M-200i MIDI Implementation

Version: 1.02
Date: Jul. 7, 2013

1. TRANSMITTED DATA AND RECOGNIZED RECEIVE DATA

■Channel Voice Message

● Control Change

If the "FADER, MUTE CHANGE (CC)" is turned ON in the MIDI RECEIVE SETTING screen or in the USB MIDI RECEIVE SETTING screen, the M-200i will receive control change message, and will control channel fader or mute switch.

If the "FADER, MUTE CHANGE (CC)" is turned ON in the MIDI SEND SETTING screen or in the USB MIDI SEND SETING screen, the M-200i will transmit control change message when a channel fader or a mute switch is operated.

Status	Second	Third
BnH	mmH	llH

n = MIDI Channel No: 0H, 1H, 9H, DH, EH, FH (see below)
mm = Controller No: 00H - 7FH (see below)
ll = Controller Value: 00H - 7FH (*1)

n	mm		n	mm	
0H	01H	CH1 FADER	0H	40H	CH1 MUTE
0H	02H	CH2 FADER	0H	41H	CH2 MUTE
0H	03H	CH3 FADER	0H	42H	CH3 MUTE
0H	04H	CH4 FADER	0H	43H	CH4 MUTE
0H	05H	CH5 FADER	0H	44H	CH5 MUTE
0H	06H	CH6 FADER	0H	45H	CH6 MUTE
0H	07H	CH7 FADER	0H	46H	CH7 MUTE
0H	08H	CH8 FADER	0H	47H	CH8 MUTE
0H	09H	CH9 FADER	0H	48H	CH9 MUTE
0H	0AH	CH10 FADER	0H	49H	CH10 MUTE
0H	0BH	CH11 FADER	0H	4AH	CH11 MUTE
0H	0CH	CH12 FADER	0H	4BH	CH12 MUTE
0H	0DH	CH13 FADER	0H	4CH	CH13 MUTE
0H	0EH	CH14 FADER	0H	4DH	CH14 MUTE
0H	0FH	CH15 FADER	0H	4EH	CH15 MUTE
0H	10H	CH16 FADER	0H	4FH	CH16 MUTE
0H	11H	CH17 FADER	0H	50H	CH17 MUTE
0H	12H	CH18 FADER	0H	51H	CH18 MUTE
0H	13H	CH19 FADER	0H	52H	CH19 MUTE
0H	14H	CH20 FADER	0H	53H	CH20 MUTE
0H	15H	CH21 FADER	0H	54H	CH21 MUTE
0H	16H	CH22 FADER	0H	55H	CH22 MUTE
0H	17H	CH23 FADER	0H	56H	CH23 MUTE
0H	18H	CH24 FADER	0H	57H	CH24 MUTE
1H	01H	CH25 FADER	1H	40H	CH25 MUTE
1H	02H	CH26 FADER	1H	41H	CH26 MUTE
1H	03H	CH27 FADER	1H	42H	CH27 MUTE
1H	04H	CH28 FADER	1H	43H	CH28 MUTE
1H	05H	CH29 FADER	1H	44H	CH29 MUTE
1H	06H	CH30 FADER	1H	45H	CH30 MUTE
1H	07H	CH31 FADER	1H	46H	CH31 MUTE
1H	08H	CH32 FADER	1H	47H	CH32 MUTE
9H	01H	DCA GRP1 FADER	9H	40H	DCA GRP1 MUTE
9H	02H	DCA GRP2 FADER	9H	41H	DCA GRP2 MUTE
9H	03H	DCA GRP3 FADER	9H	42H	DCA GRP3 MUTE
9H	04H	DCA GRP4 FADER	9H	43H	DCA GRP4 MUTE
9H	05H	DCA GRP5 FADER	9H	44H	DCA GRP5 MUTE
9H	06H	DCA GRP6 FADER	9H	45H	DCA GRP6 MUTE
9H	07H	DCA GRP7 FADER	9H	46H	DCA GRP7 MUTE
9H	08H	DCA GRP8 FADER	9H	47H	DCA GRP8 MUTE
DH	01H	MTX1 FADER	DH	40H	MTX1 MUTE
DH	02H	MTX2 FADER	DH	41H	MTX2 MUTE
DH	03H	MTX3 FADER	DH	42H	MTX3 MUTE
DH	04H	MTX4 FADER	DH	43H	MTX4 MUTE
EH	01H	AUX1 FADER	EH	40H	AUX1 MUTE
EH	02H	AUX2 FADER	EH	41H	AUX2 MUTE
EH	03H	AUX3 FADER	EH	42H	AUX3 MUTE
EH	04H	AUX4 FADER	EH	43H	AUX4 MUTE
EH	05H	AUX5 FADER	EH	44H	AUX5 MUTE
EH	06H	AUX6 FADER	EH	45H	AUX6 MUTE
EH	07H	AUX7 FADER	EH	46H	AUX7 MUTE
EH	08H	AUX8 FADER	EH	47H	AUX8 MUTE
FH	01H	MAIN FADER	FH	40H	MAIN MUTE

(*1) 00H = 0FF, 01H = ON for mute.

Value and fader level corresponds as follows.

Fader Level Table

Value	Lev(dB)	Value	Lev(dB)	Value	Lev(dB)	Data	Lev(dB)
0	- Inf	32	-33.1	64	-11.3	96	- 0.3
1	-80.0	33	-32.3	65	-10.7	97	0.0
2	-76.7	34	-31.5	66	-10.3	98	0.3
3	-73.3	35	-30.8	67	-10.0	99	0.7
4	-70.0	36	-30.0	68	- 9.7	100	1.0
5	-66.7	37	-29.3	69	- 9.3	101	1.3
6	-63.3	38	-28.7	70	- 9.0	102	1.7
7	-60.0	39	-28.0	71	- 8.7	103	2.0
8	-58.6	40	-27.3	72	- 8.3	104	2.3
9	-57.1	41	-26.7	73	- 8.0	105	2.7
10	-55.7	42	-26.0	74	- 7.7	106	3.0
11	-54.3	43	-25.3	75	- 7.3	107	3.3
12	-52.9	44	-24.7	76	- 7.0	108	3.7
13	-51.4	45	-24.0	77	- 6.7	109	4.0
14	-50.0	46	-23.3	78	- 6.3	110	4.3
15	-48.9	47	-22.7	79	- 6.0	111	4.7
16	-47.8	48	-22.0	80	- 5.7	112	5.0
17	-46.7	49	-21.3	81	- 5.3	113	5.3
18	-45.6	50	-20.7	82	- 5.0	114	5.7
19	-44.4	51	-20.0	83	- 4.7	115	6.0
20	-43.3	52	-19.3	84	- 4.3	116	6.3
21	-42.2	53	-18.7	85	- 4.0	117	6.7
22	-41.1	54	-18.0	86	- 3.7	118	7.0
23	-40.0	55	-17.3	87	- 3.3	119	7.3
24	-39.2	56	-16.7	88	- 3.0	120	7.7
25	-38.5	57	-16.0	89	- 2.7	121	8.0
26	-37.7	58	-15.3	90	- 2.3	122	8.3
27	-36.9	59	-14.7	91	- 2.0	123	8.7
28	-36.2	60	-14.0	92	- 1.7	124	9.0
29	-35.4	61	-13.3	93	- 1.3	125	9.3
30	-34.6	62	-12.7	94	- 1.0	126	9.7
31	-33.8	63	-12.0	95	- 0.7	127	10.0

● Program Change

If the "SCENE CHANGE (PC)" is turned ON in the MIDI RECEIVE SETTING screen or in the USB MIDI RECEIVE SETTING screen, the M-200i will receive program change message, and will recall the corresponding scene.

If the "SCENE CHANGE (PC)" is turned ON in the MIDI SEND SETTING screen or in the USB MIDI SEND SETTING screen, t, the M-200i will transmit program change message when a scene is recalled.

Status	Second
CnH	ppH

n = MIDI Channel No: 0H - 2H (ch.1 - ch.3)
pp = Program No: 00H - 7FH (0 - 127)

Program number and scene corresponds as follows.

n	mm	SCENE NUMBER
0H	00H – 7FH (0 – 127)	000 – 127
1H	00H – 7FH (0 – 127)	128 – 255
2H	00H – 2BH (0 – 43)	256 – 299

■System Exclusive Message

Status	Data Byte	Status
F0H	iiH,ddH, ...,eeH	F7H

Byte	Description
F0H	Status of System Exclusive Message
iiH	Manufacturer ID
	41H Roland's Manufacturer ID
	7EH Universal Non Real-time Message
	7FH Universal Real-time Message
ddH	Data: 00H - 7FH (0-127)
:	:
eeH	Data
F7H	EOX (End of System Exclusive message)

The M-200i can transfer and receive the internal parameters information using system exclusive messages. The M-200i can transmit and receive Universal System Exclusive messages, Data Request (RQ1) and Data set (DT1) as the System Exclsive Message.

❍ About Model ID

The Model ID of the M-200i is 00H, 00H, 24H as for Data Request (RQ1) and Data set (DT1).

❍ About Device ID

System Exclusive messages are not assigned to any particular MIDI channel. Instead, they have their own special control parameter called device ID. The roland system exclusive messages use device DIs to specify multiple M-200i units. The M-200i sends system exclusive messages using 00H-1FH, and receives the system exclusive messages whose device ID is same as its device DI and 7FH. The value of the device ID is the value set on the REMOTE screen's Dev ID minus one.

● Unidersal System Exclusive Message

❍ Identity Request

Status	Data Byte	Status
F0H	7EH,Dev,06H,01H	F7H

Byte	Description
F0H	Status of System Exclusive Message
7EH	Universal System Exclusive message Non Real-time header
Dev	Device ID (or 7FH)
06H	General Information (sub-ID #1)
01H	Identity Request (sub-ID #2)
F7H	EOX (End of System Exclusive message)

The message is used to request the particular information of the M-200i. The M-200i does not transmit the message. If the M-200i received the message and the device ID of the message is same as its device ID or 7FH, the M-200i transmits the following Identity Reply message.

❍ Identity Reply

Status	Data Byte	Status
F0H	7EH,Dev,06H,02H,41H,24H,02H, 00H,03H,ssH,ssH,ssH,ssH	F7H

Byte	Description
F0H	Status of System Exclusive Message
7EH	Universal System Exclusive message Non Real-time header
Dev	Device ID (or 7FH)
06H	General Information (sub-ID #1)
02H	Identity Reply (sub-ID #2)
41H	Manufacturer ID (Roland)
24H 02H	Device Family Code
00H 03H	Device Family No.
ssH ssH ssH ssH	Software Revision Level
F7H	EOX (End of System Exclusive message)

When M-200i, the value of the software revision level is 00H 00H 00H 00H.

❍ MIDI Machine Control Commands

Status	Data Byte	Status
F0H	7FH,Dev,06H,aaH, ...,bbH	F7H

Byte	Description
F0H	Status of System Exclusive Message
7FH	Universal System Exclusive message Real-time header
Dev	Device ID (or 7FH)
06H	MMC Command Message
aaH	Command
:	:
bbH	Command
F7H	EOX (End of System Exclusive message)

(*) See "3. MIDI Machine Control"

● Data Transfer (RQ1, DT1)

❍ Data Request (RQ1)

Status	Data Byte	Status
F0H	41H,Dev,00H,00H,24H,11H,aaH,bbH, ccH,ddH,ssH,ssH,ssH,ssH,Sum	F7H

Byte	Description
F0H	Status of System Exclusive Message
41H	Manufacturer ID (Roland)
Dev	Device ID
00H 00H 24H	Model ID (M-200i)
11H	Command ID (RQ1)
aaH	Address MSB
bbH	Address
ccH	Address
ddH	Address LSB
ssH	Size MSB
ssH	Size
ssH	Size
ssH	Size LSB
Sum	Check Sum
F7H	EOX (End of System Exclusive message)

This messages is used to request parameters from the M-200i. When this message is received, the requested data will be transmitted if the following conditions are satisfied.

1. The address specified by RQ1 corresponds to one of the applicable parameter base addressed of the M-200i.
2. The requested size is 1 or grater.

If the above conditions are satisfied, the corresponding parameters will be transmitted in the form described in Data Set (DT1).

❍ Data Set (DT1)

Status	Data Byte	Status
F0H	41H,Dev,00H,00H,24H,12H,aaH,bbH, ccH,ddH,eeH ...,ffH,Sum	F7H

Byte	Description
F0H	Status of System Exclusive Message
41H	Manufacturer ID (Roland)
Dev	Device ID
00H 00H 24H	Model ID (M-200i)
12H	Command ID (DT1)
aaH	Address MSB
bbH	Address
ccH	Address
ddH	Address LSB
eeH	Data
:	:
ffH	Data
Sum	Check Sum
F7H	EOX (End of System Exclusive message)

The message is received under the following condition. If the device ID on the message is same as that of the received device, and the address on the message correspond to the specified parameter base address, the received data are stored form the specified parameter base address.

2. Data Transfer Address Map

(*) Addresses with a "#" are ignored, even when sent as the Start Addresses. Transmit the Data Set (DT1) or Data Request (RQ1) message with the specified size to the address without "#" mark.

■Address Block

<Model ID = 00H 00H 24H (M-200i)>

Addresses are expressed in 7bit hexadecimal values.

Address	MSB			LSB
Binary	0aaa aaaa	0bbb bbbb	0ccc cccc	0ddd dddd
7 Bit Hex	AA	BB	CC	DD

Start address	Contents and remarks
00 00 00 00	INPUT BOARD PARAMETERS
01 00 00 00	OUTPUT BOARD PARAMETERS
02 00 00 00	INPUT PATCHBAY PARAMETERS
03 00 00 00	OUTPUT PATCHBAY PARAMETERS
04 00 00 00	INPUT CHANNEL PARAMETERS
05 00 00 00	MAIN CHANNEL PARAMETERS
06 00 00 00	AUX CHANNEL PARAMETERS
07 00 00 00	MATRIX CHANNEL PARAMETERS
08 00 00 00	MONITOR PARAMETERS
09 00 00 00	TALKBACK/OSCILLATOR PARAMETERS
0A 00 00 00	MUTE GROUP PARAMETERS
0B 00 00 00	DCA GROUP PARAMETERS
0C 00 00 00	EFFECT PARAMETERS
0C 10 00 00	GEQ PARAMETERS
0C 20 00 00	EXTERNAL EFFECT PARAMETERS
0D 00 00 00	USB MEMORY RECORDER PARAMETERS
0F 00 00 00	TEMPO PARAMETERS
10 00 00 00	SYSTEM PARAMETERS

● Input Board Parameter

Start address	Data	Contents and remarks
00 00 00 00	00 – 05	REAC INPUT 1 TYPE (*1) 0 = NONE 1 = SI-AD4 2 = SI-AES4
00 00 00 01	00 – 37	SI–AD4 GAIN 0,,,55 = -10dBu,,,-65dBu (PAD = OFF) 0,,,55 = +10dBu,,,-45dBu (PAD = ON)
00 00 00 02	00 – 01	SI–AD4 PAD OFF, ON
00 00 00 03	00 – 01	SI–AD4 PHANTOM OFF, ON
00 00 00 04	00 – 01	SI–AD4 LINK (*1) OFF, ON
00 00 00 05	00 –	(Reserved)
:	:	:
00 00 7F 7F	00	(Reserved)
00 01 00 00	00 –	REAC INPUT 2 (similar to 00 00 00 00 – 00 00 7F 7F)
:	:	:
00 01 7F 7F	00	
:	:	:
00 27 00 00	00 –	REAC INPUT 40 (similar to 00 00 00 00 – 00 00 7F 7F)
:	:	:
00 27 7F 7F	00	
00 28 00 00	00 –	(Reserved)
:	:	:
00 4F 7F 7F	00	(Reserved)
00 50 00 00	03	INPUT 1 TYPE (*1) 3 = CONSOLE XLR INPUT
00 50 00 01	00 – 45	INTPUT 1 GAIN 0,,,69 = +4dBu,,,-65dBu
00 50 00 02	00	(Reserved)
00 50 00 03	00 – 01	INTPUT 1 PHANTOM OFF, ON
00 50 00 04	00	(Reserved)
:	:	:
00 50 7F 7F	00	(Reserved)
00 51 00 00	00 –	INTPUT 2 (similar to 00 50 00 00 – 00 50 7F 7F)
:	:	:
00 51 7F 7F	00 –	
:	:	:
00 5F 00 00	00 –	INTPUT 16 (similar to 00 50 00 00 – 00 50 7F 7F)
:	:	:
00 5F 7F 7F	00 –	
00 60 00 00	05	INPUT 17 TYPE (*1) 5 = CONSOLE TRS/RCA INPUT
00 60 00 01	00 – 20	INPUT 17 GAIN 0,,,32 = +4dBu,,,-28dBu
00 60 00 02	00	(Reserved)
:	:	:
00 60 7F 7F	00	(Reserved)
00 61 00 00	00 –	INPUT 18 (similar to 00 60 00 00 – 00 60 7F 7F)
:	:	:
00 61 7F 7F	00	
:	:	:
00 67 00 00	00 –	INPUT 24 (similar to 00 60 00 00 – 00 60 7F 7F)
:	:	:
00 67 7F 7F	00	
00 68 00 05	00	(Reserved)
:	:	:
00 7F 7F 7F	00	(Reserved)

(*1) This is read-only.

● Output Board Parameter

Start address	Data	Contents and remarks
01 00 00 00	00 – 02	REAC OUTPUT 1 TYPE (*1) 0 = NONE 1 = SO-DA4 2 = SO-AES4
01 00 00 03	00 -	(Reserved)
:	:	:
01 00 7F 7F	00	(Reserved)
01 01 00 00	00 –	REAC OUTPUT 2 Parameter Area (similar to 01 00 00 00 – 01 00 7F 7F)
:	:	:
01 01 7F 7F	00	
:	:	:
01 27 00 00	00 –	REAC OUTPUT 40 Parameter Area (similar to 01 00 00 00 – 01 00 7F 7F)
:	:	:
01 27 7F 7F	00	
01 28 00 00	00	(Reserved)
:	:	:
01 7F 7F 7F	00	(Reserved)

(*1) This is read-only.

● Input Patchbay Parameter

Start address	Data	Contents and remarks
02 00 00 00 02 00 00 01#	0aaaaaaa 0bbbbbbb	CHANNEL 1 SOURCE 0 = REAC IN 1 : 39 = REAC IN 40 80 = INPUT 1 : 103 = INPUT 24 104 = PLAY L 105 = PLAY R 106 = FX1 OUT L 107 = FX1 OUT R : 112 = FX4 OUT L 113 = FX4 OUT R 114 = DOCK IN L 115 = DOCK IN R 16383 = NONE
02 00 00 02 : 02 00 7F 7F	00 : 00	(Reserved) : (Reserved)
02 01 00 00 : 02 01 7F 7F	00 —	CHANNEL 2 (similar to 02 00 00 00 — 02 00 7F 7F)
: 02 1F 00 00 : 02 1F 7F 7F	: 00 — : 00 —	: CHANNEL 32 (similar to 02 00 00 00 — 02 00 7F 7F)
02 20 00 00 : 02 7F 7F 7F	00 : 00	(Reserved) : (Reserved)

● Output Patchbay Parameter

Start address	Data	Contents and remarks
03 00 00 00 03 00 00 01#	0aaaaaaa 0bbbbbbb	REAC OUT 1 SOURCE 0 = MAIN L OUT 1 = MAIN R OUT 6 = MAIN MONO OUT 7 = AUX 1 OUT : 14 = AUX 8 OUT 15 = MTX 1 OUT : 18 = MTX 4 OUT 19 = REC L OUT 20 = REC R OUT 21 = MONITOR L OUT 22 = MONITOR R OUT 23 = CH 1 OUT : 54 = CH 32 OUT 55 = TALKBACK/OSCILLATOR OUT 68 = REAC IN 1 : 107 = REAC IN 40 148 = INPUT 1 : 171 = INPUT 24 172 = DOCK IN L 173 = DOCK IN R 16383 = NONE
03 00 00 02 : 03 00 7F 7F	00 : 00	(Reserved) : (Reserved)
03 01 00 00 : 03 01 7F 7F	00 — : 00 —	REAC OUT 2 (similar to 03 00 00 00 — 03 00 7F 7F)
: 03 27 00 00 : 03 27 7F 7F	: 00 — : 00 —	: REAC OUT 40 (similar to 03 00 00 00 — 03 00 7F 7F)
03 28 00 00 : 03 4F 7F 7F	00 : 00 —	(Reserved) :
03 50 00 00 : 03 50 7F 7F	00 — : 00 —	ASSIGNABLE OUTPUT 1 (similar to 03 00 00 00 — 03 00 7F 7F)
: 03 59 00 00 : 03 59 7F 7F	: 00 — : 00 —	: ASSIGNABLE OUTPUT 10 (similar to 03 00 00 00 — 03 00 7F 7F)
03 5A 00 00 : 03 5A 7F 7F	00 — : 00 —	MAIN OUTPUT L (similar to 03 00 00 00 — 03 00 7F 7F)
03 5B 00 00 : 03 5B 7F 7F	00 — : 00 —	MAIN OUTPUT R (similar to 03 00 00 00 — 03 00 7F 7F)
03 5C 00 00 : 03 5C 7F 7F	00 — : 00 —	AES/EBU OUT L (similar to 03 00 00 00 — 03 00 7F 7F)
03 5D 00 00 : 03 5D 7F 7F	00 — : 00 —	AES/EBU OUT R (similar to 03 00 00 00 — 03 00 7F 7F)
03 5E 00 00 : 03 5E 7F 7F	00 — : 00 —	DOCK OUT L (similar to 03 00 00 00 — 03 00 7F 7F)
03 5F 00 00 : 03 5F 7F 7F	00 — : 00 —	DOCK OUT R (similar to 03 00 00 00 — 03 00 7F 7F)
03 60 00 00 : 03 7F 7F 7F	00 : 00	(Reserved) : (Reserved)

● Input Channel Parameter

Start address	Data	Contents and remarks
04 00 00 00 04 00 00 01# 04 00 00 02# 04 00 00 03# 04 00 00 04# 04 00 00 05#	20 — 7F 20 — 7F 20 — 7F 20 — 7F 20 — 7F 20 — 7F	CHANNEL 1 NAME—1 (ASCII) NAME—2 (ASCII) NAME—3 (ASCII) NAME—4 (ASCII) NAME—5 (ASCII) NAME—6 (ASCII)
04 00 00 06 : 04 00 00 0D	00 : 00	(Reserved) : (Reserved)
04 00 00 0E	00 — 07	CHANNEL 1 NAME COLOR 0 = Navy 1 = Blue 2 = Brown 3 = Red 4 = Yellow 5 = Green 6 = Aqua 7 = Purple
04 00 00 0F	00	(Reserved)
04 00 00 10	00 — 01	CHANNEL 1 LINK OFF, ON
04 00 00 11	00 — 01	CHANNEL 1 POLARITY NRM,INV
04 00 00 12 04 00 00 13#	0aaaaaaa 0bbbbbbb	CHANNEL 1 ATT -480,,,240 = -48.0,,,+24.0dB
04 00 00 14	00 — 01	CHANNEL 1 MUTE OFF, ON
04 00 00 15	00 — 01	CHANNEL 1 SOLO OFF, ON
04 00 00 16 04 00 00 17#	0aaaaaaa 0bbbbbbb	CHANNEL 1 FADER LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
04 00 00 18	01 — 7F	CHANNEL 1 PAN 1,,,63 = L63,,,L1 64 = C 65,,,127 = R1,,,R63
04 00 00 19 : 04 00 00 1B	00 : 00	(Reserved) : (Reserved)
04 00 00 1C	00 — 01	CHANNEL 1 MAIN SWITCH OFF, ON
04 00 00 1D : 04 00 00 7F	00 : 00	(Reserved) : (Reserved)
04 00 01 00	00 — 01	CHANNEL 1 HPF SWITCH OFF, ON
04 00 01 01 : 04 00 01 03	00 : 00	(Reserved) : (Reserved)
04 00 01 04 04 00 01 05# 04 00 01 06#	0aaaaaaa 0bbbbbbb 0ccccccc	CHANNEL 1 HPF FREQ 20Hz,,,20000Hz
04 00 01 07 : 04 00 01 7F	00 : 00	(Reserved) : (Reserved)
04 00 02 00	00 — 01	CHANNEL 1 GATE SWITCH OFF, ON
04 00 02 01	00 — 02	CHANNEL 1 GATE TYPE 0 = EXPANDER 1 = GATE 2 = DUCKING

04 00 02 02 04 00 02 03#	0aaaaaaa 0bbbbbbb	CHANNEL 1 GATE KEY-IN SOURCE 0 = MAIN L OUT 1 = MAIN R OUT 7 = AUX 1 OUT : 14 = AUX 8 OUT 15 = MTX 1 OUT : 18 = MTX 4 OUT 23 = CH 1 OUT : 54 = CH 32 OUT 68 = REAC IN 1 : 107 = REAC IN 40 148 = INPUT 1 : 171 = INPUT 24 172 = DOCK IN L 173 = DOCK IN R 16383 = SELF
04 00 02 04	00 – 01	CHANNEL 1 GATE KEY-IN FILTER SWITCH OFF, ON
04 00 02 05	00 – 03	CHANNEL 1 GATE KEY-IN FILTER TYPE 0 = HPF 2 = BPF 3 = LPF
04 00 02 06 : 04 00 02 07	00 : 00	(Reserved) : (Reserved)
04 00 02 08 04 00 02 09# 04 00 02 0A#	0aaaaaaa 0bbbbbbb 0ccccccc	CHANNEL 1 GATE KEY-IN FILTER FREQ 20Hz,,,20000Hz
04 00 02 0B	00	(Reserved)
04 00 02 0C 04 00 02 0D#	0aaaaaaa 0bbbbbbb	CHANNEL 1 GATE KEY-IN FILTER Q 36,,,1600 = 0.36,,,16.00
04 00 02 0E : 04 00 02 0F	00 : 00	(Reserved) : (Reserved)
04 00 02 10 04 00 02 11#	0aaaaaaa 0bbbbbbb	CHANNEL 1 GATE THRESHOLD -800,,,0 = -80.0,,,0.0dB
04 00 02 12 04 00 02 13#	0aaaaaaa 0bbbbbbb	CHANNEL 1 GATE RANGE less than -905,-905,,,0 = -Inf,-90.5,,,0.0dB
04 00 02 14 04 00 02 15#	0aaaaaaa 0bbbbbbb	CHANNEL 1 GATE ATTACK 0,,,8000 = 0.0,,,800.0ms
04 00 02 16 04 00 02 17#	0aaaaaaa 0bbbbbbb	CHANNEL 1 GATE RELEASE 0,,,8000ms
04 00 02 18 04 00 02 19#	0aaaaaaa 0bbbbbbb	CHANNEL 1 GATE HOLD 0,,,8000ms
04 00 02 1A : 04 00 02 1F	00 : 00	(Reserved) : (Reserved)
04 00 02 20 04 00 02 21#	0aaaaaaa 0bbbbbbb	CHANNEL 1 EXPANDER THRESHOLD -800,,,0 = -80.0,,,0.0dB
04 00 02 22	00 – 0D	CHANNEL 1 EXPANDER RATIO 0 = 1.00:1 1 = 1.12:1 2 = 1.25:1 3 = 1.40:1 4 = 1.60:1 5 = 1.80:1 6 = 2.00:1 7 = 2.50:1 8 = 3.20:1 9 = 4.00:1 10 = 5.60:1 11 = 8.00:1 12 = 16.0:1 13 = Inf:1
04 00 02 23	00 – 09	CHANNEL 1 EXPANDER KNEE 0 = HARD 1 = SOFT1 : 9 = SOFT9
04 00 02 24 04 00 02 25#	0aaaaaaa 0bbbbbbb	CHANNEL 1 EXPANDER ATTACK 0,,,8000 = 0.0,,,800.0ms
04 00 02 26 04 00 02 27#	0aaaaaaa 0bbbbbbb	CHANNEL 1 EXPANDER RELEASE 0,,,8000ms
04 00 02 28 : 04 00 02 2F	00 : 00	(Reserved) : (Reserved)
04 00 02 30 04 00 02 31#	0aaaaaaa 0bbbbbbb	CHANNEL 1 DUCKING THRESHOLD -800,,,0 = -80.0,,,0.0dB
04 00 02 32 04 00 02 33#	0aaaaaaa 0bbbbbbb	CHANNEL 1 DUCKING RANGE less than -905,-905,,,0 = -Inf,-90.5,,,0.0dB
04 00 02 34 04 00 02 35#	0aaaaaaa 0bbbbbbb	CHANNEL 1 DUCKING ATTACK 0,,,8000 = 0.0,,,800.0ms
04 00 02 36 04 00 02 37#	0aaaaaaa 0bbbbbbb	CHANNEL 1 DUCKING RELEASE 0,,,8000ms
04 00 02 38 04 00 02 39#	0aaaaaaa 0bbbbbbb	CHANNEL 1 DUCKING HOLD 0,,,8000ms
04 00 02 3A : 04 00 02 7F	00 : 00	(Reserved) : (Reserved)
04 00 03 00	00 – 01	CHANNEL 1 COMP SWITCH OFF, ON
04 00 03 01	00	(Reserved)
04 00 03 02 04 00 03 03#	0aaaaaaa 0bbbbbbb	CHANNEL 1 COMP KEY-IN SOURCE 0 = MAIN L OUT 1 = MAIN R OUT 7 = AUX 1 OUT : 14 = AUX 8 OUT 15 = MTX 1 OUT : 18 = MTX 4 OUT 23 = CH 1 OUT : 54 = CH 32 OUT 68 = REAC IN 1 : 107 = REAC IN 40 148 = INPUT 1 : 171 = INPUT 24 172 = DOCK IN L 173 = DOCK IN R 16383 = SELF
04 00 03 04	00 – 01	CHANNEL 1 COMP KEY-IN FILTER SWITCH OFF, ON
04 00 03 05	00 – 03	CHANNEL 1 COMP KEY-IN FILTER TYPE 0 = HPF 2 = BPF 3 = LPF
04 00 03 06 : 04 00 03 07	00 : 00	(Reserved) : (Reserved)
04 00 03 08 04 00 03 09# 04 00 03 0A#	0aaaaaaa 0bbbbbbb 0ccccccc	CHANNEL 1 COMP KEY-IN FILTER FREQ 20Hz,,,20000Hz
04 00 03 0B	00	(Reserved)
04 00 03 0C 04 00 03 0D#	0aaaaaaa 0bbbbbbb	CHANNEL 1 COMP KEY-IN FILTER Q 36,,,1600 = 0.36,,,16.00
04 00 03 0E : 04 00 03 0F	00 : 00	(Reserved) : (Reserved)
04 00 03 10 04 00 03 11#	0aaaaaaa 0bbbbbbb	CHANNEL 1 COMP THRESHOLD -400,,,0 = -40.0,,,0.0dB
04 00 03 12	00 – 0D	CHANNEL 1 COMP RATIO 0 = 1.00:1 1 = 1.12:1 2 = 1.25:1 3 = 1.40:1 4 = 1.60:1 5 = 1.80:1 6 = 2.00:1 7 = 2.50:1 8 = 3.20:1 9 = 4.00:1 10 = 5.60:1 11 = 8.00:1 12 = 16.0:1 13 = Inf:1
04 00 03 13	00 – 09	CHANNEL 1 COMP KNEE 0 = HARD 1 = SOFT1 : 9 = SOFT9
04 00 03 14 04 00 03 15#	0aaaaaaa 0bbbbbbb	CHANNEL 1 COMP ATTACK 0,,,8000 = 0.0,,,800.0ms
04 00 03 16 04 00 03 17#	0aaaaaaa 0bbbbbbb	CHANNEL 1 COMP RELEASE 0,,,8000ms
04 00 03 18 04 00 03 19#	0aaaaaaa 0bbbbbbb	CHANNEL 1 COMP GAIN -400,,,400 = -40.0,,,+40.0dB
04 00 03 1A	00 – 01	CHANNEL 1 COMP AUTO GAIN OFF, ON
04 00 03 1B : 04 00 03 7F	00 : 00	(Reserved) : (Reserved)
04 00 04 00	00 – 01	CHANNEL 1 EQ SWITCH OFF, ON
04 00 04 01 : 04 00 04 10	00 : 00	(Reserved) : (Reserved)
04 00 04 11	00 – 01	CHANNEL 1 EQ LO TYPE 0 = PEAKING 1 = LO SHELF
04 00 04 12 04 00 04 13#	0aaaaaaa 0bbbbbbb	CHANNEL 1 EQ LO GAIN -150,,,150 = -15.0,,,+15.0dB
04 00 04 14 04 00 04 15# 04 00 04 16#	0aaaaaaa 0bbbbbbb 0ccccccc	CHANNEL 1 EQ LO FREQ 20Hz,,,20000Hz

04 00 04 17 04 00 04 18#	0aaaaaaa 0bbbbbbb	CHANNEL 1 EQ LO Q 36,,,1600 = 0.36,,,16.00
04 00 04 19 : 04 00 04 21	00 : 00	(Reserved) : (Reserved)
04 00 04 22 04 00 04 23#	0aaaaaaa 0bbbbbbb	CHANNEL 1 EQ LO–MID GAIN -150,,,150 = -15.0,,,+15.0dB
04 00 04 24 04 00 04 25# 04 00 04 26#	0aaaaaaa 0bbbbbbb 0ccccccc	CHANNEL 1 EQ LO–MID FREQ 20Hz,,,20000Hz
04 00 04 27 04 00 04 28#	0aaaaaaa 0bbbbbbb	CHANNEL 1 EQ LO–MID Q 36,,,1600 = 0.36,,,16.00
04 00 04 29 : 04 00 04 31	00 : 00	(Reserved) : (Reserved)
04 00 04 32 04 00 04 33#	0aaaaaaa 0bbbbbbb	CHANNEL 1 EQ HI–MID GAIN -150,,,150 = -15.0,,,+15.0dB
04 00 04 34 04 00 04 35# 04 00 04 36#	0aaaaaaa 0bbbbbbb 0ccccccc	CHANNEL 1 EQ HI–MID FREQ 20Hz,,,20000Hz
04 00 04 37 04 00 04 38#	0aaaaaaa 0bbbbbbb	CHANNEL 1 EQ HI–MID Q 36,,,1600 = 0.36,,,16.00
04 00 04 39 : 04 00 04 40	00 : 00	(Reserved) : (Reserved)
04 00 04 41	00 – 02	CHANNEL 1 EQ HI TYPE 0 = PEAKING 2 = HI SHELF
04 00 04 42 04 00 04 43#	0aaaaaaa 0bbbbbbb	CHANNEL 1 EQ HI GAIN -150,,,150 = -15.0,,,+15.0dB
04 00 04 44 04 00 04 45# 04 00 04 46#	0aaaaaaa 0bbbbbbb 0ccccccc	CHANNEL 1 EQ HI FREQ 20Hz,,,20000Hz
04 00 04 47 04 00 04 48#	0aaaaaaa 0bbbbbbb	CHANNEL 1 EQ HI Q 36,,,1600 = 0.36,,,16.00
04 00 04 49 : 04 00 10 00	00 : 00	(Reserved) : (Reserved)
04 00 10 01	00 – 03	CHANNEL 1 DIRECT OUT POSITION 0 = TOP OF CHANNEL 1 = PRE EQ 2 = PRE FADER 3 = POST FADER
04 00 10 02 : 04 00 11 7F	00 : 00	(Reserved) : (Reserved)
04 00 12 00	00 – 01	CHANNEL 1 AUX 1 SEND SWITCH OFF, ON
04 00 12 01	01 – 03	CHANNEL 1 AUX 1 SEND POSITION 1 = PRE EQ 2 = PRE FADER 3 = POST FADER
04 00 12 02 04 00 12 03#	0aaaaaaa 0bbbbbbb	CHANNEL 1 AUX 1 SEND LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
04 00 12 04	01 – 7F	CHANNEL 1 AUX 1 SEND PAN 1,,,63 = L63,,,L1 64 = C 65,,,127 = R1,,,R63
04 00 12 05	00 – 01	CHANNEL 1 AUX 1 SEND PAN LINK OFF, ON
04 00 12 06 : 04 00 12 07	00 : 00	(Reserved) : (Reserved)
04 00 12 08	00 – 01	CHANNEL 1 AUX 2 SEND SWITCH OFF, ON
04 00 12 09	01 – 03	CHANNEL 1 AUX 2 SEND POSITION 1 = PRE EQ 2 = PRE FADER 3 = POST FADER
04 00 12 0A 04 00 12 0B#	0aaaaaaa 0bbbbbbb	CHANNEL 1 AUX 2 SEND LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
04 00 12 0C : 04 00 12 0F	00 : 00	(Reserved) : (Reserved)
04 00 12 10 : 04 00 12 1F	00 – : 00 –	CHANNEL 1 AUX 3/4 SEND (similar to 04 00 12 00 – 04 00 12 0F) :
04 00 12 30 : 04 00 12 3F	00 – : 00 –	CHANNEL 1 AUX 7/8 SEND (similar to 04 00 12 00 – 04 00 12 0F) :
04 00 12 40 : 04 00 12 7F	00 : 00	(Reserved) : (Reserved)
04 00 13 00	00 – 01	CHANNEL 1 MTX 1 SEND SWITCH OFF, ON
04 00 13 01	01 – 03	CHANNEL 1 MTX 1 SEND POSITION 1 = PRE EQ 2 = PRE FADER 3 = POST FADER
04 00 13 02 04 00 13 03#	0aaaaaaa 0bbbbbbb	CHANNEL 1 MTX 1 SEND LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
04 00 13 04	01 – 7F	CHANNEL 1 MTX 1 SEND PAN 1,,,63 = L63,,,L1 64 = C 65,,,127 = R1,,,R63
04 00 13 05	00 – 01	CHANNEL 1 MTX 1 SEND PAN LINK OFF, ON
04 00 13 06 : 04 00 13 07	00 : 00	(Reserved) : (Reserved)
04 00 13 08	00 – 01	CHANNEL 1 MTX 2 SEND SWITCH OFF, ON
04 00 13 09	01 – 03	CHANNEL 1 MTX 2 SEND POSITION 1 = PRE EQ 2 = PRE FADER 3 = POST FADER
04 00 13 0A 04 00 13 0B#	0aaaaaaa 0bbbbbbb	CHANNEL 1 MTX 2 SEND LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
04 00 13 0C : 04 00 13 0F	00 : 00	(Reserved) : (Reserved)
04 00 13 10 : 04 00 13 1F	00 – : 00 –	CHANNEL 1 MTX 3/4 SEND (similar to 04 00 13 00 – 04 00 13 0F) :
04 00 13 20 : 04 00 7F 7F	00 : 00	(Reserved) : (Reserved)
04 01 00 00 : 04 01 7F 7F	00 – : 00 –	CHANNEL 2 (similar to 04 00 00 00 – 04 00 7F 7F) :
04 1F 00 00 : 04 1F 7F 7F	00 – : 00 –	CHANNEL 32 (similar to 04 00 00 00 – 04 00 7F 7F) :

● MAIN Channel Parameter

Start address	Data	Contents and remarks
05 00 00 00 05 00 00 01# 05 00 00 02# 05 00 00 03# 05 00 00 04# 05 00 00 05#	20 – 7F 20 – 7F 20 – 7F 20 – 7F 20 – 7F 20 – 7F	MAIN L NAME–1 (ASCII) NAME–2 (ASCII) NAME–3 (ASCII) NAME–4 (ASCII) NAME–5 (ASCII) NAME–6 (ASCII)
05 00 00 06 : 05 00 00 0D	00 : 00	(Reserved) : (Reserved)
05 00 00 0E	00 – 07	MAIN L NAME COLOR 0 = Navy 1 = Blue 2 = Brown 3 = Red 4 = Yellow 5 = Green 6 = Aqua 7 = Purple
05 00 00 0F : 05 00 00 11	00 : 00	(Reserved) : (Reserved)
05 00 00 12 05 00 00 13#	0aaaaaaa 0bbbbbbb	MAIN L ATT -480,,,0 = -48.0,,,0.0dB
05 00 00 14	00 – 01	MAIN L MUTE OFF, ON
05 00 00 15	00 – 01	MAIN L SOLO OFF, ON
05 00 00 16 05 00 00 17#	0aaaaaaa 0bbbbbbb	MAIN L FADER LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
05 00 00 18	01 – 7F	MAIN L BALANCE 1,,,63 = L63,,,L1 64 = C 65,,,127 = R1,,,R63
05 00 00 19 : 05 00 03 0F	00 : 00	(Reserved) : (Reserved)

05 00 03 10 05 00 03 11#	0aaaaaaa 0bbbbbbb	MAIN L COMP THRESHOLD -400,,,0 = -40.0,,,0.0dB
05 00 03 12	00 – 0D	MAIN L COMP RATIO 0 = 1.00:1 1 = 1.12:1 2 = 1.25:1 3 = 1.40:1 4 = 1.60:1 5 = 1.80:1 6 = 2.00:1 7 = 2.50:1 8 = 3.20:1 9 = 4.00:1 10 = 5.60:1 11 = 8.00:1 12 = 16.0:1 13 = Inf:1
05 00 03 13	00 – 09	MAIN L COMP KNEE 0 = HARD 1 = SOFT1 : 9 = SOFT9
05 00 03 14 05 00 03 15#	0aaaaaaa 0bbbbbbb	MAIN L COMP ATTACK 0,,,8000 = 0.0,,,800.0ms
05 00 03 16 05 00 03 17#	0aaaaaaa 0bbbbbbb	MAIN L COMP RELEASE 0,,,8000ms
05 00 03 18 05 00 03 19#	0aaaaaaa 0bbbbbbb	MAIN L COMP GAIN -400,,,400 = -40.0,,,+40.0dB
05 00 03 1A	00 – 01	MAIN L COMP AUTO GAIN OFF, ON
05 00 03 1B : 05 00 03 7F	00 : 00	(Reserved) : (Reserved)
05 00 04 00	00 – 01	MAIN L EQ SWITCH OFF, ON
05 00 04 01 : 05 00 04 10	00 : 00	(Reserved) : (Reserved)
05 00 04 11	00 – 04	MAIN L EQ LO TYPE 0 = PEAKING 1 = LO SHELF 4 = HPF
05 00 04 12 05 00 04 13#	0aaaaaaa 0bbbbbbb	MAIN L EQ LO GAIN -150,,,150 = -15.0,,,+15.0dB
05 00 04 14 05 00 04 15# 05 00 04 16#	0aaaaaaa 0bbbbbbb 0ccccccc	MAIN L EQ LO FREQ 20Hz,,,20000Hz
05 00 04 17 05 00 04 18#	0aaaaaaa 0bbbbbbb	MAIN L EQ LO Q 36,,,1600 = 0.36,,,16.00
05 00 04 19 : 05 00 04 21	00 : 00	(Reserved) : (Reserved)
05 00 04 22 05 00 04 23#	0aaaaaaa 0bbbbbbb	MAIN L EQ LO-MID GAIN -150,,,150 = -15.0,,,+15.0dB
05 00 04 24 05 00 04 25# 05 00 04 26#	0aaaaaaa 0bbbbbbb 0ccccccc	MAIN L EQ LO-MID FREQ 20Hz,,,20000Hz
05 00 04 27 05 00 04 28#	0aaaaaaa 0bbbbbbb	MAIN L EQ LO-MID Q 36,,,1600 = 0.36,,,16.00
05 00 04 29 : 05 00 04 31	00 : 00	(Reserved) : (Reserved)
05 00 04 32 05 00 04 33#	0aaaaaaa 0bbbbbbb	MAIN L EQ HI-MID GAIN -150,,,150 = -15.0,,,+15.0dB
05 00 04 34 05 00 04 35# 05 00 04 36#	0aaaaaaa 0bbbbbbb 0ccccccc	MAIN L EQ HI-MID FREQ 20Hz,,,20000Hz
05 00 04 37 05 00 04 38#	0aaaaaaa 0bbbbbbb	MAIN L EQ HI-MID Q 36,,,1600 = 0.36,,,16.00
05 00 04 39 : 05 00 04 40	00 : 00	(Reserved) : (Reserved)
05 00 04 41	00 – 03	MAIN L EQ HI TYPE 0 = PEAKING 2 = HI SHELF 3 = LPF
05 00 04 42 05 00 04 43#	0aaaaaaa 0bbbbbbb	MAIN L EQ HI GAIN -150,,,150 = -15.0,,,+15.0dB
05 00 04 44 05 00 04 45# 05 00 04 46#	0aaaaaaa 0bbbbbbb 0ccccccc	MAIN L EQ HI FREQ 20Hz,,,20000Hz
05 00 04 47 05 00 04 48#	0aaaaaaa 0bbbbbbb	MAIN L EQ HI Q 36,,,1600 = 0.36,,,16.00
05 00 04 49 : 05 00 05 7F	00 : 00	(Reserved) : (Reserved)
05 00 06 00	00 – 01	MAIN L COMP/LIMITER SWITCH OFF, ON
05 00 06 01	00 – 01	MAIN L COMP/LIMITER TYPE 0 = LIMITER 1 = COMP
05 00 06 02 : 05 00 06 0F	00 : 00	(Reserved) : (Reserved)
05 00 06 10 05 00 06 11#	0aaaaaaa 0bbbbbbb	MAIN L LIMITER THRESHOLD -400,,,0 = -40.0,,,0.0dB
05 00 06 12	00	(Reserved)
05 00 06 13	00 – 09	MAIN L LIMITER KNEE 0 = HARD 1 = SOFT1 : 9 = SOFT9
05 00 06 14 05 00 06 15#	0aaaaaaa 0bbbbbbb	MAIN L LIMITER ATTACK 0,,,8000 = 0.0,,,800.0ms
05 00 06 16 05 00 06 17#	0aaaaaaa 0bbbbbbb	MAIN L LIMITER RELEASE 0,,,8000ms
05 00 06 18 : 05 00 06 7F	00 : 00	(Reserved) : (Reserved)
05 00 07 00	00 – 01	MAIN L DELAY SWITCH OFF, ON
05 00 07 01	00	(Reserved)
05 00 07 02 05 00 07 03# 05 00 07 04# 05 00 07 05#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	MAIN L DELAY TIME 0,,,400000 = 0.000,,,400.000ms
05 00 07 06 05 00 07 07# 05 00 07 08# 05 00 07 09#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	MAIN L DELAY TIME (SAMPLE) 0,,,19200 samples
05 00 07 0A : 05 00 12 7F	00 : 00	(Reserved) : (Reserved)
05 00 13 00	00 – 01	MAIN L MTX 1 SEND SWITCH OFF, ON
05 00 13 01	01 – 03	MAIN L MTX 1 SEND POSITION 1 = PRE EQ 2 = PRE FADER 3 = POST FADER
05 00 13 02 05 00 13 03#	0aaaaaaa 0bbbbbbb	MAIN L MTX 1 SEND LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
05 00 13 04	01 – 7F	MAIN L MTX 1 SEND PAN 1,,,63 = L63,,,L1 64 = C 65,,,127 = R1,,,R63
05 00 13 05	00 – 01	MAIN L MTX 1 SEND PAN LINK OFF, ON
05 00 13 06	00	(Reserved)
05 00 13 07	00	(Reserved)
05 00 13 08	00 – 01	MAIN L MTX 2 SEND SWITCH OFF, ON
05 00 13 09	01 – 03	MAIN L MTX 2 SEND POSITION 1 = PRE EQ 2 = PRE FADER 3 = POST FADER
05 00 13 0A 05 00 13 0B#	0aaaaaaa 0bbbbbbb	MAIN L MTX 2 SEND LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
05 00 13 0C : 05 00 13 0F	00 : 00	(Reserved) : (Reserved)
05 00 13 10 : 05 00 13 1F	00 – : 00 –	MAIN L MTX 3/4 SEND (similar to 05 00 13 00 – 05 00 13 0F) :
05 00 13 20 : 05 00 7F 7F	00 : 00	(Reserved) : (Reserved)
05 01 00 00 : 05 01 7F 7F	00 – : 00 –	MAIN R (similar to 05 00 00 00 – 05 00 7F 7F) :
05 02 00 00 : 05 7F 7F 7F	00 : 00	(Reserved) : (Reserved)

● AUX Channel Parameter

Start address	Data	Contents and remarks
06 00 00 00	20 – 7F	AUX 1 NAME–1 (ASCII)
06 00 00 01#	20 – 7F	NAME–2 (ASCII)
06 00 00 02#	20 – 7F	NAME–3 (ASCII)
06 00 00 03#	20 – 7F	NAME–4 (ASCII)
06 00 00 04#	20 – 7F	NAME–5 (ASCII)
06 00 00 05#	20 – 7F	NAME–6 (ASCII)

06 00 00 06	00	(Reserved)
:	:	:
06 00 00 0D	00	(Reserved)
06 00 00 0E	00 – 07	AUX 1 NAME COLOR 0 = Navy 1 = Blue 2 = Brown 3 = Red 4 = Yellow 5 = Green 6 = Aqua 7 = Purple
06 00 00 0F	00	(Reserved)
06 00 00 10	01	AUX 1 LINK OFF, ON
06 00 00 11	00	(Reserved)
06 00 00 12 06 00 00 13#	0aaaaaaa 0bbbbbbb	AUX 1 ATT -480,,,0 = -48.0,,,0.0dB
06 00 00 14	00 – 01	AUX 1 MUTE OFF, ON
06 00 00 15	00 – 01	AUX 1 SOLO OFF, ON
06 00 00 16 06 00 00 17#	0aaaaaaa 0bbbbbbb	AUX 1 FADER LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
06 00 00 18	01 – 7F	AUX 1 BALANCE 1,,,63 = L63,,,L1 64 = C 65,,,127 = R1,,,R63
06 00 00 19	00	(Reserved)
:	:	:
06 00 03 0F	00	(Reserved)
06 00 03 10 06 00 03 11#	0aaaaaaa 0bbbbbbb	AUX 1 COMP THRESHOLD -400,,,0 = -40.0,,,0.0dB
06 00 03 12	00 – 0D	AUX 1 COMP RATIO 0 = 1.00:1 1 = 1.12:1 2 = 1.25:1 3 = 1.40:1 4 = 1.60:1 5 = 1.80:1 6 = 2.00:1 7 = 2.50:1 8 = 3.20:1 9 = 4.00:1 10 = 5.60:1 11 = 8.00:1 12 = 16.0:1 13 = Inf:1
06 00 03 13	00 – 09	AUX 1 COMP KNEE 0 = HARD 1 = SOFT1 : 9 = SOFT9
06 00 03 14 06 00 03 15#	0aaaaaaa 0bbbbbbb	AUX 1 COMP ATTACK 0,,,8000 = 0.0,,,800.0ms
06 00 03 16 06 00 03 17#	0aaaaaaa 0bbbbbbb	AUX 1 COMP RELEASE 0,,,8000ms
06 00 03 18 06 00 03 19#	0aaaaaaa 0bbbbbbb	AUX 1 COMP GAIN -400,,,400 = -40.0,,,+40.0dB
06 00 03 1A	00 – 01	AUX 1 COMP AUTO GAIN OFF, ON
06 00 03 1B	00	(Reserved)
:	:	:
06 00 03 7F	00	(Reserved)
06 00 04 00	00 – 01	AUX 1 EQ SWITCH OFF, ON
06 00 04 01	00	(Reserved)
:	:	:
06 00 04 10	00	(Reserved)
06 00 04 11	00 – 04	AUX 1 EQ LO TYPE 0 = PEAKING 1 = LO SHELF 4 = HPF
06 00 04 12 06 00 04 13#	0aaaaaaa 0bbbbbbb	AUX 1 EQ LO GAIN -150,,,150 = -15.0,,,+15.0dB
06 00 04 14 06 00 04 15# 06 00 04 16#	0aaaaaaa 0bbbbbbb 0ccccccc	AUX 1 EQ LO FREQ 20Hz,,,20000Hz
06 00 04 17 06 00 04 18#	0aaaaaaa 0bbbbbbb	AUX 1 EQ LO Q 36,,,1600 = 0.36,,,16.00
06 00 04 19	00	(Reserved)
:	:	:
06 00 04 21	00	(Reserved)
06 00 04 22 06 00 04 23#	0aaaaaaa 0bbbbbbb	AUX 1 EQ LO-MID GAIN -150,,,150 = -15.0,,,+15.0dB
06 00 04 24 06 00 04 25# 06 00 04 26#	0aaaaaaa 0bbbbbbb 0ccccccc	AUX 1 EQ LO-MID FREQ 20Hz,,,20000Hz
06 00 04 27 06 00 04 28#	0aaaaaaa 0bbbbbbb	AUX 1 EQ LO-MID Q 36,,,1600 = 0.36,,,16.00
06 00 04 29	00	(Reserved)
:	:	:
06 00 04 31	00	(Reserved)
06 00 04 32 06 00 04 33#	0aaaaaaa 0bbbbbbb	AUX 1 EQ HI-MID GAIN -150,,,150 = -15.0,,,+15.0dB
06 00 04 34 06 00 04 35# 06 00 04 36#	0aaaaaaa 0bbbbbbb 0ccccccc	AUX 1 EQ HI-MID FREQ 20Hz,,,20000Hz
06 00 04 37 06 00 04 38#	0aaaaaaa 0bbbbbbb	AUX 1 EQ HI-MID Q 36,,,1600 = 0.36,,,16.00
06 00 04 39	00	(Reserved)
:	:	:
06 00 04 40	00	(Reserved)
06 00 04 41	00 – 03	AUX 1 EQ HI TYPE 0 = PEAKING 2 = HI SHELF 3 = LPF
06 00 04 42 06 00 04 43#	0aaaaaaa 0bbbbbbb	AUX 1 EQ HI GAIN -150,,,150 = -15.0,,,+15.0dB
06 00 04 44 06 00 04 45# 06 00 04 46#	0aaaaaaa 0bbbbbbb 0ccccccc	AUX 1 EQ HI FREQ 20Hz,,,20000Hz
06 00 04 47 06 00 04 48#	0aaaaaaa 0bbbbbbb	AUX 1 EQ HI Q 36,,,1600 = 0.36,,,16.00
06 00 04 49	00	(Reserved)
:	:	:
06 00 05 7F	00	(Reserved)
06 00 06 00	00 – 01	AUX 1 COMP/LIMITER SWITCH OFF, ON
06 00 06 01	00 – 01	AUX 1 COMP/LIMITER TYPE 0 = LIMITER 1 = COMP
06 00 06 02	00	(Reserved)
:	:	:
06 00 06 0F	00	(Reserved)
06 00 06 10 06 00 06 11#	0aaaaaaa 0bbbbbbb	AUX 1 LIMITER THRESHOLD -400,,,0 = -40.0,,,0.0dB
06 00 06 12	00	(Reserved)
06 00 06 13	00 – 09	AUX 1 LIMITER KNEE 0 = HARD 1 = SOFT1 : 9 = SOFT9
06 00 06 14 06 00 06 15#	0aaaaaaa 0bbbbbbb	AUX 1 LIMITER ATTACK 0,,,8000 = 0.0,,,800.0ms
06 00 06 16 06 00 06 17#	0aaaaaaa 0bbbbbbb	AUX 1 LIMITER RELEASE 0,,,8000ms
06 00 06 18	00	(Reserved)
:	:	:
06 00 06 7F	00	(Reserved)
06 00 07 00	00 – 01	AUX 1 DELAY SWITCH OFF, ON
06 00 07 01	00	(Reserved)
06 00 07 02 06 00 07 03# 06 00 07 04# 06 00 07 05#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	AUX 1 DELAY TIME 0,,,400000 = 0.000,,,400.000ms
06 00 07 06 06 00 07 07# 06 00 07 08# 06 00 07 09#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	AUX 1 DELAY TIME (SAMPLE) 0,,,19200 samples
06 00 07 0A	00	(Reserved)
:	:	:
06 00 10 7F	00	(Reserved)
06 00 11 00	00 – 01	AUX 1 MAIN SEND SWITCH OFF, ON
06 00 11 01	00	(Reserved)
:	:	:
06 00 11 03	00	(Reserved)
06 00 11 04	01 – 7F	AUX 1 MAIN SEND PAN 1,,,63 = L63,,,L1 64 = C 65,,,127 = R1,,,R63
06 00 11 05	00	(Reserved)
:	:	:
06 00 11 0B	00	(Reserved)
06 00 11 0C	00 – 01	AUX 1 MAIN SWITCH OFF, ON
06 00 11 0D	00	(Reserved)
:	:	:
06 00 12 7F	00	(Reserved)
06 00 13 00	00 – 01	AUX 1 MTX 1 SEND SWITCH OFF, ON
06 00 13 01	01 – 03	AUX 1 MTX 1 SEND POSITION 1 = PRE EQ 2 = PRE FADER 3 = POST FADER

06 00 13 02 06 00 13 03#	0aaaaaaa 0bbbbbbb	AUX 1 MTX 1 SEND LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
06 00 13 04	01 — 7F	AUX 1 MTX 1 SEND PAN 1,,,63 = L63,,,L1 64 = C 65,,,127 = R1,,,R63
06 00 13 05	00 — 01	AUX 1 MTX 1 SEND PAN LINK OFF, ON
06 00 13 06 : 06 00 13 07	00 : 00	(Reserved) : (Reserved)
06 00 13 08	00 — 01	AUX 1 MTX 2 SEND SWITCH OFF, ON
06 00 13 09	01 — 03	AUX 1 MTX 2 SEND POSITION 1 = PRE EQ 2 = PRE FADER 3 = POST FADER
06 00 13 0A 06 00 13 0B#	0aaaaaaa 0bbbbbbb	AUX 1 MTX 2 SEND LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
06 00 13 0C : 06 00 13 0F	00 : 00	(Reserved) : (Reserved)
06 00 13 10 : 06 00 13 1F	00 — : 00 —	AUX 1 MTX 3/4 SEND (similar to 06 00 13 00 — 06 00 13 0F) :
06 00 13 20 : 06 00 7F 7F	00 : 00	(Reserved) : (Reserved)
06 01 00 00 : 06 01 7F 7F	00 — : 00 —	AUX 2 (similar to 06 00 00 00 — 06 00 7F 7F) :
: 06 07 00 00 : 06 07 7F 7F	: 00 — : 00 —	: AUX 8 (similar to 06 00 00 00 — 06 00 7F 7F) :
06 08 00 00 : 06 7F 7F 7F	00 : 00	(Reserved) : (Reserved)

● MTX Channel Parameter

Start address	Data	Contents and remarks
07 00 00 00 07 00 00 01# 07 00 00 02# 07 00 00 03# 07 00 00 04# 07 00 00 05#	20 — 7F 20 — 7F 20 — 7F 20 — 7F 20 — 7F 20 — 7F	MTX 1 NAME—1 (ASCII) NAME—2 (ASCII) NAME—3 (ASCII) NAME—4 (ASCII) NAME—5 (ASCII) NAME—6 (ASCII)
07 00 00 06 : 07 00 00 0D	00 : 00	(Reserved) : (Reserved)
07 00 00 0E	00 — 07	MTX 1 NAME COLOR 0 = Navy 1 = Blue 2 = Brown 3 = Red 4 = Yellow 5 = Green 6 = Aqua 7 = Purple
07 00 00 0F	00	(Reserved)
07 00 00 10	01	MTX 1 LINK OFF, ON
07 00 00 11	00	(Reserved)
07 00 00 12 07 00 00 13#	0aaaaaaa 0bbbbbbb	MTX 1 ATT -480,,,0 = -48.0,,,0.0dB
07 00 00 14	00 — 01	MTX 1 MUTE OFF, ON
07 00 00 15	00 — 01	MTX 1 SOLO OFF, ON
07 00 00 16 07 00 00 17#	0aaaaaaa 0bbbbbbb	MTX 1 FADER LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
07 00 00 18	01 — 7F	MTX 1 BALANCE 1,,,63 = L63,,,L1 64 = C 65,,,127 = R1,,,R63
07 00 00 19 : 07 00 03 0F	00 : 00	(Reserved) : (Reserved)
07 00 03 10 07 00 03 11#	0aaaaaaa 0bbbbbbb	MTX 1 COMP THRESHOLD -400,,,0 = -40.0,,,0.0dB
07 00 03 12	00 — 0D	MTX 1 COMP RATIO 0 = 1.00:1 1 = 1.12:1 2 = 1.25:1 3 = 1.40:1 4 = 1.60:1 5 = 1.80:1 6 = 2.00:1 7 = 2.50:1 8 = 3.20:1 9 = 4.00:1 10 = 5.60:1 11 = 8.00:1 12 = 16.0:1 13 = Inf:1
07 00 03 13	00 — 09	MTX 1 COMP KNEE 0 = HARD 1 = SOFT1 : 9 = SOFT9
07 00 03 14 07 00 03 15#	0aaaaaaa 0bbbbbbb	MTX 1 COMP ATTACK 0,,,8000 = 0.0,,,800.0ms
07 00 03 16 07 00 03 17#	0aaaaaaa 0bbbbbbb	MTX 1 COMP RELEASE 0,,,8000ms
07 00 03 18 07 00 03 19#	0aaaaaaa 0bbbbbbb	MTX 1 COMP GAIN -400,,,400 = -40.0,,,+40.0dB
07 00 03 1A	00 — 01	MTX 1 COMP AUTO GAIN OFF, ON
07 00 03 1B : 07 00 03 7F	00 : 00	(Reserved) : (Reserved)
07 00 04 00	00 — 01	MTX 1 EQ SWITCH OFF, ON
07 00 04 01 : 07 00 04 10	00 : 00	(Reserved) : (Reserved)
07 00 04 11	00 — 04	MTX 1 EQ LO TYPE 0 = PEAKING 1 = LO SHELF 4 = HPF
07 00 04 12 07 00 04 13#	0aaaaaaa 0bbbbbbb	MTX 1 EQ LO GAIN -150,,,150 = -15.0,,,+15.0dB
07 00 04 14 07 00 04 15# 07 00 04 16#	0aaaaaaa 0bbbbbbb 0ccccccc	MTX 1 EQ LO FREQ 20Hz,,,20000Hz
07 00 04 17 07 00 04 18#	0aaaaaaa 0bbbbbbb	MTX 1 EQ LO Q 36,,,1600 = 0.36,,,16.00
07 00 04 19 : 07 00 04 21	00 : 00	(Reserved) : (Reserved)
07 00 04 22 07 00 04 23#	0aaaaaaa 0bbbbbbb	MTX 1 EQ LO-MID GAIN -150,,,150 = -15.0,,,+15.0dB
07 00 04 24 07 00 04 25# 07 00 04 26#	0aaaaaaa 0bbbbbbb 0ccccccc	MTX 1 EQ LO-MID FREQ 20Hz,,,20000Hz
07 00 04 27 07 00 04 28#	0aaaaaaa 0bbbbbbb	MTX 1 EQ LO-MID Q 36,,,1600 = 0.36,,,16.00
07 00 04 29 : 07 00 04 31	00 : 00	(Reserved) : (Reserved)
07 00 04 32 07 00 04 33#	0aaaaaaa 0bbbbbbb	MTX 1 EQ HI-MID GAIN -150,,,150 = -15.0,,,+15.0dB
07 00 04 34 07 00 04 35# 07 00 04 36#	0aaaaaaa 0bbbbbbb 0ccccccc	MTX 1 EQ HI-MID FREQ 20Hz,,,20000Hz
07 00 04 37 07 00 04 38#	0aaaaaaa 0bbbbbbb	MTX 1 EQ HI-MID Q 36,,,1600 = 0.36,,,16.00
07 00 04 39 : 07 00 04 40	00 : 00	(Reserved) : (Reserved)
07 00 04 41	00 — 03	MTX 1 EQ HI TYPE 0 = PEAKING 2 = HI SHELF 3 = LPF
07 00 04 42 07 00 04 43#	0aaaaaaa 0bbbbbbb	MTX 1 EQ HI GAIN -150,,,150 = -15.0,,,+15.0dB
07 00 04 44 07 00 04 45# 07 00 04 46#	0aaaaaaa 0bbbbbbb 0ccccccc	MTX 1 EQ HI FREQ 20Hz,,,20000Hz
07 00 04 47 07 00 04 48#	0aaaaaaa 0bbbbbbb	MTX 1 EQ HI Q 36,,,1600 = 0.36,,,16.00
07 00 04 49 : 07 00 05 7F	00 : 00	(Reserved) : (Reserved)
07 00 06 00	00 — 01	MTX 1 COMP/LIMITER SWITCH OFF, ON
07 00 06 01	00 — 01	MTX 1 COMP/LIMITER TYPE 0 = LIMITER 1 = COMP

07 00 06 02	00	(Reserved)
:	:	:
07 00 06 0F	00	(Reserved)
07 00 06 10	0aaaaaaa	MTX 1 LIMITER THRESHOLD
07 00 06 11#	0bbbbbbb	-400,,,0 = -40.0,,,0.0dB
07 00 06 12	00	(Reserved)
07 00 06 13	00 – 09	MTX 1 LIMITER KNEE 0 = HARD 1 = SOFT1 : 9 = SOFT9
07 00 06 14	0aaaaaaa	MTX 1 LIMITER ATTACK
07 00 06 15#	0bbbbbbb	0,,,8000 = 0.0,,,800.0ms
07 00 06 16	0aaaaaaa	MTX 1 LIMITER RELEASE
07 00 06 17#	0bbbbbbb	0,,,8000ms
07 00 06 18	00	(Reserved)
:	:	:
07 00 06 7F	00	(Reserved)
07 00 07 00	00 – 01	MTX 1 DELAY SWITCH OFF, ON
07 00 07 01	00	(Reserved)
07 00 07 02	0aaaaaaa	MTX 1 DELAY TIME
07 00 07 03#	0bbbbbbb	0,,,400000 = 0.000,,,400.000ms
07 00 07 04#	0ccccccc	
07 00 07 05#	0ddddddd	
07 00 07 06	0aaaaaaa	MTX 1 DELAY TIME (SAMPLE)
07 00 07 07#	0bbbbbbb	0,,,19200 samples
07 00 07 08#	0ccccccc	
07 00 07 09#	0ddddddd	
07 00 07 0A	00	(Reserved)
:	:	:
07 00 7F 7F	00	(Reserved)
07 01 00 00	00 –	MTX 2 (similar to 07 00 00 00 – 07 00 7F 7F)
:	:	:
07 01 7F 7F	00 –	
:	:	:
07 03 00 00	00 –	MTX 4 (similar to 07 00 00 00 – 07 00 7F 7F)
:	:	:
07 03 7F 7F	00 –	
07 04 00 00	00	(Reserved)
:	:	:
07 7F 7F 7F	00	(Reserved)

● Monitor Parameter

Start address	Data	Contents and remarks
08 00 00 00	0aaaaaaa	MONITOR LEVEL
08 00 00 01#	0bbbbbbb	less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
08 00 00 02	00 – 13	MONITOR SOURCE 0 = MAIN L/R OUT 6 = MAIN MONO OUT 7,,,14 = AUX 1 OUT,,, AUX 8 OUT 15,,,18 = MTX 1 OUT,,, MTX 4 OUT 19 = REC L/R OUT
08 00 00 03	00	(Reserved)
:	:	:
08 00 00 07	00	(Reserved)
08 00 00 08	00 – 01	MONITOR DIMMER SWITCH OFF, ON
08 00 00 09	00 – 01	MONITOR TALKBACK DIMMER OFF, ON
08 00 00 0A	0aaaaaaa	MONITOR DIMMER LEVEL
08 00 00 0B#	0bbbbbbb	less than -905,-905,,,0 = -Inf,-90.5,,,0.0dB
08 00 00 0C	00	(Reserved)
:	:	:
08 00 00 0F	00	(Reserved)
08 00 00 10	00 – 01	MONITOR DELAY SWITCH OFF, ON
08 00 00 11	00	(Reserved)
08 00 00 12	0aaaaaaa	MONITOR DELAY TIME
08 00 00 13#	0bbbbbbb	0,,,400000 = 0.000,,,400.000ms
08 00 00 14#	0ccccccc	
08 00 00 15#	0ddddddd	
08 00 00 16	0aaaaaaa	MONITOR DELAY TIME (SAMPLE)
08 00 00 17#	0bbbbbbb	0,,,19200 samples
08 00 00 18#	0ccccccc	
08 00 00 19#	0ddddddd	
08 00 00 1A	00	(Reserved)
:	:	:
08 00 00 1F	00	(Reserved)
08 00 00 20	0aaaaaaa	SOLO LEVEL
08 00 00 21#	0bbbbbbb	less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
08 00 00 22	00	(Reserved)
08 00 00 23	00 – 01	SOLO MODE ADD ON, LAST
08 00 00 24	00 – 01	INPUT AFL OFF, ON
08 00 00 25	00 – 01	OUTPUT AFL OFF, ON
08 00 00 26	00 – 01	AUX/MTX SOLO FOLLOWS SENDS ON FADER OFF, ON
08 00 00 27	00	(Reserved)
:	:	:
08 7F 7F 7F	00	(Reserved)

● Talkback/Oscillator Parameter

Start address	Data	Contents and remarks
09 00 00 00	00 – 01	TALKBACK SWITCH OFF, ON
09 00 00 01	00	(Reserved)
09 00 00 02	0aaaaaaa	TALKBACK LEVEL
09 00 00 03#	0bbbbbbb	less than -905,-905,,,0 = -Inf,-90.5,,,0.0dB
09 00 00 04	0aaaaaaa	TALKBACK MIC SELECT 80 = INPUT 1
09 00 00 05#	0bbbbbbb	: 115 = INPUT 16 16383 = NONE
09 00 00 06	00	(Reserved)
:	:	:
09 00 01 7F	00	(Reserved)
09 00 02 00	00 – 01	TALKBACK MAIN L SEND OFF, ON
09 00 02 01	00 – 01	TALKBACK MAIN R SEND OFF, ON
09 00 02 02	00	(Reserved)
:	:	:
09 00 02 7F	00	(Reserved)
09 00 03 00	00 – 01	TALKBACK AUX 1 SEND OFF, ON
09 00 03 01	00 – 01	TALKBACK AUX 2 SEND OFF, ON
:	:	:
09 00 03 07	00 – 01	TALKBACK AUX 8 SEND OFF, ON
09 00 03 08	00	(Reserved)
:	:	:
09 00 03 7F	00	(Reserved)
09 00 04 00	00 – 01	TALKBACK MTX 1 SEND OFF, ON
09 00 04 01	00 – 01	TALKBACK MTX 2 SEND OFF, ON
:	:	:
09 00 04 03	00 – 01	TALKBACK MTX 4 SEND OFF, ON
09 00 04 04	00	(Reserved)
:	:	:
09 0F 7F 7F	00	(Reserved)
09 10 00 00	00 – 01	OSCILLATOR SWITCH OFF, ON
09 10 00 01	00 - 02	OSCILLATOR TYPE 0 = SINE WAVE 1 = WHITE NOISE 2 = PINK NOISE
09 10 00 02	0aaaaaaa	OSCILLATOR LEVEL
09 10 00 03#	0bbbbbbb	less than -905,-905,,,0 = -Inf,-90.5,,,0.0dB
09 10 00 04	0aaaaaaa	OSCILLATOR FREQ 20,,,20000Hz
09 10 00 05#	0bbbbbbb	
09 10 00 06#	0ccccccc	
09 10 00 07	00	(Reserved)
:	:	:
09 7F 7F 7F	00	(Reserved)

● Mute Group Parameter

Start address	Data	Contents and remarks	
0A 00 00 00	20 – 7F	MUTE GROUP 1 NAME–1	(ASCII)
0A 00 00 01#	20 – 7F	NAME–2	(ASCII)
0A 00 00 02#	20 – 7F	NAME–3	(ASCII)
0A 00 00 03#	20 – 7F	NAME–4	(ASCII)
0A 00 00 04#	20 – 7F	NAME–5	(ASCII)
0A 00 00 05#	20 – 7F	NAME–6	(ASCII)

0A 00 00 06	00	(Reserved)
:	:	:
0A 00 00 0D	00	(Reserved)
0A 00 00 06	00 – 07	MUTE GROUP 1 NAME COLOR 0 = Navy 1 = Blue 2 = Brown 3 = Red 4 = Yellow 5 = Green 6 = Aqua 7 = Purple
0A 00 00 07	00	(Reserved)
:	:	:
0A 00 00 0F	00	(Reserved)
0A 00 00 10	00 – 01	MUTE GROUP 1 MASTER SWITCH OFF, ON
0A 00 00 11	00	(Reserved)
:	:	:
0A 00 00 7F	00	(Reserved)
0A 00 01 00	00 – 01	MUTE GROUP 1 CH 1 ASSIGN OFF, ON
0A 00 01 01	00 – 01	MUTE GROUP 1 CH 2 ASSIGN OFF, ON
:	:	:
0A 00 01 1F	00 – 01	MUTE GROUP 1 CH 32 ASSIGN OFF, ON
0A 00 01 20	00	(Reserved)
:	:	:
0A 00 01 7F	00	(Reserved)
0A 00 02 00	00 – 01	MUTE GROUP 1 MAIN ASSIGN OFF, ON
0A 00 02 01	00	(Reserved)
:	:	:
0A 00 02 7F	00	(Reserved)
0A 00 03 00	00 – 01	MUTE GROUP 1 AUX 1 ASSIGN OFF, ON
0A 00 03 01	00 – 01	MUTE GROUP 1 AUX 2 ASSIGN OFF, ON
:	:	:
0A 00 03 07	00 – 01	MUTE GROUP 1 AUX 8 ASSIGN OFF, ON
0A 00 03 08	00	(Reserved)
:	:	:
0A 00 03 7F	00	(Reserved)
0A 00 04 00	00 – 01	MUTE GROUP 1 MTX 1 ASSIGN OFF, ON
0A 00 04 01	00 – 01	MUTE GROUP 1 MTX 2 ASSIGN OFF, ON
:	:	:
0A 00 04 03	00 – 01	MUTE GROUP 1 MTX 4 ASSIGN OFF, ON
0A 00 04 04	00	(Reserved)
:	:	:
0A 00 7F 7F	00	(Reserved)
0A 01 00 00	00 –	MUTE GROUP 2 (similar to 0A 00 00 00 – 0A 00 7F 7F)
:	:	:
0A 01 7F 7F	00 –	
:	:	:
0A 03 00 00	00 –	MUTE GROUP 4 (similar to 0A 00 00 00 – 0A 00 7F 7F)
:	:	:
0A 03 7F 7F	00 –	
0A 04 00 00	00	(Reserved)
:	:	:
0A 7F 7F 7F	00	(Reserved)

● DCA Group Parameter

Start address	Data	Contents and remarks
0B 00 00 00	20 – 7F	DCA GROUP 1 NAME–1 (ASCII)
0B 00 00 01#	20 – 7F	NAME–2 (ASCII)
0B 00 00 02#	20 – 7F	NAME–3 (ASCII)
0B 00 00 03#	20 – 7F	NAME–4 (ASCII)
0B 00 00 04#	20 – 7F	NAME–5 (ASCII)
0B 00 00 05#	20 – 7F	NAME–6 (ASCII)
0B 00 00 06	00	(Reserved)
:	:	:
0B 00 00 0D	00	(Reserved)
0B 00 00 0E	00 – 07	DCA GROUP 1 NAME COLOR 0 = Navy 1 = Blue 2 = Brown 3 = Red 4 = Yellow 5 = Green 6 = Aqua 7 = Purple
0B 00 00 0F	00	(Reserved)
:	:	:
0B 00 00 13	00	(Reserved)
0B 00 00 14	00 – 01	DCA GROUP 1 MUTE OFF, ON
0B 00 00 15	00 – 01	DCA GROUP 1 SOLO OFF, ON
0B 00 00 16 0B 00 00 17#	0aaaaaaa 0bbbbbbb	DCA GROUP 1 FADER LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
0B 00 00 18	00	(Reserved)
:	:	:
0B 00 00 7F	00	(Reserved)
0B 00 01 00	00 – 01	DCA GROUP 1 CH 1 ASSIGN OFF, ON
0B 00 01 01	00 – 01	DCA GROUP 1 CH 2 ASSIGN OFF, ON
:	:	:
0B 00 01 1F	00 – 01	DCA GROUP 1 CH 32 ASSIGN OFF, ON
0B 00 01 20	00	(Reserved)
:	:	:
0B 00 01 7F	00	(Reserved)
0B 00 02 00	00 – 01	DCA GROUP 1 MAIN ASSIGN OFF, ON
0B 00 02 01	00	(Reserved)
:	:	:
0B 00 02 7F	00	(Reserved)
0B 00 03 00	00 – 01	DCA GROUP 1 AUX 1 ASSIGN OFF, ON
0B 00 03 01	00 – 01	DCA GROUP 1 AUX 2 ASSIGN OFF, ON
:	:	:
0B 00 03 07	00 – 01	DCA GROUP 1 AUX 8 ASSIGN OFF, ON
0B 00 03 08	00	(Reserved)
:	:	:
0B 00 03 7F	00	(Reserved)
0B 00 04 00	00 – 01	DCA GROUP 1 MTX 1 ASSIGN OFF, ON
0B 00 04 01	00 – 01	DCA GROUP 1 MTX 2 ASSIGN OFF, ON
:	:	:
0B 00 04 03	00 – 01	DCA GROUP 1 MTX 4 ASSIGN OFF, ON
0B 00 04 04	00	(Reserved)
:	:	:
0B 00 7F 7F	00	(Reserved)
0B 01 00 00	00 –	DCA GROUP 2 (similar to 0B 00 00 00 – 0B 00 7F 7F)
:	:	:
0B 01 7F 7F	00 –	
:	:	:
0B 07 00 00	00 –	DCA GROUP 8 (similar to 0B 00 00 00 – 0B 00 7F 7F)
:	:	:
0B 07 7F 7F	00 –	
0B 08 00 00	00	(Reserved)
:	:	:
0B 7F 7F 7F	00	(Reserved)

● Effect Parameter

Start address	Data	Contents and remarks
0C 00 00 00	00 – 01	FX 1 LINK OFF, ON
0C 00 00 01	00 – 01	FX 1 LINK GEQ 1/2 OFF, ON
0C 00 00 02	00	(Reserved)
:	:	:
0C 00 00 0F	00	(Reserved)
0C 00 00 10	00 – 01	FX 1 BYPASS L OFF, ON
0C 00 00 11	00	(Reserved)
0C 00 00 12	0aaaaaaa	FX 1 INSERT/SOURCE L 0 = CH 1 INS
0C 00 00 13#	0bbbbbbb	:
		31 = CH 32 INS
		32 = MAIN L INS
		33 = MAIN R INS
		34 = AUX 1 INS
		:
		41 = AUX 8 INS
		42 = AUX 1 OUT
		:
		49 = AUX 8 OUT
		50 = MTX 1 INS
		:
		53 = MTX 4 INS
		16383 = NONE
0C 00 00 14	00	(Reserved)
:	:	:
0C 00 00 1F	00	(Reserved)
0C 00 00 20	00 – 01	FX 1 BYPASS R OFF, ON
0C 00 00 21	00	(Reserved)
0C 00 00 22	0aaaaaaa	FX 1 INSERT/SOURCE R 0 = CH 1 INS
0C 00 00 23#	0bbbbbbb	:
		31 = CH 32 INS
		32 = MAIN L INS
		33 = MAIN R INS
		34 = AUX 1 INS
		:
		41 = AUX 8 INS
		42 = AUX 1 OUT
		:
		49 = AUX 8 OUT
		50 = MTX 1 INS
		:
		53 = MTX 4 INS
		16383 = NONE
0C 00 00 24	00	(Reserved)
:	:	:
0C 00 00 7F	00	(Reserved)
0C 00 01 00	20 – 7F	FX 1 NAME–1 (ASCII)
0C 00 01 01#	20 – 7F	NAME–2 (ASCII)
0C 00 01 02#	20 – 7F	NAME–3 (ASCII)
0C 00 01 03#	20 – 7F	NAME–4 (ASCII)
0C 00 01 04#	20 – 7F	NAME–5 (ASCII)
0C 00 01 05#	20 – 7F	NAME–6 (ASCII)
0C 00 01 06#	20 – 7F	NAME–7 (ASCII)
0C 00 01 07#	20 – 7F	NAME–8 (ASCII)
0C 00 01 08#	20 – 7F	NAME–9 (ASCII)
0C 00 01 09#	20 – 7F	NAME–10 (ASCII)
0C 00 01 0A#	20 – 7F	NAME–11 (ASCII)
0C 00 01 0B#	20 – 7F	NAME–12 (ASCII)
0C 00 01 0C	0aaaaaaa	FX 1 ALGORITHM TYPE
0C 00 01 0D#	0bbbbbbb	1 = Stereo Reverb
		2 = Reverb with Gate
		3 = Delay x2
		4 = Long Delay
		5 = Multi Tap Delay
		6 = X Mod Delay
		7 = Stereo Chorus
		8 = Stereo Flanger
		9 = Stereo Phaser
		10 = Pitch Shift x2
		11 = Ch Strip x2
		12 = GEQ
		16 = SDD-320
		17 = SPH-323 x2
		18 = SBF-325
		16383 = NONE
0C 00 01 0E	00	(Reserved)
:	:	:
0C 00 01 0F	00	(Reserved)
0C 00 01 10	00 –	FX 1 Parameter Area (See Below)
:	:	:
0C 00 7F 7F	00 -	
0C 01 00 00	00 –	FX 2
		(similar to 0C 00 00 00 – 0C 00 7F 7F)
:	:	:
0C 01 7F 7F	00 –	
:	:	:
0C 03 00 00	00 –	FX 4
		(similar to 0C 00 00 00 – 0C 00 7F 7F)
:	:	:
0C 03 7F 7F	00 –	
0C 04 00 00	00	(Reserved)
:	:	:
0C 0F 7F 7F	00	(Reserved)

(*) A meaning of the parameter area changes correspond with the top of parameter of EFFECT TYPE. See the following tables. The address shows at FX1.

❍ GEQ

Start address	Data	Contents and remarks
0C 00 01 10	00	(Reserved)
0C 00 01 11	00	(Reserved)
0C 00 01 12	0aaaaaaa	GEQ: 20Hz LEVEL
0C 00 01 13#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 14	0aaaaaaa	GEQ: 25Hz LEVEL
0C 00 01 15#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 16	0aaaaaaa	GEQ: 32Hz LEVEL
0C 00 01 17#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 18	0aaaaaaa	GEQ: 40Hz LEVEL
0C 00 01 19#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 1A	0aaaaaaa	GEQ: 50Hz LEVEL
0C 00 01 1B#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 1C	0aaaaaaa	GEQ: 63Hz LEVEL
0C 00 01 1D#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 1E	0aaaaaaa	GEQ: 80Hz LEVEL
0C 00 01 1F#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 20	0aaaaaaa	GEQ: 100Hz LEVEL
0C 00 01 21#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 22	0aaaaaaa	GEQ: 125Hz LEVEL
0C 00 01 23#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 24	0aaaaaaa	GEQ: 160Hz LEVEL
0C 00 01 25#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 26	0aaaaaaa	GEQ: 200Hz LEVEL
0C 00 01 27#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 28	0aaaaaaa	GEQ: 250Hz LEVEL
0C 00 01 29#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 2A	0aaaaaaa	GEQ: 315Hz LEVEL
0C 00 01 2B#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 2C	0aaaaaaa	GEQ: 400Hz LEVEL
0C 00 01 2D#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 2E	0aaaaaaa	GEQ: 500Hz LEVEL
0C 00 01 2F#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 30	0aaaaaaa	GEQ: 630Hz LEVEL
0C 00 01 31#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 32	0aaaaaaa	GEQ: 800Hz LEVEL
0C 00 01 33#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 34	0aaaaaaa	GEQ: 1.00kHz LEVEL
0C 00 01 35#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 36	0aaaaaaa	GEQ: 1.25kHz LEVEL
0C 00 01 37#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 38	0aaaaaaa	GEQ: 1.60kHz LEVEL
0C 00 01 39#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 3A	0aaaaaaa	GEQ: 2.00kHz LEVEL
0C 00 01 3B#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 3C	0aaaaaaa	GEQ: 2.50kHz LEVEL
0C 00 01 3D#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 3E	0aaaaaaa	GEQ: 3.15kHz LEVEL
0C 00 01 3F#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 40	0aaaaaaa	GEQ: 4.00kHz LEVEL
0C 00 01 41#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 42	0aaaaaaa	GEQ: 5.00kHz LEVEL
0C 00 01 43#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 44	0aaaaaaa	GEQ: 6.30kHz LEVEL
0C 00 01 45#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 46	0aaaaaaa	GEQ: 8.00kHz LEVEL
0C 00 01 47#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 48	0aaaaaaa	GEQ: 10.0kHz LEVEL
0C 00 01 49#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 4A	0aaaaaaa	GEQ: 12.5kHz LEVEL
0C 00 01 4B#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 4C	0aaaaaaa	GEQ: 16.0kHz LEVEL
0C 00 01 4D#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 4E	0aaaaaaa	GEQ: 20.0kHz LEVEL
0C 00 01 4F#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB

Start address	Data	Contents and remarks
0C 00 01 50	00	(Reserved)
:	:	:
0C 0F 7F 7F	00	(Reserved)

❍ St.REVERB (Stereo Reverb)

Start address	Data	Contents and remarks
0C 00 01 10 0C 00 01 11#	0aaaaaaa 0bbbbbbb	REVERB: TYPE 0: ROOM1 1: ROOM2 2: HALL1 3: HALL2 4: PLATE
0C 00 01 12 0C 00 01 13#	0aaaaaaa 0bbbbbbb	REVERB: SIZE 5,,,40m
0C 00 01 14 0C 00 01 15#	0aaaaaaa 0bbbbbbb	REVERB: TIME 1,,,320 = 0.1,,,32.0s
0C 00 01 16 0C 00 01 17#	0aaaaaaa 0bbbbbbb	REVERB: PRE DELAY 0,,,200 = 0,,,200ms
0C 00 01 18 0C 00 01 19#	0aaaaaaa 0bbbbbbb	REVERB: ER LEVEL (*1) 0,,,100
0C 00 01 1A 0C 00 01 1B#	0aaaaaaa 0bbbbbbb	REVERB: DIFFUSION 0,,,100
0C 00 01 1C 0C 00 01 1D#	0aaaaaaa 0bbbbbbb	REVERB: DENSITY 0,,,100
0C 00 01 1E 0C 00 01 1F#	0aaaaaaa 0bbbbbbb	REVERB: LO FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 01 20 0C 00 01 21#	0aaaaaaa 0bbbbbbb	REVERB: LO FREQ DAMP FREQ (*3) 20,,,100 = 20,,,2000Hz
0C 00 01 22 0C 00 01 23#	0aaaaaaa 0bbbbbbb	REVERB: HI FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 01 24 0C 00 01 25#	0aaaaaaa 0bbbbbbb	REVERB: HI FREQ DAMP FREQ (*3) 60,,,140 = 200,,,20000Hz
0C 00 01 26 0C 00 01 27#	0aaaaaaa 0bbbbbbb	REVERB: HI CUT (*3) 60,,,140 = 200,,,20000Hz
0C 00 01 28 0C 00 01 29#	0aaaaaaa 0bbbbbbb	REVERB: WET LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 2A 0C 00 01 2B#	0aaaaaaa 0bbbbbbb	REVERB: DRY LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 2C 0C 00 01 2D#	0aaaaaaa 0bbbbbbb	REVERB: LR BALANCE 1,,,63 = L63,,,L1 64 = C 65,,,127 = R1,,,R63
0C 00 01 2E 0C 00 01 2F#	0aaaaaaa 0bbbbbbb	EQ: SWITCH 0 = OFF 1 = ON
0C 00 01 30 0C 00 01 31#	0aaaaaaa 0bbbbbbb	EQ: ATT -420,,,60 = -42.0,,,6.0dB
0C 00 01 32 0C 00 01 33#	0aaaaaaa 0bbbbbbb	(Reserved)
0C 00 01 34 0C 00 01 35#	0aaaaaaa 0bbbbbbb	EQ: LO GAIN -150,,,150 = -15.0,,,15.0dB
0C 00 01 36 0C 00 01 37#	0aaaaaaa 0bbbbbbb	EQ: LO FREQ (*3) 20,,,140 = 20,,,20000Hz
0C 00 01 38 0C 00 01 39#	0aaaaaaa 0bbbbbbb	(Reserved)
0C 00 01 3A 0C 00 01 3B#	0aaaaaaa 0bbbbbbb	EQ: LO–MID TYPE 0 = PEAKING 1 = LO SHELVING 2 = HI SHELVING 3 = LO PASS 1st 4 = HI PASS 1st 5 = LO PASS 2nd 6 = HI PASS 2nd 7 = BAND PASS 8 = BAND ELIMINATION 9 = THRU
0C 00 01 3C 0C 00 01 3D#	0aaaaaaa 0bbbbbbb	EQ: LO–MID GAIN -150,,,150 = -15.0,,,15.0dB
0C 00 01 3E 0C 00 01 3F#	0aaaaaaa 0bbbbbbb	EQ: LO–MID FREQ (*3) 20,,,140 = 20,,,20000Hz
0C 00 01 40 0C 00 01 41#	0aaaaaaa 0bbbbbbb	EQ: LO–MID Q (*4) 30,,,96 = 0.36,,,16.00
0C 00 01 42 0C 00 01 43#	0aaaaaaa 0bbbbbbb	EQ: HI–MID TYPE 0 = PEAKING 1 = LO SHELVING 2 = HI SHELVING 3 = LO PASS 1st 4 = HI PASS 1st 5 = LO PASS 2nd 6 = HI PASS 2nd 7 = BAND PASS 8 = BAND ELIMINATION 9 = THRU
0C 00 01 44 0C 00 01 45#	0aaaaaaa 0bbbbbbb	EQ: HI–MID GAIN -150,,,150 = -15.0,,,15.0dB
0C 00 01 46 0C 00 01 47#	0aaaaaaa 0bbbbbbb	EQ: HI–MID FREQ (*3) 20,,,140 = 20,,,20000Hz
0C 00 01 48 0C 00 01 49#	0aaaaaaa 0bbbbbbb	EQ: HI–MID Q (*4) 30,,,96 = 0.36,,,16.00
0C 00 01 4A 0C 00 01 4B#	0aaaaaaa 0bbbbbbb	(Reserved)
0C 00 01 4C 0C 00 01 4D#	0aaaaaaa 0bbbbbbb	EQ: HI GAIN -150,,,150 = -15.0,,,15.0dB
0C 00 01 4E 0C 00 01 4F#	0aaaaaaa 0bbbbbbb	EQ: HI FREQ (*3) 20,,,140 = 20,,,20000Hz
0C 00 01 50	00	(Reserved)
:	:	:
0C 0F 7F 7F	00	(Reserved)

❍ REVERB+GATE

Start address	Data	Contents and remarks
0C 00 01 10 0C 00 01 11#	0aaaaaaa 0bbbbbbb	REVERB: SIZE 5,,,40m
0C 00 01 12 0C 00 01 13#	0aaaaaaa 0bbbbbbb	REVERB: TIME 1,,,320 = 0.1,,,32.0s
0C 00 01 14 0C 00 01 15#	0aaaaaaa 0bbbbbbb	REVERB: PRE DELAY 0,,,200 = 0,,,200ms
0C 00 01 16 0C 00 01 17#	0aaaaaaa 0bbbbbbb	REVERB: ER LEVEL (*1) 0,,,100
0C 00 01 18 0C 00 01 19#	0aaaaaaa 0bbbbbbb	REVERB: DIFFUSION 0,,,100
0C 00 01 1A 0C 00 01 1B#	0aaaaaaa 0bbbbbbb	REVERB: DENSITY 0,,,100
0C 00 01 1C 0C 00 01 1D#	0aaaaaaa 0bbbbbbb	REVERB: LO FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 01 1E 0C 00 01 1F#	0aaaaaaa 0bbbbbbb	REVERB: LO FREQ DAMP FREQ (*3) 20,,,100 = 20,,,2000Hz
0C 00 01 20 0C 00 01 21#	0aaaaaaa 0bbbbbbb	REVERB: HI FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 01 22 0C 00 01 23#	0aaaaaaa 0bbbbbbb	REVERB: HI FREQ DAMP FREQ (*3) 60,,,140 = 200,,,20000Hz
0C 00 01 24 0C 00 01 25#	0aaaaaaa 0bbbbbbb	REVERB: HI CUT (*3) 60,,,140 = 200,,,20000Hz
0C 00 01 26 0C 00 01 27#	0aaaaaaa 0bbbbbbb	REVERB: WET LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 28 0C 00 01 29#	0aaaaaaa 0bbbbbbb	REVERB: DRY LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 2A 0C 00 01 2B#	0aaaaaaa 0bbbbbbb	EQ: SWITCH 0 = OFF 1 = ON
0C 00 01 2C 0C 00 01 2D#	0aaaaaaa 0bbbbbbb	EQ: ATT -420,,,60 = -42.0,,,6.0dB
0C 00 01 2E 0C 00 01 2F#	0aaaaaaa 0bbbbbbb	(Reserved)
0C 00 01 30 0C 00 01 31#	0aaaaaaa 0bbbbbbb	EQ: LO GAIN -150,,,150 = -15.0,,,15.0dB
0C 00 01 32 0C 00 01 33#	0aaaaaaa 0bbbbbbb	EQ: LO FREQ (*3) 20,,,140 = 20,,,20000Hz
0C 00 01 34 0C 00 01 35#	0aaaaaaa 0bbbbbbb	(Reserved)
0C 00 01 36 0C 00 01 37#	0aaaaaaa 0bbbbbbb	EQ: LO–MID TYPE 0 = PEAKING 1 = LO SHELVING 2 = HI SHELVING 3 = LO PASS 1st 4 = HI PASS 1st 5 = LO PASS 2nd 6 = HI PASS 2nd 7 = BAND PASS 8 = BAND ELIMINATION 9 = THRU
0C 00 01 38 0C 00 01 39#	0aaaaaaa 0bbbbbbb	EQ: LO–MID GAIN -150,,,150 = -15.0,,,15.0dB
0C 00 01 3A 0C 00 01 3B#	0aaaaaaa 0bbbbbbb	EQ: LO–MID FREQ (*3) 20,,,140 = 20,,,20000Hz
0C 00 01 3C 0C 00 01 3D#	0aaaaaaa 0bbbbbbb	EQ: LO–MID Q (*4) 30,,,96 = 0.36,,,16.00

0C 00 01 3E 0C 00 01 3F#	0aaaaaaa 0bbbbbbb	EQ: HI–MID TYPE 0 = PEAKING 1 = LO SHELVING 2 = HI SHELVING 3 = LO PASS 1st 4 = HI PASS 1st 5 = LO PASS 2nd 6 = HI PASS 2nd 7 = BAND PASS 8 = BAND ELIMINATION 9 = THRU
0C 00 01 40 0C 00 01 41#	0aaaaaaa 0bbbbbbb	EQ: HI–MID GAIN -150,,,150 = -15.0,,,15.0dB
0C 00 01 42 0C 00 01 43#	0aaaaaaa 0bbbbbbb	EQ: HI–MID FREQ (*3) 20,,,140 = 20,,,20000Hz
0C 00 01 44 0C 00 01 45#	0aaaaaaa 0bbbbbbb	EQ: HI–MID Q (*4) 30,,,96 = 0.36,,,16.00
0C 00 01 46 0C 00 01 47#	0aaaaaaa 0bbbbbbb	(Reserved)
0C 00 01 48 0C 00 01 49#	0aaaaaaa 0bbbbbbb	EQ: HI GAIN -150,,,150 = -15.0,,,15.0dB
0C 00 01 4A 0C 00 01 4B#	0aaaaaaa 0bbbbbbb	EQ: HI FREQ (*3) 20,,,140 = 20,,,20000Hz
0C 00 01 4C 0C 00 01 4D#	0aaaaaaa 0bbbbbbb	(Reserved)
0C 00 01 4E 0C 00 01 4F#	0aaaaaaa 0bbbbbbb	GATE: SWITCH 0 = OFF 1 = ON
0C 00 01 50 0C 00 01 51#	0aaaaaaa 0bbbbbbb	GATE: MODE 0 = GATE 1 = DUCKING
0C 00 01 52 0C 00 01 53#	0aaaaaaa 0bbbbbbb	GATE: THRESHOLD (*1) 1,,,100 = -80.0,,,0.0dB
0C 00 01 54 0C 00 01 55#	0aaaaaaa 0bbbbbbb	GATE: RANGE (*1) 0,,,100 = -Inf,,,0.0dB
0C 00 01 56 0C 00 01 57#	0aaaaaaa 0bbbbbbb	GATE: ATTACK TIME (*2) 0,,,124 = 0.0,,,800.0ms
0C 00 01 58 0C 00 01 59#	0aaaaaaa 0bbbbbbb	GATE: RELEASE TIME (*2) 0,,,124 = 0,,,8000ms
0C 00 01 5A 0C 00 01 5B#	0aaaaaaa 0bbbbbbb	GATE: HOLD TIME (*2) 0,,,124 = 0,,,8000ms
0C 00 01 5C : 0C 0F 7F 7F	00 : 00	(Reserved) : (Reserved)

❍ **DELAYx2**

Start address	Data	Contents and remarks
0C 00 01 10 : 0C 00 01 11	00 : 00	(Reserved) : (Reserved)
0C 00 01 12 0C 00 01 13#	0aaaaaaa 0bbbbbbb	DELAY A: FB 0,,,100
0C 00 01 14 0C 00 01 15#	0aaaaaaa 0bbbbbbb	DELAY A: LO FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 01 16 0C 00 01 17#	0aaaaaaa 0bbbbbbb	DELAY A: LO FREQ DAMP FREQ (*3) 20,,,100 = 20,,,2000Hz
0C 00 01 18 0C 00 01 19#	0aaaaaaa 0bbbbbbb	DELAY A: HI FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 01 1A 0C 00 01 1B#	0aaaaaaa 0bbbbbbb	DELAY A: HI FREQ DAMP FREQ (*3) 60,,,140 = 200,,,20000Hz
0C 00 01 1C 0C 00 01 1D#	0aaaaaaa 0bbbbbbb	DELAY A: WET POSITION 0 = PRE DPF 1 = POST DPF
0C 00 01 1E 0C 00 01 1F#	0aaaaaaa 0bbbbbbb	DELAY A: WET LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 20 0C 00 01 21#	0aaaaaaa 0bbbbbbb	DELAY A: DRY LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 22 : 0C 00 01 23	00 : 00	(Reserved) : (Reserved)
0C 00 01 24 0C 00 01 25#	0aaaaaaa 0bbbbbbb	DELAY B: FB 0,,,100
0C 00 01 26 0C 00 01 27#	0aaaaaaa 0bbbbbbb	DELAY B: LO FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 01 28 0C 00 01 29#	0aaaaaaa 0bbbbbbb	DELAY B: LO FREQ DAMP FREQ (*3) 20,,,100 = 20,,,2000Hz
0C 00 01 2A 0C 00 01 2B#	0aaaaaaa 0bbbbbbb	DELAY B: HI FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 01 2C 0C 00 01 2D#	0aaaaaaa 0bbbbbbb	DELAY B: HI FREQ DAMP FREQ (*3) 60,,,140 = 200,,,20000Hz
0C 00 01 2E 0C 00 01 2F#	0aaaaaaa 0bbbbbbb	DELAY B: WET POSITION 0 = PRE DPF 1 = POST DPF
0C 00 01 30 0C 00 01 31#	0aaaaaaa 0bbbbbbb	DELAY B: WET LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 32 0C 00 01 33#	0aaaaaaa 0bbbbbbb	DELAY B: DRY LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 34 0C 00 01 35#	0aaaaaaa 0bbbbbbb	DELAY A: UNIT 0 = 0.1ms 1 = Note 2 = 0.1m 3 = Feet 4 = 24fps 5 = 25fps 6 = 29.97fps 7 = 30fps
0C 00 01 36 0C 00 01 37# 0C 00 01 38# 0C 00 01 39#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	DELAY A: TIME 0,,,1350000us
0C 00 01 3A 0C 00 01 3B#	0aaaaaaa 0bbbbbbb	DELAY A: NOTE (*7) 0,,,20 = OFF,,,1/1
0C 00 01 3C 0C 00 01 3D#	0aaaaaaa 0bbbbbbb	DELAY B: UNIT 0 = 0.1ms 1 = Note 2 = 0.1m 3 = Feet 4 = 24fps 5 = 25fps 6 = 29.97fps 7 = 30fps
0C 00 01 3E 0C 00 01 3F# 0C 00 01 40# 0C 00 01 41#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	DELAY B: TIME 0,,,1350000us
0C 00 01 42 0C 00 01 43#	0aaaaaaa 0bbbbbbb	DELAY B: NOTE (*7) 0,,,20 = OFF,,,1/1
0C 00 01 44 : 0C 0F 7F 7F	00 : 00	(Reserved) : (Reserved)

❍ **LONG DELAY**

Start address	Data	Contents and remarks
0C 00 01 10 : 0C 00 01 15	00 : 00	(Reserved) : (Reserved)
0C 00 01 16 0C 00 01 17#	0aaaaaaa 0bbbbbbb	DELAY: FEEDBACK LEVEL 0,,,100
0C 00 01 18 0C 00 01 19#	0aaaaaaa 0bbbbbbb	DELAY: LO FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 01 1A 0C 00 01 1B#	0aaaaaaa 0bbbbbbb	DELAY: LO FREQ DAMP FREQ (*3) 20,,,100 = 20,,,2000Hz
0C 00 01 1C 0C 00 01 1D#	0aaaaaaa 0bbbbbbb	DELAY: HI FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 01 1E 0C 00 01 1F#	0aaaaaaa 0bbbbbbb	DELAY: HI FREQ DAMP FREQ (*3) 60,,,140 = 200,,,20000Hz
0C 00 01 20 0C 00 01 21#	0aaaaaaa 0bbbbbbb	DELAY: WET LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 22 0C 00 01 23#	0aaaaaaa 0bbbbbbb	DELAY: DRY LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 24 0C 00 01 25#	0aaaaaaa 0bbbbbbb	DELAY: UNIT 0 = 0.1ms 1 = Note 2 = 0.1m 3 = Feet 4 = 24fps 5 = 25fps 6 = 29.97fps 7 = 30fps
0C 00 01 26 0C 00 01 27# 0C 00 01 28# 0C 00 01 29#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	DELAY: TIME L 0,,,2700000us
0C 00 01 2A 0C 00 01 2B# 0C 00 01 2C# 0C 00 01 2D#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	DELAY: TIME R 0,,,2700000us
0C 00 01 2E 0C 00 01 2F#	0aaaaaaa 0bbbbbbb	DELAY: NOTE L (*7) 0,,,20 = OFF,,,1/1
0C 00 01 30 0C 00 01 31#	0aaaaaaa 0bbbbbbb	DELAY: NOTE R (*7) 0,,,20 = OFF,,,1/1
0C 00 01 32 0C 00 01 33# 0C 00 01 34# 0C 00 01 35#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	DELAY: FEEDBACK TIME 0,,,2700000us
0C 00 01 36 0C 00 01 37#	0aaaaaaa 0bbbbbbb	DELAY: FEEDBACK NOTE (*7) 0,,,20 = OFF,,,1/1

Start address	Data	Contents and remarks
0C 00 01 38	00	(Reserved)
:	:	:
0C 0F 7F 7F	00	(Reserved)

❍ **M.TAP DELAY (Multi Tap Delay)**

Start address	Data	Contents and remarks
0C 00 01 10	00	(Reserved)
:	:	:
0C 00 01 27	00	(Reserved)
0C 00 01 28	0aaaaaaa	DELAY: LEVEL 1 (*1)
0C 00 01 29#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 2A	0aaaaaaa	DELAY: LEVEL 2 (*1)
0C 00 01 2B#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 2C	0aaaaaaa	DELAY: LEVEL 3 (*1)
0C 00 01 2D#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 2E	0aaaaaaa	DELAY: LEVEL 4 (*1)
0C 00 01 2F#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 30	0aaaaaaa	DELAY: LEVEL 5 (*1)
0C 00 01 31#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 32	0aaaaaaa	DELAY: LEVEL 6 (*1)
0C 00 01 33#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 34	0aaaaaaa	DELAY: LEVEL 7 (*1)
0C 00 01 35#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 36	0aaaaaaa	DELAY: LEVEL 8 (*1)
0C 00 01 37	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 38	0aaaaaaa	DELAY: LEVEL 9 (*1)
0C 00 01 39#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 3A	0aaaaaaa	DELAY: LEVEL 10 (*1)
0C 00 01 3B#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 3C	0aaaaaaa	DELAY: LEVEL 11 (*1)
0C 00 01 3D#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 3E	0aaaaaaa	DELAY: LEVEL 12 (*1)
0C 00 01 3F#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 40	0aaaaaaa	DELAY: PAN1
0C 00 01 41#	0bbbbbbb	1,,,127 = L63,,,R63
0C 00 01 42	0aaaaaaa	DELAY: PAN2
0C 00 01 43#	0bbbbbbb	1,,,127 = L63,,,R63
0C 00 01 44	0aaaaaaa	DELAY: PAN3
0C 00 01 45#	0bbbbbbb	1,,,127 = L63,,,R63
0C 00 01 46	0aaaaaaa	DELAY: PAN4
0C 00 01 47#	0bbbbbbb	1,,,127 = L63,,,R63
0C 00 01 48	0aaaaaaa	DELAY: PAN5
0C 00 01 49#	0bbbbbbb	1,,,127 = L63,,,R63
0C 00 01 4A	0aaaaaaa	DELAY: PAN6
0C 00 01 4B#	0bbbbbbb	1,,,127 = L63,,,R63
0C 00 01 4C	0aaaaaaa	DELAY: PAN7
0C 00 01 4D#	0bbbbbbb	1,,,127 = L63,,,R63
0C 00 01 4E	0aaaaaaa	DELAY: PAN8
0C 00 01 4F#	0bbbbbbb	1,,,127 = L63,,,R63
0C 00 01 50	0aaaaaaa	DELAY: PAN9
0C 00 01 51#	0bbbbbbb	1,,,127 = L63,,,R63
0C 00 01 52	0aaaaaaa	DELAY: PAN10
0C 00 01 53#	0bbbbbbb	1,,,127 = L63,,,R63
0C 00 01 54	0aaaaaaa	DELAY: PAN11
0C 00 01 55#	0bbbbbbb	1,,,127 = L63,,,R63
0C 00 01 56	0aaaaaaa	DELAY: PAN12
0C 00 01 57#	0bbbbbbb	1,,,127 = L63,,,R63
0C 00 01 58	00	(Reserved)
:	:	:
0C 00 01 59	00	(Reserved)
0C 00 01 5A	0aaaaaaa	DELAY: FEEDBACK LEVEL
0C 00 01 5B#	0bbbbbbb	0,,,100
0C 00 01 5C	0aaaaaaa	DELAY: LO FREQ DAMP GAIN
0C 00 01 5D#	0bbbbbbb	-360,,,0 = -36.0,,,0.0dB
0C 00 01 5E	0aaaaaaa	DELAY: LO FREQ DAMP FREQ (*3)
0C 00 01 5F#	0bbbbbbb	20,,,100 = 20,,,2000Hz
0C 00 01 60	0aaaaaaa	DELAY: HI FREQ DAMP GAIN
0C 00 01 61#	0bbbbbbb	-360,,,0 = -36.0,,,0.0dB
0C 00 01 62	0aaaaaaa	DELAY: HI FREQ DAMP FREQ (*3)
0C 00 01 63#	0bbbbbbb	60,,,140 = 200,,,20000Hz
0C 00 01 64	0aaaaaaa	DELAY: WET LEVEL (*1)
0C 00 01 65#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 66	0aaaaaaa	DELAY: DRY LEVEL (*1)
0C 00 01 67#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 68	0aaaaaaa	DELAY: UNIT
0C 00 01 69#	0bbbbbbb	0 = 0.1ms 1 = Note 2 = 0.1m 3 = Feet 4 = 24fps 5 = 25fps 6 = 29.97fps 7 = 30fps
0C 00 01 6A	0aaaaaaa	DELAY: TIME 1
0C 00 01 6B#	0bbbbbbb	
0C 00 01 6C#	0ccccccc	0,,,2700000us
0C 00 01 6D#	0ddddddd	
0C 00 01 6E	0aaaaaaa	DELAY: TIME 2
0C 00 01 6F#	0bbbbbbb	
0C 00 01 70#	0ccccccc	0,,,2700000us
0C 00 01 71#	0ddddddd	
0C 00 01 72	0aaaaaaa	DELAY: TIME 3
0C 00 01 73#	0bbbbbbb	
0C 00 01 74#	0ccccccc	0,,,2700000us
0C 00 01 75#	0ddddddd	
0C 00 01 76	0aaaaaaa	DELAY: TIME 4
0C 00 01 77#	0bbbbbbb	
0C 00 01 78#	0ccccccc	0,,,2700000us
0C 00 01 79#	0ddddddd	
0C 00 01 7A	0aaaaaaa	DELAY: TIME 5
0C 00 01 7B#	0bbbbbbb	
0C 00 01 7C#	0ccccccc	0,,,2700000us
0C 00 01 7D#	0ddddddd	
0C 00 01 7E	0aaaaaaa	DELAY: TIME 6
0C 00 01 7F#	0bbbbbbb	
0C 00 02 00#	0ccccccc	0,,,2700000us
0C 00 02 01#	0ddddddd	
0C 00 02 02	0aaaaaaa	DELAY: TIME 7
0C 00 02 03#	0bbbbbbb	
0C 00 02 04#	0ccccccc	0,,,2700000us
0C 00 02 05#	0ddddddd	
0C 00 02 06	0aaaaaaa	DELAY: TIME 8
0C 00 02 07#	0bbbbbbb	
0C 00 02 08#	0ccccccc	0,,,2700000us
0C 00 02 09#	0ddddddd	
0C 00 02 0A	0aaaaaaa	DELAY: TIME 9
0C 00 02 0B#	0bbbbbbb	
0C 00 02 0C#	0ccccccc	0,,,2700000us
0C 00 02 0D#	0ddddddd	
0C 00 02 0E	0aaaaaaa	DELAY: TIME 10
0C 00 02 0F#	0bbbbbbb	
0C 00 02 10#	0ccccccc	0,,,2700000us
0C 00 02 11#	0ddddddd	
0C 00 02 12	0aaaaaaa	DELAY: TIME 11
0C 00 02 13#	0bbbbbbb	
0C 00 02 14#	0ccccccc	0,,,2700000us
0C 00 02 15#	0ddddddd	
0C 00 02 16	0aaaaaaa	DELAY: TIME 12
0C 00 02 17#	0bbbbbbb	
0C 00 02 18#	0ccccccc	0,,,2700000us
0C 00 02 19#	0ddddddd	
0C 00 02 1A	0aaaaaaa	DELAY: NOTE 1 (*7)
0C 00 02 1B#	0bbbbbbb	0,,,20 = OFF,,,1/1
0C 00 02 1C	0aaaaaaa	DELAY: NOTE 2 (*7)
0C 00 02 1D#	0bbbbbbb	0,,,20 = OFF,,,1/1
0C 00 02 1E	0aaaaaaa	DELAY: NOTE 3 (*7)
0C 00 02 1F#	0bbbbbbb	0,,,20 = OFF,,,1/1
0C 00 02 20	0aaaaaaa	DELAY: NOTE 4 (*7)
0C 00 02 21#	0bbbbbbb	0,,,20 = OFF,,,1/1
0C 00 02 22	0aaaaaaa	DELAY: NOTE 5 (*7)
0C 00 02 23#	0bbbbbbb	0,,,20 = OFF,,,1/1
0C 00 02 24	0aaaaaaa	DELAY: NOTE 6 (*7)
0C 00 02 25#	0bbbbbbb	0,,,20 = OFF,,,1/1
0C 00 02 26	0aaaaaaa	DELAY: NOTE 7 (*7)
0C 00 02 27#	0bbbbbbb	0,,,20 = OFF,,,1/1
0C 00 02 28	0aaaaaaa	DELAY: NOTE 8 (*7)
0C 00 02 29#	0bbbbbbb	0,,,20 = OFF,,,1/1
0C 00 02 2A	0aaaaaaa	DELAY: NOTE 9 (*7)
0C 00 02 2B#	0bbbbbbb	0,,,20 = OFF,,,1/1
0C 00 02 2C	0aaaaaaa	DELAY: NOTE 10 (*7)
0C 00 02 2D#	0bbbbbbb	0,,,20 = OFF,,,1/1
0C 00 02 2E	0aaaaaaa	DELAY: NOTE 11 (*7)
0C 00 02 2F#	0bbbbbbb	0,,,20 = OFF,,,1/1
0C 00 02 30	0aaaaaaa	DELAY: NOTE 12 (*7)
0C 00 02 31#	0bbbbbbb	0,,,20 = OFF,,,1/1
0C 00 02 32	0aaaaaaa	DELAY: FEEDBACK TIME
0C 00 02 33#	0bbbbbbb	
0C 00 02 34#	0ccccccc	0,,,2700000us
0C 00 02 35#	0ddddddd	
0C 00 02 36	0aaaaaaa	DELAY: FEEDBACK NOTE (*7)
0C 00 02 37#	0bbbbbbb	0,,,20 = OFF,,,1/1

❍ X.MOD DELAY (Cross-modulation Delay)

Start address	Data	Contents and remarks
0C 00 01 10 0C 00 01 11#	0aaaaaaa 0bbbbbbb	DELAY: MODULATION WAVE 0 = SIN 1 = SQR 2 = EXP+ 3 = EXP-
0C 00 01 12 0C 00 01 13#	0aaaaaaa 0bbbbbbb	DELAY: MODULATION RATE 1,,,100 = 0.1,,,10.0Hz
0C 00 01 14 0C 00 01 15#	0aaaaaaa 0bbbbbbb	DELAY: MODULATION DEPTH 0,,,100
0C 00 01 16 0C 00 01 17#	0aaaaaaa 0bbbbbbb	DELAY: MODULATION PHASE SHIFT -180,,,180deg
0C 00 01 18 : 0C 00 01 1B	00 : 00	(Reserved) : (Reserved)
0C 00 01 1C 0C 00 01 1D#	0aaaaaaa 0bbbbbbb	DELAY: FEEDBACK LEVEL 0,,,100
0C 00 01 1E 0C 00 01 1F#	0aaaaaaa 0bbbbbbb	DELAY: CROSS FEEDBACK LEVEL 0,,,100
0C 00 01 20 0C 00 01 21#	0aaaaaaa 0bbbbbbb	DELAY: LO FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 01 22 0C 00 01 23#	0aaaaaaa 0bbbbbbb	DELAY: LO FREQ DAMP FREQ (*3) 20,,,100 = 20,,,2000Hz
0C 00 01 24 0C 00 01 25#	0aaaaaaa 0bbbbbbb	DELAY: HI FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 01 26 0C 00 01 27#	0aaaaaaa 0bbbbbbb	DELAY: HI FREQ DAMP FREQ (*3) 60,,,140 = 200,,,20000Hz
0C 00 01 28 0C 00 01 29#	0aaaaaaa 0bbbbbbb	DELAY: WET POSITION 0 = PRE DPF 1 = POST DPF
0C 00 01 2A 0C 00 01 2B#	0aaaaaaa 0bbbbbbb	DELAY: WET LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 2C 0C 00 01 2D#	0aaaaaaa 0bbbbbbb	DELAY: DRY LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 2E 0C 00 01 2F#	0aaaaaaa 0bbbbbbb	DELAY: UNIT 0 = 0.1ms 1 = Note 2 = 0.1m 3 = Feet 4 = 24fps 5 = 25fps 6 = 29.97fps 7 = 30fps
0C 00 01 30 0C 00 01 31# 0C 00 01 32# 0C 00 01 33#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	DELAY: TIME L 0,,,10000000us
0C 00 01 34 0C 00 01 35# 0C 00 01 36# 0C 00 01 37#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	DELAY: TIME R 0,,,10000000us
0C 00 01 38 0C 00 01 39#	0aaaaaaa 0bbbbbbb	DELAY: NOTE L (*7) 0,,,20 = OFF,,,1/1
0C 00 01 3A 0C 00 01 3B#	0aaaaaaa 0bbbbbbb	DELAY: NOTE R (*7) 0,,,20 = OFF,,,1/1
0C 00 01 3C : 0C 0F 7F 7F	00 : 00	(Reserved) : (Reserved)

❍ St.CHORUS (Stereo Chorus)

Start address	Data	Contents and remarks
0C 00 01 10 0C 00 01 11#	0aaaaaaa 0bbbbbbb	CHORUS: RATE 1,,,100 = 0.1,,,10.0Hz
0C 00 01 12 0C 00 01 13#	0aaaaaaa 0bbbbbbb	CHORUS: DEPTH 0,,,100
0C 00 01 14 0C 00 01 15#	0aaaaaaa 0bbbbbbb	CHORUS: PRE DELAY 0,,,100ms
0C 00 01 16 0C 00 01 17#	0aaaaaaa 0bbbbbbb	CHORUS: CROSS MIX LEVEL -100,,,100
0C 00 01 18 0C 00 01 19#	0aaaaaaa 0bbbbbbb	CHORUS: LEVEL 0,,,100
0C 00 01 1A 0C 00 01 1B#	0aaaaaaa 0bbbbbbb	CHORUS: DIRECT SWITCH 0 = OFF 1 = ON
0C 00 01 1C 0C 00 01 1D#	0aaaaaaa 0bbbbbbb	CHORUS: EFFECT SWITCH 0 = OFF 1 = ON
0C 00 01 1E : 0C 0F 7F 7F	00 : 00	(Reserved) : (Reserved)

❍ St.FLANGER (Stereo Flanger)

Start address	Data	Contents and remarks
0C 00 01 10 0C 00 01 11#	0aaaaaaa 0bbbbbbb	FLANGER: RATE (*6) 1,,,88 = 0.01,,,10.0Hz
0C 00 01 12 0C 00 01 13#	0aaaaaaa 0bbbbbbb	FLANGER: DEPTH 0,,,100
0C 00 01 14 0C 00 01 15#	0aaaaaaa 0bbbbbbb	FLANGER: MANUAL 0,,,100
0C 00 01 16 0C 00 01 17#	0aaaaaaa 0bbbbbbb	FLANGER: LFO PHASE SHIFT -180,,,180deg
0C 00 01 18 0C 00 01 19#	0aaaaaaa 0bbbbbbb	FLANGER: FEEDBACK LEVEL -100,,,100
0C 00 01 1A 0C 00 01 1B#	0aaaaaaa 0bbbbbbb	FLANGER: CROSS FEEDBACK LEVEL -100,,,100
0C 00 01 1C 0C 00 01 1D#	0aaaaaaa 0bbbbbbb	FLANGER: LEVEL 0,,,100
0C 00 01 1E 0C 00 01 1F#	0aaaaaaa 0bbbbbbb	FLANGER: DIRECT SWITCH 0 = OFF 1 = ON
0C 00 01 20 0C 00 01 21#	0aaaaaaa 0bbbbbbb	FLANGER: EFFECT SWITCH 0 = OFF 1 = ON
0C 00 01 22 : 0C 0F 7F 7F	00 : 00	(Reserved) : (Reserved)

❍ St.PHASER (Stereo Phaser)

Start address	Data	Contents and remarks
0C 00 01 10 0C 00 01 11#	0aaaaaaa 0bbbbbbb	PHASER: RATE (*6) 1,,,88 = 0.01,,,10.0Hz
0C 00 01 12 0C 00 01 13#	0aaaaaaa 0bbbbbbb	PHASER: DEPTH 0,,,100
0C 00 01 14 0C 00 01 15#	0aaaaaaa 0bbbbbbb	PHASER: MANUAL 0,,,100
0C 00 01 16 0C 00 01 17#	0aaaaaaa 0bbbbbbb	PHASER: LFO PHASE SHIFT -180,,,180deg
0C 00 01 18 0C 00 01 19#	0aaaaaaa 0bbbbbbb	PHASER: FEEDBACK LEVEL -100,,,100
0C 00 01 1A 0C 00 01 1B#	0aaaaaaa 0bbbbbbb	PHASER: CROSS FEEDBACK LEVEL -100,,,100
0C 00 01 1C 0C 00 01 1D#	0aaaaaaa 0bbbbbbb	PHASER: LEVEL 0,,,100
0C 00 01 1E 0C 00 01 1F#	0aaaaaaa 0bbbbbbb	PHASER: MODE 0 = 4STAGE 1 = 8STAGE
0C 00 01 20 0C 00 01 21#	0aaaaaaa 0bbbbbbb	PHASER: DIRECT SWITCH 0 = OFF 1 = ON
0C 00 01 22 0C 00 01 23#	0aaaaaaa 0bbbbbbb	PHASER: EFFECT SWITCH 0 = OFF 1 = ON
0C 00 01 24 : 0C 0F 7F 7F	00 : 00	(Reserved) : (Reserved)

❍ P.SHIFTERx2 (Pitch Shifter x2)

Start address	Data	Contents and remarks
0C 00 01 10 0C 00 01 11#	0aaaaaaa 0bbbbbbb	PITCH SHIFTER A: MODE 2 = POLY FAST 3 = POLY MID 4 = POLY SLOW
0C 00 01 12 0C 00 01 13#	0aaaaaaa 0bbbbbbb	PITCH SHIFTER A: COURSE PITCH -12,,,12semitone
0C 00 01 14 0C 00 01 15#	0aaaaaaa 0bbbbbbb	PITCH SHIFTER A: FINE PITCH -100,,,100cent
0C 00 01 16 0C 00 01 17#	0aaaaaaa 0bbbbbbb	PITCH SHIFTER A: WET LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 18 0C 00 01 19#	0aaaaaaa 0bbbbbbb	PITCH SHIFTER A: DRY LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 01 1A 0C 00 01 1B#	0aaaaaaa 0bbbbbbb	PITCH SHIFTER B: MODE 2 = POLY FAST 3 = POLY MID 4 = POLY SLOW
0C 00 01 1C 0C 00 01 1D#	0aaaaaaa 0bbbbbbb	PITCH SHIFTER B: COURSE PITCH -12,,,12semitone
0C 00 01 1E 0C 00 01 1F#	0aaaaaaa 0bbbbbbb	PITCH SHIFTER B: FINE PITCH -100,,,100cent
0C 00 01 20 0C 00 01 21#	0aaaaaaa 0bbbbbbb	PITCH SHIFTER B: WET LEVEL (*1) 0,,,127 = -Inf,,,6.0dB

0C 00 01 22	0aaaaaaa	PITCH SHIFTER B: DRY LEVEL (*1)
0C 00 01 23#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 24	00	(Reserved)
:	:	:
0C 0F 7F 7F	00	(Reserved)

❍ **CH STRIPx2 (Channel Strip x2)**

Start address	Data	Contents and remarks
0C 00 01 10	00	(Reserved)
:	:	:
0C 00 01 31	00	(Reserved)
0C 00 01 32	0aaaaaaa	ENHANCER/DE–ESSER A: SWITCH 0 = OFF
0C 00 01 33#	0bbbbbbb	1 = ON
0C 00 01 34	0aaaaaaa	ENHANCER/DE–ESSER A: MODE 0 = ENHANCER
0C 00 01 35#	0bbbbbbb	1 = DE–ESSER
0C 00 01 36	0aaaaaaa	ENHANCER/DE–ESSER A: FREQ (*3)
0C 00 01 37#	0bbbbbbb	60,,,140 = 200,,,20000Hz
0C 00 01 38	0aaaaaaa	ENHANCER/DE–ESSER A: ENHENCER SENSE
0C 00 01 39#	0bbbbbbb	0,,,100
0C 00 01 3A	0aaaaaaa	ENHANCER/DE–ESSER A: ENHANCER MIX LEVEL
0C 00 01 3B#	0bbbbbbb	0,,,120 = 0.0,,,+12.0dB
0C 00 01 3C	0aaaaaaa	ENHANCER/DE–ESSER A: DE–ESSER THRESHOLD
0C 00 01 3D#	0bbbbbbb	-360,,,0 = -36.0,,,0.0dB
0C 00 01 3E	0aaaaaaa	EQ A: SWITCH 0 = OFF
0C 00 01 3F#	0bbbbbbb	1 = ON
0C 00 01 40	0aaaaaaa	EQ A: ATT
0C 00 01 41#	0bbbbbbb	-420,,,60 = -42.0,,,6.0dB
0C 00 01 42	0aaaaaaa	EQ A: LO TYPE 0 = PEAKING
0C 00 01 43#	0bbbbbbb	1 = LO SHELVING
		2 = HI SHELVING
		3 = LO PASS 1st
		4 = HI PASS 1st
		5 = LO PASS 2nd
		6 = HI PASS 2nd
		7 = BAND PASS
		8 = BAND ELIMINATION
		9 = THRU
0C 00 01 44	0aaaaaaa	EQ A: LO GAIN
0C 00 01 45#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 46	0aaaaaaa	EQ A: LO FREQ (*3)
0C 00 01 47#	0bbbbbbb	20,,,140 = 20,,,20000Hz
0C 00 01 48	0aaaaaaa	EQ A: LO Q (*4)
0C 00 01 49#	0bbbbbbb	30,,,96 = 0.36,,,16.00
0C 00 01 4A	0aaaaaaa	EQ A: LO–MID TYPE 0 = PEAKING
0C 00 01 4B#	0bbbbbbb	1 = LO SHELVING
		2 = HI SHELVING
		3 = LO PASS 1st
		4 = HI PASS 1st
		5 = LO PASS 2nd
		6 = HI PASS 2nd
		7 = BAND PASS
		8 = BAND ELIMINATION
		9 = THRU
0C 00 01 4C	0aaaaaaa	EQ A: LO–MID GAIN
0C 00 01 4D#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 4E	0aaaaaaa	EQ A: LO–MID FREQ (*3)
0C 00 01 4F#	0bbbbbbb	20,,,140 = 20,,,20000Hz
0C 00 01 50	0aaaaaaa	EQ A: LO–MID Q (*4)
0C 00 01 51#	0bbbbbbb	30,,,96 = 0.36,,,16.00
0C 00 01 52	0aaaaaaa	EQ A: HI–MID TYPE 0 = PEAKING
0C 00 01 53#	0bbbbbbb	1 = LO SHELVING
		2 = HI SHELVING
		3 = LO PASS 1st
		4 = HI PASS 1st
		5 = LO PASS 2nd
		6 = HI PASS 2nd
		7 = BAND PASS
		8 = BAND ELIMINATION
		9 = THRU
0C 00 01 54	0aaaaaaa	EQ A: HI–MID GAIN
0C 00 01 55#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 56	0aaaaaaa	EQ A: HI–MID FREQ (*3)
0C 00 01 57#	0bbbbbbb	20,,,140 = 20,,,20000Hz
0C 00 01 58	0aaaaaaa	EQ A: HI–MID Q (*4)
0C 00 01 59#	0bbbbbbb	30,,,96 = 0.36,,,16.00
0C 00 01 5A	0aaaaaaa	EQ A: HI TYPE 0 = PEAKING
0C 00 01 5B#	0bbbbbbb	1 = LO SHELVING
		2 = HI SHELVING
		3 = LO PASS 1st
		4 = HI PASS 1st
		5 = LO PASS 2nd
		6 = HI PASS 2nd
		7 = BAND PASS
		8 = BAND ELIMINATION
		9 = THRU
0C 00 01 5C	0aaaaaaa	EQ A: HI GAIN
0C 00 01 5D#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 01 5E	0aaaaaaa	EQ A: HI FREQ (*3)
0C 00 01 5F#	0bbbbbbb	20,,,140 = 20,,,20000Hz
0C 00 01 60	0aaaaaaa	EQ A: HI Q (*4)
0C 00 01 61#	0bbbbbbb	30,,,96 = 0.36,,,16.00
0C 00 01 62	0aaaaaaa	DELAY A: SWITCH 0 = OFF
0C 00 01 63#	0bbbbbbb	1 = ON
0C 00 01 64	00	(Reserved)
:	:	:
0C 00 01 65	00	(Reserved)
0C 00 01 66	0aaaaaaa	DELAY A: FB
0C 00 01 67#	0bbbbbbb	0,,,100
0C 00 01 68	0aaaaaaa	DELAY A: LO FREQ DAMP GAIN
0C 00 01 69#	0bbbbbbb	-360,,,0 = -36.0,,,0.0dB
0C 00 01 6A	0aaaaaaa	DELAY A: LO FREQ DAMP FREQ (*3)
0C 00 01 6B#	0bbbbbbb	20,,,100 = 20,,,2000Hz
0C 00 01 6C	0aaaaaaa	DELAY A: HI FREQ DAMP GAIN
0C 00 01 6D#	0bbbbbbb	-360,,,0 = -36.0,,,0.0dB
0C 00 01 6E	0aaaaaaa	DELAY A: HI FREQ DAMP FREQ (*3)
0C 00 01 6F#	0bbbbbbb	60,,,140 = 200,,,20000Hz
0C 00 01 70	0aaaaaaa	DELAY A: WET POSITION 0 = PRE DPF
0C 00 01 71#	0bbbbbbb	1 = POST DPF
0C 00 01 72	0aaaaaaa	DELAY A: WET LEVEL (*1)
0C 00 01 73#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 74	0aaaaaaa	DELAY A: DRY LEVEL (*1)
0C 00 01 75#	0bbbbbbb	0,,,127 = -Inf,,,6.0dB
0C 00 01 76	00	(Reserved)
:	:	:
0C 00 02 17	00	(Reserved)
0C 00 02 18	0aaaaaaa	ENHANCER/DE–ESSER B: SWITCH 0 = OFF
0C 00 02 19#	0bbbbbbb	1 = ON
0C 00 02 1A	0aaaaaaa	ENHANCER/DE–ESSER B: MODE 0 = ENHANCER
0C 00 02 1B#	0bbbbbbb	1 = DE–ESSER
0C 00 02 1C	0aaaaaaa	ENHANCER/DE–ESSER B: FREQ (*3)
0C 00 02 1D#	0bbbbbbb	60,,,140 = 200,,,20000Hz
0C 00 02 1E	0aaaaaaa	ENHANCER/DE–ESSER B: ENHENCER SENSE
0C 00 02 1F#	0bbbbbbb	0,,,100
0C 00 02 20	0aaaaaaa	ENHANCER/DE–ESSER B: ENHANCER MIX LEVEL
0C 00 02 21#	0bbbbbbb	0,,,120 = 0.0,,,+12.0dB
0C 00 02 22	0aaaaaaa	ENHANCER/DE–ESSER B: DE–ESSER THRESHOLD
0C 00 02 23#	0bbbbbbb	-360,,,0 = -36.0,,,0.0dB
0C 00 02 24	0aaaaaaa	EQ B: SWITCH 0 = OFF
0C 00 02 25#	0bbbbbbb	1 = ON
0C 00 02 26	0aaaaaaa	EQ B: ATT
0C 00 02 27#	0bbbbbbb	-420,,,60 = -42.0,,,6.0dB
0C 00 02 28	0aaaaaaa	EQ B: LO TYPE 0 = PEAKING
0C 00 02 29#	0bbbbbbb	1 = LO SHELVING
		2 = HI SHELVING
		3 = LO PASS 1st
		4 = HI PASS 1st
		5 = LO PASS 2nd
		6 = HI PASS 2nd
		7 = BAND PASS
		8 = BAND ELIMINATION
		9 = THRU
0C 00 02 2A	0aaaaaaa	EQ B: LO GAIN
0C 00 02 2B#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 02 2C	0aaaaaaa	EQ B: LO FREQ (*3)
0C 00 02 2D#	0bbbbbbb	20,,,140 = 20,,,20000Hz
0C 00 02 2E	0aaaaaaa	EQ B: LO Q (*4)
0C 00 02 2F#	0bbbbbbb	30,,,96 = 0.36,,,16.00
0C 00 02 30	0aaaaaaa	EQ B: LO–MID TYPE 0 = PEAKING
0C 00 02 31#	0bbbbbbb	1 = LO SHELVING
		2 = HI SHELVING
		3 = LO PASS 1st
		4 = HI PASS 1st
		5 = LO PASS 2nd
		6 = HI PASS 2nd
		7 = BAND PASS
		8 = BAND ELIMINATION
		9 = THRU
0C 00 02 32	0aaaaaaa	EQ B: LO–MID GAIN
0C 00 02 33#	0bbbbbbb	-150,,,150 = -15.0,,,15.0dB
0C 00 02 34	0aaaaaaa	EQ B: LO–MID FREQ (*3)
0C 00 02 35#	0bbbbbbb	20,,,140 = 20,,,20000Hz
0C 00 02 36	0aaaaaaa	EQ B: LO–MID Q (*4)
0C 00 02 37#	0bbbbbbb	30,,,96 = 0.36,,,16.00

0C 00 02 38 0C 00 02 39#	0aaaaaaa 0bbbbbbb	EQ B: HI–MID TYPE 0 = PEAKING 1 = LO SHELVING 2 = HI SHELVING 3 = LO PASS 1st 4 = HI PASS 1st 5 = LO PASS 2nd 6 = HI PASS 2nd 7 = BAND PASS 8 = BAND ELIMINATION 9 = THRU
0C 00 02 3A 0C 00 02 3B#	0aaaaaaa 0bbbbbbb	EQ B: HI–MID GAIN -150,,,150 = -15.0,,,15.0dB
0C 00 02 3C 0C 00 02 3D#	0aaaaaaa 0bbbbbbb	EQ B: HI–MID FREQ (*3) 20,,,140 = 20,,,20000Hz
0C 00 02 3E 0C 00 02 3F#	0aaaaaaa 0bbbbbbb	EQ B: HI–MID Q (*4) 30,,,96 = 0.36,,,16.00
0C 00 02 40 0C 00 02 41#	0aaaaaaa 0bbbbbbb	EQ B: HI TYPE 0 = PEAKING 1 = LO SHELVING 2 = HI SHELVING 3 = LO PASS 1st 4 = HI PASS 1st 5 = LO PASS 2nd 6 = HI PASS 2nd 7 = BAND PASS 8 = BAND ELIMINATION 9 = THRU
0C 00 02 42 0C 00 02 43#	0aaaaaaa 0bbbbbbb	EQ B: HI GAIN -150,,,150 = -15.0,,,15.0dB
0C 00 02 44 0C 00 02 45#	0aaaaaaa 0bbbbbbb	EQ B: HI FREQ (*3) 20,,,140 = 20,,,20000Hz
0C 00 02 46 0C 00 02 47#	0aaaaaaa 0bbbbbbb	EQ B: HI Q (*4) 30,,,96 = 0.36,,,16.00
0C 00 02 48 0C 00 02 49#	0aaaaaaa 0bbbbbbb	DELAY B: SWITCH 0 = OFF 1 = ON
0B 00 00 4A : : 0B 00 00 4B	00 : 00	(Reserved) : (Reserved)
0C 00 02 4C 0C 00 02 4D#	0aaaaaaa 0bbbbbbb	DELAY B: FB 0,,,100
0C 00 02 4E 0C 00 02 4F#	0aaaaaaa 0bbbbbbb	DELAY B: LO FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 02 50 0C 00 02 51#	0aaaaaaa 0bbbbbbb	DELAY B: LO FREQ DAMP FREQ (*3) 20,,,100 = 20,,,2000Hz
0C 00 02 52 0C 00 02 53#	0aaaaaaa 0bbbbbbb	DELAY B: HI FREQ DAMP GAIN -360,,,0 = -36.0,,,0.0dB
0C 00 02 54 0C 00 02 55#	0aaaaaaa 0bbbbbbb	DELAY B: HI FREQ DAMP FREQ (*3) 60,,,140 = 200,,,20000Hz
0C 00 02 56 0C 00 01 57#	0aaaaaaa 0bbbbbbb	DELAY B: WET POSITION 0 = PRE DPF 1 = POST DPF
0C 00 02 58 0C 00 02 59#	0aaaaaaa 0bbbbbbb	DELAY B: WET LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 02 5A 0C 00 02 5B#	0aaaaaaa 0bbbbbbb	DELAY B: DRY LEVEL (*1) 0,,,127 = -Inf,,,6.0dB
0C 00 02 5C 0C 00 02 5D#	0aaaaaaa 0bbbbbbb	DELAY A: UNIT 0 = 0.1ms 1 = Note 2 = 0.1m 3 = Feet 4 = 24fps 5 = 25fps 6 = 29.97fps 7 = 30fps
0C 00 02 5E 0C 00 02 5F# 0C 00 02 60# 0C 00 02 61#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	DELAY A: TIME 0,,,1350000us
0C 00 02 62 0C 00 02 63#	0aaaaaaa 0bbbbbbb	DELAY A: NOTE (*7) 0,,,20 = OFF,,,1/1
0C 00 02 64 0C 00 02 65#	0aaaaaaa 0bbbbbbb	DELAY B: UNIT 0 = 0.1ms 1 = Note 2 = 0.1m 3 = Feet 4 = 24fps 5 = 25fps 6 = 29.97fps 7 = 30fps
0C 00 02 66 0C 00 02 67# 0C 00 02 68# 0C 00 02 69#	0aaaaaaa 0bbbbbbb 0ccccccc 0ddddddd	DELAY B: TIME 0,,,1350000us
0C 00 02 6A 0C 00 02 6B#	0aaaaaaa 0bbbbbbb	DELAY B: NOTE (*7) 0,,,20 = OFF,,,1/1
0C 00 02 6C : : 0C 0F 7F 7F	00 : 00	(Reserved) : (Reserved)

❍ SDD-320

Start address	Data	Contents and remarks
0C 00 01 10 0C 00 01 11#	0aaaaaaa 0bbbbbbb	INPUT MODE 0 = MONO 1 = STEREO
0C 00 01 12 0C 00 01 13#	0aaaaaaa 0bbbbbbb	DIMENSION MODE 0 = OFF 1 = 1 2 = 2 3 = 3 4 = 4 5 = 1 + 4 6 = 2 + 4 7 = 3 + 4
0C 00 01 14 0C 00 01 15#	0aaaaaaa 0bbbbbbb	EFFECT SWITCH 0 = OFF 1 = ON
0C 00 01 16 0C 00 01 17#	0aaaaaaa 0bbbbbbb	DIRECT SWITCH 0 = OFF 1 = ON
0C 00 01 18 0C 00 01 19#	0aaaaaaa 0bbbbbbb	LEVEL 0,,,100
0C 00 01 1A : : 0C 0F 7F 7F	00 : 00	(Reserved) : (Reserved)

❍ SPH-323 x2

Start address	Data	Contents and remarks
0C 00 01 10 0C 00 01 11#	0aaaaaaa 0bbbbbbb	MODULATION LINK 0 = OFF 1 = ON
0C 00 01 12 0C 00 01 13#	0aaaaaaa 0bbbbbbb	CH-B MODULATION 0 = NORM 1 = INV
0C 00 01 14 0C 00 01 15#	0aaaaaaa 0bbbbbbb	CH-A: LFO1 DEPTH 0,,,100 = 0.0,,,10.0
0C 00 01 16 0C 00 01 17#	0aaaaaaa 0bbbbbbb	CH-A: LFO1 RATE 0,,,100
0C 00 01 18 0C 00 01 19#	0aaaaaaa 0bbbbbbb	CH-A: LFO2 DEPTH 0,,,100 = 0.0,,,10.0
0C 00 01 1A 0C 00 01 1B#	0aaaaaaa 0bbbbbbb	CH-A: LFO2 RATE 0,,,100
0C 00 01 1C 0C 00 01 1D#	0aaaaaaa 0bbbbbbb	CH-A: CENTER FREQ 0,,,100
0C 00 01 1E 0C 00 01 1F#	0aaaaaaa 0bbbbbbb	CH-A: RESONANCE 0,,,100 = 0.0,,,10.0
0C 00 01 20 0C 00 01 21#	0aaaaaaa 0bbbbbbb	CH-A: SHIFT MODE 0: 4STAGE 1: 8STAGE
0C 00 01 22 0C 00 01 23#	0aaaaaaa 0bbbbbbb	CH-A: EFFECT SWITCH 0 = OFF 1 = ON
0C 00 01 24 0C 00 01 25#	0aaaaaaa 0bbbbbbb	CH-A: DIRECT SWITCH 0 = OFF 1 = ON
0C 00 01 26 0C 00 01 27#	0aaaaaaa 0bbbbbbb	CH-A: LEVEL 0,,,100
0C 00 01 28 0C 00 01 29#	0aaaaaaa 0bbbbbbb	CH-B: LFO1 DEPTH 0,,,100 = 0.0,,,10.0
0C 00 01 2A 0C 00 01 2B#	0aaaaaaa 0bbbbbbb	CH-B: LFO1 RATE 0,,,100
0C 00 01 2C 0C 00 01 2D#	0aaaaaaa 0bbbbbbb	CH-B: LFO2 DEPTH 0,,,100 = 0.0,,,10.0
0C 00 01 2E 0C 00 01 2F#	0aaaaaaa 0bbbbbbb	CH-B: LFO2 RATE 0,,,100
0C 00 01 30 0C 00 01 31#	0aaaaaaa 0bbbbbbb	CH-B: CENTER FREQ 0,,,100
0C 00 01 32 0C 00 01 33#	0aaaaaaa 0bbbbbbb	CH-B: RESONANCE 0,,,100 = 0.0,,,10.0
0C 00 01 34 0C 00 01 35#	0aaaaaaa 0bbbbbbb	CH-B: SHIFT MODE 0: 4STAGE 1: 8STAGE
0C 00 01 36 0C 00 01 37#	0aaaaaaa 0bbbbbbb	CH-B: EFFECT SWITCH 0 = OFF 1 = ON
0C 00 01 38 0C 00 01 39#	0aaaaaaa 0bbbbbbb	CH-B: DIRECT SWITCH 0 = OFF 1 = ON
0C 00 01 3A 0C 00 01 3B#	0aaaaaaa 0bbbbbbb	CH-B: LEVEL 0,,,100
0C 00 01 3C : : 0C 0F 7F 7F	00 : 00	(Reserved) : (Reserved)

❍ **SBF-325**

Start address	Data	Contents and remarks
0C 00 01 10 0C 00 01 11#	0aaaaaaa 0bbbbbbb	FEEDBACK 0,,,100 = 0.0,,,10.0
0C 00 01 12 0C 00 01 13#	0aaaaaaa 0bbbbbbb	MODULATION CENTER FREQUENCY 0,,,100 = 0.0,,,10.0
0C 00 01 14 0C 00 01 15#	0aaaaaaa 0bbbbbbb	MODULATION RATE 0,,,100 = 0.0,,,10.0
0C 00 01 16 0C 00 01 17#	0aaaaaaa 0bbbbbbb	MODULATION DEPTH 0,,,100 = 0.0,,,10.0
0C 00 01 18 0C 00 01 19#	0aaaaaaa 0bbbbbbb	EFFECT MODE 0 = FLANGER I 1 = FLANGER II 2 = FLANGER III 3 = OFF 4 = CHORUS
0C 00 01 1A 0C 00 01 1B#	0aaaaaaa 0bbbbbbb	CH-B MODULATION 0 = OFF 1 = ON
0C 00 01 1C 0C 00 01 1D#	0aaaaaaa 0bbbbbbb	CH-A 0 = NORM 1 = INV
0C 00 01 1E 0C 00 01 1F#	0aaaaaaa 0bbbbbbb	CH-B 0 = NORM 1 = INV
0C 00 01 20 0C 00 01 21#	0aaaaaaa 0bbbbbbb	EFFECT SWITCH 0 = OFF 1 = ON
0C 00 01 22 0C 00 01 23#	0aaaaaaa 0bbbbbbb	DIRECT SWITCH 0 = OFF 1 = ON
0C 00 01 24 0C 00 01 25#	0aaaaaaa 0bbbbbbb	LEVEL 0,,,100
0C 00 01 26 : 0C 00 7F 7F	00 : 00	(Reserved) : (Reserved)

(*1) Effect Level Table

Data	Lev(dB)	Data	Lev(dB)	Data	Lev(dB)	Data	Lev(dB)
0	- Inf	32	-21.2	64	- 9.3	96	- 0.8
1	-80.0	33	-20.8	65	- 9.0	97	- 0.6
2	-68.0	34	-20.4	66	- 8.8	98	- 0.4
3	-60.0	35	-20.0	67	- 8.6	99	- 0.2
4	-56.0	36	-19.6	68	- 8.4	100	0.0
5	-53.0	37	-19.2	69	- 8.2	101	0.2
6	-50.0	38	-18.8	70	- 8.0	102	0.4
7	-48.0	39	-18.4	71	- 7.6	103	0.6
8	-46.0	40	-18.0	72	- 7.3	104	0.8
9	-44.0	41	-17.6	73	- 7.0	105	1.0
10	-42.0	42	-17.2	74	- 6.6	106	1.3
11	-40.0	43	-16.8	75	- 6.3	107	1.5
12	-38.0	44	-16.4	76	- 6.0	108	1.8
13	-36.0	45	-16.0	77	- 5.8	109	2.0
14	-34.5	46	-15.6	78	- 5.5	110	2.3
15	-33.0	47	-15.2	79	- 5.3	111	2.5
16	-32.0	48	-14.8	80	- 5.0	112	2.8
17	-31.0	49	-14.4	81	- 4.8	113	3.0
18	-30.0	50	-14.0	82	- 4.6	114	3.3
19	-29.0	51	-13.6	83	- 4.4	115	3.5
20	-28.0	52	-13.2	84	- 4.2	116	3.8
21	-27.2	53	-12.8	85	- 4.0	117	4.0
22	-26.4	54	-12.4	86	- 3.6	118	4.2
23	-25.6	55	-12.0	87	- 3.3	119	4.4
24	-24.8	56	-11.6	88	- 3.0	120	4.6
25	-24.0	57	-11.3	89	- 2.6	121	4.8
26	-23.6	58	-11.0	90	- 2.3	122	5.0
27	-23.2	59	-10.6	91	- 2.0	123	5.2
28	-22.8	60	-10.3	92	- 1.8	124	5.4
29	-22.4	61	-10.0	93	- 1.5	125	5.6
30	-22.0	62	- 9.8	94	- 1.3	126	5.8
31	-21.6	63	- 9.5	95	- 1.0	127	6.0

(*2) Dynamics Attack/Release/Hold time Table

Data	Atk (ms)	Rel/Hold (ms)	Data	Atk (ms)	Rel/Hold (ms)	Data	Atk (ms)	Rel/Hold (ms)
0	0.0	0	42	7.1	71	84	80.0	800
1	0.1	1	43	7.5	75	85	84.0	840
2	0.2	2	44	8.0	80	86	90.0	900
3	0.3	3	45	8.4	84	87	94.4	944
4	0.4	4	46	9.0	90	88	100.0	1000
5	0.5	5	47	9.4	94	89	106.0	1060
6	0.6	6	48	10.0	100	90	112.0	1120
7	0.7	7	49	10.6	106	91	120.0	1200
8	0.8	8	50	11.2	112	92	125.0	1250
9	0.9	9	51	12.0	120	93	133.0	1330
10	1.0	10	52	12.5	125	94	140.0	1400
11	1.1	11	53	13.3	133	95	150.0	1500
12	1.2	12	54	14.0	140	96	160.0	1600
13	1.3	13	55	15.0	150	97	170.0	1700
14	1.4	14	56	16.0	160	98	180.0	1800
15	1.5	15	57	17.0	170	99	190.0	1900
16	1.6	16	58	18.0	180	100	200.0	2000
17	1.7	17	59	19.0	190	101	210.0	2100
18	1.8	18	60	20.0	200	102	224.0	2240
19	1.9	19	61	21.0	210	103	237.0	2370
20	2.0	20	62	22.4	224	104	250.0	2500
21	2.1	21	63	23.7	237	105	266.0	2660
22	2.2	22	64	25.0	250	106	280.0	2800
23	2.4	24	65	26.6	266	107	300.0	3000
24	2.5	25	66	28.0	280	108	315.0	3150
25	2.7	27	67	30.0	300	109	335.0	3350
26	2.8	28	68	31.5	315	110	355.0	3550
27	3.0	30	69	33.5	335	111	376.0	3760
28	3.2	32	70	35.5	355	112	400.0	4000
29	3.3	33	71	37.6	376	113	422.0	4220
30	3.6	36	72	40.0	400	114	450.0	4500
31	3.8	38	73	42.2	422	115	473.0	4730
32	4.0	40	74	45.0	450	116	500.0	5000
33	4.2	42	75	47.3	473	117	530.0	5300
34	4.5	45	76	50.0	500	118	560.0	5600
35	4.7	47	77	53.0	530	119	600.0	6000
36	5.0	50	78	56.0	560	120	630.0	6300
37	5.3	53	79	60.0	600	121	670.0	6700
38	5.6	56	80	63.0	630	122	710.0	7100
39	6.0	60	81	67.0	670	123	750.0	7500
40	6.3	63	82	71.0	710	124	800.0	8000
41	6.7	67	83	75.0	750			

(*3) Mixer Frequency Table

Data	Freq(Hz)	Data	Freq(Hz)	Data	Freq(Hz)
20	20	62	224	104	2.50k
21	21	63	237	105	2.66k
22	22	64	250	106	2.80k
23	24	65	266	107	3.00k
24	25	66	280	108	3.15k
25	27	67	300	109	3.35k
26	28	68	315	110	3.55k
27	30	69	335	111	3.76k
28	32	70	355	112	4.00k
29	33	71	376	113	4.22k
30	36	72	400	114	4.50k
31	38	73	422	115	4.73k
32	40	74	450	116	5.00k
33	42	75	473	117	5.30k
34	45	76	500	118	5.60k
35	47	77	530	119	6.00k
36	50	78	560	120	6.30k
37	53	79	600	121	6.70k
38	56	80	630	122	7.10k
39	60	81	670	123	7.50k
40	63	82	710	124	8.00k
41	67	83	750	125	8.40k
42	71	84	800	126	9.00k
43	75	85	840	127	9.44k
44	80	86	900	128	10.0k
45	84	87	944	129	10.6k
46	90	88	1.00k	130	11.2k
47	94	89	1.06k	131	12.0k
48	100	90	1.12k	132	12.5k
49	106	91	1.20k	133	13.3k
50	112	92	1.25k	134	14.0k
51	120	93	1.33k	135	15.0k
52	125	94	1.40k	136	16.0k
53	133	95	1.50k	137	17.0k
54	140	96	1.60k	138	18.0k
55	150	97	1.70k	139	19.0k
56	160	98	1.80k	140	20.0k
57	170	99	1.90k		
58	180	100	2.00k		
59	190	101	2.10k		
60	200	102	2.24k		
61	210	103	2.37k		

(*4) Mixer Q Table

Data	Q	Data	Q	Data	Q	Data	Q
30	0.36	50	1.12	70	3.55	90	11.2
31	0.38	51	1.20	71	3.76	91	12.0
32	0.40	52	1.25	72	4.00	92	12.5
33	0.42	53	1.33	73	4.22	93	13.3
34	0.45	54	1.40	74	4.50	94	14.0
35	0.47	55	1.50	75	4.73	95	15.0
36	0.50	56	1.60	76	5.00	96	16.0
37	0.53	57	1.70	77	5.30		
38	0.56	58	1.80	78	5.60		
39	0.60	59	1.90	79	6.00		
40	0.63	60	2.00	80	6.30		
41	0.67	61	2.10	81	6.70		
42	0.71	62	2.24	82	7.10		
43	0.75	63	2.37	83	7.50		
44	0.80	64	2.50	84	8.00		
45	0.84	65	2.66	85	8.40		
46	0.90	66	2.80	86	9.00		
47	0.94	67	3.00	87	9.44		
48	1.00	68	3.15	88	10.0		
49	1.06	69	3.35	89	10.6		

(*5) Dynamics Ratio Table

Data	RATIO
0	1.00:1
1	1.12:1
2	1.25:1
3	1.40:1
4	1.60:1
5	1.80:1
6	2.00:1
7	2.50:1
8	3.20:1
9	4.00:1
10	5.60:1
11	8.00:1
12	16.0:1
13	Inf:1

(*6) Modulation Rate Table

Data	Rate (Hz)	Data	Rate (Hz)	Data	Rate (Hz)
		42	0.71	84	8.00
1	0.01	43	0.75	85	8.40
2	0.02	44	0.80	86	9.00
3	0.03	45	0.84	87	9.44
4	0.04	46	0.90	88	10.0
5	0.05	47	0.94		
6	0.06	48	1.00		
7	0.07	49	1.06		
8	0.08	50	1.12		
9	0.09	51	1.20		
10	0.10	52	1.25		
11	0.11	53	1.33		
12	0.12	54	1.40		
13	0.13	55	1.50		
14	0.14	56	1.60		
15	0.15	57	1.70		
16	0.16	58	1.80		
17	0.17	59	1.90		
18	0.18	60	2.00		
19	0.19	61	2.10		
20	0.20	62	2.24		
21	0.21	63	2.37		
22	0.22	64	2.50		
23	0.24	65	2.66		
24	0.25	66	2.80		
25	0.27	67	3.00		
26	0.28	68	3.15		
27	0.30	69	3.35		
28	0.32	70	3.55		
29	0.33	71	3.76		
30	0.36	72	4.00		
31	0.38	73	4.22		
32	0.40	74	4.50		
33	0.42	75	4.73		
34	0.45	76	5.00		
35	0.47	77	5.30		
36	0.50	78	5.60		
37	0.53	79	6.00		
38	0.56	80	6.30		
39	0.60	81	6.70		
40	0.63	82	7.10		
41	0.67	83	7.50		

(*7) Delay Note Table

Data	Note
0	OFF
1	1/64T
2	1/64
3	1/32T
4	1/64D
5	1/32
6	1/16T
7	1/32D
8	1/16
9	1/8T
10	1/16D
11	1/8
12	1/4T
13	1/8D
14	1/4
15	1/2T
16	1/4D
17	1/2
18	1/1T
19	1/2D
20	1/1

* Valid when “Note” is selected as delay unit.

● GEQ Parameter

Start address	Data	Contents and remarks
0C 10 00 00	00	(Reserved)
0C 10 00 01	00 – 01	GEQ 1/2 LINK OFF, ON
0C 10 00 02	00	(Reserved)
:	:	:
0C 10 00 0F	00	(Reserved)
0C 10 00 10	00 – 01	GEQ 1 BYPASS OFF, ON
0C 10 00 11	00	(Reserved)
0C 10 00 12 0C 10 00 13#	0aaaaaaa 0bbbbbbb	GEQ 1 INSERT 0 = CH 1 INS : 31 = CH 32 INS 32 = MAIN L INS 33 = MAIN R INS 34 = AUX 1 INS : 41 = AUX 8 INS 50 = MTX 1 INS : 53 = MTX 4 INS 16383 = NONE
0C 10 00 14	00	(Reserved)
:	:	:
0C 10 01 11	00	(Reserved)
0C 10 01 12 0C 10 01 13#	0aaaaaaa 0bbbbbbb	GEQ: 20Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 14 0C 10 01 15#	0aaaaaaa 0bbbbbbb	GEQ: 25Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 16 0C 10 01 17#	0aaaaaaa 0bbbbbbb	GEQ: 32Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 18 0C 10 01 19#	0aaaaaaa 0bbbbbbb	GEQ: 40Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 1A 0C 10 01 1B#	0aaaaaaa 0bbbbbbb	GEQ: 50Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 1C 0C 10 01 1D#	0aaaaaaa 0bbbbbbb	GEQ: 63Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 1E 0C 10 01 1F#	0aaaaaaa 0bbbbbbb	GEQ: 80Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 20 0C 10 01 21#	0aaaaaaa 0bbbbbbb	GEQ: 100Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 22 0C 10 01 23#	0aaaaaaa 0bbbbbbb	GEQ: 125Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 24 0C 10 01 25#	0aaaaaaa 0bbbbbbb	GEQ: 160Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 26 0C 10 01 27#	0aaaaaaa 0bbbbbbb	GEQ: 200Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 28 0C 10 01 29#	0aaaaaaa 0bbbbbbb	GEQ: 250Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 2A 0C 10 01 2B#	0aaaaaaa 0bbbbbbb	GEQ: 315Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 2C 0C 10 01 2D#	0aaaaaaa 0bbbbbbb	GEQ: 400Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 2E 0C 10 01 2F#	0aaaaaaa 0bbbbbbb	GEQ: 500Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 30 0C 10 01 31#	0aaaaaaa 0bbbbbbb	GEQ: 630Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 32 0C 10 01 33#	0aaaaaaa 0bbbbbbb	GEQ: 800Hz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 34 0C 10 01 35#	0aaaaaaa 0bbbbbbb	GEQ: 1.00kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 36 0C 10 01 37#	0aaaaaaa 0bbbbbbb	GEQ: 1.25kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 38 0C 10 01 39#	0aaaaaaa 0bbbbbbb	GEQ: 1.60kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 3A 0C 10 01 3B#	0aaaaaaa 0bbbbbbb	GEQ: 2.00kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 3C 0C 10 01 3D#	0aaaaaaa 0bbbbbbb	GEQ: 2.50kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 3E 0C 10 01 3F#	0aaaaaaa 0bbbbbbb	GEQ: 3.15kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 40 0C 10 01 41#	0aaaaaaa 0bbbbbbb	GEQ: 4.00kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 42 0C 10 01 43#	0aaaaaaa 0bbbbbbb	GEQ: 5.00kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 44 0C 10 01 45#	0aaaaaaa 0bbbbbbb	GEQ: 6.30kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 46 0C 10 01 47#	0aaaaaaa 0bbbbbbb	GEQ: 8.00kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 48 0C 10 01 49#	0aaaaaaa 0bbbbbbb	GEQ: 10.0kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 4A 0C 10 01 4B#	0aaaaaaa 0bbbbbbb	GEQ: 12.5kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 4C 0C 10 01 4D#	0aaaaaaa 0bbbbbbb	GEQ: 16.0kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 4E 0C 10 01 4F#	0aaaaaaa 0bbbbbbb	GEQ: 20.0kHz LEVEL -150,,,150 = -15.0,,,15.0dB
0C 10 01 50	00	(Reserved)
:	:	:
0C 10 7F 7F	00	(Reserved)
0C 11 00 00	00 –	GEQ 2 (similar to 0C 10 00 00 – 0C 10 7F 7F)
:	:	:
0C 11 7F 7F	00 –	
:	:	:
0C 13 00 00	00 –	GEQ 4 (similar to 0C 10 00 00 – 0C 10 7F 7F)
:	:	:
0C 13 7F 7F	00 –	
0C 14 00 00	00	(Reserved)
:	:	:
0C 1F 7F 7F	00	(Reserved)

● External Effect Parameter

Start address	Data	Contents and remarks
0C 20 00 00	00	(Reserved)
:	:	:
0C 20 00 03	00	(Reserved)
0C 20 00 04	00 – 01	EXT FX 1 ENABLE SWITCH OFF, ON
0C 20 00 05	00	(Reserved)
0C 20 00 06 0C 20 00 07#	0aaaaaaa 0bbbbbbb	EXT FX 1 INSERT 0 = CH 1 INS : 31 = CH 32 INS 32 = MAIN L INS 33 = MAIN R INS 34 = AUX 1 INS : 41 = AUX 8 INS 50 = MTX 1 INS : 53 = MTX 4 INS 16383 = NONE
0C 20 00 08 0C 20 00 09#	0aaaaaaa 0bbbbbbb	EXT FX 1 RETURN LEVEL less than -905,-905,,,60 = -Inf,-90.5,,,+6.0dB
0C 20 00 0A 0C 20 00 0B#	0aaaaaaa 0bbbbbbb	EXT FX 1 SEND LEVEL less than -905,-905,,,60 = -Inf,-90.5,,,+6.0dB
0C 20 00 0C	00	(Reserved)
:	:	:
0C 20 7F 7F	00	(Reserved)
0C 21 00 00	00 –	EXT FX 2 (similar to 0C 20 00 00 – 0C 20 7F 7F)
:	:	:
0C 21 7F 7F	00 –	
:	:	:
0C 23 00 00	00 –	EXT FX 4 (similar to 0C 20 00 00 – 0C 20 7F 7F)
:	:	:
0C 23 7F 7F	00 –	
0C 24 00 00	00	(Reserved)
:	:	:
0C 2F 7F 7F	00	(Reserved)

● USB Memory Recorder Parameter

Start address	Data	Contents and remarks
0D 00 00 00 0D 00 00 01#	0aaaaaaa 0bbbbbbb	REC SOURCE L 0 = MAIN L OUT 1 = MAIN R OUT 2 = MAIN MONO OUT 7 = AUX 1 OUT : 14 = AUX 8 OUT 15 = MTX 1 OUT : 18 = MTX 4 OUT
0D 00 00 02 0D 00 00 03#	0aaaaaaa 0bbbbbbb	REC LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB
0D 00 00 0C : 0D 00 00 0F	00 : 00	(Reserved) : (Reserved)
0D 00 00 10 0D 00 00 11#	0aaaaaaa 0bbbbbbb	REC SOURCE R 0 = MAIN L OUT 1 = MAIN R OUT 2 = MAIN MONO OUT 7 = AUX 1 OUT : 14 = AUX 8 OUT 15 = MTX 1 OUT : 18 = MTX 4 OUT
0D 00 00 12 : 0D 7F 7F 7F	00 : 00	(Reserved) : (Reserved)

● Tempo Parameter

Start address	Data	Contents and remarks
0F 00 00 00 0F 00 00 01#	0aaaaaaa 0bbbbbbb	TEMPO 50: 5.0 BPM : 3000: 300.0 BPM
0F 00 00 02	00 – 01	SLAVE TO MIDI CLOCK OFF, ON
0F 00 00 12 : 0F 7F 7F 7F	00 : 00	(Reserved) : (Reserved)

● System Parameter

Start address	Data	Contents and remarks
10 00 00 00	00 – 01	SAMPLING FREQ 0 = 48kHz 1 = 44.1kHz
10 00 00 01	00 – 06	REAC SETUP 0 = MASTER 1 = SPLIT 4 = MASTER(EXTERNAL CLOCK) 6 = SLAVE
10 00 00 02	00 – 01	CH-MUTE OPTION MUTES AUX/MTX SENDS OFF, ON
10 00 00 03	00 – 01	CH-MUTE OPTION MUTES DIRECT OUTS OFF, ON
10 00 00 04 : 10 00 00 07	00 : 00	(Reserved) : (Reserved)
10 00 00 08	00 – 03	RECORDER PLAY MODE 0 = PLAY ONE 1 = REPEAT ONE 2 = PLAY ALL 3 = REPEAT ALL
10 00 00 09 : 10 00 00 0F	00 : 00	(Reserved) : (Reserved)
10 00 00 10 10 00 00 11#	0aaaaaaa 0bbbbbbb	METER OVER LEVEL -18,,,0 = -18,,,0 dB
10 00 00 12	00 – 04	METER PEAK HOLD TIME 0 = 0 sec 1 = 1 sec 2 = 2 sec 3 = 3 sec 4 = Continuous
10 00 00 13	00 – 01	METER PEAK HOLD OFF, ON
10 00 00 14	00 – 07	METER CH METERING POINT 0 = PREAMP 6 = PRE FADER 7 = POST FADER
10 00 00 15	00 – 04	METER BUS METERING POINT 1 = PRE EQ 2 = PRE FADER 4 = POST LIMITER
10 00 00 16 : 10 00 00 1F	00 : 00	(Reserved) : (Reserved)
10 00 00 20	00 – 02	DATE FORMAT 0 = MM/DD/YYYY 1 = DD/MM/YYYY 2 = YYYY/MM/DD
10 00 00 21	00	(Reserved)
10 00 00 22	00 – 7F	DELAY UNIT 0 = msec 2 = meter 3 = feet 4 = frame (24fps) 5 = frame (25fps) 6 = frame (29.97fps) 7 = frame (30fps) 127 = sample
10 00 00 23	00 – 0A	PANEL BRIGHTNESS 0,,,10
10 00 00 24	00 – 01	DISPLAY BRIGHTNESS 0 = LO 1 = HI
10 00 00 25	00 – 0A	DISPLAY CONTRAST 0,,,10
10 00 00 26	00	(Reserved)
10 00 00 27	00 – 01	MAIN MUTE ENABLE,DISABLE
10 00 00 28	00 – 01	GEQ 0.5dB STEP OFF,ON
10 00 00 29 : 10 00 00 7F	00 : 00	(Reserved) : (Reserved)
10 00 01 00	00 – 01	MIDI OUT 0 = OUT 1 = THRU
10 00 01 01	00 – 1F	DEVICE ID (*1) 0,,,31
10 00 01 02	00 – 06	RS–232C RATE 0 = 4800bps 1 = 9600bps 2 = 14400bps 3 = 31250bps 4 = 38400bps 5 = 57600bps 6 = 115200bps
10 00 01 03	00 – 01	RS-232C/MIDI SELECT 0 = MIDI 1 = RS-232C
10 00 01 04 : 10 00 01 0F	00 : 00	(Reserved) : (Reserved)
10 00 01 10	00 – 01	MIDI CONTROL CHANGE Rx OFF, ON
10 00 01 11	00 – 01	MIDI PROGRAM CHANGE Rx OFF, ON
10 00 01 12	00 – 01	MIDI SYS EX Rx (*1) OFF, ON
10 00 01 13	00	(Reserved)
10 00 01 14	00 – 01	MIDI MMC Rx OFF, ON
10 00 01 15 : 10 00 01 17	00 : 00	(Reserved) : (Reserved)
10 00 01 18	00 – 01	MIDI CONTROL CHANGE Tx OFF, ON
10 00 01 19	00 – 01	MIDI PROGRAM CHANGE Tx OFF, ON
10 00 01 1A	00 – 01	MIDI SYS EX Tx (*1) OFF, ON
10 00 01 1B : 10 00 01 1F	00 : 00	(Reserved) : (Reserved)
10 00 01 20	00 – 01	USB MIDI CONTROL CHANGE Rx OFF, ON
10 00 01 21	00 – 01	USB MIDI PROGRAM CHANGE Rx OFF, ON
10 00 01 22	00 – 01	USB MIDI SYS EX Rx (*1) OFF, ON
10 00 01 23	00	(Reserved)
10 00 01 24	00 – 01	USB MIDI MMC Rx OFF, ON
10 00 01 25 : 10 00 01 27	00 : 00	(Reserved) : (Reserved)
10 00 01 28	00 – 01	USB MIDI CONTROL CHANGE Tx OFF, ON
10 00 01 29	00 – 01	USB MIDI PROGRAM CHANGE Tx OFF, ON
10 00 01 2A	00 – 01	USB MIDI SYS EX Tx (*1) OFF, ON
10 00 01 2B : 10 00 01 7F	00 : 00	(Reserved) : (Reserved)
10 00 02 00	00 – 01	V–LINK SWITCH OFF, ON
10 00 02 01 : 10 00 02 0F	00 : 00	(Reserved) : (Reserved)

10 00 02 10	00 – 7F	V-LINK VIDEO 1 SOURCE	0 = CH1 : 31 = CH32 32 = MAIN L/R 34 = AUX1 : 41 = AUX8 42 = MATRIX1 : 45 = MATRIX4 46 = DCA GROUP1 : 53 = DCA GROUP8 127 = NONE
10 00 02 11	00	(Reserved)	
10 00 02 12 10 00 02 13#	0aaaaaaa 0bbbbbbb	V-LINK VIDEO 1 MAX LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB	
10 00 02 14 10 00 02 15#	0aaaaaaa 0bbbbbbb	V-LINK VIDEO 1 MIN LEVEL less than -905,-905,,,100 = -Inf,-90.5,,,+10.0dB	
10 00 02 16	00	(Reserved)	
10 00 02 17	00	(Reserved)	
10 00 02 18	00 –	V-LINK VIDEO 2 (similar to 10 00 02 10 – 10 00 02 17)	
:	:	:	
10 00 02 1F	00 -	(Reserved)	
:	:	:	
10 00 03 08	00 –	V-LINK VIDEO 16 (similar to 10 00 02 10 – 10 00 02 17)	
:	:	:	
10 00 03 0F	00 -		
10 00 03 10	00	(Reserved)	
:	:	:	
10 00 0F 7F	00	(Reserved)	
10 00 10 00	00 – 01	SCENE SCOPE CH 1	ON,OFF
10 00 10 01	00 – 01	SCENE SCOPE CH 2	ON,OFF
:	:	:	
10 00 10 1F	00 – 01	SCENE SCOPE CH 32	ON,OFF
10 00 10 20	00	(Reserved)	
:	:	:	
10 00 10 7F	00	(Reserved)	
10 00 11 00	00 – 01	SCENE SCOPE MAIN L	ON,OFF
10 00 11 01	00 – 01	SCENE SCOPE MAIN R	ON,OFF
10 00 11 02	00	(Reserved)	
:	:	:	
10 00 11 7F	00	(Reserved)	
10 00 12 00	00 – 01	SCENE SCOPE AUX 1	ON,OFF
10 00 12 01	00 – 01	SCENE SCOPE AUX 2	ON,OFF
:	:	:	
10 00 12 07	00 – 01	SCENE SCOPE AUX 8	ON,OFF
10 00 12 08	00	(Reserved)	
:	:	:	
10 00 12 7F	00	(Reserved)	
10 00 13 00	00 – 01	SCENE SCOPE MTX 1	ON,OFF
10 00 13 01	00 – 01	SCENE SCOPE MTX 2	ON,OFF
:	:	:	
10 00 13 03	00 – 01	SCENE SCOPE MTX 4	ON,OFF
10 00 13 04	00	(Reserved)	
:	:	:	
10 00 13 7F	00	(Reserved)	
10 00 14 00	00 – 01	SCENE SCOPE MUTE GROUP 1	ON,OFF
10 00 14 01	00 – 01	SCENE SCOPE MUTE GROUP 2	ON,OFF
:	:	:	
10 00 14 03	00 – 01	SCENE SCOPE MUTE GROUP 4	ON,OFF
10 00 14 04	00	(Reserved)	
:	:	:	
10 00 14 7F	00	(Reserved)	
10 00 15 00	00 – 01	SCENE SCOPE DCA GROUP 1	ON,OFF
10 00 15 01	00 – 01	SCENE SCOPE DCA GROUP 2	ON,OFF
:	:	:	
10 00 15 07	00 – 01	SCENE SCOPE DCA GROUP 8	ON,OFF
10 00 15 08	00	(Reserved)	
:	:	:	
10 00 16 7E	00	(Reserved)	
10 00 16 7F	00 – 01	SCENE SCOPE FX 1–4	ON,OFF
10 00 17 00	00	(Reserved)	
:	:	:	
10 00 17 7E	00	(Reserved)	
10 00 17 7F	00 – 01	SCENE SCOPE GEQ 1–4	ON,OFF
10 00 18 00	00	(Reserved)	
:	:	:	
10 00 18 7E	00	(Reserved)	
10 00 18 7F	00 – 01	SCENE SCOPE EXT FX 1–4	ON,OFF
10 00 19 00	00 – 01	SCENE SCOPE INPUT PATCH	ON,OFF
10 00 19 01	00 – 01	SCENE SCOPE OUTPUT PATCH	ON,OFF
10 00 19 02	00	(Reserved)	
:	:	:	
10 00 1F 7F	00	(Reserved)	
10 00 20 00	00 – 01	SCENE SCOPE CH PREAMP	ON,OFF
10 00 20 01	00 – 01	SCENE SCOPE CH POLARITY	ON,OFF
10 00 20 02	00 – 01	SCENE SCOPE CH ATT	ON,OFF
10 00 20 03	00 – 01	SCENE SCOPE CH HPF	ON,OFF
10 00 20 04	00 – 01	SCENE SCOPE CH GATE	ON,OFF
10 00 20 05	00 – 01	SCENE SCOPE CH COMP	ON,OFF
10 00 20 06	00 – 01	SCENE SCOPE CH EQ	ON,OFF
10 00 20 07	00 – 01	SCENE SCOPE CH FADER	ON,OFF
10 00 20 08	00 – 01	SCENE SCOPE CH PAN	ON,OFF
10 00 20 09	00	(Reserved)	
10 00 20 0A	00 – 01	SCENE SCOPE CH SENDS	ON,OFF
10 00 20 0B	00 – 01	SCENE SCOPE CH DIRECT	ON,OFF
10 00 20 0C	00 – 01	SCENE SCOPE CH MUTE	ON,OFF
10 00 20 0D	00 – 01	SCENE SCOPE CH TO MAIN	ON,OFF
10 00 20 0E	00	(Reserved)	
:	:	:	
10 00 20 7F	00	(Reserved)	
10 00 21 00	00 – 01	SCENE SCOPE OUT CH ATT	ON,OFF
10 00 21 01	00 – 01	SCENE SCOPE OUT CH EQ	ON,OFF
10 00 21 02	00 – 01	SCENE SCOPE OUT CH FADER	ON,OFF
10 00 21 03	00 – 01	SCENE SCOPE OUT CH BALANCE	ON,OFF
10 00 21 04	00 – 01	(Reserved)	
10 00 21 05	00 – 01	SCENE SCOPE OUT CH COMP/LIMITER	ON,OFF
10 00 21 06	00 – 01	SCENE SCOPE OUT CH DELAY	ON,OFF
10 00 21 07	00 – 01	SCENE SCOPE OUT CH MTX SEND	ON,OFF
10 00 21 08	00 – 01	SCENE SCOPE OUT CH MUTE	ON,OFF
10 00 21 09	00 – 01	SCENE SCOPE CH TO MAIN	ON,OFF
10 00 21 0A	00	(Reserved)	
:	:	:	
10 7F 7F 7F	00	(Reserved)	

(*1) This is read-only.

3. MIDI Machine Control

The M-200i will receive MIDI Machine Control messages when the RECEIVE item "MMC" (SYSTEM > REMOTE > MIDI or USB MIDI) is selected.

■MIDI Machine Control Details

● STOP (MCS)

Status	Data Byte	Status
F0H	7FH,Dev,06H,01H	F7H

Byte	Description
F0H	Status of System Exclusive Message
7FH	Universal System Exclusive Real-time Header
Dev	Device ID (or 7FH)
06H	MMC Command Message
01H	STOP(MCS)
F7H	EOX (End of System Exclusive message)

● PLAY(MCS)

Status	Data Byte	Status
F0H	7FH,Dev,06H,02H	F7H

Byte	Description
F0H	Status of System Exclusive Message
7FH	Universal System Exclusive Real-time Header
Dev	Device ID (or 7FH)
06H	MMC Command Message
02H	PLAY(MCS)
F7H	EOX (End of System Exclusive message)

● DEFERRED PLAY(MCS)

Status	Data Byte	Status
F0H	7FH,Dev,06H,03H	F7H

Byte	Description
F0H	Status of System Exclusive Message
7FH	Universal System Exclusive Real-time Header
Dev	Device ID (or 7FH)
06H	MMC Command Message
03H	DEFERRED PLAY(MCS)
F7H	EOX (End of System Exclusive message)

● RECORD STROBE

Status	Data Byte	Status
F0H	7FH,Dev,06H,06H	F7H

Byte	Description
F0H	Status of System Exclusive Message
7FH	Universal System Exclusive Real-time Header
Dev	Device ID (or 7FH)
06H	MMC Command Message
06H	RECORD STROBE
F7H	EOX (End of System Exclusive message)

4. V-LINK RECOGNIZED RECEIVE DATA

The M-200i will receive the messages from external video devices when V-LINK button (SYSTEM > REMOTE > V-LINK)is on.

■SYSTEM EXCLUSIVE MESSAGES

● V-LINK Audio Mixer Channel 1-16 Level

Status	Data Byte	Status
F0H	41H,dev,00H,51H,12H, 20H,21H,ddH,eeH,ffH,Sum	F7H

Byte	Description
F0H	Status of System Exclusive Message
41H	Manufacturer ID (Roland)
Dev	Device ID (or 7FH)
00H 51H	Model ID (V-LINK)
12H	Command ID (DT1)
20H	Address MSB
21H	Address
ddH	Address LSB (*1)
ffH eeH	0000H - 0768H (Level 0.0 - 100.0%)
Sum	Check Sum
F7H	EOX (End of System Exclusive message)

(*1)

00H:	Channel 1 (Source 1)
02H:	Channel 2 (Source 2)
04H:	Channel 3 (Source 3)
06H:	Channel 4 (Source 4)
08H:	Channel 5 (Source 5)
0AH:	Channel 6 (Source 6)
0CH:	Channel 7 (Source 7)
0EH:	Channel 8 (Source 8)
10H:	Channel 9 (Source 9)
12H:	Channel 10 (Source 10)
14H:	Channel 11 (Source 11)
16H:	Channel 12 (Source 12)
18H:	Channel 13 (Source 13)
1AH:	Channel 14 (Source 14)
1CH:	Channel 15 (Source 15)
1EH:	Channel 16 (Source 16)

5. Appendices

● Decimal and Hexadecimal table

(Hexadecimal number is shown with H.)

D	H	D	H	D	H	D	H
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

D: decimal
H: hexadecimal

In MIDI documentation, data values and addresses/sizes of system exclusive messages etc. are expressed as hexadecimal values for each 7 bits.
The following table shows how these correspond to decimal numbers.

(*) 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 expression two 7-bit bytes would indicate a value of aa x 128 + bb.

(*) In the case of values which have a +/- sign, 40H=-64, 00H=0, 3FH=+63, so that the decimal expression would be 64 less than the value given in the above chart.
In the case of two types, 40 00H = -8192, 00 00H = 0, 3F 7FH = +8191.

(*) Data marked "nibbled" is expressed in hexadecimal in 4-bit units.
A value expressed as a 20byte nibble 0a 0bH has the value of a x 16 + b.

<Ex.1> What 5AH in decimal system?
5AH = 90 according to the above table.

<Ex.2> What in decimal system is 12034H in hexadecimal of every 7 bit?
12H = 18, 34H = 52 according to the above table. So 18 x 128 + 52 = 2356.

<Ex.3> What in decimal system is 0A 03 09 0D in nibble system?
0AH = 10, 03H = 3, 09H = 9, 0DH = 13 according to the above table.
So ((10 x 16 + 3) x 16 + 9) x 16 + 3 = 41885.

<Ex.4> What in nibble system is 1258 in decimal system?

16)1258
16) 78 ... 10
16) 4 ... 14
0 ... 4
0 = 00H, 4 = 04H, 14 = 0EH, 10 = 0AH according to the above table. So it is 00 04 0E 0AH.

● Example of system exclusive message and Checksum calculation

On Roland system exclusive message (DT1), checksum is added at the end of transmitted data (in front of F7) to check the message is received correctly.
Value of checksum is defined by address and data (or size) of the system exclusive message to be transmitted.
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❍ **How to calculate checksum (Hexadecimal number is shown with H.)**

checksum is a value which lower 7 bit of the sum of address, size and checksum itself turns to be 0.
If the address of the system exclusive message to be transmitted is aa bb ccH and data or size is dd ee ffH,

aa + bb + cc + dd + ee + ff = sum
sum /128 = quotient and odd
When odd is 0, 0 = checksum
When odd is other than 0, 128 - odd = checksum.

■MIDI Machine Control (MMC) Command

● Command Recognized

Command	Action
01H STOP	STOP
02H PLAY	PLAY
03H DEFERRED	PLAY
06H RECORD STROBE	REC

● Commands Transmitted

The M-200i does not transmit MMC commands.