

15 MIDI Data Format

1. GENERAL

1.1 Application

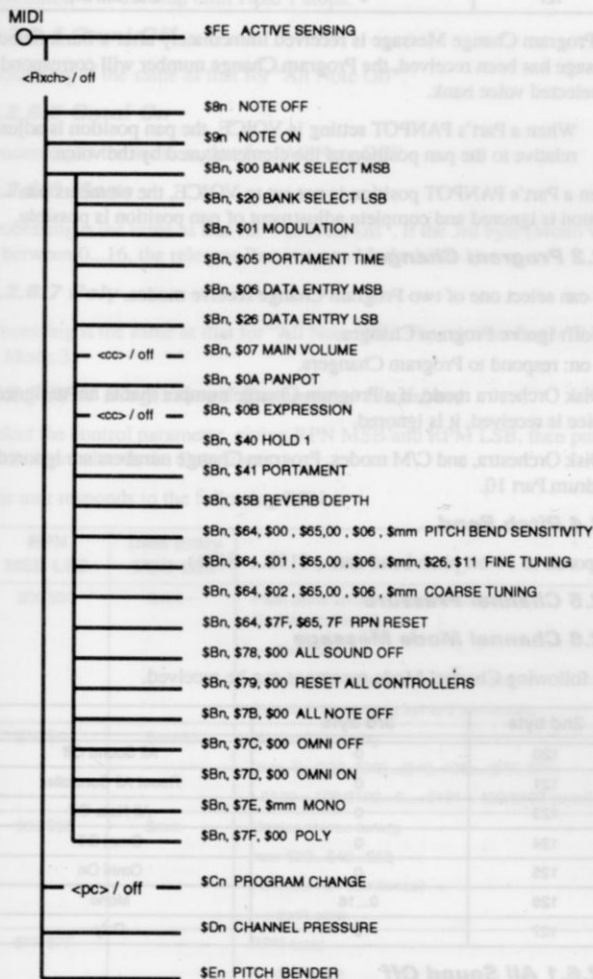
The following MIDI data and specifications apply to the TG100.

1.2 Applied standards

MIDI 1.0 standard.

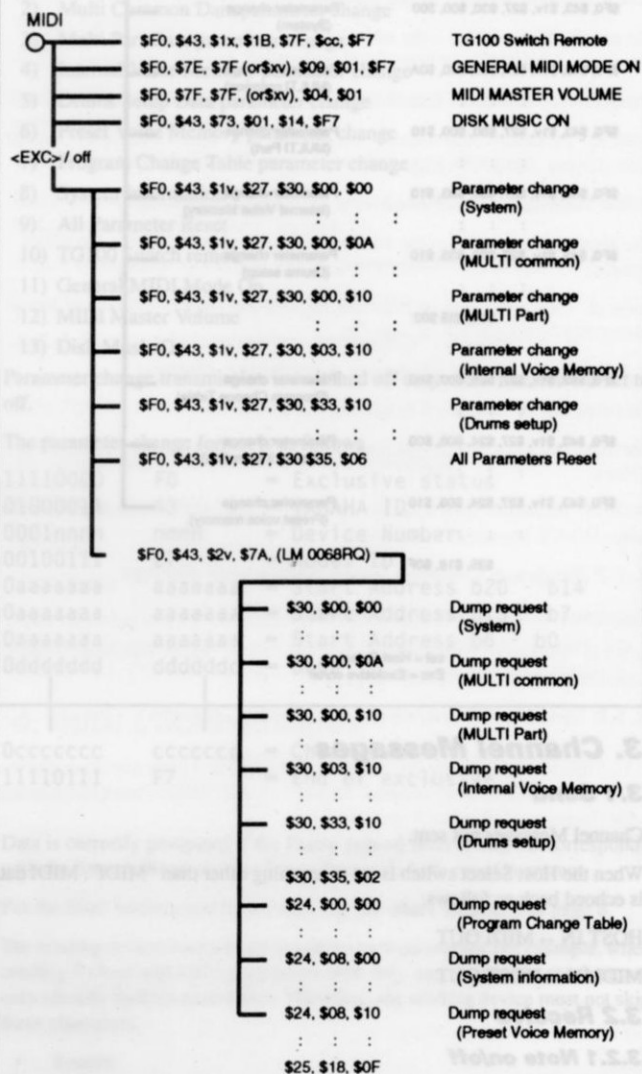
2. MIDI receive & send diagrams

MIDI receive conditions (1 of 2)

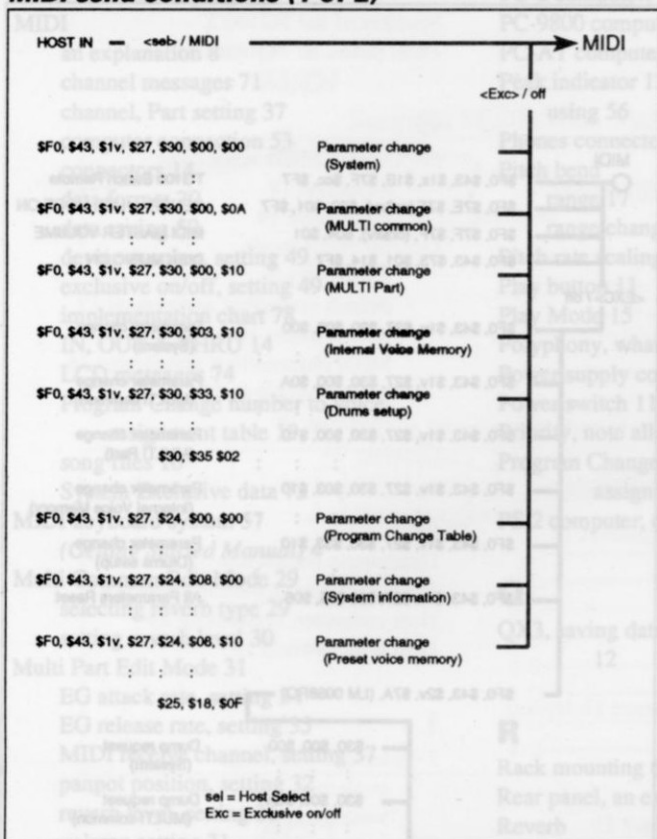


n = MIDI channel
Rtxch = Rtx. channel
cc = CONTROL CHANGE volume, expression

MIDI receive conditions (2 of 2)



Exc = Exclusive on/off
MD = Sound Module Mode
x = don't care
v = device number (\$0 - \$F)
cc = CONTROL CHANGE volume, expression

MIDI send conditions (1 of 2)**3. Channel Messages****3.1 Send**

Channel Messages not sent.

When the Host Select switch is set to anything other than "MIDI", MIDI data is echoed back as follows.

HOST IN → MIDI OUT

MIDI IN → HOST OUT

3.2 Receive**3.2.1 Note on/off**

Note range = C-2...G8

Velocity range 1...127 (only applies to note-on)

3.2.2 Control Change

The following parameters can be controlled using MIDI Control Change messages.

Cntrl No.	Parameter	Data range	
0	Bank Select MSB	0...127	*3
32	Bank Select LSB	0...127	*3
1	Modulation	0...127	
5	Portamento Time	0...127	
6	Data Entry MSB	0...127	*1
38	Data Entry LSB	0...127	*1
7	Main Volume	0...127	
10	Panpot	0...127	*4
11	Expression	0...127	
64	Hold 1	0...127	
65	Portamento	0...127	*2
91	Reverb Depth	0...127	

*1 Used to select parameter value specified by, "3.2.7RPN (Registered Parameter Number)" on page 72.

*2 Portamento work as follows:

- When a key of a higher pitch than the currently held key is played the pitch sweeps up from a value 100 cents below the key's pitch.
- When a key of a lower pitch than the currently held key is played the pitch sweeps down from a value 100 cents above the key's pitch.

*3 Used to select the unit's voice banks shown below.

MSB	LSB	Bank Name
0...63	0	General MIDI
64...111	0	INTERNAL
112...126	0	DISK ORCHESTRA
127	0	C/M (CM-64)

If a Program Change Message is received immediately after a Bank Select Message has been received, the Program Change number will correspond to the selected voice bank.

*4 When a Part's PANPOT setting is VOICE, the pan position is adjusted relative to the pan position of the elements used by the voice.

When a Part's PANPOT position is not set to VOICE, the elements pan position is ignored and complete adjustment of pan position is possible.

3.2.3 Program Change

You can select one of two Program Change receive modes.

- 1) off: Ignore Program Changes.
- 2) on: respond to Program Changers.

In Disk Orchestra mode, if a Program Change number that is not assigned to a voice is received, it is ignored.

In Disk Orchestra, and C/M modes, Program Change numbers are ignored by the drum Part 10.

3.2.4 Pitch Bend

Responds to 14-bit pitch bend data (-8192...+8191).

3.2.5 Channel Pressure**3.2.6 Channel Mode Message**

The following Channel Mode messages can be received.

2nd byte	3rd byte	
120	0	All Sound Off
121	0	Reset All Controller
123	0	All Note Off
124	0	Omni Off
125	0	Omni On
126	0...16	Mono
127	0	Poly

3.2.6.1 All Sound Off

Any sound being produced is stopped. However, parts that are receiving Channel Messages such as Note-on, Hold-on etc., will continue.

3.2.6.2 Reset All Controllers

Controllers are set to the following values.

Controller	Reset Value
Pitch Bend	±0 (neutral)
Channel Pressure	0 (off)
Modulation	0 (off)
Expression	127 (maximum)
Hold 1	0 (off)
Portamento	0 (off)
RPN	Not set. Internal data does not change.

3.2.6.3 All Note Off

All Notes currently on will be turned off. However, if Hold 1 is on, sound generation will not stop until Hold 1 stops.

3.2.6.4 Omni Off

Processing is the same as that for "All Note Off".

3.2.6.5 Omni On

Processing is the same as that for "All Note Off".

3.2.6.6 Mono

Processing is the same as that for "All Note Off". If the 3rd byte (Mono value) is between 0...16, the relevant Part is set to Mode 4 (m=1).

3.2.6.7 Poly

Processing is the same as that for "All Note Off". The relevant Part will be set to Mode 3.

3.2.7 RPN (Registered Parameter Number)

Select the control parameter, giving RPN MSB and RPM LSB, then put the parameter value in the Data Entry.

The unit responds to the following RPN.

RPN MSB LSB	Data Entry MSB LSB	
\$00 \$00	\$mm---	Pitch bend sensitivity mm: \$00...\$18 (0...24 semitones). ---: don't care. A range of 2 octaves can be selected. At switch on range is set to 2 semitones.
\$00 \$01	\$mm\$il	Master fine tuning (mm, il): (\$00, \$00)...(\$40, 400)...(\$7F, \$7F) (-8192 x 100/8192...0...+8191 x 100/8192 cents)
\$00 \$02	\$mm---	Master course tuning mm: \$28...\$40...\$58 (-24...0...+24 semitones) ---: don't care
\$7F \$7F	--- ---	RPN reset ---: don't care RPN Not set. Internal data does not change

4. System Exclusive Message

4.1 Parameter Change

The unit works with the following parameter changes.

- 1) System Data Parameter Change
- 2) Multi Common Data parameter change
- 3) Multi Part Data parameter change
- 4) Internal Voice Memory parameter change
- 5) Drums Setup Data parameter change
- 6) Preset Voice Memory parameter change
- 7) Program Change Table parameter change
- 8) System Information
- 9) All Parameter Reset
- 10) TG100 Switch remote
- 11) General MIDI Mode On
- 12) MIDI Master Volume
- 13) Disk Music On

Parameter change transmission is switched off only when Exclusive is set to off.

The parameter change format is as follows

```

11110000  F0      = Exclusive status
01000011  43      = YAMAHA ID
0001nnnn  nnnn    = Device Number
00100111  27      = Model ID
0aaaaaaa  aaaaaaa = Start Address b20 - b14
0aaaaaaa  aaaaaaa = Start Address b13 - b7
0aaaaaaa  aaaaaaa = Start Address b6 - b0
0ddddd    dddddd  = Data

0ccccccc  ccccccc = Check-sum
11110111  F7      = End of exclusive

```

Data is correctly processed if the Dump request receive address corresponds with the Start Address and the Dump Request's byte count is correct.

For the Start Address and byte count, see the tables on page 6 to page 8.

The sending device must add the header to each parameter. For example, when sending System and Multi parameters with only one header, the receiver can only identify System parameters. Therefore, the sending device must not skip these characters.

- System
- Multi
- Internal voice
- Drums Part
- All parameters reset

Do not send more than 256 bytes in one transmission.

If you have a Dump request of more than 256 bytes, split it into sections, then transmit them at 30ms intervals.

The check sum's lowest 7-bit value is zero after adding the Start Address, Data and check sum.

While sending the data, the "HOST" in echo back does not function

4.1.1 System Data Parameter Change

Refer to "Parameter base address" on page 6 and "MIDI Parameter Change table (System)" on page 6.

4.1.2 Multi Common Data parameter change

Refer to "Parameter base address" on page 6 and "MIDI Parameter Change table (MULTI common)" on page 6.

4.1.3 Multi Part Data parameter change

The actual address value = the start address + the offset address.

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (MULTI Part)" on page 75.

4.1.4 Drums Setup Data parameter change

The actual address value = the address at the top of each block + the offset address.

If a different Drum kit is selected, the Drum Setup parameters are initialized.

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (Drums Setup)" on page 76.

4.1.5 Internal Voice Memory parameter change

The actual address value = the address at the top of each block + the offset address.

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (VOICE Memory)" on page 76.

4.1.6 Preset Voice Memory parameter change

This data can be sent, but it is ignored if received.

The actual address value = the address at the top of each block + the offset address.

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (VOICE Memory)" on page 76.

4.1.7 Program Change Table parameter change

This data can be sent, but it is ignored if received.

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (Program change table)" on page 77.

4.1.8 System Information parameter change

This data can be sent, but it is ignored if received.

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (System information)" on page 77.

4.1.9 All Parameters Reset

11110000	F0	= Exclusive status
01000011	43	= YAMAHA ID
0001nnnn	nnnn	= Device Number
00100111	27	= Model ID
00110000	30	= Start Address b20 - b14
00111001	35	= Start Address b13 - b7
00000100	06	= Start Address b6 - b0
00000000	00	= Data
00010011	15	= Check-sum
11110111	F7	= End of exclusive

Reset the system. All internal parameters are reset to the default (factory) settings.

4.1.10 TG100 Switch remote

11110000	F0	= Exclusive status
01000011	43	= YAMAHA ID
0001xxxx	xxxx	= don't care
00011011	1B	= Switch remote ID
01111111	7F	= Switch remote sub ID
0ddddd	ddddd	= Data
11110111	F7	= End of exclusive

The LCD screen will show the same as when the power is turned on.

The following data is received even if the Exclusive is turned off.

Data	Switch
0	PLAY
1	PART
2	EDIT
3	CURSOR
4	-1/NO
5	+1/YES

4.1.11 General MIDI Mode On

11110000	F0	= Exclusive status
01111110	7E	= Universal Non-Real time
01111111	7F	= ID of target device
00001001	09	= Sub-ID No.1=General MIDI Message
00000001	01	= Sub-ID No.2=General MIDI On
11110111	F7	= End of exclusive

OR;

11110000	F0	= Exclusive status
01111110	7E	= Universal Non-Real time
0XXXnnnn	nnnn	= Device Number, XXX=don't care
00001001	09	= Sub-ID No.1=General MIDI Message
00000001	01	= Sub-ID No.2=General MIDI On
11110111	F7	= End of exclusive

The Sound Module mode changes to General MIDI mode when the ON data is received.

The above data is received even if the Exclusive is set to off.

4.1.12 MIDI Master Volume

11110000	F0	= Exclusive status
01111111	7F	= Universal Real time
01111111	7F	= ID of target device
00000100	04	= Sub-ID No.1=Device control Message
00000001	01	= Sub-ID No.2=Master Volume
01111111	11	= Volume LSB
0mmmmmm	mm	= Volume MSB
11110111	F7	= End of exclusive

OR;

11110000	F0	= Exclusive status
01111111	7F	= Universal Real time
0XXXnnnn	nnnn	= Device Number, XXX=don't care
00000100	04	= Sub-ID No.1=Device Control Message
00000001	01	= Sub-ID No.2=Master Volume
01111111	11	= Volume LSB
0mmmmmm	mm	= Volume MSB
11110111	F7	= End of exclusive

When the "Volume MSB" is received, the Master Volume is set.

The above data is received even if the Exclusive is set to off.

4.1.13 Disk Music On

11110000	F0	= Exclusive status
01000011	43	= YAMAHA ID
01110011	73	= Instrument Classified (CLAVINOVA)
00000001	01	
00010100	14	= Disk Music On
11110111	F7	= End of exclusive

The Sound Module mode changes to Disk Orchestra when the ON data is received.

The above data is received even if the Exclusive is set to off.

4.2 Dump request

The following Dump requests can be carried out.

- 1) System Data
- 2) Multi Common Data
- 3) Internal Voice Memory
- 4) Preset Voice Memory
- 5) Program Change Table

Dump request can only be switched off by setting Exclusive to off.

This unit cannot make Dump requests.

Dump requests to this unit should be as follows.

```

11110000    F0          = Exclusive status
01000011    43          = YAMAHA ID
0010nnnnn   nnnn      = Device Number
01111010    7A          = Format number
01001100    4C          = "L"
01001100    4D          = "M"
00100000    20          = " "
00100000    20          = " "
00110000    30          = "0"
00110000    30          = "0"
00110110    36          = "6"
00110110    38          = "8"
01010010    52          = "R"
01010001    51          = "Q"
0aaaaaaa    aaaaaaa   = Start Address b20 - b14
0aaaaaaa    aaaaaaa   = Start Address b13 - b7
0aaaaaaa    aaaaaaa   = Start Address b6 - b0
0sssssss    ssssssss  = Byte Count b20 - b14
0sssssss    ssssssss  = Byte Count b13 - b7
0sssssss    ssssssss  = Byte Count b6 - b0
00000000    00
00000000    00
00000000    00
00000000    00
00000000    00
00000000    00
00000000    00
00000000    00
00000000    00
00000000    00
00000000    00
00000000    00
00000000    00
0ccccccc    cccccc     = Check-sum
11110111    F7          = End of exclusive

```

Data is correctly processed if the Dump request receive address corresponds with the Start Address and the Dump Requests' byte count is correct.

For the Start Address and byte count, see the tables on page 75 to page 77.

The check sum's lowest 7-bit value is zero after adding the Start Address, Data and check sum.

Dump request, the sending device must add the header to each parameter.

For example, when a request for System and Multi parameters is sent with only one header, the unit will send back only the System parameters.

- System
- Multi common
- Multi Part
- Internal voice
- Drums Part
- All parameters reset

4.2.1 System Data parameter change

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (System)" on page 75.

4.2.2 Multi Common Data parameter change

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (MULTI common)" on page 75.

4.2.3 Multi Part Data parameter change

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (MULTI Part)" on page 75

4.2.4 Drums Setup Data parameter change

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (Drums Setup)" on page 76.

4.2.5 Internal Voice Memory parameter change

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (VOICE Memory)" on page 76.

4.2.6 Preset Voice Memory parameter change

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (Program change table)" on page 77.

4.2.7 Program Change table parameter change

Refer to "Parameter base address" on page 75.

4.2.8 System Information parameter change

Refer to "Parameter base address" on page 75 and "MIDI Parameter Change table (System information)" on page 77.

5. Status FE (active sensing)

A) Sending

Not sent.

B) receiving

After receiving one FE message, if no MIDI data is received for more than 300msec, the unit will activate ALL SOUND OFF, ALL NOTE OFF and RESET ALL CONTROLLERS, as if no FE message had been received.

6. MIDI LCD messages

While exclusive data is being received, there are no messages on the LCD display.

If an error occurs, such as a check sum error, the following message appears, transmission stops, then the previous LCD display appears.

11/22/21 Date: 11/22/21

Disconnect the line, and the previously displayed message will appear.

If the device numbers don't match, or the Exclusive is set to off, data is ignored and no message is displayed.

While exclusive data is being transmitted, the following LCD display is shown.

Transmitting ! !

If many MIDI messages are received in too short a time, the following message appears for a few seconds, receiving is stopped, then the previously displayed message appears.

MIDLEVEL FULL :

When Program Change messages are received in play mode, the Part, BANK, PC VALUE and VOICE NAME are shown on the LCD display.

1.1 Parameter base address

Parameter change			
Start Address (H)			Description
30	00	00	System
30	00	0A	Multi common
30	00	10	Multi Part 10
30	00	28	Multi Part 1
:	:	:	:
30	02	60	Multi Part 15
30	02	78	Multi Part 16
30	03	10	Internal voice 0
30	03	70	Internal voice 1
:	:	:	:
30	31	50	Internal voice 62
30	32	30	Internal voice 63
30	33	10	Drums Part key No.27
30	33	13	Drums Part key No.28
:	:	:	:
30	35	00	Drums Part key No.107
30	35	03	Drums Part key No.108
30	35	06	All parameters reset
<Program change table>			
24	00	00	General MIDI LEVEL 1
24	02	00	DISK ORCHESTRA
24	04	00	C/M TYPE 1
24	06	00	C/M TYPE 2
24	08	00	System Information
24	08	10	Preset voice 0
24	08	70	Preset voice 1
:	:	:	:
25	16	50	Preset voice 190
25	17	30	Preset voice 191

Voice Memory

Parameter change			
Offset Address (H)			Description
00	00		Common parameter
00	18		Element 1 parameter
00	3C		Element 2 parameter

The actual address value = the address at the top of each block + the offset address.

1.2 MIDI Parameter Change table (System)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
30 00 00	02	1C-E4	MASTER TUNE	-100...+100(cent)	08 00 (80)
30 00 01#				1st b3-0 → b7-4 2nd b3-0 → b3-0	
30 00 02	01	28-58	TRANPOSE	-24...+24 semitones	40
30 00 03	01	00-10	DEVICE NUMBER	0...15, 16: all	10
30 00 04	01	00-01	EXCLUSIVE	0: off, 1: on	01
30 00 05	01	00-01	PROGRAM CHANGE	0: off, 1: on	01
30 00 06	01	00-01	CONTROL CHANGE	0: off, 1: on	
			VOLUME, EXPRESSION		01

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
30 00 07	01	00-7F	SOUND MODULE MODE	0: General MIDI 1: Disk Orchestra 2: C/M	00
30 00 08	01	00-7F	MASTER VOLUME	0...127 (=F0 7F 7F 04 01 xx vv F7)	7F
30 00 09	01	00-02	VELOCITY METER	0: off 1: auto 2: on	01
TOTAL SIZE		0A			

REMARKS:

The address marked with "#", cannot be used as the "Start address".

1.3 MIDI Parameter Change table (MULTI common)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
30 00 0A	01	00-07	REVERB TYPE	0: Hall 1 1: Hall 2 2: Room 1 3: Room 2 4: Plate 1 5: Plate 2 6: Delay 1 7: Delay 2	00
30 00 0B	01	03-36	REVERB TIME	3...54	21
30 00 0C	01	18-46	REVERB OUTPUT LEVEL	-40...+6dB	3E
TOTAL SIZE		03			

1.4 MIDI Parameter Change table (MULTI Part)

Offset Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
00 00	02	00-7F	VOICE BANK	0...63 General MIDI 64...111: INTERNAL 112...126: DISK ORCHESTRA 127: C/M (=Bx 00 vv 20 00)	38
00 01#		00-7F	PC VALUE	(=Cx vv)	00
00 02	01	00-10	RX.CHANNEL	0...15 16: off	n
00 03	01	00-01	MONO/POLY MODE	0: Mono (Bx 7E 01) 1: Poly (=Bx 7F 00)	01
00 04	02	1C-E4	DETUNE	-100...+100(cent)	08 00 (80)
00 05#				1st b3-0 \$ b7-4 2nd b3-0 \$ b3-0 (=Bx 64 01 65 00 06 vv 26 vv)	
00 06	01	28-58	NOTE SHIFT	-24...+24 semitones (=Bx 64 02 65 00 06 vv)	40
00 07	01	00-7F	VOLUME	0...127 (=Bx 07 vv)	64
00 08	01	00-0F	VELOCITY SENSE	0...15	08
00 09	01	00-0F	PANPOT	8: voice 9: left : 15: left center 0: center	08

Offset Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
7: right (=Bx 0A vv' except voice)					
00 0A 01	00 - 7F	NOTE LIMIT LOW	C-2...G8	00	
00 0B 01	00 - 7F	NOTE LIMIT HIGH	C-2...G8	7F	
00 0C 01	00 - 08	REVERB SEND DEPTH	0: min 8: max (=Bx 5B vv')	04	
00 0D 01	39 - 47	LFO SPEED	-7...+7	40	
00 0E 01	31 - 4F	LFO DEPTH	-15...+15	40	
00 0F 01	00 - 7F	LFO DELAY	-64...+63	40	
00 10 01	39 - 47	EG.ATTACK RATE	-7...+7	40	
00 11 01	39 - 47	EG.RELEASE RATE	-7...+7	40	
00 12 01	00 - 18	PITCH BEND RANGE	0...24 semitones (=Bx 64 00 65 00 06 vv')	02	
00 13 01	00 - 0F	MOD LFO PITCH DEPTH	0...15	0F	
00 14 01	00 - 7F	don't care	0...127	00	
00 15 01	28 - 58	CAF PITCH CONTROL	-24...+24 (semitone)	40	
00 16 01	00 - 0F	CAF LFO PITCH DEPTH	0...15	00	
00 17 01	00 - 7F	don't care	0...127	00	
TOTAL SIZE	18				

REMARKS:

n: block number (0 - F) Part 1 n = 1
 Part 9 n = 9
 Part 10 n = 0
 Part 11 n = A
 Part 16 n = F

x: MIDI channel number (0 - F)

When n = 0 (Drums), the following parameters are ignored.

- PC VALUE
- VOLUME
- PANPOT
- REVERB SEND DEPTH

vv' After conversion, it will be written.

The address marked with "#", cannot be used as the "Start address".

The actual address value = the address at the top of each block + the offset address.

1.5 MIDI Parameter Change table (Drums Setup)

Offset Address (H)	Size (H)	Data (H)	Parameter	Description
00 00 01	00 - 7F	LEVEL	0...127	
00 01 01	00 - 0F	PANPOT	9: left 15: left center 0: center 7: right	
00 02 01	00 - 08	REVERB DEPTH	0: min 8: max	
TOTAL SIZE	03			

REMARKS:

The actual address value = the address at the top of each block + the offset address.

1.6 MIDI Parameter Change table (VOICE Memory)

1) Common parameter

Offset Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
00 00 01	00 - 01	VOICE MODE	0: 1 element 1: 2 element	00	
00 01 01	00 - 7F	ELEMENT1 LEVEL	0...127	7F	
00 02 01	00 - 7F	ELEMENT2 LEVEL	0...127	7F	
00 03 01	20 - 5F	ELEMENT1 DETUNE	-32...+31	40	
00 04 01	20 - 5F	ELEMENT2 DETUNE	-32...+31	40	
00 05 01	00 - 7F	PORTAMENTO TIME	0...127	01	
00 06 01	00 - 0F	MOD LFO PITCH DEPTH	0...15	0F	
00 07 01	00 - 7F	don't care	0...127	00	
00 08 01	00 - 0F	CAF LFO PITCH DEPTH	0...15	00	
00 09 01	00 - 7F	don't care	0...127	00	
00 0A 01	00 - 05	ELEMENT 1 PITCH RATE SCALING	0: 100% 1: 50% 2: 20% 3: 10% 4: 5% 5: 0%	00	
00 0B 01	00 - 7F	ELEMENT 1 PITCH RATE SCALING CENTER NOTE	0...127 (C-2...G8)	3C	
00 0C 01	28 - 58	ELEMENT 1 NOTE SHIFT	-24...+24 semitones	40	
00 0D 01	28 - 58	ELEMENT 2 NOTE SHIFT	-24...+24 semitones	40	
00 0E 01	00 - 05	ELEMENT 2 PITCH RATE SCALING	0: 100% 1: 50% 2: 20% 3: 10% 4: 5% 5: 0%	00	
00 0F 01	00 - 7F	ELEMENT 2 PITCH RATE SCALING CENTER NOTE	0...127 (C-2...G8)	3C	
00 10 01	20 - 7F	VC NAME1	ASCII character		
00 11 01	20 - 7F	VC NAME2	ASCII character		
00 12 01	20 - 7F	VC NAME3	ASCII character		
00 13 01	20 - 7F	VC NAME4	ASCII character		
00 14 01	20 - 7F	VC NAME5	ASCII character		
00 15 01	20 - 7F	VC NAME6	ASCII character		
00 16 01	20 - 7F	VC NAME7	ASCII character		
00 17 01	20 - 7F	VC NAME8	ASCII character		
TOTAL SIZE	18				

Remarks:

The actual address value = the address at the top of each block + the offset address.

2) Element parameter

Offset Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
00 00	02	00 - 8B	WAVEFORM	0: 139	00 00 (00)
00 01#				1st b3-0 → b7-4 2nd b3-0 → b3-0	
00 02	01	31 - 4F	EG AR	-15...+15	40
00 03	01	31 - 4F	EG RR	-15...+15	40
00 04	01	00 - 7F	LEVEL SCALING	C-2...G8	40
			BREAK POINT1		
00 05	01	00 - 7F	BREAK POINT2	C-2...G8	40
00 06	01	00 - 7F	BREAK POINT3	C-2...G8	40
00 07	01	00 - 7F	BREAK POINT4	C-2...G8	40
00 08	02	00 - FF	LEVEL SCALING	-128...+127	08 00 (80)
00 09#			OFFSET1	1st b3-0 → b7-4 2nd b3-0 → b3-0	
00 0A	02	00 - FF	OFFSET2	-128...+127	08 00 (80)
00 0B#				1st b3-0 → b7-4 2nd b3-0 → b3-0	
00 0C	02	00 - FF	OFFSET3	-128...+127	08 00 (80)
00 0D#				1st b3-0 → b7-4 2nd b3-0 → b3-0	
00 0E	02	00 - FF	OFFSET4	-128...+127	08 00 (80)
00 0F#				1st b3-0 → b7-4 2nd b3-0 → b3-0	
00 10	01	00 - 0F	PANPOT	9: left : 15: left center 0: center : 7: right	00
00 11	01	00 - 07	LFO SPEED	0...7	04
00 12	01	00 - 7F	LFO DELAY	0...127	00
00 13	01	00 - 7F	don't care	0...127	00
00 14	01	00 - 0F	LFO PITCH MOD DEPTH	0...15	00
00 15	01	00 - 07	LFO AMP MOD DEPTH	0 - 7	00
00 16	01	00 - 01	PITCH LFO WAVE	0: triangle 1: sample & hold	00
00 17	01	00 - 02	P-EG RANGE	0: 1/2 oct 1: 1 oct 2: 2 oct	01
00 18	01	00 - 01	P-EG VELOCITY SWITCH	0: on 1: off	01
00 19	01	00 - 07	P-EG RATE SCALING	0...7	00
00 1A	01	00 - 3F	P-EG R1	0...63	3F
00 1B	01	00 - 3F	P-EG R2	0...63	3F
00 1C	01	00 - 3F	P-EG R3	0...63	3F
00 1D	01	00 - 3F	P-EG RR	0...63	3F
00 1E	01	00 - 7F	P-EG LO	-64...+63	40
00 1F	01	00 - 7F	P-EG L1	-64...+63	40
00 20	01	00 - 7F	P-EG L2	-64...+63	40
00 21	01	00 - 7F	P-EG L3	-64...+63	40
00 22	01	00 - 7F	P-EG RL	-64...+63	40
00 23	01	00 - 07	VELOCITY CURVE	0: curve-1 1: curve-2 2: curve-3 3: curve-4	00

Offset Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
				4: curve-5 5: curve-6 6: curve-7 7: curve-8	
TOTAL SIZE	24				

REMARKS:

The address marked with "#", cannot be used as the "Start address".

In Disk Orchestra mode, the voice velocity curve setting is ignored. It is always set to "curve-8".

The actual address value = the address at the top of each block + the offset address.

1.7 MIDI Parameter Change table (Program change table)

Offset Address (H)	Size (H)	Data (H)	Parameter	Description
00 00	02	00 - FF	SERIAL VOICE# TO	0...191, 255:off voice
00 01#			PC#1	
:			:	
:			:	
01 7E	02	00 - FF	SERIAL VOICE# TO	0...191, 255:off voice
01 7F#			PC#128	
TOTAL SIZE	100			

REMARKS:

The address marked with "#", cannot be used as the "Start address".

The actual address value = the address at the top of each block + the offset address.

1.8 MIDI Parameter Change table (System information)

Address (H)	size (H)	Data (H)	Parameter	Description
24 08 00	10	23	STRING	ASCII '#'
24 08 01#		30	STRING	ASCII '0'
24 08 02#		30	STRING	ASCII '0'
24 08 03#		36	STRING	ASCII '6'
24 08 04#		38	STRING	ASCII '8'
24 08 05#		20	STRING	ASCII ''
24 08 06#		20	STRING	ASCII ''
24 08 07#		56	STRING	ASCII 'V'
24 08 08#		45	STRING	ASCII 'E'
24 08 09#		52	STRING	ASCII 'R'
24 08 0A#		3D	STRING	ASCII '='
24 08 0B#		31	STRING	ASCII 'I'
24 08 0C#		2E	STRING	ASCII 'I'
24 08 0D#		30	STRING	ASCII '0'
24 08 0E#		30	STRING	ASCII '0'
24 08 0F#		20	STRING	ASCII ''
TOTAL SIZE	10			

REMARKS:

The top address must be the same as the "Start address".