gain (200H)	31 - 4F	3C	-15dB - +15dB (40: 0dB), 1dB/1 Step
2	Band 2 Gain (500Hz)	31 - 4F	41	-15dB - +15dB (40: 0dB), 1dB/1 Step
3	Band 3 Gain (1000Hz)	31 - 4F	43	-15dB - +15dB (40: 0dB), 1dB/1 Step
4	Band 4 Gain (1250Hz)	31 - 4F	46	-15dB - +15dB (40: 0dB), 1dB/1 Step
5	Band 5 Gain (200Hz)	31 - 4F	42	-15dB - +15dB (40: 0dB), 1dB/1 Step
6	Band 6 Gain (3150Hz)	31 - 4F	3F	-15dB - +15dB (40: 0dB), 1dB/1 Step
7	Band 7 Gain (4000Hz)	31 - 4F	3C	-15dB - +15dB (40: 0dB), 1dB/1 Step
8	Band 8 Gain (5000Hz)	31 - 4F	3B	-15dB - +15dB (40: 0dB), 1dB/1 Step
9	Width	00 - 04	02	00: 0.5, 01: 1.0, 02: 2.0, 03: 4.0, 04: 9.0
19	Pan (#1)	00 - 7F	40	40:Center, 00:far Left, 7F:far Right
20	Level (#2)	00 - 7F	7F	

● 01H, 02H: Enhancer

No	Parameter	Value	Default	Description
1	Sence. (#1)	00 - 7F	70	
2	Mix (#2)	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H,03H: Humanizer

No	Parameter	Value	Default	Description
1	Drive Depth	00 - 7F	30	
2	Drive Switch	00 - 02	01	00: OFF, 01: Overdrive, 02: Distrition
3	Vowel(#1)	00 - 04	00	00:a, 01: i, 02: u, 03: e, 04: o
4	Acceleration	00 - 7F	7F	
17	EQ Low Gain (400Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
19	Pan	00 - 7F	40	40:Center, 00:far Left, 7F:far Right
20	Level(#2)	00 - 7F	7F	

● 01H, 10H: Overdrive

No	Parameter	Value	Default	Description
1	Drive (#1)	00 - 7F	30	
2	Amp Type	00 - 03	01	0:Small, 1:Built-in, 2:2-Stack, 3:3-Stack
3	Amp SW	00 - 7F	01	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
19	Pan (#2)	00 - 7F	40	40:Center, 00:far Left, 7F:far Right
20	Level	00 - 7F	7F	

● 01H, 11H: Distortion

No	Parameter	Value	Default	Description
1	Drive (#1)	00 - 7F	30	
2	Amp Type	00 - 03	03	0:Small, 1:Built-in, 2:2-Stack, 3:3-Stack
3	Amp Sw	00 - 7F	01	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
19	Pan (#2)	00 - 7F	40	40:Center, 00:far Left, 7F:far Right
20	Level	00 - 7F	7F	

● 01H, 20H: Phaser

No	Parameter	Value	Default	Description
1	Manual (#1)	00 - 7F	28	
2	Rate (#2)	00 - 7D	10	
3	Depth	00 - 7F	48	
4	Resonance	00 - 7F	50	
5	Mix	00 - 7F	60	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
19	Pan (#2)	00 - 7F	40	40:Center, 00:far Left, 7F:far Right
20	Level	00 - 7F	70	

● 01H, 21H: Auto Wah

No	Parameter	Value	Default	Description
1	Filter Type	00 - 01	01	0: LPF, 1: BPF
2	Senese	00 - 7F	00	
3	Manual (#1)	00 - 7F	44	
4	Peak	00 - 7F	3E	
5	Rate (#2)	00 - 7F	28	
6	Depth	00 - 7F	48	
7	Polarity	00 - 7F	00	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
19	Pan	00 - 7F	40	
20	Level	00 - 7F	60	

● 01H, 22H: Rotary

No	Parameter	Value	Default	Description
1	Low Rate-Slow	00 - 7F	06	0.01Hz - 10Hz
2	Low Rate-Fast	00 - 7F	71	0.01Hz - 10Hz
3	Low Accel	00 - 7F	18	
4	Low Level	00 - 7F	7F	
5	High Rate-Slow	00 - 7F	11	0.01Hz - 10Hz
6	High Rate-Fast	00 - 7F	78	0.01Hz - 10Hz
7	High Accel	00 - 7F	58	
8	High Level	00 - 7F	40	
9	Separation	00 - 7F	60	
10	Color	00 - 7F	00	
11	Speed (#1)	00 - 7F	00	00-3F: Slow, 40-7F: Fast
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level (#2)	00 - 7F	7F	

● 01H, 23H: Stereo Flanger

No	Parameter	Value	Default	Description
1	Pre Filter	00 - 02	00	0: OFF, 1: LPF, 2: HPF
2	Cutoff Frequency	00 - 7F	00	
3	Pre Delay	00 - 7F	0B	
4	Rate (#1)	00 - 7F	0B	
5	Depth	00 - 7F	18	
6	Feedback (#2)	00 - 7F	68	40: 0%, 2%/ 1 Step
7	Phase	00 - 7F	5A	5A: 180 degree
16	Balance	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level (#2)	00 - 7F	68	

● 01H, 24H: Step Flanger

No	Parameter	Value	Default	Description
1	Pre Delay	00 - 7F	0B	
2	Rate	00 - 7F	0B	
3	Depth	00 - 7F	10	
4	Feedback (#1)	00 - 7F	60	40: 0%, 2%/ 1 Step
5	Phase	00 - 7F	5A	5A: 180 degree
6	Step Rate (#2)	00 - 7F	50	
16	Balance	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level (#2)	00 - 7F	70	

● 01H, 25H: Tremolo

No	Parameter	Value	Default	Description
1	Wave	00 - 7F	02	00:Triangle, 01:Square, 02:Sin, 03:Saw(Up), 04:Saw(Down)
2	Rate(#1)	00 - 7F	3C	
3	Depth(#2)	00 - 7F	30	
17	EQ Low Gain (400Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H, 26H: Auto Pan

No	Parameter	Value	Default	Description
1	Wave	00 - 04	02	00:Triangle, 01:Square, 02:Sin, 03:Saw(Up), 04:Saw(Down)
2	Rate(#1)	00 - 7F	3C	
3	Depth(#2)	00 - 7F	30	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H, 30H: Compressor

No	Parameter	Value	Default	Description
1	Attack	00 - 7F	48	
2	Sustain	00 - 7F	58	
3	Post Gain	00 - 7F	02	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
19	Pan (#1)	31 - 4F	40	40:Center, 00:far Left, 7F:far Right
20	Level (#2)	00 - 7F	60	

● 01H, 31H: Limiter

No	Parameter	Value	Default	Description
1	Threshold	00 - 7F	5A	
2	Ratio	00 - 7F	03	
3	Release	00 - 7F	50	
4	Post Gain	00 - 7F	01	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
19	Pan (#1)	31 - 4F	40	40:Center, 00:far Left, 7F:far Right
20	Level (#2)	00 - 7F	7F	

● 01H, 40H: Hexa Chorus

No	Parameter	Value	Default	Description
1	Pre Delay	00 - 7F	0A	
2	Rate (#1)	00 - 7D	08	
3	Depth	00 - 7F	48	
4	Pre Delay Dev.	00 - 20	02	
5	Depth Dev.	2C - 54	38	
6	Pan Dev.	00 - 20	18	
16	Balance (#2)	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	68	

● 01H, 41H: Tremolo Chorus

No	Parameter	Value	Default	Description
1	Pre Delay	00 - 7F	0A	
2	Rate	00 - 7D	08	
3	Depth	00 - 7F	28	
4	Trem. Phase	00 - 5A	28	
5	Trem. Rate (#1)	00 - 7F	3C	
6	Trem. Sep.	00 - 7F	60	
16	Balance (#2)	00 - 7F	7F	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H, 42H: Stereo Chorus

No	Parameter	Value	Default	Description
1	Pre Filter	00 - 02	00	
2	Cutoff Frequency	00 - 7F	00	
3	Pre Delay	00 - 7F	0A	
4	Rate (#1)	00 - 7D	08	
5	Depth	00 - 7F	48	
7	Phase	00 - 5A	5A	
16	Balance (#2)	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	68	

E-600 MIDI IMPLEMENTATION

● 01H, 43H: Space D

No	Parameter	Value	Default	Description
1	Pre Delay	00 - 7F	0A	
2	Rate (#1)	00 - 7D	10	
3	Depth	00 - 7F	48	
4	Phase	00 - 5A	5A	
16	Balance (#2)	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	60	

● 01H,44H: 2Band Chorus

No	Parameter	Value	Default	Description
1	Crossover Freq	00 - 7F	30	
2	Low Pre-Delay	00 - 7F	10	
3	Low Rate	00 - 7F	04	
4	Low Depth	00 - 7F	20	
5	Low Phase	00 - 7F	5A	
6	High Pre-Delay	00 - 7F	10	
7	High Rate	00 - 7F	18	
8	High Depth	00 - 7F	40	
9	High Phase	00 - 7F	5A	
10	Chorus Balance(#1)	00 - 7F	40	
16	Balance(#2)	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H,45H: Space Chorus

No	Parameter	Value	Default	Description
1	Mode	00 - 7F	03	
16	Balance	00 - 7F	40	
17	EQ Low Gain (400Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H,46H: Wave Chorus

No	Parameter	Value	Default	Description
1	Pre-Filter	00 - 7F	00	
2	Cutoff Freq	00 - 7F	00	
3	Pre-Delay	00 - 7F	0A	
4	Tri Rate	00 - 7F	08	
5	Tri Depth	00 - 7F	20	
6	Sin Rate	00 - 7F	08	
7	Sin Depth	00 - 7F	50	
8	Exp Rate	00 - 7F	0C	
9	Exp Depth	00 - 7F	30	
10	Feedback	00 - 7F	40	
16	Balance	00 - 7F	40	
17	EQ Low Gain (400Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H, 50H: Stereo Delay

No	Parameter	Value	Default	Description
1	Delay Left	00 - 7E	70	
2	Delay Right	00 - 7E	70	
3	Feedback (#1)	0F - 71	48	
4	Feedback Mode	00 - 01	01	0: Normal, 1: Cross
5	Phase Left	00 - 01	00	0: Normal, 1: Invert
6	Phase Right	00 - 01	00	0: Normal, 1: Invert
8	HF Damp	00 - 7F	58	7F: Bypass
16	Balance (#2)	00 - 7F	10	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H, 51H: Modulation Delay

No	Parameter	Value	Default	Description
1	Delay Left	00 - 7E	5A	
2	Delay Right	00 - 7E	6C	
3	Feedback	0F - 71	54	40: 0%, 2% / 1 Step
4	Feedback Mode	00 - 01	01	0: Normal, 1: Cross
5	Mod: Rate (#1)	00 - 7D	0C	
6	Mod: Depth	00 - 7F	15	
7	Mod: Phase	00 - 5A	5A	5A: 180 degree
8	HF Damp	00 - 7F	58	7F: Bypass
16	Balance (#2)	00 - 7F	10	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H, 52H: Triple Tap Delay

No	Parameter	Value	Default	Description
1	Delay Center	00 - 73	1E	
2	Delay Left	00 - 73	00	
3	Delay Right	00 - 73	0F	
4	Feedback (#1)	0F - 71	48	40: 0%, 2% / 1 Step
5	Center Level	00 - 7F	20	
6	Left Level	00 - 7F	20	
7	Right Level	00 - 7F	20	
8	HF Damp	00 - 7F	58	7F: Bypass
16	Balance (#2)	00 - 7F	30	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H, 53H: Quadruple Tap Delay

No	Parameter	Value	Default	Description
1	Delay 1	00 - 73	2D	
2	Delay 2	00 - 73	1E	
3	Delay 3	00 - 73	0F	
4	Delay 4	00 - 73	00	
5	Level 1	00 - 7F	20	
6	Level 2	00 - 7F	20	
7	Level 3	00 - 7F	20	
8	Level 4	00 - 7F	20	
9	Feedback (#1)	0F - 71	48	40: 0%, 2% / 1 Step
10	HF Damp	00 - 7F	58	7F: Bypass
16	Balance (#2)	00 - 7F	30	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H, 54H: Time Controlable Delay

No	Parameter	Value	Default	Description
1	Delay (#1)	00 - 73	12	
2	Acceleration	00 - 7F	60	
3	Feedback (#2)	0F - 71	48	40: 0%, 2% / 1 Step
4	HF Damp	00 - 7F	58	7F: Bypass
5	Effect Pan	00 - 7F	40	
16	Balance	00 - 7F	10	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H, 55H: Reverb

No	Parameter	Value	Default	Description
1	Type	00 - 05	04	
2	Pre Delay	00 - 7F	30	
3	Time (#1)	00 - 7F	70	
4	HF Damp	00 - 7F	68	7F: Bypass
16	Balance (#2)	00 - 7F	30	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

* Type: 0: Room1, 1: Room2, 2: Stage1, 3: Stage 2, 4: Hall1, 5:Hall2

● 01H, 56H: Gate Reverb

No	Parameter	Value	Default	Description
1	Type	00 - 03	00	
2	Pre Delay	00 - 7F	10	
3	Gate Time	00 - 7F	28	
16	Balance (#1)	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level (#2)	00 - 7F	60	

* Type: 0: Normal, 1: Reverse, 2: Sweep1, 3: Sweep2

● 01H, 60H: Feedback Pitch Shifter

No	Parameter	Value	Default	Description
1	Pitch Coarse (#1)	28 - 4C	47	
2	Pitch Fine	00 - 7F	40	
3	Feedback (#2)	0F - 71	4C	40: 0%, 2% / 1 Step
4	Pre Delay	00 - 7F	5C	
5	Mode	00 - 04	02	
6	Effect Pan	00 - 7F	40	
16	Balance	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 01H, 61H: 2 Voice Pitch Shifter

No	Parameter	Value	Default	Description
1	Pitch Control 1 (#1)	28 - 4C	47	
2	Pitch Fine 1	00 - 7F	3E	
3	Pre Delay 1	00 - 7F	00	
4	Effect Pan 1	00 - 7F	7F	
5	Pitch Control 2 (#2)	28 - 4C	3B	
6	Pitch Fine 2	00 - 7F	42	
7	Pre Delay 2	00 - 7F	00	
8	Effect Pan 2	00 - 7F	00	
9	Mode	00 - 7F	02	
10	Level Balance	00 - 7F	40	
16	Balance	00 - 7F	20	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	60	

● 01H, 72H: Lo-Fi1

No	Parameter	Value	Default	Description
1	Pre-Filter	00 - 7F	01	
2	Lo-fi Type	00 - 7F	03	
3	Post-Filter	00 - 7F	02	
16	Balance(#1)	00 - 7F	7F	
17	EQ Low Gain (400Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
19	Pan(#2)	00 - 7F	40	
20	Level	00 - 7F	7F	

● 01H, 73H: Lo-Fi2

No	Parameter	Value	Default	Description
1	Lofi Type	00 - 7F	03	
2	Filter Type	00 - 7F	01	00: Thru, 01: LPF, 02: HPF
3	Filter Cutoff	00 - 7F	24	
4	Radio Detune(#1)	00 - 7F	00	
5	Radio Noise Level	00 - 7F	40	
6	White/Pink Select	00 - 7F	01	
7	White/Pink Filter	00 - 7F	28	
8	White/Pink Level	00 - 7F	0D	
9	Disc Noise Type	00 - 7F	03	00: LP, 01: EP, 02: SP, 03: Random
10	Disc Noise Filter	00 - 7F	30	
11	Disc Noise Level	00 - 7F	20	
12	Hum Noise Type	00 - 7F	00	
13	Hum Noise Filter	00 - 7F	20	
14	Hum Noise Level	00 - 7F	08	
15	Mono/Stereo Sw	00 - 7F	00	00:Mono, 01: Stereo

16	Balance(#2)	00 - 7F	7F	
17	EQ Low Gain (400Hz)	31 - 4F	43	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	34	-15dB - +15dB (40: 0dB), 1dB/1 Step
19	Pan	00 - 7F	40	
20	level	00 - 7F	7F	

● 02H, 00H: Overdrive -> Chorus

No	Parameter	Value	Default	Description
1	OD: Drive	00 - 7F	20	
2	OD: Pan (#1)	00 - 7F	40	
3	OD: Amp Type	00 - 03	03	0:Small, 1:Built-in, 2:2-Stack, 3:3-Stack
4	OD: Amp Sw	00 - 7F	01	
6	Cho: Delay	00 - 7F	0A	
7	Cho: Rate	00 - 7D	08	
8	Cho: Depth	00 - 7F	48	
10	Cho: Balance (#2)	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 02H, 01H: Overdrive -> Flanger

No	Parameter	Value	Default	Description
1	OD: Drive	00 - 7F	20	
2	OD: Pan (#1)	00 - 7F	40	
3	OD: Amp Type	00 - 03	03	0:Small, 1:Built-in, 2:2-Stack, 3:3-Stack
4	OD: Amp Sw	00 - 7F	01	
6	Flg: Delay	00 - 7F	0B	
7	Flg: Rate	00 - 7F	0B	
8	Flg: Depth	00 - 7F	18	
9	Flg: Feedback	0F - 71	68	
10	Flg: Balance (#2)	00 - 7F	20	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 02H, 02H: Overdrive -> Delay

No	Parameter	Value	Default	Description
1	OD: Drive	00 - 7F	20	
2	OD: Pan (#1)	00 - 7F	40	
3	OD: Amp Type	00 - 03	03	0:Small, 1:Built-in, 2:2-Stack, 3:3-Stack
4	OD: Amp Sw	00 - 7F	01	
6	Dly: Delay	00 - 7F	6F	
7	Dly: Feedback	0F - 71	48	
8	Dly: HP Damp	00 - 7F	58	
10	Dly: Balance (#2)	00 - 7F	10	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 02H, 03H: Distortion -> Chorus

No	Parameter	Value	Default	Description
1	DS: Drive	00 - 7F	30	
2	DS: Pan (#1)	00 - 7F	40	
3	DS: Amp Type	00 - 03	03	0:Small, 1:Built-in, 2:2-Stack, 3:3-Stack
4	DS: Amp Sw	00 - 7F	01	
6	Cho: Delay	00 - 7F	0A	
7	Cho: Rate	00 - 7D	08	
8	Cho: Depth	00 - 7F	48	
10	Cho: Balance (#2)	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

E-600 MIDI IMPLEMENTATION

● 02H, 04H: Distortion -> Flanger

No	Parameter	Value	Default	Description
1	DS: Drive	00 - 7F	30	
2	DS: Pan (#1)	00 - 7F	40	
3	DS: Amp Type	00 - 03	03	0:Small, 1:Built-in, 2:2-Stack, 3:3-Stack
4	DS: Amp Sw	00 - 7F	01	
6	Flg: Delay	00 - 7F	0B	
7	Flg: Rate	00 - 7F	0B	
8	Flg: Depth	00 - 7F	18	
9	Flg: Feedback	0F - 71	68	40: 0%, 2% / 1 Step
10	Flg: Blance (#2)	00 - 7F	20	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 02H, 05H: Distortion -> Delay

No	Parameter	Value	Default	Description
1	DS: Drive	00 - 7F	30	
2	DS: Pan (#1)	00 - 7F	40	
3	DS: Amp Type	00 - 03	03	0:Small, 1:Built-in, 2:2-Stack, 3:3-Stack
4	DS: Amp Sw	00 - 7F	01	
6	Dly: Delay	00 - 7F	6F	
7	Dly: Feedback	0F - 71	48	40: 0%, 2% / 1 Step
8	Dly: HP Damp	00 - 7F	58	
10	Dly: Blance (#2)	00 - 7F	10	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 02H, 06H: Enhancer -> Chorus

No	Parameter	Value	Default	Description
1	Enh: Sens. (#1)	00 - 7F	70	
2	Enh: Mix	00 - 7F	40	
6	Cho: Delay	00 - 7F	0A	
7	Cho: Rate	00 - 7D	08	
8	Cho: Depth	00 - 7F	48	
10	Cho: Blance (#2)	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	50	

● 02H, 07H: Enhancer -> Flanger

No	Parameter	Value	Default	Description
1	Enh: Sens. (#1)	00 - 7F	70	
2	Enh: Mix	00 - 7F	40	
6	Flg: Delay	00 - 7F	0B	
7	Flg: Rate	00 - 7D	0B	
8	Flg: Depth	00 - 7F	18	
9	Flg: Feedback	0F - 71	68	40: 0%, 2% / 1 Step
10	Flg: Blance (#2)	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	60	

● 02H, 08H: Enhancer -> Delay

No	Parameter	Value	Default	Description
1	Enh: Sens. (#1)	00 - 7F	70	
2	Enh: Mix	00 - 7F	40	
6	Dly: Delay	00 - 7F	6F	
7	Dly: Feedback	0F - 71	48	40: 0%, 2% / 1 Step
8	Dly: HP Damp	00 - 7F	58	
10	Dly: Blance (#2)	00 - 7F	10	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	60	

● 02H, 09H: Chorus -> Delay

No	Parameter	Value	Default	Description
1	Cho: Delay	00 - 7F	0A	
2	Cho: Rate	00 - 7D	08	
3	Cho: Depth	00 - 7F	48	
5	Cho: Balance (#1)	00 - 7F	40	
6	Dly: Delay	00 - 7F	6F	
7	Dly: Feedback	0F - 71	48	40: 0%, 2% / 1 Step
8	Dly: HP Damp	00 - 7F	58	
10	Dly: Blance (#2)	00 - 7F	10	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 02H, 0AH: Flanger -> Delay

No	Parameter	Value	Default	Description
1	Flg: Delay	00 - 7F	0B	
2	Flg: Rate	00 - 7D	0B	
3	Flg: Depth	00 - 7F	18	
4	Flg: Feedback (#1)	0F - 71	68	40: 0%, 2% / 1 Step
5	Flg: Blance	00 - 7F	40	
6	Dly: Delay	00 - 7F	6F	
7	Dly: Feedback	0F - 71	48	40: 0%, 2% / 1 Step
8	Dly: HP Damp	00 - 7F	58	
10	Dly: Blance (#2)	00 - 7F	10	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	7F	

● 02H, 0BH: Chorus -> Flanger

No	Parameter	Value	Default	Description
1	Cho: Delay	00 - 7F	0A	
2	Cho: Rate	00 - 7D	08	
3	Cho: Depth	00 - 7F	48	
5	Cho: Balance (#1)	00 - 7F	40	
6	Flg: Delay	00 - 7F	0B	
7	Flg: Rate	00 - 7D	0B	
8	Flg: Depth	00 - 7F	18	
9	Flg: Feedback	3F - 71	68	40: 0%, 2% / 1 Step
10	Flg: Blance (#2)	00 - 7F	40	
17	EQ Low Gain (200Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
18	EQ High Gain (4000Hz)	31 - 4F	40	-15dB - +15dB (40: 0dB), 1dB/1 Step
20	Level	00 - 7F	68	

● 11H, 00H: Chorus / Delay

No	Parameter	Value	Default	Description
1	Cho: Delay	00 - 7F	0A	
2	Cho: Rate	00 - 7D	08	
3	Cho: Depth	00 - 7F	48	
5	Cho: Balance (#1)	00 - 7F	40	
6	Dly: Delay	00 - 7F	6F	
7	Dly: Feedback	0F - 71	48	40: 0%, 2% / 1 Step
8	Dly: HP Damp	00 - 7F	58	
10	Dly: Blance (#2)	00 - 7F	10	
16	Cho: Pan	00 - 7F	00	
17	Cho: Level	00 - 7F	7F	
18	Dly: Pan	00 - 7F	7F	
19	Dly: Level	00 - 7F	7F	
20	Level	00 - 7F	7F	

● 11H, 01H: Flanger / Delay

No	Parameter	Value	Default	Description
1	Flg: Delay	00 - 7F	0B	
2	Flg: Rate	00 - 7D	0B	
3	Flg: Depth	00 - 7F	18	
4	Flg: Feedback	0F - 71	68	40: 0%, 2% / 1 Step
5	Flg: Blance (#1)	00 - 7F	40	
6	Dly: Delay	00 - 7F	6F	
7	Dly: Feedback	0F - 71	48	40: 0%, 2% / 1 Step
8	Dly: HP Damp	00 - 7F	58	
10	Dly: Blance (#2)	00 - 7F	10	
16	Flg: Pan	00 - 7F	00	
17	Flg: Level	00 - 7F	7F	
18	Dly: Pan	00 - 7F	7F	
19	Dly: Level	00 - 7F	7F	
20	Level	00 - 7F	7F	

● 11H, 02H: Chorus / Flanger

No	Parameter	Value	Default	Description
1	Cho: Delay	00 - 7F	0A	
2	Cho: Rate	00 - 7D	08	
3	Cho: Depth	00 - 7F	48	
5	Cho: Balance (#1)	00 - 7F	40	
6	Flg: Delay	00 - 7F	0B	
7	Flg: Rate	00 - 7D	0B	
8	Flg: Depth	00 - 7F	18	
9	Flg: Feedback	0F - 71	68	40: 0%, 2% / 1 Step
10	Flg: Blance (#2)	00 - 7F	40	
16	Flg: Pan	00 - 7F	00	
17	Flg: Level	00 - 7F	7F	
18	Dly: Pan	00 - 7F	7F	
19	Dly: Level	00 - 7F	7F	
20	Level	00 - 7F	7F	

● 02H,0CH: Band Pass Delay

No	Parameter	Value	Default	Description
1	Ph: Manual Freq	00 - 7F	28	
2	Ph: Rate	00 - 7F	20	
3	Ph: Depth	00 - 7F	50	
4	Ph: Resonance	00 - 7F	30	
5	Ph: Mix	00 - 7F	7F	
6	Dly: Delay	00 - 7F	00	
7	Dly: DelayDeviation	00 - 7F	2B	
8	Dly: Level	00 - 7F	7F	
9	Dly: Feedback(#1)	00 - 7F	50	
10	Dly: PanType	00 - 7F	03	
11	Dly: Freq1	00 - 7F	08	
12	Dly: Freq2	00 - 7F	10	
13	Dly: Freq3	00 - 7F	18	
14	Dly: Freq4	00 - 7F	20	
15	Dly: Freq5	00 - 7F	28	
16	Dly: Q12	00 - 7F	50	
17	Dly: Q345	00 - 7F	60	
18	Dly: Balance(#2)	00 - 7F	7F	
20	Level	00 - 7F	7F	

● 03H,00H: Rotary Multi

No	Parameter	Value	Default	Description
1	OD: Drive Depth(#1)	00 - 7F	0d	
2	OD: Drive Switch	00 - 7F	01	00: OFF, 01: Overdrive, 02: Distrtion
3	EQ: Low Gain	31 - 4F	46	-15dB - +15dB (40: 0dB)
4	EQ: Mid Frequency	00 - 7F	28	00: 200Hz - 7F: 6300Hz
9	EQ: Mid Q	00 - 7F	00	
10	EQ: Mid Gain	31 - 4F	44	-15dB - +15dB (40: 0dB)
11	EQ: High Gain	31 - 4F	40	-15dB - +15dB (40: 0dB)
8	RT: Lo Rate Slow	00 - 7F	06	
9	RT: Lo Rate Fast	00 - 7F	71	
10	RT: Lo Acceleration	00 - 7F	18	
11	RT: Lo Level	00 - 7F	7F	
12	RT: Hi Rate Slow	00 - 7F	11	
13	RT: Hi Rate Fast	00 - 7F	78	
14	RT: Hi Acceleration	00 - 7F	58	
15	RT: Hi Level	00 - 7F	40	

16	RT: Separation	00 - 7F	60	
17	RT: Speed(#2)	00 - 7F	00	
20	Level	00 - 7F	7F	

● 04H,03H: Clean Guitar Multi1

No	Parameter	Value	Default	Description
1	Cmp: Attack	00 - 7F	70	
2	Cmp: Sustain	00 - 7F	60	
3	Cmp: Level	00 - 7F	7F	
4	Cmp: Sw	00 - 01	01	00: OFF, 01: ON
5	EQ: Low Gain	31 - 4F	3E	-15dB - +15dB (40: 0dB)
6	EQ: Mid Frequency	00 - 7F	40	00: 200Hz - 7F: 6300Hz
7	EQ: Mid Q	00 - 7F	02	
8	EQ: Mid Gain	31 - 4F	46	-15dB - +15dB (40: 0dB)
9	EQ: High Gain	31 - 4F	46	-15dB - +15dB (40: 0dB)
10	ChoFlg: Sw	00 - 01	00	00:Chorus, 01:Flanger
11	ChoFlg: Rate	00 - 7F	08	
12	ChoFlg: Depth	00 - 7F	48	
13	ChoFlg: Feedback	00 - 7F	40	
14	ChoFlg: Level(#1)	00 - 7F	40	
15	Dly: Delay	00 - 7F	20	
16	Dly: Feedback	00 - 7F	18	
17	Dly: HFDamp	00 - 7F	58	
18	Dly: Level(#2)	00 - 7F	20	
20	level	00 - 7F	7F	

● 04H,04H: Clean Guitar Multi2

No	Parameter	Value	Default	Description
1	AW: Filter	00 - 7F	01	00:LPF, 01:BPF
2	AW: Manual(#1)	00 - 7F	37	
3	AW: Peak	00 - 7F	28	
4	AW: Rate	00 - 7F	28	
5	AW: Depth	00 - 7F	50	
6	AW: Switch	00 - 7F	01	00:OFF, 01:ON
7	EQ: Low Gain	31 - 4F	40	-15dB - +15dB (40: 0dB)
8	EQ: Mid Frequency	00 - 7F	18	00: 200Hz - 7F: 6300Hz
9	EQ: Mid Q	00 - 7F	00	
10	EQ: Mid Gain	31 - 4F	43	-15dB - +15dB (40: 0dB)
11	EQ: High Gain	31 - 4F	40	-15dB - +15dB (40: 0dB)
12	ChoFlg: Switch	00 - 7F	00	
13	ChoFlg: Rate	00 - 7F	08	
14	ChoFlg: Depth	00 - 7F	28	
15	ChoFlg: Feedback	00 - 7F	66	
16	ChoFlg: Level	00 - 7F	30	
17	Dly: Delay	00 - 7F	1B	
18	Dly: Feedback	00 - 7F	06	
19	Dly: Level(#2)	00 - 7F	20	
20	level	00 - 7F	7F	

● 04H,06H: Rhodes Multi

No	Parameter	Value	Default	Description
1	EH: Sens	00 - 7F	40	
2	EH: Mix	00 - 7F	40	
3	Ph: Manual	00 - 7F	24	
4	Ph: Rate	00 - 7F	10	
5	Ph: Depth	00 - 7F	20	
6	Ph: Resonance	00 - 7F	10	
7	Ph: Mix	00 - 7F	30	
8	ChoFlg: ChoFlgSw	00 - 7F	00	
9	ChoFlg: Lpf	00 - 7F	7F	
10	ChoFlg: PreDly	00 - 7F	0A	
11	ChoFlg: Rate	00 - 7F	08	
12	ChoFlg: Depth	00 - 7F	40	
13	ChoFlg: Feedback	00 - 7F	68	
14	ChoFlg: Level(#1)	00 - 7F	40	
15	TP: Tremolo Pan SW	00 - 01	01	00:Tremolo, 01:Auto Pan
16	TP: Wave	00 - 04	02	00:Triangle, 01:Square, 02:Sin, 03:Saw(Up), 04:Saw(Down)
17	TP: Rate	00 - 7F	3c	
18	TP: Depth(#2)	00 - 7F	30	
19	TP: SW	00 - 01	01	00:OFF, 01:ON
20	Level	00 - 7F	7F	

E-600 MIDI IMPLEMENTATION

● 05H,00H: Keyboard Multi

No	Parameter	Value	Default	Description
1	RM: Freq(#1)	00 - 7F	28	
2	RM: Balance(#2)	00 - 7F	10	
3	EQ: Low Gain	31 - 4F	43	-15dB - +15dB (40: 0dB)
4	EQ: Mid Frequency	00 - 7F	43	00: 200Hz - 7F: 6300Hz
9	EQ: Mid Q	00 - 7F	00	
10	EQ: Mid Gain	31 - 4F	43	-15dB - +15dB (40: 0dB)
11	EQ: High Gain	31 - 4F	3E	-15dB - +15dB (40: 0dB)
8	PS: Coarse	00 - 7F	47	
9	PS: Fine	00 - 7F	40	
10	PS: Mode	00 - 7F	00	
11	PS: Balance	00 - 7F	18	
12	Ph: Manual	00 - 7F	24	
13	Ph: Rate	00 - 7F	08	
14	Ph: Depth	00 - 7F	5A	
15	Ph: Resonance	00 - 7F	50	
16	Ph: Mix	00 - 7F	4b	
17	Diy: Delay	00 - 7F	20	
18	Diy: Feedback	00 - 7F	30	
19	Diy: Level	00 - 7F	18	
20	Level	00 - 7F	60	

Stereo Delay Table(Stereo Delay, Modulation Delay)

Value	(msec)	Value	(msec)	Value	(msec)	Value	(msec)
00H	0.0	20H	3.2	40H	14	60H	110
01H	0.1	21H	3.3	41H	15	61H	120
02H	0.2	22H	3.4	42H	16	62H	130
03H	0.3	23H	3.5	43H	17	63H	140
04H	0.4	24H	3.6	44H	18	64H	150
05H	0.5	25H	3.7	45H	19	65H	160
06H	0.6	26H	3.8	46H	20	66H	170
07H	0.7	27H	3.9	47H	21	67H	180
08H	0.8	28H	4.0	48H	22	68H	190
09H	0.9	29H	4.1	49H	23	69H	200
0AH	1.0	2AH	4.2	4AH	24	6AH	210
0BH	1.1	2BH	4.3	4BH	25	6BH	220
0CH	1.2	2CH	4.4	4CH	26	6CH	230
0DH	1.3	2DH	4.5	4DH	27	6DH	240
0EH	1.4	2EH	4.6	4EH	28	6EH	250
0FH	1.5	2FH	4.7	4FH	29	6FH	260
10H	1.6	30H	4.8	50H	30	70H	270
11H	1.7	31H	4.9	51H	31	71H	280
12H	1.8	32H	5.0	52H	32	72H	290
13H	1.9	33H	5.1	53H	33	73H	300
14H	2.0	34H	5.2	54H	34	74H	320
15H	2.1	35H	5.3	55H	35	75H	340
16H	2.2	36H	5.4	56H	36	76H	360
17H	2.3	37H	5.5	57H	37	77H	380
18H	2.4	38H	5.6	58H	38	78H	400
19H	2.5	39H	5.7	59H	39	79H	420
1AH	2.6	3AH	5.8	5AH	40	7AH	440
1BH	2.7	3BH	5.9	5BH	41	7BH	460
1CH	2.8	3CH	6.0	5CH	42	7CH	480
1DH	2.9	3DH	6.1	5DH	43	7DH	500
1EH	3.0	3EH	6.2	5EH	44	7EH	520
1FH	3.1	3FH	6.3	5FH	45	7FH	540

Pre Delay Table

Value	(msec)	Value	(msec)	Value	(msec)	Value	(msec)
00H	0.0	20H	3.2	40H	14	60H	46
01H	0.1	21H	3.3	41H	15	61H	47
02H	0.2	22H	3.4	42H	16	62H	48
03H	0.3	23H	3.5	43H	17	63H	49
04H	0.4	24H	3.6	44H	18	64H	50
05H	0.5	25H	3.7	45H	19	65H	52
06H	0.6	26H	3.8	46H	20	66H	54
07H	0.7	27H	3.9	47H	21	67H	55
08H	0.8	28H	4.0	48H	22	68H	58
09H	0.9	29H	4.1	49H	23	69H	60
0AH	1.0	2AH	4.2	4AH	24	6AH	62
0BH	1.1	2BH	4.3	4BH	25	6BH	64
0CH	1.2	2CH	4.4	4CH	26	6CH	66
0DH	1.3	2DH	4.5	4DH	27	6DH	68
0EH	1.4	2EH	4.6	4EH	28	6EH	70
0FH	1.5	2FH	4.7	4FH	29	6FH	72
10H	1.6	30H	4.8	50H	30	70H	74
11H	1.7	31H	4.9	51H	31	71H	76
12H	1.8	32H	5.0	52H	32	72H	78
13H	1.9	33H	5.1	53H	33	73H	80
14H	2.0	34H	5.2	54H	34	74H	82
15H	2.1	35H	5.3	55H	35	75H	84
16H	2.2	36H	5.4	56H	36	76H	86
17H	2.3	37H	5.5	57H	37	77H	88
18H	2.4	38H	5.6	58H	38	78H	90
19H	2.5	39H	5.7	59H	39	79H	92
1AH	2.6	3AH	5.8	5AH	40	7AH	94
1BH	2.7	3BH	5.9	5BH	41	7BH	96
1CH	2.8	3CH	6.0	5CH	42	7CH	98
1DH	2.9	3DH	6.1	5DH	43	7DH	100
1EH	3.0	3EH	6.2	5EH	44	7EH	100
1FH	3.1	3FH	6.3	5FH	45	7FH	100

Rate Table(Chorus, Flanger, etc)

Value	(sec)	Value	(sec)	Value	(sec)	Value	(sec)
00H	0.05	20H	1.65	40H	3.25	60H	4.85
01H	0.10	21H	1.70	41H	3.30	61H	4.90
02H	0.15	22H	1.75	42H	3.35	62H	4.95
03H	0.20	23H	1.80	43H	3.40	63H	5.00
04H	0.25	24H	1.85	44H	3.45	64H	5.10
05H	0.30	25H	1.90	45H	3.50	65H	5.20
06H	0.35	26H	1.95	46H	3.55	66H	5.30
07H	0.40	27H	2.00	47H	3.60	67H	5.40
08H	0.45	28H	2.05	48H	3.65	68H	5.50
09H	0.50	29H	2.10	49H	3.70	69H	5.60
0AH	0.55	2AH	2.15	4AH	3.75	6AH	5.70
0BH	0.60	2BH	2.20	4BH	3.80	6BH	5.80
0CH	0.65	2CH	2.25	4CH	3.85	6CH	5.90
0DH	0.70	2DH	2.30	4DH	3.90	6DH	6.00
0EH	0.75	2EH	2.35	4EH	3.95	6EH	6.10
0FH	0.80	2FH	2.40	4FH	4.00	6FH	6.20
10H	0.85	30H	2.45	50H	4.05	70H	6.30
11H	0.90	31H	2.50	51H	4.10	71H	6.40
12H	0.95	32H	2.55	52H	4.15	72H	6.50
13H	1.00	33H	2.60	53H	4.20	73H	6.60
14H	1.05	34H	2.65	54H	4.25	74H	6.70
15H	1.10	35H	2.70	55H	4.30	75H	6.80
16H	1.15	36H	2.75	56H	4.35	76H	6.90
17H	1.20	37H	2.80	57H	4.40	77H	7.00
18H	1.25	38H	2.85	58H	4.45	78H	7.50
19H	1.30	39H	2.90	59H	4.50	79H	8.00
1AH	1.35	3AH	2.95	5AH	4.55	7AH	8.50
1BH	1.40	3BH	3.00	5BH	4.60	7BH	9.00
1CH	1.45	3CH	3.05	5CH	4.65	7CH	9.50
1DH	1.50	3DH	3.10	5DH	4.70	7DH	10.00
1EH	1.55	3EH	3.15	5EH	4.75	7EH	10.00
1FH	1.60	3FH	3.20	5FH	4.80	7FH	10.00

Long Delay Table(Triple Tap Delay, Quadple Delay)

Value	(msec)	Value	(msec)	Value	(msec)	Value	(msec)
00H	200	20H	360	40H	520	60H	810
01H	205	21H	365	41H	525	61H	820
02H	210	22H	370	42H	530	62H	830
03H	215	23H	375	43H	535	63H	840
04H	220	24H	380	44H	540	64H	850
05H	225	25H	385	45H	545	65H	860
06H	230	26H	390	46H	550	66H	870
07H	235	27H	395	47H	555	67H	880
08H	240	28H	400	48H	560	68H	890
09H	245	29H	405	49H	565	69H	900
0AH	250	2AH	410	4AH	570	6AH	910
0BH	255	2BH	415	4BH	575	6BH	920
0CH	260	2CH	420	4CH	580	6CH	930
0DH	265	2DH	425	4DH	585	6DH	940
0EH	270	2EH	430	4EH	590	6EH	950
0FH	275	2FH	435	4FH	595	6FH	960
10H	280	30H	440	50H	600	70H	970
11H	285	31H	445	51H	605	71H	980
12H	290	32H	450	52H	610	72H	990
13H	295	33H	455	53H	615	73H	1000
14H	300	34H	460	54H	620	74H	-
15H	305	35H	465	55H	625	75H	-
16H	310	36H	470	56H	630	76H	-
17H	315	37H	475	57H	635	77H	-
18H	320	38H	480	58H	640	78H	-
19H	325	39H	485	59H	645	79H	-
1AH	330	3AH	490	5AH	650	7AH	-
1BH	335	3BH	495	5BH	655	7BH	-
1CH	340	3CH	500	5CH	660	7CH	-
1DH	345	3DH	505	5DH	665	7DH	-
1EH	350	3EH	510	5EH	670	7EH	-
1FH	355	3FH	515	5FH	675	7FH	-

HF Damp

Value	(Hz)
00H-07H	215
08H-0FH	400
10H-17H	500
18H-1FH	630
20H-27H	800
28H-2FH	1000
30H-37H	1250
38H-3FH	1600
40H-47H	2000
48H-4FH	2500
50H-57H	3150
58H-5FH	4000
60H-67H	5000
68H-6FH	6300
70H-77H	8000
78H-7FH	Bypass

● Tone List

E-600 TONE MAPPING

PC# / CC0 / CC32	24Name	Voices	Notes
00h / 00h / 00h	Piano 1	1	1-4, 8-1
00h / 08h / 00h	Piano 1w	2	8-2
00h / 10h / 00h	Piano 1d	1	8-2
01h / 00h / 00h	Piano 2	1	1-4, 8-2
01h / 08h / 00h	Piano 2w	2	8-2
02h / 00h / 00h	Piano 3	1	1-4, 8-3
02h / 08h / 00h	Piano 3w	2	8-3
03h / 00h / 00h	Honky-tonk	2	8-3
03h / 08h / 00h	Honky-tonk 2	2	1-3, 8-3
04h / 00h / 00h	GS E.Piano1	1	1-7, 8-4
04h / 08h / 00h	Detuned EP 1	2	1-6, 8-4
04h / 10h / 00h	E.Piano 1v	2	1-8, 8-4
04h / 18h / 00h	60's E.Piano	1	1-7, 8-4
05h / 00h / 00h	GS E.Piano2	1	1-7, 8-5
05h / 08h / 00h	Detuned EP 2	2	1-6, 8-5
05h / 10h / 00h	E.Piano 2v	2	1-8, 8-5
06h / 00h / 00h	Harpsichord	1	1-8, 8-5
06h / 08h / 00h	Coupled Hps.	2	1-9, 8-6
06h / 10h / 00h	Harpsi.w	2	8-6
06h / 18h / 00h	Harpsi.o	2	1-9, 8-6
07h / 00h / 00h	Clav.	1	1-9, 8-6
08h / 00h / 00h	Celesta	1	2-1, 8-7
09h / 00h / 00h	Glockenspiel	1	2-2, 8-7
0Ah / 00h / 00h	GS Music Box	1	8-7
0Bh / 00h / 00h	GS Vibe	1	8-7
0Bh / 08h / 00h	Vibe.w	2	8-8
0Ch / 00h / 00h	GS Marimba	1	8-8
0Ch / 08h / 00h	Marimba	1	2-1, 8-8
0Dh / 00h / 00h	Xylophone	1	2-2, 8-8
0Eh / 00h / 00h	Tubular-bell	1	2-2, 8-9
0Eh / 08h / 00h	Church Bell	1	8-9
0Eh / 09h / 00h	Carillon	1	2-3, 8-9
0Fh / 00h / 00h	GS Santur	1	8-9
10h / 00h / 00h	Organ 1	1	3-4, 8-10
10h / 01h / 00h	Full Organ 1	1	
10h / 08h / 00h	Detuned Or.1	2	8-10
10h / 09h / 00h	Full Organ 2	1	
10h / 10h / 00h	Pop Organ 1	1	8-10
10h / 11h / 00h	Pop Organ 2	1	
10h / 12h / 00h	Pop Organ 4	1	3-4
10h / 20h / 00h	Full Organ 4	1	8-10
10h / 21h / 00h	Full Organ 3	1	
11h / 00h / 00h	Organ 2	1	3-4, 8-11
11h / 01h / 00h	Jazz Organ 3	2	
11h / 08h / 00h	Detuned Or.2	2	8-11
11h / 20h / 00h	Jazz Organ 1	2	8-11
12h / 00h / 00h	Rock Organ 2	2	3-5, 8-11
13h / 00h / 00h	Church Org.1	1	8-12
13h / 08h / 00h	Church Org.2	2	8-12
13h / 10h / 00h	Church Org.3	2	8-12
14h / 00h / 00h	Reed Organ	1	8-12
15h / 00h / 00h	Accordion Fr	2	8-13
15h / 08h / 00h	Accordion It	2	8-13
16h / 00h / 00h	GS Harmonica	1	8-13
16h / 01h / 00h	Harmonica	1	
17h / 00h / 00h	Bandoneon	2	8-13
18h / 00h / 00h	GS Nylon Gt.	1	8-14
18h / 08h / 00h	Ukulele	1	4-4, 8-14
18h / 10h / 00h	Nylon Gt.o	2	4-3, 8-14
18h / 20h / 00h	Nylon Guitar	1	8-14
19h / 00h / 00h	Steel-str.Gt	1	8-15
19h / 08h / 00h	12-str.Gt	2	8-15
19h / 09h / 00h	Nylon+Steel	2	
19h / 10h / 00h	GS Mandolin	1	8-15
19h / 20h / 00h	Steel Gt.2	1	
1Ah / 00h / 00h	Jazz Guitar	1	4-3, 8-15
1Ah / 08h / 00h	GS Hawaiian	1	8-16
1Bh / 00h / 00h	Clean Gt.	1	8-16
1Bh / 08h / 00h	Chorus Gt.	2	8-16
1Ch / 00h / 00h	Muted Gt.	1	4-5, 8-16
1Ch / 08h / 00h	Funk Gt.	1	8-17
1Ch / 10h / 00h	Funk Gt.2	2	8-17
1Dh / 00h / 00h	Overdrive Gt	1	4-5, 8-17
1Eh / 00h / 00h	GS Dist.Gt	1	8-17

PC# / CC0 / CC32	Tone Name	Voices	Notes
1Eh / 08h / 00h	Feedback Gt.	2	4-7, 8-18
1Fh / 00h / 00h	Gt.Harmonics	1	4-8, 8-18
1Fh / 08h / 00h	Gt. Feedback	1	8-18
1Fh / 10h / 00h	Gt.Harmonics	1	
20h / 00h / 00h	GS Ac.Bass	1	8-18
21h / 00h / 00h	GS Fing.Bass	1	8-19
22h / 00h / 00h	GS Picked Bs	1	8-19
23h / 00h / 00h	Fretless Bs.	1	4-2, 8-19
24h / 00h / 00h	Slap Bass 1	1	4-9, 8-19
25h / 00h / 00h	Slap Bass 2	1	8-20
26h / 00h / 00h	Synth Bass 1	1	4-10, 8-20
26h / 01h / 00h	SynthBass101	1	4-10, 8-20
26h / 08h / 00h	Synth Bass 3	1	8-20
27h / 00h / 00h	Synth Bass 2	2	8-21
27h / 08h / 00h	Synth Bass 4	2	8-21
27h / 10h / 00h	Rubber Bass	2	8-21
28h / 00h / 00h	GS Violin	1	8-21
28h / 08h / 00h	Slow Violin	1	5-2, 8-22
29h / 00h / 00h	Viola	1	8-22
2Ah / 00h / 00h	GS Cello	1	8-22
2Bh / 00h / 00h	Contrabass	1	5-3, 8-22
2Ch / 00h / 00h	Tremolo Str	1	5-3, 8-23
2Dh / 00h / 00h	PizzicatoStr	1	5-3, 8-23
2Eh / 00h / 00h	GS Harp	1	8-23
2Fh / 00h / 00h	Timpani	1	5-4, 8-23
30h / 00h / 00h	GS Strings	1	8-24
30h / 08h / 00h	Orchestra	2	5-4, 8-24
31h / 00h / 00h	GS Sl.Str	1	8-24
32h / 00h / 00h	Syn.Strngs1	1	5-6, 8-24
32h / 08h / 00h	Syn.Strngs3	2	8-25
33h / 00h / 00h	Syn.Strngs2	2	5-6, 8-25
34h / 00h / 00h	Choir Aahs	1	8-25
34h / 20h / 00h	Choir	1	5-5, 8-25
35h / 00h / 00h	Pop Voice	1	5-5, 8-26
36h / 00h / 00h	SynVox	1	5-5, 8-26
37h / 00h / 00h	OrchestraHit	2	5-6, 8-26
38h / 00h / 00h	GS Trumpet	1	8-26
38h / 01h / 00h	Trumpet	1	
39h / 00h / 00h	GS Trombone	1	8-27
39h / 01h / 00h	Trombone 2	2	7-2, 8-27
3Ah / 00h / 00h	Tuba	1	7-2, 8-27
3Bh / 00h / 00h	MutedTrumpet	1	7-2, 8-27
3Ch / 00h / 00h	French Horn	2	7-2, 8-28
3Ch / 01h / 00h	Fr.Horn 2	2	8-28
3Dh / 00h / 00h	Brass 1	1	8-28
3Dh / 08h / 00h	Brass 2	2	7-3, 8-28
3Eh / 00h / 00h	Synth Brass1	2	7-3, 8-29
3Eh / 08h / 00h	Synth Brass3	2	8-29
3Eh / 10h / 00h	AnalogBrass1	2	8-29
3Fh / 00h / 00h	Synth Brass2	2	7-3, 8-29
3Fh / 08h / 00h	Synth Brass4	1	8-30
3Fh / 10h / 00h	AnalogBrass2	2	8-30
40h / 00h / 00h	GS Sop.Sax	1	8-30
41h / 00h / 00h	Alto Sax	1	6-2, 8-30
41h / 08h / 00h	Blow Sax	1	
42h / 00h / 00h	Tenor Sax	1	6-1, 8-31
42h / 08h / 00h	Blow Sax	1	
43h / 00h / 00h	Baritone Sax	1	6-1, 8-31
44h / 00h / 00h	GS Oboe	1	8-31
45h / 00h / 00h	English Horn	1	6-2, 8-31
46h / 00h / 00h	Bassoon	1	6-2, 8-32
47h / 00h / 00h	Clarinet	1	6-3, 8-32
48h / 00h / 00h	Piccolo	1	6-3, 8-32
49h / 00h / 00h	GS Flute	1	8-32
4Ah / 00h / 00h	Recorder	1	6-3, 8-33
4Bh / 00h / 00h	Pan Flute	1	6-4, 8-33
4Ch / 00h / 00h	Bottle Blow	2	8-33
4Dh / 00h / 00h	Shakuhachi	2	6-4, 8-33
4Eh / 00h / 00h	Whistle	1	8-34
4Fh / 00h / 00h	Ocarina	1	6-4, 8-34
50h / 00h / 00h	Square Wave	2	8-34
50h / 01h / 00h	Square	1	8-34
50h / 08h / 00h	Sine Wave	1	8-35
51h / 00h / 00h	Saw Wave	2	8-35
51h / 01h / 00h	Saw	1	8-35
51h / 08h / 00h	Doctor Solo	2	8-35

E-600 MIDI IMPLEMENTATION

PC# / CC0 / CC32	Tone Name	Voices	Notes
52h / 00h / 00h	Syn.Calliope	2	8-36
53h / 00h / 00h	Chiffer Lead	2	8-36
54h / 00h / 00h	Charang	2	8-36
55h / 00h / 00h	Solo Vox	2	8-36
56h / 00h / 00h	5th Saw Wave	2	8-37
57h / 00h / 00h	Bass & Lead	2	8-37
58h / 00h / 00h	Fantasia	2	8-1
59h / 00h / 00h	Warm Pad	1	5-6, 8-37
5Ah / 00h / 00h	Polysynth	2	8-37
5Bh / 00h / 00h	Space Voice	1	8-38
5Ch / 00h / 00h	Bowed Glass	2	8-38
5Dh / 00h / 00h	Metal Pad	2	8-38
5Eh / 00h / 00h	Halo Pad	2	8-38
5Fh / 00h / 00h	Sweep Pad	1	8-39
60h / 00h / 00h	Ice Rain	2	8-39
61h / 00h / 00h	Soundtrack	2	8-39
62h / 00h / 00h	Crystal	2	8-1
62h / 01h / 00h	Syn Mallet	1	8-39
63h / 00h / 00h	Atmosphere	2	8-40
64h / 00h / 00h	Brightness	2	8-1
65h / 00h / 00h	Goblin	2	8-40
66h / 00h / 00h	Echo Drops	1	8-40
66h / 01h / 00h	Echo Bell	2	8-40
66h / 02h / 00h	Echo Pan	2	8-41
67h / 00h / 00h	Star Theme	2	8-41
68h / 00h / 00h	Sitar	1	8-41
68h / 01h / 00h	Sitar 2	2	8-41
69h / 00h / 00h	Banjo	1	4-4, 8-42
6Ah / 00h / 00h	GS Shamisen	1	8-42
6Bh / 00h / 00h	Koto	1	4-8, 8-42
6Bh / 08h / 00h	Taisho Koto	2	8-42
6Ch / 00h / 00h	Kalimba	1	2-3, 8-43
6Dh / 00h / 00h	Bagpipe	1	8-43
6Eh / 00h / 00h	Fiddle	1	8-43
6Fh / 00h / 00h	Shanal	1	8-43
70h / 00h / 00h	Tinkle Bell	1	8-44
71h / 00h / 00h	Agogo	1	8-44
72h / 00h / 00h	Steel Drums	1	2-3, 8-44
73h / 00h / 00h	Woodblock	1	8-44
73h / 08h / 00h	Castanets	1	8-45
74h / 00h / 00h	Taiko	1	8-45
74h / 08h / 00h	Concert BD	1	8-45
75h / 00h / 00h	Melo. Tom 1	1	8-45
75h / 08h / 00h	Melo. Tom 2	1	8-46
76h / 00h / 00h	Synth Drum	1	8-46
76h / 08h / 00h	808 Tom	1	8-46
76h / 09h / 00h	Elec Perc.	1	8-46
77h / 00h / 00h	Reverse Cym.	1	8-47
78h / 00h / 00h	Gt.FretNoise	1	8-47
78h / 01h / 00h	Gt.Cut Noise	1	8-47
78h / 02h / 00h	String Slap	1	8-47
79h / 00h / 00h	Breath Noise	1	8-48
79h / 01h / 00h	Fl.Key Click	1	8-48
7Ah / 00h / 00h	Seashore	1	8-48
7Ah / 01h / 00h	Rain	1	8-48
7Ah / 02h / 00h	Thunder	1	8-49
7Ah / 03h / 00h	Wind	1	8-49
7Ah / 04h / 00h	Stream	2	8-49
7Ah / 05h / 00h	Bubble	2	8-49
7Bh / 00h / 00h	Bird	2	8-50
7Bh / 01h / 00h	Dog	1	8-50
7Bh / 02h / 00h	Horse-Gallop	1	8-50
7Bh / 03h / 00h	Bird 2	1	8-50
7Ch / 00h / 00h	Telephone 1	1	8-51
7Ch / 01h / 00h	Telephone 2	1	8-51
7Ch / 02h / 00h	DoorCreaking	1	8-51
7Ch / 03h / 00h	Door	1	8-51
7Ch / 04h / 00h	Scratch	1	8-52
7Ch / 05h / 00h	Windchime	2	8-52
7Dh / 00h / 00h	Helicopter	1	8-52
7Dh / 01h / 00h	Car-Engine	1	8-52
7Dh / 02h / 00h	Car-Stop	1	8-53
7Dh / 03h / 00h	Car-Pass	1	8-53
7Dh / 04h / 00h	Car-Crash	2	8-53
7Dh / 05h / 00h	Siren	1	8-53
7Dh / 06h / 00h	Train	1	8-54

PC# / CC0 / CC32	Tone Name	Voices	Notes
7Dh / 07h / 00h	Jetplane	2	8-54
7Dh / 08h / 00h	Starship	2	8-54
7Dh / 09h / 00h	Burst Noise	2	8-54
7Eh / 00h / 00h	Applause	2	8-55
7Eh / 01h / 00h	Laughing	1	8-55
7Eh / 02h / 00h	Screaming	1	8-55
7Eh / 03h / 00h	Punch	1	8-55
7Eh / 04h / 00h	Heart Beat	1	8-56
7Eh / 05h / 00h	Footsteps	1	8-56
7Fh / 00h / 00h	Gun Shot	1	8-56
7Fh / 01h / 00h	Machine Gun	1	8-56
7Fh / 02h / 00h	Lasergun	1	8-57
7Fh / 03h / 00h	Explosion	2	8-57

PC# / CC0 / CC32	Tone Name	Voices	Notes
1Ah / 01h / 02h	Mellow Gt.	1	4-4
1Eh / 09h / 02h	Feedback Gt2	2	4-7
1Eh / 12h / 02h	5th Dist.	2	4-8
23h / 05h / 02h	Mr.Smooth	2	4-9
26h / 10h / 02h	Reso SH Bass	1	4-10
30h / 08h / 02h	Choir Str.	2	5-4
31h / 09h / 02h	Warm Strings	2	5-4
3Fh / 01h / 02h	Soft Brass	2	7-3
51h / 10h / 02h	Waspy Synth	2	5-9
57h / 02h / 02h	Fat & Perky	2	5-10
62h / 02h / 02h	Soft Crystal	2	5-13
62h / 09h / 02h	Digi Bells	2	5-13

PC# / CC0 / CC32	Tone Name	Voices	Notes
00h / 08h / 40h	Grand Piano1	2-4	1-1
00h / 10h / 40h	UprightPiano	2-4	1-2
01h / 08h / 40h	Grand Piano2	2-4	1-1
02h / 08h / 40h	Rock Piano	2-4	1-2
03h / 08h / 40h	Honky-tonk 1	2-4	1-3
04h / 08h / 40h	Soft E.Piano	2	1-5
04h / 10h / 40h	E.Piano 1	2	1-1
04h / 18h / 40h	Sine Rhodes	1	
05h / 00h / 40h	Hard E.Piano	2	1-7
05h / 08h / 40h	St.FM EP	2	1-6
05h / 10h / 40h	E.Piano 2	1	1-1
06h / 00h / 40h	Harpichord1	1	1-2
06h / 08h / 40h	Harpichord2	2	1-2
07h / 00h / 40h	Analog Clav.	2	1-9
0Ah / 00h / 40h	Music Box	1	
0Bh / 00h / 40h	Vibraphone	1	2-1
0Ch / 08h / 40h	Barafon	1	2-1
0Fh / 00h / 40h	Santur	2	2-3
10h / 20h / 40h	VS Organ	2	3-4
11h / 00h / 40h	Jazz Organ 1	2	3-1
11h / 08h / 40h	Jazz Organ 3	2	3-3
11h / 20h / 40h	Jazz Organ 2	2	3-1
12h / 00h / 40h	Rock Organ 1	2	3-5
13h / 00h / 40h	Organ Flute 1	1	3-2
13h / 08h / 40h	Trem.Flute	2	3-6
13h / 10h / 40h	Theater Org.	2	3-6
14h / 00h / 40h	Digi Church	2	3-6
15h / 00h / 40h	Accordion	1	3-7
16h / 00h / 40h	Harmonica	1	3-7
18h / 00h / 40h	Nylon Guitar	1	4-1
18h / 08h / 40h	Gut Guitar	1	
18h / 10h / 40h	Nylon Gt.o	2	
18h / 20h / 40h	Nylon Gt.2	1	
19h / 00h / 40h	Steel Guitar	1	4-1
19h / 08h / 40h	12str Guitar	2	4-1
19h / 10h / 40h	Mandolin	1	4-4
1Ah / 08h / 40h	Hawaiian Gt.	1	4-5
1Bh / 00h / 40h	JC E. Guitar	2	4-3
1Ch / 00h / 40h	Muted Dis.Gt	1	4-5
1Eh / 00h / 40h	DistortionGt	1	4-6
1Eh / 08h / 40h	Power Gt.2	2	4-7
20h / 00h / 40h	Acoustic Bs.	2	4-2
21h / 00h / 40h	Fingered Bs.	1	4-2
22h / 00h / 40h	Picked Bs.	1	4-2
27h / 10h / 40h	SH101 Bass	1	4-10
28h / 00h / 40h	Violin	1	5-2
2Ah / 00h / 40h	Cello	1	5-2

PC# / CC0 / CC32	Tone Name	Voices	Notes
2Eh / 00h / 40h	Harp	1	5-3
30h / 00h / 40h	Strings	2	5-1
31h / 00h / 40h	Slow Strings	2	5-1
34h / 00h / 40h	Rich Choir	2	5-1
35h / 00h / 40h	Jazz Voices	1	5-1
36h / 00h / 40h	Choir Oohs	2	5-5
38h / 00h / 40h	Trumpet	1	7-1
39h / 00h / 40h	Trombone	1	7-1
3Ch / 00h / 40h	Fr.Horn Solo	1	7-1
3Dh / 00h / 40h	Brass 1	1	7-1
40h / 00h / 40h	Soprano Sax	1	6-1
42h / 00h / 40h	Blow Sax	1	6-1
44h / 00h / 40h	Oboe	1	6-2
49h / 00h / 40h	Flute	1	6-3
4Bh / 00h / 40h	Blow Pipe	1	6-4
50h / 00h / 40h	Syn Square	2	5-7
50h / 01h / 40h	FM Lead 1	2	5-8
50h / 08h / 40h	JP8 Square	1	5-7
51h / 00h / 40h	Mg Lead	1	5-8
51h / 01h / 40h	P5 Saw Lead	1	5-8
51h / 08h / 40h	Rhythmic Saw	2	5-9
52h / 00h / 40h	JP8 Pulse	2	5-9
53h / 00h / 40h	Cheese Saw	1	5-9
54h / 00h / 40h	Reso Saw	1	5-10
55h / 00h / 40h	RAVE Vox	2	5-10
56h / 00h / 40h	5th Lead	2	
57h / 00h / 40h	FM Lead 2	1	5-8
58h / 00h / 40h	Fantasia 2	2	5-10
59h / 00h / 40h	Soft Pad	2	5-11
5Ah / 00h / 40h	P5 Poly	2	5-11
5Bh / 00h / 40h	Heaven II	2	5-11
5Dh / 00h / 40h	Tine Pad	2	
5Eh / 00h / 40h	JP8 Sqr Pad	2	5-11
5Fh / 00h / 40h	Sweep Pad 2	2	5-12
60h / 00h / 40h	LFO RAVE	2	
61h / 00h / 40h	Ancestral	2	
62h / 00h / 40h	Vibra Bells	2	5-12
63h / 00h / 40h	Harpvox	2	5-7
65h / 00h / 40h	Calculating	2	
66h / 00h / 40h	Big Panner	2	5-14
66h / 01h / 40h	Al-yai-a	2	5-14
66h / 02h / 40h	Echo Pan 2	2	5-14
6Ah / 00h / 40h	Shamisen	2	4-8
78h / 01h / 40h	Wah Brush Gt	1	
78h / 06h / 40h	Pick Scrape	1	
7Ah / 02h / 40h	Thunder Bell	2	
7Bh / 04h / 40h	Cat	1	
7Ch / 05h / 40h	Bar Chimes	1	
7Dh / 07h / 40h	Falling Down	2	5-14
7Eh / 07h / 40h	Finger Snap	1	
PC# / CC0 / CC32	Tone Name	Voices	Notes
00h / 00h / 41h	MIDI Piano1	2	1-3
01h / 00h / 41h	MIDI Piano2	2	1-3
02h / 00h / 41h	EG+Rhodes 1	2	1-5
04h / 00h / 41h	Hard Rhodes	2	1-5
05h / 00h / 41h	E.Piano 3	1	1-4
05h / 08h / 41h	FM+SA EP	2	1-6
07h / 00h / 41h	5th Ana.Clav	2	
0Ah / 00h / 41h	Music Box	1	2-2
10h / 00h / 41h	Full Organ 1	1	3-1
10h / 08h / 41h	Full Organ 2	1	3-1
10h / 10h / 41h	Full Organ 3	1	3-3
10h / 20h / 41h	Full Organ 4	1	3-3
11h / 00h / 41h	Jazz Organ 4	2	3-3
11h / 08h / 41h	Organ Bass	2	3-7
11h / 20h / 41h	Pipe Org. Bs	2	3-7
12h / 00h / 41h	Rotary Org.S	1	3-5
13h / 00h / 41h	Church Organ	2	
13h / 08h / 41h	Church Organ	2	3-2
18h / 00h / 41h	Gut Guitar	1	4-1
19h / 08h / 41h	Nylon+Steel	2	4-3
1Eh / 00h / 41h	Dazed Guitar	2	4-6
1Eh / 08h / 41h	Power Guitar	2	4-7
20h / 00h / 41h	A.Bass+Cymb	2	4-9
22h / 00h / 41h	Mute PickBs.	1	4-9

PC# / CC0 / CC32	Tone Name	Voices	Notes
35h / 00h / 41h	Doos Voice	1	5-2
50h / 00h / 41h	CC Solo 2	2	5-7
5Dh / 00h / 41h	Panner Pad	2	
5Fh / 00h / 41h	Polar Pad	1	
61h / 00h / 41h	Prologue	2	
62h / 00h / 41h	Clear Bells	2	5-12
63h / 00h / 41h	Nylon Harp	2	5-13
65h / 00h / 41h	Goblinson	2	
66h / 02h / 41h	Water Piano	2	

PC# / CC0 / CC32	Tone Name	Voices	Notes
02h / 00h / 42h	EG+Rhodes 2	2	1-5
05h / 08h / 42h	Hard FM EP	2	1-8
05h / 10h / 42h	Hard E.Piano	2	
10h / 00h / 42h	Lower Organ1	1	3-2
10h / 08h / 42h	Lower Organ2	1	3-2
10h / 10h / 42h	Lower Organ3	1	
10h / 20h / 42h	Metalic Org	2	3-6
11h / 00h / 42h	Jazz Organ 5	2	
11h / 08h / 42h	Jazz Organ 6	2	
11h / 20h / 42h	Jazz Organ 7	2	
12h / 00h / 42h	Rotary Org.F	1	3-5
1Eh / 00h / 42h	Rock Rhythm2	2	4-6
1Eh / 08h / 42h	Rock Rhythm	2	4-6
35h / 00h / 42h	Thum Voice	1	5-15
5Fh / 00h / 42h	Converge	1	5-12
62h / 00h / 42h	ChristmasBel	2	
63h / 00h / 42h	Nylon+Rhodes	2	5-13
65h / 00h / 42h	50's Sci-Fi	2	

PC# / CC0 / CC32	Tone Name	Voices	Notes
10h / 00h / 43h	Full Organ 5	2	
10h / 08h / 43h	Full Organ 6	2	
10h / 10h / 43h	Full Organ 7	2	
10h / 20h / 43h	Full Organ 8	2	
35h / 00h / 43h	Doot Accent	1	5-15
35h / 00h / 44h	Dat Accent	1	5-15

PC# / CC0 / CC32	Tone Name	Voices	Notes
35h / 00h / 45h	Bop Accent	1	5-15

PC# / CC0 / CC32	Tone Name	Voices	Notes
35h / 00h / 46h	Doos & Doot	2	

PC# / CC0 / CC32	Tone Name	Voices	Notes
35h / 00h / 47h	Dat & Bop	2	

PC# / CC0 / CC32	Tone Name	Voices	Notes
00h / 00h / 48h	Piano 1*	1	8-57
01h / 00h / 48h	Piano 2*	1	8-57
02h / 00h / 48h	Piano 3*	1	8-58
03h / 00h / 48h	Honky-tonk*	2	8-58
04h / 00h / 48h	E.Piano 1*	1	8-58
04h / 18h / 48h	60'sE.Piano*	1	
05h / 00h / 48h	E.Piano 2*	1	8-58
06h / 00h / 48h	Harpichord*	1	8-59
07h / 00h / 48h	Clav.*	1	8-59
08h / 00h / 48h	Celesta*	1	8-59
09h / 00h / 48h	Glocken*	1	8-59
0Ah / 00h / 48h	Music Box*	1	8-60
0Bh / 00h / 48h	Vibraphone*	1	8-60
0Ch / 00h / 48h	Marimba*	1	8-60
0Dh / 00h / 48h	Xylophone*	1	8-60
0Eh / 00h / 48h	Tubularbell*	1	8-61
0Eh / 09h / 48h	Carillon*	1	
0Fh / 00h / 48h	Santur*	1	8-61
10h / 00h / 48h	Organ 1*	1	8-61
10h / 10h / 48h	Pop Organ 1*	1	8-61
11h / 00h / 48h	Organ 2*	1	8-62
12h / 00h / 48h	Rock Organ2*	2	8-62
13h / 00h / 48h	ChurchOrg.1*	1	8-62
14h / 00h / 48h	Reed Organ*	1	8-62
15h / 00h / 48h	AccordionFr*	2	8-63
16h / 00h / 48h	Harmonica*	1	8-63
17h / 00h / 48h	Bandoneon*	2	8-63
18h / 00h / 48h	Nylon-strGt*	1	8-63

E-600 MIDI IMPLEMENTATION

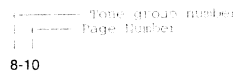
PC# / CC0 / CC32	Tone Name	Voices	Notes
19h / 00h / 48h	Steel-strGt*	1	8-64
1Ah / 00h / 48h	Jazz Guitar*	1	8-64
1Bh / 00h / 48h	Clean Gt.*	1	8-64
1Ch / 00h / 48h	Muted Gt.*	1	8-64
1Ch / 08h / 48h	Funk Gt.*	1	8-65
1Ch / 10h / 48h	Funk Gt.2	2	
1Dh / 00h / 48h	OverdriveGt*	1	8-65
1Eh / 00h / 48h	Dist.Guitar*	1	8-65
1Fh / 00h / 48h	Gt.Harmo*	1	8-65
20h / 00h / 48h	Acoustic Bs*	1	8-66
21h / 00h / 48h	Fingered Bs*	1	8-66
22h / 00h / 48h	Picked Bs.*	1	8-66
23h / 00h / 48h	Fretless Bs*	1	8-66
24h / 00h / 48h	Slap Bass 1*	1	8-67
25h / 00h / 48h	Slap Bass 2*	1	8-67
26h / 00h / 48h	Synth Bass1*	1	8-67
27h / 00h / 48h	Synth Bass2*	2	8-67
27h / 10h / 48h	Rubber Bass*	2	8-68
28h / 00h / 48h	Violin*	1	8-68
29h / 00h / 48h	Viola*	1	8-68
2Ah / 00h / 48h	Cello*	1	8-68
2Bh / 00h / 48h	Contrabass*	1	8-69
2Ch / 00h / 48h	Tremolo Str*	1	8-69
2Dh / 00h / 48h	Pizzicato*	1	8-69
2Eh / 00h / 48h	Harp*	1	8-69
2Fh / 00h / 48h	Timpani*	1	8-70
30h / 00h / 48h	Strings*	1	8-70
31h / 00h / 48h	SlowStrings*	1	8-70
32h / 00h / 48h	Syn.Str 1*	1	8-70
33h / 00h / 48h	Syn.Str 2*	2	8-71
34h / 00h / 48h	Choir Aahs*	1	8-71
35h / 00h / 48h	Pop Voice*	1	8-71
36h / 00h / 48h	SynVox*	1	8-71
37h / 00h / 48h	Orche.Hit*	2	8-72
38h / 00h / 48h	Trumpet*	1	8-72
39h / 00h / 48h	Trombone*	1	8-72
3Ah / 00h / 48h	Tuba*	1	8-72
3Bh / 00h / 48h	M.Trumpet*	1	8-73
3Ch / 00h / 48h	FrenchHorns*	2	8-73
3Dh / 00h / 48h	Brass 1*	1	8-73
3Eh / 00h / 48h	SynthBrass1*	2	8-73
3Eh / 10h / 48h	A.Brass 1*	2	8-74
3Fh / 00h / 48h	SynthBrass2*	2	8-74
40h / 00h / 48h	Soprano Sax*	1	8-74
41h / 00h / 48h	Alto Sax*	1	8-74
42h / 00h / 48h	Tenor Sax*	1	8-75
43h / 00h / 48h	BaritoneSax*	1	8-75
44h / 00h / 48h	Oboe*	1	8-75
45h / 00h / 48h	EnglishHorn*	1	8-75
46h / 00h / 48h	Bassoon*	1	8-76
47h / 00h / 48h	Clarinet*	1	8-76
48h / 00h / 48h	Piccolo*	1	8-76
49h / 00h / 48h	Flute*	1	8-76
4Ah / 00h / 48h	Recorder*	1	8-77
4Bh / 00h / 48h	Pan Flute*	1	8-77
4Ch / 00h / 48h	Bottle Blow*	2	8-77
4Dh / 00h / 48h	Shakuhachi*	2	8-77
4Eh / 00h / 48h	Whistle*	1	8-78
4Fh / 00h / 48h	Ocarina*	1	8-78
50h / 00h / 48h	Square Wave*	2	8-78
51h / 00h / 48h	Saw Wave*	2	8-78
51h / 08h / 48h	Doctor Solo*	2	8-79
52h / 00h / 48h	SynCalliope*	2	8-79
53h / 00h / 48h	ChifferLead*	2	8-79
54h / 00h / 48h	Charang*	2	8-79
55h / 00h / 48h	Solo Vox*	2	8-80
56h / 00h / 48h	5th SawWave*	2	8-80
57h / 00h / 48h	Bass & Lead*	2	8-80
58h / 00h / 48h	Fantasia*	2	8-80
59h / 00h / 48h	Warm Pad*	1	8-81
5Ah / 00h / 48h	Polysynth*	2	8-81
5Bh / 00h / 48h	Space Voice*	1	8-81
5Ch / 00h / 48h	Bowed Glass*	2	8-81
5Dh / 00h / 48h	Metal Pad*	2	8-82
5Eh / 00h / 48h	Halo Pad*	2	8-82
5Fh / 00h / 48h	Sweep Pad*	1	8-82

PC# / CC0 / CC32	Tone Name	Voices	Notes
60h / 00h / 48h	Ice Rain*	2	8-82
61h / 00h / 48h	Soundtrack*	2	8-83
62h / 00h / 48h	Crystal*	2	8-83
62h / 01h / 48h	Syn Mallet*	1	8-83
63h / 00h / 48h	Atmosphere*	2	8-83
64h / 00h / 48h	Brightness*	2	8-84
65h / 00h / 48h	Goblin*	2	8-84
66h / 00h / 48h	Echo Drops*	1	8-84
67h / 00h / 48h	Star Theme*	2	8-84
68h / 00h / 48h	Sitar*	1	8-85
69h / 00h / 48h	Banjo*	1	8-85
6Ah / 00h / 48h	Shamisen*	1	8-85
6Bh / 00h / 48h	Koto*	1	8-85
6Bh / 08h / 48h	Taisho Koto*	2	
6Ch / 00h / 48h	Kalimba*	1	8-86
6Dh / 00h / 48h	Bagpipe*	1	8-86
6Eh / 00h / 48h	Fiddle*	1	8-86
6Fh / 00h / 48h	Shanai*	1	8-86
70h / 00h / 48h	Tinkle Bell*	1	8-87
71h / 00h / 48h	Agogo*	1	8-87
72h / 00h / 48h	Steel Drums*	1	8-87
73h / 00h / 48h	Woodblock*	1	8-87
74h / 00h / 48h	Taiko*	1	8-88
74h / 08h / 48h	Concert BD*	1	
75h / 00h / 48h	Melo.Tom 1*	1	8-88
76h / 00h / 48h	Synth Drum*	1	8-88
77h / 00h / 48h	ReverseCym.*	1	8-88
78h / 00h / 48h	Fret Noise*	1	8-89
79h / 00h / 48h	BreathNoise*	1	8-89
7Ah / 00h / 48h	Seashore*	1	8-89
7Bh / 00h / 48h	Bird*	2	8-89
7Ch / 00h / 48h	Telephone 1*	1	8-90
7Dh / 00h / 48h	Helicopter*	1	8-90
7Eh / 00h / 48h	Applause*	2	8-90
7Fh / 00h / 48h	Gun Shot*	1	8-90

E-600 Drum MAPPING

PC# / CC0 / CC32	Tone Name
00h / 00h / 40h	STANDARD
08h / 00h / 40h	ROOM
10h / 00h / 00h	POWER
18h / 00h / 00h	ELECTRONIC
19h / 00h / 00h	TR-808
19h / 00h / 40h	DANCE
20h / 00h / 00h	JAZZ
28h / 00h / 40h	BRUSH
30h / 00h / 00h	ORCHESTRA
00h / 00h / 00h	STANDARD
08h / 00h / 00h	GS ROOM
28h / 00h / 00h	GS BRUSH
38h / 00h / 00h	SOUND EFFECT

* The tones which marked in Notes can be selected from panel.



) Tone groups number as follows.

- 1: Piano
- 2: Vibes
- 3: Organ
- 4: Guitar/Bass
- 5: Strings
- 6: Sax
- 7: Brass
- 8: Fantasia

INTELLIGENT KEYBOARD
Model E-600

MIDI Implementation Charts

Date : Feb 4 1999
Version : 1.00

Function...	Transmitted	Recognized	Remarks																																																																																																																																
Basic Default	1	1-16																																																																																																																																	
Channel Changed	1-16	1-16																																																																																																																																	
Mode Default Message Altered	Mode 3 X *****	Mode 3 Mode 3, 4 (M=1)	*2																																																																																																																																
Note Number True Voice	15-113 *****	0-127 0-127																																																																																																																																	
Velocity Note ON Note OFF	<input type="radio"/> X 8n v=64	<input type="radio"/> X																																																																																																																																	
After Touch Key's Ch's	X X	<input type="radio"/> <input type="radio"/>	*1 *1																																																																																																																																
Pitch Bend	<input type="radio"/>	<input type="radio"/>																																																																																																																																	
Control Change	<table border="0"> <tr><td>0, 32</td><td><input type="radio"/></td><td></td><td></td></tr> <tr><td>1</td><td><input type="radio"/></td><td>*1</td><td></td></tr> <tr><td>5</td><td><input type="radio"/></td><td>*1</td><td></td></tr> <tr><td>6, 38</td><td><input type="radio"/></td><td>*1</td><td></td></tr> <tr><td>7</td><td><input type="radio"/></td><td></td><td></td></tr> <tr><td>10</td><td><input type="radio"/></td><td>*1</td><td></td></tr> <tr><td>11</td><td><input type="radio"/></td><td>*1</td><td></td></tr> <tr><td>64</td><td><input type="radio"/></td><td></td><td></td></tr> <tr><td>65</td><td><input type="radio"/></td><td>*1</td><td></td></tr> <tr><td>66</td><td><input type="radio"/></td><td></td><td></td></tr> <tr><td>67</td><td><input type="radio"/></td><td></td><td></td></tr> <tr><td>84</td><td><input type="radio"/></td><td>*1</td><td></td></tr> <tr><td>91</td><td><input type="radio"/></td><td></td><td></td></tr> <tr><td>93</td><td><input type="radio"/></td><td></td><td></td></tr> <tr><td>98, 99</td><td><input type="radio"/></td><td>*1</td><td></td></tr> <tr><td>100,101</td><td><input type="radio"/></td><td>*1</td><td></td></tr> </table>	0, 32	<input type="radio"/>			1	<input type="radio"/>	*1		5	<input type="radio"/>	*1		6, 38	<input type="radio"/>	*1		7	<input type="radio"/>			10	<input type="radio"/>	*1		11	<input type="radio"/>	*1		64	<input type="radio"/>			65	<input type="radio"/>	*1		66	<input type="radio"/>			67	<input type="radio"/>			84	<input type="radio"/>	*1		91	<input type="radio"/>			93	<input type="radio"/>			98, 99	<input type="radio"/>	*1		100,101	<input type="radio"/>	*1		<table border="0"> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>Bank Select</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>Modulation</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>Portamento Time</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>Data Entry</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>Volume</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>Panpot</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>Expression</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>Hold 1</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>Portamento</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>Sostenuto</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>Soft</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>Portamento control</td></tr> <tr><td><input type="radio"/></td><td>(Reverb)</td><td>*1</td><td>Effect 1 depth</td></tr> <tr><td><input type="radio"/></td><td>(Chorus)</td><td>*1</td><td>Effect 3 depth</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>NRPN LSB,MSB</td></tr> <tr><td><input type="radio"/></td><td></td><td>*1</td><td>RPN LSB,MSB</td></tr> </table>	<input type="radio"/>		*1	Bank Select	<input type="radio"/>		*1	Modulation	<input type="radio"/>		*1	Portamento Time	<input type="radio"/>		*1	Data Entry	<input type="radio"/>		*1	Volume	<input type="radio"/>		*1	Panpot	<input type="radio"/>		*1	Expression	<input type="radio"/>		*1	Hold 1	<input type="radio"/>		*1	Portamento	<input type="radio"/>		*1	Sostenuto	<input type="radio"/>		*1	Soft	<input type="radio"/>		*1	Portamento control	<input type="radio"/>	(Reverb)	*1	Effect 1 depth	<input type="radio"/>	(Chorus)	*1	Effect 3 depth	<input type="radio"/>		*1	NRPN LSB,MSB	<input type="radio"/>		*1	RPN LSB,MSB	
0, 32	<input type="radio"/>																																																																																																																																		
1	<input type="radio"/>	*1																																																																																																																																	
5	<input type="radio"/>	*1																																																																																																																																	
6, 38	<input type="radio"/>	*1																																																																																																																																	
7	<input type="radio"/>																																																																																																																																		
10	<input type="radio"/>	*1																																																																																																																																	
11	<input type="radio"/>	*1																																																																																																																																	
64	<input type="radio"/>																																																																																																																																		
65	<input type="radio"/>	*1																																																																																																																																	
66	<input type="radio"/>																																																																																																																																		
67	<input type="radio"/>																																																																																																																																		
84	<input type="radio"/>	*1																																																																																																																																	
91	<input type="radio"/>																																																																																																																																		
93	<input type="radio"/>																																																																																																																																		
98, 99	<input type="radio"/>	*1																																																																																																																																	
100,101	<input type="radio"/>	*1																																																																																																																																	
<input type="radio"/>		*1	Bank Select																																																																																																																																
<input type="radio"/>		*1	Modulation																																																																																																																																
<input type="radio"/>		*1	Portamento Time																																																																																																																																
<input type="radio"/>		*1	Data Entry																																																																																																																																
<input type="radio"/>		*1	Volume																																																																																																																																
<input type="radio"/>		*1	Panpot																																																																																																																																
<input type="radio"/>		*1	Expression																																																																																																																																
<input type="radio"/>		*1	Hold 1																																																																																																																																
<input type="radio"/>		*1	Portamento																																																																																																																																
<input type="radio"/>		*1	Sostenuto																																																																																																																																
<input type="radio"/>		*1	Soft																																																																																																																																
<input type="radio"/>		*1	Portamento control																																																																																																																																
<input type="radio"/>	(Reverb)	*1	Effect 1 depth																																																																																																																																
<input type="radio"/>	(Chorus)	*1	Effect 3 depth																																																																																																																																
<input type="radio"/>		*1	NRPN LSB,MSB																																																																																																																																
<input type="radio"/>		*1	RPN LSB,MSB																																																																																																																																
Program Change :True #	<input type="radio"/> 0-127 *****	<input type="radio"/> 0-127	Program Number: 1-128																																																																																																																																
System Exclusive	<input type="radio"/>	<input type="radio"/>																																																																																																																																	
System Common :Song Pos :Song Sel :Tune	X X X	X X X																																																																																																																																	
System Real Time :Clock :Commands	<input type="radio"/> X	X X																																																																																																																																	
Aux Messages :All Sounds Off :Reset All Controllers :Local Control :All Notes Off :Active Sense :Reset	X X X X <input type="radio"/> X	<input type="radio"/> (120,126,127) <input type="radio"/> <input type="radio"/> <input type="radio"/> (123-125) <input type="radio"/> X																																																																																																																																	
Notes	*1 <input type="radio"/> X is selectable by SysEx. *2 Recognize as M=1 even if M ≠ 1																																																																																																																																		

Mode 1 : OMNI ON, POLY
Mode 3 : OMNI OFF, POLY

Mode 2 : OMNI ON, MONO
Mode 4 : OMNI OFF, MONO

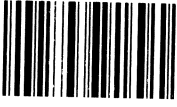
: Yes
X : No

Roland®

K6018352

UPC

K6018352



10981

E-600

RES 228-99 Printed in Italy by Aida Tecnografica - Grottamare (AP) 99-04 - E-600 - M.I.E.

Roland

602153368