MIDI Implementation

Model : SPD-20 PRO
Date : Nov. 1. 2020
Version : 1.00

* In this implementation, the order in which the SPD-20 PRO's buttons should be pressed is indicated in the following way. For example, [KIT COMMON]-[KIT MIDI] means "press the [KIT COMMON] button, then press the [<], [>] buttons, then select [KIT MIDI] with the cursor, and finally press the [ENTER] button." For details, refer to the SPD-20 PRO owner's manual.
* For button names, refer to the SPD-20 PRO owner's manual.
* The "Data List" referred to in this document can be obtained via the Roland website.

1. Receive Data
■Channel Voice Messages

* The following Channel Voice Messages can be received by the channel assigned in [KIT COMMON]-[KIT MIDI] Channel.
* Not received when [SYSTEM]-[MIDI] Tx/Rx Sw is set to "OFF."

●Note On

Status	2nd byte	3rd byte
9nH	kkH	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
kk = note number:		00H-7FH (0-127)
vv = note on velocity:		01H-7FH (1-127)

* Only the note numbers assigned by the kit are received. For details on note numbers, refer to the SPD-20 PRO owner's manual.

●Polyphonic Key Pressure

Status	2nd byte	3rd byte
AnH	kkH	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
kk = note number:		00H-7FH (0-127)
vv = value:		00H-7FH (0-127)

* Only the note numbers assigned by the kit are received. For details on note numbers, refer to the SPD-20 PRO owner's manual.
* If the value is greater than 1, the decay of the note sounded by the received note number will be shortened based on the value (used in choking).

●Control Change

○Bank Select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
mm = bank number MSB:		processed as 00H
ll = bank number LSB:		00H-01H

* Bank Select processing will be suspended until a Program Change message is received.

○Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-7FH (0-127:open to closed)

* In the channel corresponding to the pad to which the HC instrument is assigned, setting [SYSTEM]-[MIDI] HH CC to "1:MOD" changes the hi-hat control pedal position.

○Breath Controller (Controller number 2)

Status	2nd byte	3rd byte
BnH	02H	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-7FH (0-127:open to closed)

* In the channel corresponding to the pad to which the HC instrument is assigned, setting [SYSTEM]-[MIDI] HH CC to "2:BREATH" changes the hi-hat control pedal position.

○Foot Controller (Controller number 4)

Status	2nd byte	3rd byte
BnH	04H	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-7FH (0-127:open to closed)

* In the channel corresponding to the pad to which the HC instrument is assigned, setting [SYSTEM]-[MIDI] HH CC to "4:FOOT" changes the hi-hat control pedal position.

○Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-7FH (0-127:open to closed)

* In the channel corresponding to the pad to which the HC instrument is assigned, setting [SYSTEM]-[MIDI] HH CC to "11:EXP" changes the hi-hat control pedal position.

○General Purpose Controller 1 (Controller number 16)

Status	2nd byte	3rd byte
BnH	10H	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-7FH (0-127:open to closed)

* In the channel corresponding to the pad to which the HC instrument is assigned, setting [SYSTEM]-[MIDI] HH CC to "16:GEN1" changes the hi-hat control pedal position.

○General Purpose Controller 2 (Controller number 17)

Status	2nd byte	3rd byte
BnH	11H	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-7FH (0-127:open to closed)

* In the channel corresponding to the pad to which the HC instrument is assigned, setting [SYSTEM]-[MIDI] HH CC to "17:GEN2" changes the hi-hat control pedal position.

○General Purpose Controller 3 (Controller number 18)

Status	2nd byte	3rd byte
BnH	12H	vvH

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

* In the channel corresponding to the pad to which the HC instrument is assigned, setting [SYSTEM]-[MIDI] HH CC to “18:GEN3” changes the hi-hat control pedal position.

○General Purpose Controller 4 (Controller number 19)

Status	2nd byte	3rd byte
BnH	13H	vvH
n = MIDI channel number:	0H-FH (ch.1-ch.16)
vv = Control value:	00H-7FH (0-127:open to closed)

* In the channel corresponding to the pad to which the HC instrument is assigned, setting [SYSTEM]-[MIDI] HH CC to “19:GEN4” changes the hi-hat control pedal position.

●Program Change

Status	2nd byte
CnH	ppH
n = MIDI channel number:	0H-FH (ch.1-ch.16)
pp = Program number:	00H-7FH (prog.1-prog.128)

* Not received when [SYSTEM]-[MIDI] ProgChg Rx is set to “OFF.”
* Received only if the channel number matches the GlobalCh of [SYSTEM]-[MIDI].
* The sound will change beginning with the next Note-On after the Program Change is received. Voices which were already sounding before the Program Change was received will not be affected.

Bank Select MSB / LSB	Program Number	Kit Number
000 / 000	001-128	001-128
000 / 001	001-072	129-200

■Channel Mode Messages

* The following Channel Voice Messages can be received in [KIT COMMON]-[KIT MIDI] Channel.
* Not received when [SYSTEM]-[MIDI] Tx/Rx Sw is set to “OFF.”

●All Sounds Off (Controller number 120)

Status	2nd byte	3rd byte
BnH	78H	00H
n = MIDI channel number:	0H-FH (ch.1-ch.16)

* When this message is received, all currently-sounding notes on the corresponding channel will be silenced. However, the status of channel messages will not change.

●Reset All Controllers (Controller number 121)

Status	2nd byte	3rd byte
BnH	79H	00H
n = MIDI channel number:	0H-FH (ch.1-ch.16)

* When this message is received, polyphonic key pressure for all pads assigned to the same channel number is reset to 0.
* If the channel number is the same as the channel corresponding to the pad that is assigned for HC instrument, the controller that is assigned by [SYSTEM]-[MIDI] HH CC is reset to 0.

●All Notes Off (Controller number 123)

Status	2nd byte	3rd byte
BnH	7BH	00H
n = MIDI channel number:	0H-FH (ch.1-ch.16)

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

●OMNI OFF (Controller number 124)

Status	2nd byte	3rd byte
BnH	7CH	00H
n = MIDI channel number:	0H-FH (ch.1-ch.16)

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

●OMNI ON (Controller number 125)

Status	2nd byte	3rd byte
BnH	7DH	00H
n = MIDI channel number:	0H-FH (ch.1-ch.16)

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

●MONO (Controller number 126)

Status	2nd byte	3rd byte
BnH	7EH	mmH
n = MIDI channel number:	0H-FH (ch.1-ch.16)
mm= mono number:	00H-10H (0-16)

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

●POLY (Controller number 127)

Status	2nd byte	3rd byte
BnH	7FH	00H
n = MIDI channel number:	0H-FH (ch.1-ch.16)

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

■System Realtime Message

●Active Sensing

Status
FEH

* When Active Sensing is received, the unit will begin monitoring the intervals of all further messages. While monitoring, if the interval between messages exceeds about 500 ms, the same processing will be carried out as when All Sounds Off, All Notes Off and Reset All Controllers are received, and message interval monitoring will be halted.

■System Exclusive Message

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

F0H:	System Exclusive Message status
ii= ID number:	An ID number (manufacturer ID) to indicate the manufacturer whose Exclusive message this is.
	Roland’s manufacturer ID is 41H.

	ID numbers 7EH and 7FH are extensions of the MIDI standard: Universal Non-realtime Messages (7EH) and Universal Realtime Messages (7FH).
dd, ..., ee= data:	00H-7FH (0-127)
F7H:	EOX (End Of Exclusive)

This device receives the following system exclusive messages: universal non-realtime system exclusive messages, data request (RQ1), and data set (DT1).

●Universal Non-realtime System Exclusive Messages

○Identity Request Message

Status	Data byte	Status
F0H	7EH, dev, 06H, 01H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (10H-1FH (17-32), 7FH) Initial value is 10H (17)
06H	Sub ID#1 (General Information)
01H	Sub ID#2 (Identity Request)
F7H	EOX (End Of Exclusive)

* When Identity Request is received, Identity Reply message will be transmitted.
* The [SYSTEM]-[MIDI] DeviceID setting is used as the Device ID.

●Data Transmission

This instrument can use exclusive messages to exchange many varieties of internal settings with other devices. The model ID of the exclusive messages used by this instrument is 00H 00H 00H 79H.

○Data Request 1 (RQ1)

This message requests the other device to transmit data. The address and size indicate the type and amount of data that is requested. When a Data Request message is received, if the device is in a state in which it is able to transmit data, and if the address and size are appropriate, the requested data is transmitted as a Data Set 1 (DT1) message. If the conditions are not met, nothing is transmitted.

Status	Data byte	Status
F0H	41H, dev, 00H, 00H, 00H, 79H, 11H, aaH, bbH, ccH, ddH, ssH, ttH, uuH, vvH, sum	F7H

byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	device ID (dev: 10H-1FH, 7FH)
00H	Model ID#1 (SPD-20 PRO)
00H	Model ID#2 (SPD-20 PRO)
00H	Model ID#3 (SPD-20 PRO)
79H	Model ID#4 (SPD-20 PRO)
11H	Command ID (RQ1)
aaH	Address MSB
bbH	Address
ccH	Address
ddH	Address LSB
ssH	Size MSB
ttH	Size
uuH	Size
vvH	Size LSB
sum	Checksum
F7H	EOX (End Of Exclusive)

* The size of data that can be transmitted at one time is fixed for each type of data. And data requests must be made with a fixed starting address and size. Refer to the address and size given in “3. Parameter Address Map.”
* For the checksum, refer to “How to calculate the checksum.”

○Data Set 1 (DT1)

These messages are used for transmitting the actual data and are used when you want to assign data to the device.

Status	Data byte	Status
F0H	41H, dev, 00H, 00H, 00H, 79H, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Model ID (dev: 10H-1FH, 7FH)
00H	Model ID#1 (SPD-20 PRO)
00H	Model ID#2 (SPD-20 PRO)
00H	Model ID#3 (SPD-20 PRO)
79H	Model ID#4 (SPD-20 PRO)
12H	Command ID (DT1)
aaH	Address MSB
bbH	Address
ccH	Address
ddH	Address LSB
eeH	Data: the actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
:	:
ffH	Data
sum	Checksum
F7H	EOX (End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the address and size given in “3. Parameter Address Map.”
* Data larger than 256 bytes must be divided into packets of 256 bytes or less, and each packet must be sent at an interval of about 20 ms or longer.
* For the checksum, refer to “How to calculate the checksum.”

2. Transmit Data

* When [SYSTEM]-[MIDI] MIDI Thru is set to “ON”, messages received in addition to the following messages are also sent to the corresponding jack.

■Channel Voice Messages

* The following channel voice messages are transmitted on the channel specified as the [KIT COMMON]-[KIT MIDI] Channel.
* Not transmitted when [SYSTEM]-[MIDI] Tx/Rx Sw is set to “OFF.”

●Note Off

Status	2nd byte	3rd byte
8nH	kkH	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
kk = note number:		00H-7FH (0-127)
vv = Note off velocity:		40H (64) fixed

* In the channel assigned to the pad, after a pad is struck or the hi-hat control pedal is in the foot closed (splash) position, Note Off is transmitted after the interval set in Gate Time ([KIT COMMON]-[KIT MIDI]).

●Note On

Status	2nd byte	3rd byte
9nH	kkH	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
kk = note number:		00H-7FH (0-127)
vv = Note on velocity:		01H-7FH (1-127)

* In the channel assigned to the pad, after a pad is struck or the hi-hat control pedal is in the foot closed (splash) position, the note number set for the drum kit is transmitted.
* In the channel corresponding to the pad played by the hi-hat control pedal, the note number transmitted when the hi-hat pad is struck (open, closed) switches depending on how deeply the hi-hat pedal is being pressed.

●Polyphonic Key Pressure

Status	2nd byte	3rd byte
AnH	kkH	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
kk = note number:		00H-7FH (0-127)
vv = Value:		00H, 7FH (0, 127)

* 7FH will be transmitted when the rim of the external pad is pressed and 00H will be transmitted when the rim is released, for the note number specified for the head and rim. (When using a choking compatible pad and [SYSTEM]-[EXT TRIG] Type is set to the corresponding pad.)

●Control Change

○Bank Select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
mm = bank number MSB:		Fixed as 00H
ll = bank number LSB:		00H-01H

* When a kit is selected, the corresponding bank select is transmitted.

○Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-5AH (0-90:open to closed)

* In the channel corresponding to the pad played by the hi-hat control pedal, when [SYSTEM]-[MIDI] HH CC is set to “1:MOD,” this is transmitted when the hi-hat control pedal is played. When the pad played by the hi-hat control pedal is struck, this is transmitted as a pedal position message before Note On.

○Breath Controller (Controller number 2)

Status	2nd byte	3rd byte
BnH	02H	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-5AH (0-90:open to closed)

* In the channel corresponding to the pad played by the hi-hat control pedal, when [SYSTEM]-[MIDI] HH CC is set to “2:BREATH,” this is transmitted when the hi-hat control pedal is played. When the pad played by the hi-hat control pedal is struck, this is transmitted as a pedal position message before Note On.

○Foot Controller (Controller number 4)

Status	2nd byte	3rd byte
BnH	04H	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-5AH (0-90:open to closed)

* In the channel corresponding to the pad played by the hi-hat control pedal, when [SYSTEM]-[MIDI] HH CC is set to “4:FOOT,” this is transmitted when the hi-hat control pedal is played. When the pad played by the hi-hat control pedal is struck, this is transmitted as a pedal position message before Note On.

○Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-5AH (0-90:open to closed)

* In the channel corresponding to the pad played by the hi-hat control pedal, when [SYSTEM]-[MIDI] HH CC is set to “11:EXP,” this is transmitted when the hi-hat control pedal is played. When the pad played by the hi-hat control pedal is struck, this is transmitted as a pedal position message before Note On.

○General Purpose Controller 1 (Controller number 16)

Status	2nd byte	3rd byte
BnH	10H	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-5AH (0-90:open to closed)

* In the channel corresponding to the pad played by the hi-hat control pedal, when [SYSTEM]-[MIDI] HH CC is set to “16:GEN1,” this is transmitted when the hi-hat control pedal is played. When the pad played by the hi-hat control pedal is struck, this is transmitted as a pedal position message before Note On.

○General Purpose Controller 2 (Controller number 17)

Status	2nd byte	3rd byte
BnH	11H	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-5AH (0-90:open to closed)

* In the channel corresponding to the pad played by the hi-hat control pedal, when [SYSTEM]-[MIDI] HH CC is set to “17:GEN2,” this is transmitted when the hi-hat control pedal is played. When the pad played by the hi-hat control pedal is struck, this is transmitted as a pedal position message before Note On.

○General Purpose Controller 3 (Controller number 18)

Status	2nd byte	3rd byte
BnH	12H	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)
vv = Control value:		00H-5AH (0-90:open to closed)

* In the channel corresponding to the pad played by the hi-hat control pedal, when [SYSTEM]-[MIDI] HH CC is set to “18:GEN3,” this is transmitted when the hi-hat control pedal is played. When the pad played by the hi-hat control pedal is struck, this is transmitted as a pedal position message before Note On.

○General Purpose Controller 4 (Controller number 19)

Status	2nd byte	3rd byte
BnH	13H	vvH
n = MIDI channel number:		0H-FH (ch.1-ch.16)

vv = Control value:　　00H-5AH (0-90:open to closed)

* In the channel corresponding to the pad played by the hi-hat control pedal, when [SYSTEM]-[MIDI] HH CC is set to “19:GEN4,” this is transmitted when the hi-hat control pedal is played. When the pad played by the hi-hat control pedal is struck, this is transmitted as a pedal position message before Note On.

●Program Change

Status　　2nd byte
CnH　　ppH
n = MIDI channel number:　　0H-FH (ch.1-ch.16)
pp = Program number:　　00H-7FH (prog.1-prog.128)

* Not transmitted when [SYSTEM]-[MIDI] ProgChg Tx is set to “OFF.”
* When a kit is selected, the corresponding program number is transmitted.

■System Realtime Messages

●Active Sensing

Status
FEH

* This message is transmitted at intervals of approximately 250 msec.

■System Exclusive Message

Identity Reply and Data Set (DT1) are the System Exclusive messages transmitted by this device.

●Universal Non-realtime System Exclusive Message

○Identity Reply

Status　　Data byte　　Status
F0H　　7EH, dev, 06H, 02H, 41H, 79H,　　F7H
　　03H, 00H, 00H, 00H, 01H, 00H,
　　00H

Byte　　Explanation
F0H　　Exclusive status
7EH　　ID number (Universal Non-realtime Message)
dev　　Device ID (10H-1FH (17-32), 7FH)
　　Initial value is 10H (17)
06H　　Sub ID#1 (General Information)
02H　　Sub ID#2 (Identity Reply)
41H　　ID number (Roland)
79H 03H　　Device family code
00H 00H　　Device family number code
00H 01H 00H 00H　　Software revision level
F7H　　EOX (End of Exclusive)

* When Identity Request is received, the above Identity Reply messages will be transmitted.
* The [SYSTEM]-[MIDI] DeviceID setting is used as the Device ID.

○Data Set 1 (DT1)

These messages are used for transmitting the actual data and are used when you want to assign data to the device.

Status　　Data byte　　Status
F0H　　41H, dev, 00H, 00H, 00H, 79H,　　F7H
　　12H, aaH, bbH, ccH, ddH, eeH,
　　... ffH, sum

Byte　　Explanation
F0H　　Exclusive status
41H　　ID number (Roland)
dev　　Device ID (dev: 10H-1FH, 7FH)
00H　　Model ID#1 (SPD-20 PRO)
00H　　Model ID#2 (SPD-20 PRO)
00H　　Model ID#3 (SPD-20 PRO)
79H　　Model ID#4 (SPD-20 PRO)
12H　　Command ID (DT1)
aaH　　Address MSB
bbH　　Address
ccH　　Address
ddH　　Address LSB
eeH　　Data:　the actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
:　　:
ffH　　Data
sum　　Checksum
F7H　　EOX (End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the address and size given in “3. Parameter Address Map.”
* Data larger than 256 bytes will be divided into packets of 256 bytes or less, and each packet will be sent at an interval of about 20 ms.

3. Parameter Address Map

* Transmission of “#” marked address is divided to multiple packets. For example, ABH in hexadecimal notation will be divided to 0AH and 0BH, and is sent/received in this order.

Start Address	Description	
00 00 00 00	Current	[Current]
01 00 00 00	Setup	[Setup]
03 00 00 00	SetList 1	[SetListParams]
03 00 10 00	SetList 2	[SetListParams]
:		
03 01 70 00	SetList 16	[SetListParams]
04 00 00 00	Kit 1	[Kit]
04 02 00 00	Kit 2	[Kit]
:		
07 0E 00 00	Kit 200	[Kit]

* [Setup]

Offset Address	Description	
00 00 00	Output	[SetupOutput]

* [Kit]
  The assignments to each pad within the [Kit] are as follows.

  [KitUnitCommon]、[KitUnitLayer]、[KitUnitVEdit]
  PAD1   1
  PAD2   2
  PAD3   3
  PAD4   4
  PAD5   5
  PAD6   6
  PAD7   7
  PAD8   8
  EXT1 HEAD   9
  EXT1 RIM   10
  EXT2 HEAD   11
  EXT2 RIM   12
  EXT3 HEAD   13
  EXT3 RIM   14
  EXT4 HEAD   15
  EXT4 RIM   16

  [KitPad]
  PAD1   1
  PAD2   2
  PAD3   3
  PAD4   4
  PAD5   5
  PAD6   6
  PAD7   7
  PAD8   8
  EXT1   9
  EXT2   10
  EXT3   11
  EXT4   12

Offset Address	Description	
00 00 00	Kit Common	[KitCommon]
00 01 00	Kit MIDI	[KitMidi]
00 03 00	Kit Master Comp	[KitMasterComp]
00 04 00	Kit Master EQ	[KitMasterEQ]
00 10 00	Kit MFX 1	[KitMfx]
00 12 00	Kit MFX 2	[KitMfx]
00 14 00	Kit MFX 3	[KitMfx]
00 20 00	Kit Unit Common 1	[KitUnitCommon]
00 21 00	Kit Unit Common 2	[KitUnitCommon]
:		
00 2F 00	Kit Unit Common 16	[KitUnitCommon]
00 40 00	Kit Unit Main 1	[KitUnitLayer]
00 41 00	Kit Unit Main 2	[KitUnitLayer]
:		
00 4F 00	Kit Unit Main 16	[KitUnitLayer]
00 60 00	Kit Unit Sub 1	[KitUnitLayer]
00 61 00	Kit Unit Sub 2	[KitUnitLayer]
:		
00 6F 00	Kit Unit Sub 16	[KitUnitLayer]
01 00 00	Kit Unit VEdit Main 1	[KitUnitVEdit]
01 01 00	Kit Unit VEdit Main 2	[KitUnitVEdit]
:		
01 0F 00	Kit Unit VEdit Main 16	[KitUnitVEdit]
01 20 00	Kit Unit VEdit Sub 1	[KitUnitVEdit]
01 21 00	Kit Unit VEdit Sub 2	[KitUnitVEdit]
:		
01 2F 00	Kit Unit VEdit Sub 16	[KitUnitVEdit]
01 40 00	Kit Pad 1	[KitPad]
01 41 00	Kit Pad 2	[KitPad]
:		
01 4B 00	Kit Pad 12	[KitPad]
01 60 00	Kit Room	[KitRoom]

* [Current]

Offset Address		Description	
# 00 00	0000 aaaa		
00 01	0000 bbbb		
00 02	0000 cccc		
00 03	0000 dddd	KitNum	(0 - 199) 1 - 200
00 00 00 04	Total Size		

* [SetupOutput]

Offset Address		Description	
# 00 00	0000 aaaa		
00 01	0000 bbbb	OutGain	(-12 - 12) -12 - +12 [dB]
00 00 00 02	Total Size		

* [SetListParams]

Offset Address	Description	

#	00 00	0000 aaaa	
	00 01	0000 bbbb	(reserve)
#	00 02	0000 aaaa	
	00 03	0000 bbbb	(reserve)
#	00 04	0000 aaaa	
	00 05	0000 bbbb	(reserve)
#	00 06	0000 aaaa	
	00 07	0000 bbbb	(reserve)
#	00 08	0000 aaaa	
	00 09	0000 bbbb	(reserve)
#	00 0A	0000 aaaa	
	00 0B	0000 bbbb	(reserve)
#	00 0C	0000 aaaa	
	00 0D	0000 bbbb	(reserve)
#	00 0E	0000 aaaa	
	00 0F	0000 bbbb	(reserve)
#	00 10	0000 aaaa	
	00 11	0000 bbbb	(reserve)
#	00 12	0000 aaaa	
	00 13	0000 bbbb	(reserve)
#	00 14	0000 aaaa	
	00 15	0000 bbbb	(reserve)
#	00 16	0000 aaaa	
	00 17	0000 bbbb	(reserve)
#	00 18	0000 aaaa	
	00 19	0000 bbbb	
	00 1A	0000 cccc	
	00 1B	0000 dddd	Step 1 KitNum (-1 - 199) END(*), 1 - 200
#	00 1C	0000 aaaa	
	00 1D	0000 bbbb	
	00 1E	0000 cccc	
	00 1F	0000 dddd	Step 2 KitNum (-1 - 199) END(*), 1 - 200
#	00 20	0000 aaaa	
	00 21	0000 bbbb	
	00 22	0000 cccc	
	00 23	0000 dddd	Step 3 KitNum (-1 - 199) END(*), 1 - 200
#	00 24	0000 aaaa	
	00 25	0000 bbbb	
	00 26	0000 cccc	
	00 27	0000 dddd	Step 4 KitNum (-1 - 199) END(*), 1 - 200
#	00 28	0000 aaaa	
	00 29	0000 bbbb	
	00 2A	0000 cccc	
	00 2B	0000 dddd	Step 5 KitNum (-1 - 199) END(*), 1 - 200
#	00 2C	0000 aaaa	
	00 2D	0000 bbbb	
	00 2E	0000 cccc	
	00 2F	0000 dddd	Step 6 KitNum (-1 - 199) END(*), 1 - 200
#	00 30	0000 aaaa	
	00 31	0000 bbbb	
	00 32	0000 cccc	
	00 33	0000 dddd	Step 7 KitNum (-1 - 199) END(*), 1 - 200
#	00 34	0000 aaaa	
	00 35	0000 bbbb	
	00 36	0000 cccc	
	00 37	0000 dddd	Step 8 KitNum (-1 - 199) END(*), 1 - 200
#	00 38	0000 aaaa	
	00 39	0000 bbbb	
	00 3A	0000 cccc	
	00 3B	0000 dddd	Step 9 KitNum (-1 - 199) END(*), 1 - 200
#	00 3C	0000 aaaa	
	00 3D	0000 bbbb	
	00 3E	0000 cccc	
	00 3F	0000 dddd	Step 10 KitNum (-1 - 199) END(*), 1 - 200
#	00 40	0000 aaaa	
	00 41	0000 bbbb	
	00 42	0000 cccc	
	00 43	0000 dddd	Step 11 KitNum (-1 - 199) END(*), 1 - 200
#	00 44	0000 aaaa	
	00 45	0000 bbbb	
	00 46	0000 cccc	
	00 47	0000 dddd	Step 12 KitNum (-1 - 199) END(*), 1 - 200
#	00 48	0000 aaaa	
	00 49	0000 bbbb	
	00 4A	0000 cccc	
	00 4B	0000 dddd	Step 13 KitNum (-1 - 199) END(*), 1 - 200
#	00 4C	0000 aaaa	
	00 4D	0000 bbbb	
	00 4E	0000 cccc	
	00 4F	0000 dddd	Step 14 KitNum (-1 - 199) END(*), 1 - 200
#	00 50	0000 aaaa	
	00 51	0000 bbbb	
	00 52	0000 cccc	
	00 53	0000 dddd	Step 15 KitNum (-1 - 199) END(*), 1 - 200
#	00 54	0000 aaaa	
	00 55	0000 bbbb	
	00 56	0000 cccc	
	00 57	0000 dddd	Step 16 KitNum (-1 - 199) END(*), 1 - 200
	00 00 00 58	Total Size	

(*) The last step of each set list (shown as END on the actual unit) has a value of "-1."

* [KitCommon]
Some characters are not displayed for Kit Name.

Offset Address	Description

00 00	0aaa aaaa	Kit Name 1	(0 - 127) 0 - 127 [ASCII]
00 01	0aaa aaaa	Kit Name 2	(0 - 127) 0 - 127 [ASCII]
00 02	0aaa aaaa	Kit Name 3	(0 - 127) 0 - 127 [ASCII]
00 03	0aaa aaaa	Kit Name 4	(0 - 127) 0 - 127 [ASCII]
00 04	0aaa aaaa	Kit Name 5	(0 - 127) 0 - 127 [ASCII]
00 05	0aaa aaaa	Kit Name 6	(0 - 127) 0 - 127 [ASCII]
00 06	0aaa aaaa	Kit Name 7	(0 - 127) 0 - 127 [ASCII]
00 07	0aaa aaaa	Kit Name 8	(0 - 127) 0 - 127 [ASCII]
00 08	0aaa aaaa	Kit Name 9	(0 - 127) 0 - 127 [ASCII]
00 09	0aaa aaaa	Kit Name 10	(0 - 127) 0 - 127 [ASCII]
00 0A	0aaa aaaa	Kit Name 11	(0 - 127) 0 - 127 [ASCII]
00 0B	0aaa aaaa	Kit Name 12	(0 - 127) 0 - 127 [ASCII]
00 0C	0aaa aaaa	KitVolume	(0 - 127) 0 - 127
00 0D	0aaa aaaa	PedalHHVol	(0 - 127) 0 - 127
00 0E	0000 000a	(reserve)	
00 0F	0000 aaaa		
00 10	0000 bbbb		
00 11	0000 cccc		
00 12	0000 dddd	KitTempo	(20 - 260) 20 - 260
00 00 00 13	Total Size		

* [KitMidi]

Offset Address		Description	
00 00	0000 aaaa		
00 01	0000 bbbb		
00 02	0000 cccc		
00 03	0000 dddd	Note PAD1	(0 - 128) 0 - 127, OFF
00 04	0000 aaaa		
00 05	0000 bbbb		
00 06	0000 cccc		
00 07	0000 dddd	Note PAD2	(0 - 128) 0 - 127, OFF
00 08	0000 aaaa		
00 09	0000 bbbb		
00 0A	0000 cccc		
00 0B	0000 dddd	Note PAD3	(0 - 128) 0 - 127, OFF
00 0C	0000 aaaa		
00 0D	0000 bbbb		
00 0E	0000 cccc		
00 0F	0000 dddd	Note PAD4	(0 - 128) 0 - 127, OFF
00 10	0000 aaaa		
00 11	0000 bbbb		
00 12	0000 cccc		
00 13	0000 dddd	Note PAD5	(0 - 128) 0 - 127, OFF
00 14	0000 aaaa		
00 15	0000 bbbb		
00 16	0000 cccc		
00 17	0000 dddd	Note PAD6	(0 - 128) 0 - 127, OFF
00 18	0000 aaaa		
00 19	0000 bbbb		
00 1A	0000 cccc		
00 1B	0000 dddd	Note PAD7	(0 - 128) 0 - 127, OFF
00 1C	0000 aaaa		
00 1D	0000 bbbb		
00 1E	0000 cccc		
00 1F	0000 dddd	Note PAD8	(0 - 128) 0 - 127, OFF
00 20	0000 aaaa		
00 21	0000 bbbb		
00 22	0000 cccc		
00 23	0000 dddd	Note EXT1 (HEAD)	(0 - 128) 0 - 127, OFF
00 24	0000 aaaa		
00 25	0000 bbbb		
00 26	0000 cccc		
00 27	0000 dddd	Note EXT1 (RIM)	(0 - 128) 0 - 127, OFF
00 28	0000 aaaa		
00 29	0000 bbbb		
00 2A	0000 cccc		
00 2B	0000 dddd	Note EXT2 (HEAD)	(0 - 128) 0 - 127, OFF
00 2C	0000 aaaa		
00 2D	0000 bbbb		
00 2E	0000 cccc		
00 2F	0000 dddd	Note EXT2 (RIM)	(0 - 128) 0 - 127, OFF
00 30	0000 aaaa		
00 31	0000 bbbb		
00 32	0000 cccc		
00 33	0000 dddd	Note EXT3 (HEAD)	(0 - 128) 0 - 127, OFF
00 34	0000 aaaa		
00 35	0000 bbbb		
00 36	0000 cccc		
00 37	0000 dddd	Note EXT3 (RIM)	(0 - 128) 0 - 127, OFF
00 38	0000 aaaa		

	00 39	0000 bbbb		
	00 3A	0000 cccc		
	00 3B	0000 dddd	Note EXT4 (HEAD)	(0 - 128) 0 - 127, OFF
#	00 3C	0000 aaaa		
	00 3D	0000 bbbb		
	00 3E	0000 cccc		
	00 3F	0000 dddd	Note EXT4 (RIM)	(0 - 128) 0 - 127, OFF
#	00 40	0000 aaaa		
	00 41	0000 bbbb		
	00 42	0000 cccc		
	00 43	0000 dddd	Note HClose	(0 - 128) 0 - 127, OFF
#	00 44	0000 aaaa		
	00 45	0000 bbbb		
	00 46	0000 cccc		
	00 47	0000 dddd	(reserve)	
#	00 48	0000 aaaa		
	00 49	0000 bbbb		
	00 4A	0000 cccc		
	00 4B	0000 dddd	Note HPedal	(0 - 128) 0 - 127, OFF
	00 4C	0aaa aaaa	GateTime PAD1	(1 - 80) 0.1 - 8.0 [s]
	00 4D	0aaa aaaa	GateTime PAD2	(1 - 80) 0.1 - 8.0 [s]
	00 4E	0aaa aaaa	GateTime PAD3	(1 - 80) 0.1 - 8.0 [s]
	00 4F	0aaa aaaa	GateTime PAD4	(1 - 80) 0.1 - 8.0 [s]
	00 50	0aaa aaaa	GateTime PAD5	(1 - 80) 0.1 - 8.0 [s]
	00 51	0aaa aaaa	GateTime PAD6	(1 - 80) 0.1 - 8.0 [s]
	00 52	0aaa aaaa	GateTime PAD7	(1 - 80) 0.1 - 8.0 [s]
	00 53	0aaa aaaa	GateTime PAD8	(1 - 80) 0.1 - 8.0 [s]
	00 54	0aaa aaaa	GateTime EXT1 (HEAD)	(1 - 80) 0.1 - 8.0 [s]
	00 55	0aaa aaaa	GateTime EXT1 (RIM)	(1 - 80) 0.1 - 8.0 [s]
	00 56	0aaa aaaa	GateTime EXT2 (HEAD)	(1 - 80) 0.1 - 8.0 [s]
	00 57	0aaa aaaa	GateTime EXT2 (RIM)	(1 - 80) 0.1 - 8.0 [s]
	00 58	0aaa aaaa	GateTime EXT3 (HEAD)	(1 - 80) 0.1 - 8.0 [s]
	00 59	0aaa aaaa	GateTime EXT3 (RIM)	(1 - 80) 0.1 - 8.0 [s]
	00 5A	0aaa aaaa	GateTime EXT4 (HEAD)	(1 - 80) 0.1 - 8.0 [s]
	00 5B	0aaa aaaa	GateTime EXT4 (RIM)	(1 - 80) 0.1 - 8.0 [s]
	00 5C	000a aaaa	Channel PAD1	(0 - 16) 1 - 16, GLOBAL [ch]
	00 5D	000a aaaa	Channel PAD2	(0 - 16) 1 - 16, GLOBAL [ch]
	00 5E	000a aaaa	Channel PAD3	(0 - 16) 1 - 16, GLOBAL [ch]
	00 5F	000a aaaa	Channel PAD4	(0 - 16) 1 - 16, GLOBAL [ch]
	00 60	000a aaaa	Channel PAD5	(0 - 16) 1 - 16, GLOBAL [ch]
	00 61	000a aaaa	Channel PAD6	(0 - 16) 1 - 16, GLOBAL [ch]
	00 62	000a aaaa	Channel PAD7	(0 - 16) 1 - 16, GLOBAL [ch]
	00 63	000a aaaa	Channel PAD8	(0 - 16) 1 - 16, GLOBAL [ch]
	00 64	000a aaaa	Channel EXT1 (HEAD)	(0 - 16) 1 - 16, GLOBAL [ch]
	00 65	000a aaaa	Channel EXT1 (RIM)	(0 - 16) 1 - 16, GLOBAL [ch]
	00 66	000a aaaa	Channel EXT2 (HEAD)	(0 - 16) 1 - 16, GLOBAL [ch]
	00 67	000a aaaa	Channel EXT2 (RIM)	(0 - 16) 1 - 16, GLOBAL [ch]
	00 68	000a aaaa	Channel EXT3 (HEAD)	(0 - 16) 1 - 16, GLOBAL [ch]
	00 69	000a aaaa	Channel EXT3 (RIM)	(0 - 16) 1 - 16, GLOBAL [ch]
	00 6A	000a aaaa	Channel EXT4 (HEAD)	(0 - 16) 1 - 16, GLOBAL [ch]
	00 6B	000a aaaa	Channel EXT4 (RIM)	(0 - 16) 1 - 16, GLOBAL [ch]
00 00 00 6C	Total Size			

* [KitMasterComp]

Offset Address		Description	
00 00	0000 000a	ON/OFF	(0 - 1) OFF, ON
00 01	0000 00aa	Type	(0 - 2) SOFT, HARD, LIMITER
# 00 02	0000 aaaa		
00 03	0000 bbbb		
00 04	0000 cccc		
00 05	0000 dddd	(reserve)	
# 00 06	0000 aaaa		
00 07	0000 bbbb	(reserve)	
# 00 08	0000 aaaa		
00 09	0000 bbbb	Gain	(-48 - 48) -24.0 - +24.0 [dB]
# 00 0A	0000 aaaa		
00 0B	0000 bbbb	(reserve)	
# 00 0C	0000 aaaa		
00 0D	0000 bbbb	Thre	(-48 - 0) -48 - 0 [dB]
00 0E	0000 0aaa	(reserve)	
00 0F	0000 0aaa	Ratio	(0 - 7)

			1:1, 2:1, 3:1, 4:1, 8:1, 16:1, 32:1, 100:1
	00 10	0000 00aa	(reserve)
	00 11	0000 00aa	Knee (0 - 3) HARD, SOFT1, SOFT2, SOFT3
	00 12	0aaa aaaa	(reserve)
	00 13	0aaa aaaa	Attack (0 - 100) 0.1 - 100 [ms]
	00 14	0aaa aaaa	(reserve)
	00 15	0aaa aaaa	Release (0 - 99) 10 - 1000 [ms]
00 00 00 16			Total Size

* [KitMasterEQ]

Offset Address		Description
00 00	0000 000a	ON/OFF (0 - 1) OFF, ON
00 01	0000 000a	(reserve)
00 02	000a aaaa	LoFrq (0 - 17) 20Hz, 25Hz, 31.5Hz, 40Hz, 50Hz, 63Hz, 80Hz, 100Hz, 125Hz, 160Hz, 200Hz, 250Hz, 315Hz, 400Hz, 500Hz, 630Hz, 800Hz, 1kHz
00 03	0000 0aaa	(reserve)
# 00 04	0000 aaaa	
00 05	0000 bbbb	LoGain (-12 - 12) -12 - +12 [dB]
00 06	000a aaaa	MidFrq (0 - 29) 20Hz, 25Hz, 31.5Hz, 40Hz, 50Hz, 63Hz, 80Hz, 100Hz, 125Hz, 160Hz, 200Hz, 250Hz, 315Hz, 400Hz, 500Hz, 630Hz, 800Hz, 1kHz, 1.25kHz, 1.6kHz, 2kHz, 2.5kHz, 3.15kHz, 4kHz, 5kHz, 6.3kHz, 8kHz, 10kHz, 12.5kHz, 16kHz
00 07	0000 0aaa	Mid Q (0 - 4) 0.5, 1.0, 2.0, 4.0 8.0
# 00 08	0000 aaaa	
00 09	0000 bbbb	MidGain (-12 - 12) -12 - +12 [dB]
00 0A	000a aaaa	(reserve)
00 0B	0000 0aaa	(reserve)
# 00 0C	0000 aaaa	
00 0D	0000 bbbb	(reserve)
00 0E	0000 000a	(reserve)
00 0F	0000 aaaa	HiFrq (0 - 12) 1kHz, 1.25kHz, 1.6kHz, 2kHz, 2.5kHz, 3.15kHz, 4kHz, 5kHz, 6.3kHz, 8kHz, 10kHz, 12.5kHz, 16kHz
00 10	0000 0aaa	(reserve)
# 00 11	0000 aaaa	
00 12	0000 bbbb	HiGain (-12 - 12) -12 - +12 [dB]
00 00 00 13		Total Size

* [KitMfx]

Offset Address		Description
00 00	00aa aaaa	Type (0 - 37) DELAY, TIM C DLY, TAPE ECHO, REV DELAY, 2TAP DLY, 3TAP DLY, OD->DELAY, DS->DELAY, CHORUS, SPACE-D, SDD-320, OD->CHO, DS->CHO, PHASER A, PHASER B, STEP PH, FLANGER, SBF-325, REVERB, LONG REV, SP FILTER, FLT+DRIVE, AUTO WAH, OD/DS->TW, LOFI COMP, DIST, OVERDRIVE, SATURATOR, T-SCREAM, BIT CRUSH, SP SIM, G AMP SIM, LOW BOOST, ENHANCER, ISOLATOR, RINGMOD, PITCH SFT, AUTO PAN
00 01	0000 000a	Switch (0 - 1) OFF, ON
00 02	0aaa aaaa	(reserve)
00 03	0aaa aaaa	AmbSend (0 - 127) 0 - 127
# 00 04	0000 aaaa	
00 05	0000 bbbb	
00 06	0000 cccc	
00 07	0000 dddd	MFX Parameter 1 (*)
# 00 08	0000 aaaa	
00 09	0000 bbbb	
00 0A	0000 cccc	
00 0B	0000 dddd	MFX Parameter 2 (*)
# 00 0C	0000 aaaa	
00 0D	0000 bbbb	
00 0E	0000 cccc	
00 0F	0000 dddd	MFX Parameter 3 (*)
# 00 10	0000 aaaa	
00 11	0000 bbbb	
00 12	0000 cccc	
00 13	0000 dddd	MFX Parameter 4 (*)
# 00 14	0000 aaaa	
00 15	0000 bbbb	
00 16	0000 cccc	
00 17	0000 dddd	MFX Parameter 5 (*)
# 00 18	0000 aaaa	
00 19	0000 bbbb	
00 1A	0000 cccc	
00 1B	0000 dddd	MFX Parameter 6 (*)
# 00 1C	0000 aaaa	
00 1D	0000 bbbb	
00 1E	0000 cccc	
00 1F	0000 dddd	MFX Parameter 7 (*)
# 00 20	0000 aaaa	
00 21	0000 bbbb	
00 22	0000 cccc	
00 23	0000 dddd	MFX Parameter 8 (*)
# 00 24	0000 aaaa	
00 25	0000 bbbb	
00 26	0000 cccc	
00 27	0000 dddd	MFX Parameter 9 (*)
# 00 28	0000 aaaa	

	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	MFX Parameter 10	(*)
#	00 2C	0000 aaaa		
	00 2D	0000 bbbb		
	00 2E	0000 cccc		
	00 2F	0000 dddd	MFX Parameter 11	(*)
#	00 30	0000 aaaa		
	00 31	0000 bbbb		
	00 32	0000 cccc		
	00 33	0000 dddd	MFX Parameter 12	(*)
#	00 34	0000 aaaa		
	00 35	0000 bbbb		
	00 36	0000 cccc		
	00 37	0000 dddd	MFX Parameter 13	(*)
#	00 38	0000 aaaa		
	00 39	0000 bbbb		
	00 3A	0000 cccc		
	00 3B	0000 dddd	MFX Parameter 14	(*)
#	00 3C	0000 aaaa		
	00 3D	0000 bbbb		
	00 3E	0000 cccc		
	00 3F	0000 dddd	MFX Parameter 15	(*)
#	00 40	0000 aaaa		
	00 41	0000 bbbb		
	00 42	0000 cccc		
	00 43	0000 dddd	MFX Parameter 16	(*)
#	00 44	0000 aaaa		
	00 45	0000 bbbb		
	00 46	0000 cccc		
	00 47	0000 dddd	MFX Parameter 17	(*)
#	00 48	0000 aaaa		
	00 49	0000 bbbb		
	00 4A	0000 cccc		
	00 4B	0000 dddd	MFX Parameter 18	(*)
#	00 4C	0000 aaaa		
	00 4D	0000 bbbb		
	00 4E	0000 cccc		
	00 4F	0000 dddd	MFX Parameter 19	(*)
#	00 50	0000 aaaa		
	00 51	0000 bbbb		
	00 52	0000 cccc		
	00 53	0000 dddd	MFX Parameter 20	(*)
#	00 54	0000 aaaa		
	00 55	0000 bbbb		
	00 56	0000 cccc		
	00 57	0000 dddd	MFX Parameter 21	(*)
#	00 58	0000 aaaa		
	00 59	0000 bbbb		
	00 5A	0000 cccc		
	00 5B	0000 dddd	MFX Parameter 22	(*)
#	00 5C	0000 aaaa		
	00 5D	0000 bbbb		
	00 5E	0000 cccc		
	00 5F	0000 dddd	MFX Parameter 23	(*)
#	00 60	0000 aaaa		
	00 61	0000 bbbb		
	00 62	0000 cccc		
	00 63	0000 dddd	MFX Parameter 24	(*)
#	00 64	0000 aaaa		
	00 65	0000 bbbb		
	00 66	0000 cccc		
	00 67	0000 dddd	MFX Parameter 25	(*)
#	00 68	0000 aaaa		
	00 69	0000 bbbb		
	00 6A	0000 cccc		
	00 6B	0000 dddd	MFX Parameter 26	(*)
#	00 6C	0000 aaaa		
	00 6D	0000 bbbb		
	00 6E	0000 cccc		
	00 6F	0000 dddd	MFX Parameter 27	(*)
#	00 70	0000 aaaa		
	00 71	0000 bbbb		
	00 72	0000 cccc		
	00 73	0000 dddd	MFX Parameter 28	(*)
#	00 74	0000 aaaa		
	00 75	0000 bbbb		
	00 76	0000 cccc		
	00 77	0000 dddd	MFX Parameter 29	(*)
#	00 78	0000 aaaa		
	00 79	0000 bbbb		
	00 7A	0000 cccc		
	00 7B	0000 dddd	MFX Parameter 30	(*)
#	00 7C	0000 aaaa		
	00 7D	0000 bbbb		
	00 7E	0000 cccc		
	00 7F	0000 dddd	MFX Parameter 31	(*)
#	01 00	0000 aaaa		
	01 01	0000 bbbb		
	01 02	0000 cccc		
	01 03	0000 dddd	MFX Parameter 32	(*)
	00 00 01 04	Total Size		

(*) This area is assigned as follows according to the selected MFX Type. Addresses for which the MFX Type has no assignment are ignored.

MFX Type : DELAY

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Tempo Sync L	(0 - 1) OFF, ON
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Delay L Time (msec)	(1 - 1300) 1 - 1300 [msec]
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Delay L Time (note)	(0 - 21) MUSICAL-NOTES

Offset Address		Description	
# 00 10	0000 aaaa		
00 11	0000 bbbb		
00 12	0000 cccc		
00 13	0000 dddd	Tempo Sync R	(0 - 1) OFF, ON
# 00 14	0000 aaaa		
00 15	0000 bbbb		
00 16	0000 cccc		
00 17	0000 dddd	Delay R Time (msec)	(1 - 1300) 1 - 1300 [msec]
# 00 18	0000 aaaa		
00 19	0000 bbbb		
00 1A	0000 cccc		
00 1B	0000 dddd	Delay R Time (note)	(0 - 21) MUSICAL-NOTES
# 00 1C	0000 aaaa		
00 1D	0000 bbbb		
00 1E	0000 cccc		
00 1F	0000 dddd	Phase Left	(0 - 1) NORMAL, INVERSE
# 00 20	0000 aaaa		
00 21	0000 bbbb		
00 22	0000 cccc		
00 23	0000 dddd	Phase Right	(0 - 1) NORMAL, INVERSE
# 00 24	0000 aaaa		
00 25	0000 bbbb		
00 26	0000 cccc		
00 27	0000 dddd	Feedback Mode	(0 - 1) NORMAL, CROSS
# 00 28	0000 aaaa		
00 29	0000 bbbb		
00 2A	0000 cccc		
00 2B	0000 dddd	Feedback	(0 - 98) -98 - +98 [%]
# 00 2C	0000 aaaa		
00 2D	0000 bbbb		
00 2E	0000 cccc		
00 2F	0000 dddd	HF Damp	(0 - 17) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]
# 00 30	0000 aaaa		
00 31	0000 bbbb		
00 32	0000 cccc		
00 33	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
# 00 34	0000 aaaa		
00 35	0000 bbbb		
00 36	0000 cccc		
00 37	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
# 00 38	0000 aaaa		
00 39	0000 bbbb		
00 3A	0000 cccc		
00 3B	0000 dddd	dummy (ignored)	
# 00 3C	0000 aaaa		
00 3D	0000 bbbb		
00 3E	0000 cccc		
00 3F	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : TIME CTRL DELAY

Offset Address		Description	
# 00 04	0000 aaaa		
00 05	0000 bbbb		
00 06	0000 cccc		
00 07	0000 dddd	Tempo Sync	(0 - 1) OFF, ON
# 00 08	0000 aaaa		
00 09	0000 bbbb		
00 0A	0000 cccc		
00 0B	0000 dddd	Delay Time (msec)	(1 - 1300) 1 - 1300 [msec]
# 00 0C	0000 aaaa		
00 0D	0000 bbbb		
00 0E	0000 cccc		
00 0F	0000 dddd	Delay Time (note)	(0 - 21) MUSICAL-NOTES
# 00 10	0000 aaaa		
00 11	0000 bbbb		
00 12	0000 cccc		
00 13	0000 dddd	Acceleration	(0 - 15) 0 - 15
# 00 14	0000 aaaa		
00 15	0000 bbbb		
00 16	0000 cccc		
00 17	0000 dddd	Feedback	(0 - 98) -98 - +98 [%]
# 00 18	0000 aaaa		
00 19	0000 bbbb		
00 1A	0000 cccc		
00 1B	0000 dddd	HF Damp	(0 - 17) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS[Hz]
# 00 1C	0000 aaaa		
00 1D	0000 bbbb		
00 1E	0000 cccc		
00 1F	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
# 00 20	0000 aaaa		
00 21	0000 bbbb		
00 22	0000 cccc		
00 23	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
# 00 24	0000 aaaa		
00 25	0000 bbbb		
00 26	0000 cccc		
00 27	0000 dddd	dummy (ignored)	
# 00 28	0000 aaaa		
00 29	0000 bbbb		

	00 2A	0000 cccc		
	00 2B	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : TAPE ECHO

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Mode	(0 - 6) S, M, L, S+M, S+L, M+L, S+M+L
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Repeat Rate	(0 - 127) 0 - 127
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Intensity	(0 - 127) 0 - 127
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Bass	(0 - 30) -15 - +15 [dB]
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Treble	(0 - 30) -15 - +15 [dB]
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Head S Pan	(0 - 127) L64 - R63
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Head M Pan	(0 - 127) L64 - R63
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Head L Pan	(0 - 127) L64 - R63
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Tape Distortion	(0 - 5) 0 - 5
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	W/F Rate	(0 - 127) 0 - 127
#	00 2C	0000 aaaa		
	00 2D	0000 bbbb		
	00 2E	0000 cccc		
	00 2F	0000 dddd	W/F Depth	(0 - 127) 0 - 127
#	00 30	0000 aaaa		
	00 31	0000 bbbb		
	00 32	0000 cccc		
	00 33	0000 dddd	dummy (ignored)	
#	00 34	0000 aaaa		
	00 35	0000 bbbb		
	00 36	0000 cccc		
	00 37	0000 dddd	dummy (ignored)	
#	00 38	0000 aaaa		
	00 39	0000 bbbb		
	00 3A	0000 cccc		
	00 3B	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : REVERSE DELAY

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Threshold	(0 - 127) 0 - 127
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Tempo Sync Rev	(0 - 1) OFF, ON
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Rev Delay Time (msec)	(1 - 1300) 1 - 1300 [msec]
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Rev Delay Time (note)	(0 - 21) MUSICAL-NOTES
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Rev Delay Feedback	(0 - 98) -98 - +98 [%]
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Rev Delay HF Damp	(0 - 17) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150,

			4000, 5000, 6300, 8000, BYPASS [Hz]
#	00 1C	0000 aaaa	
	00 1D	0000 bbbb	
	00 1E	0000 cccc	
	00 1F	0000 dddd	Rev Delay Pan (0 - 127) L64 - R63
#	00 20	0000 aaaa	
	00 21	0000 bbbb	
	00 22	0000 cccc	
	00 23	0000 dddd	Rev Delay Level (0 - 127) 0 - 127
#	00 24	0000 aaaa	
	00 25	0000 bbbb	
	00 26	0000 cccc	
	00 27	0000 dddd	Tempo Sync Delay1 (0 - 1) OFF, ON
#	00 28	0000 aaaa	
	00 29	0000 bbbb	
	00 2A	0000 cccc	
	00 2B	0000 dddd	Delay1 Time (msec) (1 - 1300) 1 - 1300 [msec]
#	00 2C	0000 aaaa	
	00 2D	0000 bbbb	
	00 2E	0000 cccc	
	00 2F	0000 dddd	Delay1 Time (note) (0 - 21) MUSICAL-NOTES
#	00 30	0000 aaaa	
	00 31	0000 bbbb	
	00 32	0000 cccc	
	00 33	0000 dddd	Tempo Sync Delay2 (0 - 1) OFF, ON
#	00 34	0000 aaaa	
	00 35	0000 bbbb	
	00 36	0000 cccc	
	00 37	0000 dddd	Delay2 Time (msec) (1 - 1300) 1 - 1300 [msec]
#	00 38	0000 aaaa	
	00 39	0000 bbbb	
	00 3A	0000 cccc	
	00 3B	0000 dddd	Delay2 Time (note) (0 - 21) MUSICAL-NOTES
#	00 3C	0000 aaaa	
	00 3D	0000 bbbb	
	00 3E	0000 cccc	
	00 3F	0000 dddd	Tempo Sync Delay3 (0 - 1) OFF, ON
#	00 40	0000 aaaa	
	00 41	0000 bbbb	
	00 42	0000 cccc	
	00 43	0000 dddd	Delay3 Time (msec) (1 - 1300) 1 - 1300 [msec]
#	00 44	0000 aaaa	
	00 45	0000 bbbb	
	00 46	0000 cccc	
	00 47	0000 dddd	Delay3 Time (note) (0 - 21) MUSICAL-NOTES
#	00 48	0000 aaaa	
	00 49	0000 bbbb	
	00 4A	0000 cccc	
	00 4B	0000 dddd	Delay 3 Feedback (0 - 98) -98 - +98 [%]
#	00 4C	0000 aaaa	
	00 4D	0000 bbbb	
	00 4E	0000 cccc	
	00 4F	0000 dddd	Delay HF Damp (0 - 17) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]
#	00 50	0000 aaaa	
	00 51	0000 bbbb	
	00 52	0000 cccc	
	00 53	0000 dddd	Delay 1 Pan (0 - 127) L64 - R63
#	00 54	0000 aaaa	
	00 55	0000 bbbb	
	00 56	0000 cccc	
	00 57	0000 dddd	Delay 2 Pan (0 - 127) L64 - R63
#	00 58	0000 aaaa	
	00 59	0000 bbbb	
	00 5A	0000 cccc	
	00 5B	0000 dddd	Delay 1 Level (0 - 127) 0 - 127
#	00 5C	0000 aaaa	
	00 5D	0000 bbbb	
	00 5E	0000 cccc	
	00 5F	0000 dddd	Delay 2 Level (0 - 127) 0 - 127
#	00 60	0000 aaaa	
	00 61	0000 bbbb	
	00 62	0000 cccc	
	00 63	0000 dddd	Low Gain (0 - 30) -15 - +15 [dB]
#	00 64	0000 aaaa	
	00 65	0000 bbbb	
	00 66	0000 cccc	
	00 67	0000 dddd	High Gain (0 - 30) -15 - +15 [dB]
#	00 68	0000 aaaa	
	00 69	0000 bbbb	
	00 6A	0000 cccc	
	00 6B	0000 dddd	dummy (ignored)
#	00 6C	0000 aaaa	
	00 6D	0000 bbbb	
	00 6E	0000 cccc	
	00 6F	0000 dddd	Level (0 - 127) 0 - 127

MFX Type : 2TAP PAN DELAY

Offset Address		Description
#	00 04	0000 aaaa	
	00 05	0000 bbbb	

	Offset Address		Description	
	00 06	0000 cccc		
	00 07	0000 dddd	Tempo Sync	(0 - 1) OFF, ON
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Delay Time (msec)	(1 - 2600) 1 - 2600 [msec]
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Delay Time (note)	(0 - 21) MUSICAL-NOTES
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Delay Feedback	(0 - 98) -98 - +98 [%]
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Delay HF Damp	(0 - 17) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS[Hz]
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Delay 1 Pan	(0 - 127) L64 - R63
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Delay 2 Pan	(0 - 127) L64 - R63
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Delay 1 Level	(0 - 127) 0 - 127
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Delay 2 Level	(0 - 127) 0 - 127
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 2C	0000 aaaa		
	00 2D	0000 bbbb		
	00 2E	0000 cccc		
	00 2F	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 30	0000 aaaa		
	00 31	0000 bbbb		
	00 32	0000 cccc		
	00 33	0000 dddd	dummy (ignored)	
#	00 34	0000 aaaa		
	00 35	0000 bbbb		
	00 36	0000 cccc		
	00 37	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : 3TAP PAN DELAY

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Tempo Sync L	(0 - 1) OFF, ON
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Delay L Time (msec)	(1 - 2600) 1 - 2600 [msec]
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Delay L Time (note)	(0 - 21) MUSICAL-NOTES
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Tempo Sync R	(0 - 1) OFF, ON
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Delay R Time (msec)	(1 - 2600) 1 - 2600 [msec]
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Delay R Time (note)	(0 - 21) MUSICAL-NOTES
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Tempo Sync Center	(0 - 1) OFF, ON
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Delay Ctr Time (msec)	(1 - 2600) 1 - 2600 [msec]
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Delay Ctr Time (note)	(0 - 21) MUSICAL-NOTES

	Offset Address		Description	
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	Center Feedback	(0 - 98) -98 - +98 [%]
#	00 2C	0000 aaaa		
	00 2D	0000 bbbb		
	00 2E	0000 cccc		
	00 2F	0000 dddd	HF Damp	(0 - 17) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]
#	00 30	0000 aaaa		
	00 31	0000 bbbb		
	00 32	0000 cccc		
	00 33	0000 dddd	Left Level	(0 - 127) 0 - 127
#	00 34	0000 aaaa		
	00 35	0000 bbbb		
	00 36	0000 cccc		
	00 37	0000 dddd	Right Level	(0 - 127) 0 - 127
#	00 38	0000 aaaa		
	00 39	0000 bbbb		
	00 3A	0000 cccc		
	00 3B	0000 dddd	Center Level	(0 - 127) 0 - 127
#	00 3C	0000 aaaa		
	00 3D	0000 bbbb		
	00 3E	0000 cccc		
	00 3F	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 40	0000 aaaa		
	00 41	0000 bbbb		
	00 42	0000 cccc		
	00 43	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 44	0000 aaaa		
	00 45	0000 bbbb		
	00 46	0000 cccc		
	00 47	0000 dddd	dummy (ignored)	
#	00 48	0000 aaaa		
	00 49	0000 bbbb		
	00 4A	0000 cccc		
	00 4B	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : OD -> DELAY

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Overdrive Drive	(0 - 127) 0 - 127
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Overdrive Pan	(0 - 127) L64 - R63
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Tempo Sync	(0 - 1) OFF, ON
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Delay Time (msec)	(1 - 2600) 1 - 2600 [msec]
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Delay Time (note)	(0 - 21) MUSICAL-NOTES
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Delay Feedback	(0 - 98) -98 - +98 [%]
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Delay HF Damp	(0 - 17) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Delay Balance	(0 - 100) D100:0W - D0:100W
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : DS -> DELAY

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Distortion Drive	(0 - 127) 0 - 127
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Distortion Pan	(0 - 127)

			L64 - R63
#	00 0C	0000 aaaa	
	00 0D	0000 bbbb	
	00 0E	0000 cccc	
	00 0F	0000 dddd	Tempo Sync (0 - 1) OFF, ON
#	00 10	0000 aaaa	
	00 11	0000 bbbb	
	00 12	0000 cccc	
	00 13	0000 dddd	Delay Time (msec) (1 - 2600) 1 - 2600 [msec]
#	00 14	0000 aaaa	
	00 15	0000 bbbb	
	00 16	0000 cccc	
	00 17	0000 dddd	Delay Time (note) (0 - 21) MUSICAL-NOTES
#	00 18	0000 aaaa	
	00 19	0000 bbbb	
	00 1A	0000 cccc	
	00 1B	0000 dddd	Delay Feedback (0 - 98) -98 - +98 [%]
#	00 1C	0000 aaaa	
	00 1D	0000 bbbb	
	00 1E	0000 cccc	
	00 1F	0000 dddd	Delay HF Damp (0 - 17) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]
#	00 20	0000 aaaa	
	00 21	0000 bbbb	
	00 22	0000 cccc	
	00 23	0000 dddd	Delay Balance (0 - 100) D100:OW - D0:100W
#	00 24	0000 aaaa	
	00 25	0000 bbbb	
	00 26	0000 cccc	
	00 27	0000 dddd	Level (0 - 127) 0 - 127

MFX Type : CHORUS

Offset Address		Description
#	00 04	0000 aaaa	
	00 05	0000 bbbb	
	00 06	0000 cccc	
	00 07	0000 dddd	Filter Type (0 - 2) OFF, LPF, HPF
#	00 08	0000 aaaa	
	00 09	0000 bbbb	
	00 0A	0000 cccc	
	00 0B	0000 dddd	Cutoff Freq (0 - 16) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
#	00 0C	0000 aaaa	
	00 0D	0000 bbbb	
	00 0E	0000 cccc	
	00 0F	0000 dddd	Pre Delay (0 - 125) 0.0 - 100 [msec]
#	00 10	0000 aaaa	
	00 11	0000 bbbb	
	00 12	0000 cccc	
	00 13	0000 dddd	Tempo Sync (0 - 1) OFF, ON
#	00 14	0000 aaaa	
	00 15	0000 bbbb	
	00 16	0000 cccc	
	00 17	0000 dddd	Rate (Hz) (1 - 200) 0.05 - 10.00 [Hz]
#	00 18	0000 aaaa	
	00 19	0000 bbbb	
	00 1A	0000 cccc	
	00 1B	0000 dddd	Rate (note) (0 - 21) MUSICAL-NOTES
#	00 1C	0000 aaaa	
	00 1D	0000 bbbb	
	00 1E	0000 cccc	
	00 1F	0000 dddd	Depth (0 - 127) 0 - 127
#	00 20	0000 aaaa	
	00 21	0000 bbbb	
	00 22	0000 cccc	
	00 23	0000 dddd	Phase (0 - 90) 0 - 180 [deg]
#	00 24	0000 aaaa	
	00 25	0000 bbbb	
	00 26	0000 cccc	
	00 27	0000 dddd	Low Gain (0 - 30) -15 - +15 [dB]
#	00 28	0000 aaaa	
	00 29	0000 bbbb	
	00 2A	0000 cccc	
	00 2B	0000 dddd	High Gain (0 - 30) -15 - +15 [dB]
#	00 2C	0000 aaaa	
	00 2D	0000 bbbb	
	00 2E	0000 cccc	
	00 2F	0000 dddd	dummy (ignored)
#	00 30	0000 aaaa	
	00 31	0000 bbbb	
	00 32	0000 cccc	
	00 33	0000 dddd	Level (0 - 127) 0 - 127

MFX Type : SPACE-D

Offset Address		Description
#	00 04	0000 aaaa	
	00 05	0000 bbbb	
	00 06	0000 cccc	

	Offset Address		Description	
	00 07	0000 dddd	Pre Delay	(0 - 125) 0.0 - 100 [msec]
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Tempo Sync	(0 - 1) OFF, ON
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Rate (Hz)	(1 - 200) 0.05 - 10.00 [Hz]
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Rate (note)	(0 - 21) MUSICAL-NOTES
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Depth	(0 - 127) 0 - 127
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Phase	(0 - 90) 0 - 180 [deg]
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	dummy (ignored)	
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : SDD-320

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Mode	(0 - 6) 1, 2, 3, 4, 1+4, 2+4, 3+4
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : OD -> CHORUS

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Overdrive Drive	(0 - 127) 0 - 127
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Overdrive Pan	(0 - 127) L64 - R63
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Pre Delay	(0 - 125) 0.0 - 100 [msec]
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Tempo Sync	(0 - 1) OFF, ON
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Rate (Hz)	(1 - 200) 0.05 - 10.00 [Hz]
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Rate (note)	(0 - 21) MUSICAL-NOTES
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Chorus Depth	(0 - 127) 0 - 127
#	00 20	0000 aaaa		

	Offset Address		Description	
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Chorus Balance	(0 - 100) D100:0W - D0:100W
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : DS -> CHORUS

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Distortion Drive	(0 - 127) 0 - 127
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Distortion Pan	(0 - 127) L64 - R63
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Pre Delay	(0 - 125) 0.0 - 100 [msec]
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Tempo Sync	(0 - 1) OFF, ON
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Rate (Hz)	(1 - 200) 0.05 - 10.00 [Hz]
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Rate (note)	(0 - 21) MUSICAL-NOTES
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Chorus Depth	(0 - 127) 0 - 127
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Chorus Balance	(0 - 100) D100:0W - D0:100W
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : PHASER A

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Mode	(0 - 2) 4-STAGE, 8-STAGE, 12-STAGE
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Manual	(0 - 127) 0 - 127
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Tempo Sync	(0 - 1) OFF, ON
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Rate (Hz)	(1 - 200) 0.05 - 10.00 [Hz]
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Rate (note)	(0 - 21) MUSICAL-NOTES
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Depth	(0 - 127) 0 - 127
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Polarity	(0 - 1) INVERSE, SYNCHRO
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Resonance	(0 - 127) 0 - 127
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Cross Feedback	(0 - 98) -98 - +98 [%]
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		

	Offset Address		Description	
	00 2B	0000 dddd	dummy (ignored)	
#	00 2C	0000 aaaa		
	00 2D	0000 bbbb		
	00 2E	0000 cccc		
	00 2F	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 30	0000 aaaa		
	00 31	0000 bbbb		
	00 32	0000 cccc		
	00 33	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 34	0000 aaaa		
	00 35	0000 bbbb		
	00 36	0000 cccc		
	00 37	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : PHASER B

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Speed	(0 - 100) 0 - 100
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Depth	(0 - 127) 0 - 127
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : STEP PHASER

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Mode	(0 - 2) 4-STAGE, 8-STAGE, 12-STAGE
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Manual	(0 - 127) 0 - 127
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Tempo Sync (Rate)	(0 - 1) OFF, ON
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Rate (Hz)	(1 - 200) 0.05 - 10.00 [Hz]
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Rate (note)	(0 - 21) MUSICAL-NOTES
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Depth	(0 - 127) 0 - 127
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Polarity	(0 - 1) INVERSE, SYNCHRO
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Resonance	(0 - 127) 0 - 127
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Cross Feedback	(0 - 98) -98 - +98 [%]
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	Tempo Sync (Step Rate)	(0 - 1) OFF, ON
#	00 2C	0000 aaaa		
	00 2D	0000 bbbb		
	00 2E	0000 cccc		
	00 2F	0000 dddd	Step Rate (Hz)	(1 - 200) 0.10 - 20.00 [Hz]
#	00 30	0000 aaaa		
	00 31	0000 bbbb		
	00 32	0000 cccc		
	00 33	0000 dddd	Step Rate (note)	(0 - 21) MUSICAL-NOTES
#	00 34	0000 aaaa		

	Offset Address		Description	
	00 35	0000 bbbb		
	00 36	0000 cccc		
	00 37	0000 dddd	dummy (ignored)	
#	00 38	0000 aaaa		
	00 39	0000 bbbb		
	00 3A	0000 cccc		
	00 3B	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 3C	0000 aaaa		
	00 3D	0000 bbbb		
	00 3E	0000 cccc		
	00 3F	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 40	0000 aaaa		
	00 41	0000 bbbb		
	00 42	0000 cccc		
	00 43	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : FLANGER

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Filter Type	(0 - 2) OFF, LPF, HPF
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Cutoff Freq	(0 - 16) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Pre Delay	(0 - 125) 0.0 - 100 [msec]
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Tempo Sync	(0 - 1) OFF, ON
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Rate (Hz)	(1 - 200) 0.05 - 10.00 [Hz]
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Rate (note)	(0 - 21) MUSICAL-NOTES
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Depth	(0 - 127) 0 - 127
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Phase	(0 - 90) 0 - 180 [deg]
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Feedback	(0 - 98) -98 - +98 [%]
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 2C	0000 aaaa		
	00 2D	0000 bbbb		
	00 2E	0000 cccc		
	00 2F	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 30	0000 aaaa		
	00 31	0000 bbbb		
	00 32	0000 cccc		
	00 33	0000 dddd	dummy (ignored)	
#	00 34	0000 aaaa		
	00 35	0000 bbbb		
	00 36	0000 cccc		
	00 37	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : SBF-325

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Mode	(0 - 3) FL1, FL2, FL3, CHO
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Rate (sync sw)	(0 - 1) OFF, ON
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Rate (Hz)	(0 - 111) 0.02 - 5.00[Hz]
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		

	Offset Address		Description	
	00 13	0000 dddd	Rate (note)	(0 - 21) MUSICAL-NOTES
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Depth	(0 - 127) 0 - 127
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Manual	(0 - 127) 0 - 127
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Feedback	(0 - 127) 0 - 127
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	CH-R Mod Phase	(0 - 1) NORM, INV
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	CH-L Phase	(0 - 1) NORM, INV
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	CH-R Phase	(0 - 1) NORM, INV
#	00 2C	0000 aaaa		
	00 2D	0000 bbbb		
	00 2E	0000 cccc		
	00 2F	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : REVERB

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Type	(0 - 5) ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Pre Delay	(0 - 125) 0.0 - 100 [msec]
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Time	(0 - 127) 0 - 127
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	HF Damp	(0 - 17) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	dummy (ignored)	
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : LONG REVERB

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Depth	(0 - 127) 0 - 127
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Time	(0 - 127) 0 - 127
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Pre LPF	(1 - 32) 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 15000, BYPASS [Hz]
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Pre HPF	(0 - 31) BYPASS, 16, 20, 25, 32, 40, 50, 63, 80,

			100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 15000 [Hz]
#	00 14	0000 aaaa	
	00 15	0000 bbbb	
	00 16	0000 cccc	
	00 17	0000 dddd	Peaking Freq (0 - 16) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
#	00 18	0000 aaaa	
	00 19	0000 bbbb	
	00 1A	0000 cccc	
	00 1B	0000 dddd	Peaking Gain (0 - 30) -15 - +15 [dB]
#	00 1C	0000 aaaa	
	00 1D	0000 bbbb	
	00 1E	0000 cccc	
	00 1F	0000 dddd	Peaking Q (0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
#	00 20	0000 aaaa	
	00 21	0000 bbbb	
	00 22	0000 cccc	
	00 23	0000 dddd	HF Damp (1 - 32) 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 15000, BYPASS [Hz]
#	00 24	0000 aaaa	
	00 25	0000 bbbb	
	00 26	0000 cccc	
	00 27	0000 dddd	LF Damp (0 - 31) BYPASS, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 15000 [Hz]
#	00 28	0000 aaaa	
	00 29	0000 bbbb	
	00 2A	0000 cccc	
	00 2B	0000 dddd	Character (0 - 5) 1 - 6
#	00 2C	0000 aaaa	
	00 2D	0000 bbbb	
	00 2E	0000 cccc	
	00 2F	0000 dddd	EQ Low Freq (0 - 1) 200, 400 [Hz]
#	00 30	0000 aaaa	
	00 31	0000 bbbb	
	00 32	0000 cccc	
	00 33	0000 dddd	EQ Low Gain (0 - 30) -15 - +15 [dB]
#	00 34	0000 aaaa	
	00 35	0000 bbbb	
	00 36	0000 cccc	
	00 37	0000 dddd	EQ High Freq (0 - 2) 2000, 4000, 8000 [Hz]
#	00 38	0000 aaaa	
	00 39	0000 bbbb	
	00 3A	0000 cccc	
	00 3B	0000 dddd	EQ High Gain (0 - 30) -15 - +15 [dB]
#	00 3C	0000 aaaa	
	00 3D	0000 bbbb	
	00 3E	0000 cccc	
	00 3F	0000 dddd	Level (0 - 127) 0 - 127

MFX Type : SUPER FILTER

Offset Address		Description
#	00 04	0000 aaaa	
	00 05	0000 bbbb	
	00 06	0000 cccc	
	00 07	0000 dddd	Filter Type (0 - 3) LPF, BPF, HPF, NOTCH
#	00 08	0000 aaaa	
	00 09	0000 bbbb	
	00 0A	0000 cccc	
	00 0B	0000 dddd	Filter Slope (0 - 2) -12, -24, -36 [dB]
#	00 0C	0000 aaaa	
	00 0D	0000 bbbb	
	00 0E	0000 cccc	
	00 0F	0000 dddd	Filter Cutoff (0 - 127) 0 - 127
#	00 10	0000 aaaa	
	00 11	0000 bbbb	
	00 12	0000 cccc	
	00 13	0000 dddd	Filter Resonance (0 - 127) 0 - 127
#	00 14	0000 aaaa	
	00 15	0000 bbbb	
	00 16	0000 cccc	
	00 17	0000 dddd	Filter Gain (0 - 12) 0 - +12[dB]
#	00 18	0000 aaaa	
	00 19	0000 bbbb	
	00 1A	0000 cccc	
	00 1B	0000 dddd	Modulation Sw (0 - 1) OFF, ON
#	00 1C	0000 aaaa	
	00 1D	0000 bbbb	
	00 1E	0000 cccc	
	00 1F	0000 dddd	Modulation Wave (0 - 4) TRI, SQR, SIN, SAW1, SAW2
#	00 20	0000 aaaa	
	00 21	0000 bbbb	
	00 22	0000 cccc	
	00 23	0000 dddd	Tempo Sync (0 - 1) OFF, ON

	Offset Address		Description	
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Rate (Hz)	(1 - 200) 0.05 - 10.00 [Hz]
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	Rate (note)	(0 - 21) MUSICAL-NOTES
#	00 2C	0000 aaaa		
	00 2D	0000 bbbb		
	00 2E	0000 cccc		
	00 2F	0000 dddd	Depth	(0 - 127) 0 - 127
#	00 30	0000 aaaa		
	00 31	0000 bbbb		
	00 32	0000 cccc		
	00 33	0000 dddd	Attack	(0 - 127) 0 - 127
#	00 34	0000 aaaa		
	00 35	0000 bbbb		
	00 36	0000 cccc		
	00 37	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : FILTER+DRIVE

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Cutoff	(0 - 127) 0 - 127
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Resonance	(0 - 127) 0 - 127
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Drive	(0 - 127) 0 - 127
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : AUTO WAH

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Filter Type	(0 - 1) LPF, BPF
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Manual	(0 - 127) 0 - 127
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Peak	(0 - 127) 0 - 127
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Sens	(0 - 127) 0 - 127
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Polarity	(0 - 1) UP, DOWN
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Tempo Sync	(0 - 1) OFF, ON
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Rate (Hz)	(1 - 200) 0.05 - 10.00 [Hz]
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Rate (note)	(0 - 21) MUSICAL-NOTES
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Depth	(0 - 127) 0 - 127
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	Phase	(0 - 90) 0 - 180 [deg]
#	00 2C	0000 aaaa		
	00 2D	0000 bbbb		
	00 2E	0000 cccc		
	00 2F	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 30	0000 aaaa		
	00 31	0000 bbbb		

	Offset Address		Description	
	00 32	0000 cccc		
	00 33	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 34	0000 aaaa		
	00 35	0000 bbbb		
	00 36	0000 cccc		
	00 37	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : OD/DS -> TWAH

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Drive Switch	(0 - 1) OFF, ON
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Drive Type	(0 - 1) OVERDRIVE, DISTORTION
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Drive	(0 - 127) 0 - 127
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Tone	(0 - 127) 0 - 127
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Amp Switch	(0 - 1) OFF, ON
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Amp Type	(0 - 3) SMALL, BUILT-IN, 2-STACK, 3-STACK
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Touch Wah Switch	(0 - 1) OFF, ON
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Touch Wah Mode	(0 - 1) LPF, BPF
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Touch Wah Polarity	(0 - 1) DOWN, UP
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	Touch Wah Sens	(0 - 127) 0 - 127
#	00 2C	0000 aaaa		
	00 2D	0000 bbbb		
	00 2E	0000 cccc		
	00 2F	0000 dddd	Touch Wah Manual	(0 - 127) 0 - 127
#	00 30	0000 aaaa		
	00 31	0000 bbbb		
	00 32	0000 cccc		
	00 33	0000 dddd	Touch Wah Peak	(0 - 127) 0 - 127
#	00 34	0000 aaaa		
	00 35	0000 bbbb		
	00 36	0000 cccc		
	00 37	0000 dddd	Touch Wah Balance	(0 - 100) D100:0W - D0:100W
#	00 38	0000 aaaa		
	00 39	0000 bbbb		
	00 3A	0000 cccc		
	00 3B	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 3C	0000 aaaa		
	00 3D	0000 bbbb		
	00 3E	0000 cccc		
	00 3F	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 40	0000 aaaa		
	00 41	0000 bbbb		
	00 42	0000 cccc		
	00 43	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : LOFI COMPRESS

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Pre Filter Type	(0 - 5) 1, 2, 3, 4, 5, 6
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	LoFi Type	(0 - 8) 1, 2, 3, 4, 5, 6, 7, 8, 9
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Post Filter Type	(0 - 2)

			OFF, LPF, HPF
#	00 10	0000 aaaa	
	00 11	0000 bbbb	
	00 12	0000 cccc	
	00 13	0000 dddd	Post Filter Cutoff (0 - 16) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
#	00 14	0000 aaaa	
	00 15	0000 bbbb	
	00 16	0000 cccc	
	00 17	0000 dddd	Low Gain (0 - 30) -15 - +15 [dB]
#	00 18	0000 aaaa	
	00 19	0000 bbbb	
	00 1A	0000 cccc	
	00 1B	0000 dddd	High Gain (0 - 30) -15 - +15 [dB]
#	00 1C	0000 aaaa	
	00 1D	0000 bbbb	
	00 1E	0000 cccc	
	00 1F	0000 dddd	dummy (ignored)
#	00 20	0000 aaaa	
	00 21	0000 bbbb	
	00 22	0000 cccc	
	00 23	0000 dddd	Level (0 - 127) 0 - 127

MFX Type : DISTORTION

Offset Address		Description
#	00 04	0000 aaaa	
	00 05	0000 bbbb	
	00 06	0000 cccc	
	00 07	0000 dddd	Drive (0 - 127) 0 - 127
#	00 08	0000 aaaa	
	00 09	0000 bbbb	
	00 0A	0000 cccc	
	00 0B	0000 dddd	Tone (0 - 127) 0 - 127
#	00 0C	0000 aaaa	
	00 0D	0000 bbbb	
	00 0E	0000 cccc	
	00 0F	0000 dddd	Amp Sw (0 - 1) OFF, ON
#	00 10	0000 aaaa	
	00 11	0000 bbbb	
	00 12	0000 cccc	
	00 13	0000 dddd	Amp Type (0 - 3) SMALL, BUILT-IN, 2-STACK, 3-STACK
#	00 14	0000 aaaa	
	00 15	0000 bbbb	
	00 16	0000 cccc	
	00 17	0000 dddd	Low Gain (0 - 30) -15 - +15 [dB]
#	00 18	0000 aaaa	
	00 19	0000 bbbb	
	00 1A	0000 cccc	
	00 1B	0000 dddd	High Gain (0 - 30) -15 - +15 [dB]
#	00 1C	0000 aaaa	
	00 1D	0000 bbbb	
	00 1E	0000 cccc	
	00 1F	0000 dddd	Pan (0 - 127) L64 - R63
#	00 20	0000 aaaa	
	00 21	0000 bbbb	
	00 22	0000 cccc	
	00 23	0000 dddd	Level (0 - 127) 0 - 127

MFX Type : OVERDRIVE

Offset Address		Description
#	00 04	0000 aaaa	
	00 05	0000 bbbb	
	00 06	0000 cccc	
	00 07	0000 dddd	Drive (0 - 127) 0 - 127
#	00 08	0000 aaaa	
	00 09	0000 bbbb	
	00 0A	0000 cccc	
	00 0B	0000 dddd	Tone (0 - 127) 0 - 127
#	00 0C	0000 aaaa	
	00 0D	0000 bbbb	
	00 0E	0000 cccc	
	00 0F	0000 dddd	Amp Sw (0 - 1) OFF, ON
#	00 10	0000 aaaa	
	00 11	0000 bbbb	
	00 12	0000 cccc	
	00 13	0000 dddd	Amp Type (0 - 3) SMALL, BUILT-IN, 2-STACK, 3-STACK
#	00 14	0000 aaaa	
	00 15	0000 bbbb	
	00 16	0000 cccc	
	00 17	0000 dddd	Low Gain (0 - 30) -15 - +15 [dB]
#	00 18	0000 aaaa	
	00 19	0000 bbbb	
	00 1A	0000 cccc	
	00 1B	0000 dddd	High Gain (0 - 30) -15 - +15 [dB]
#	00 1C	0000 aaaa	
	00 1D	0000 bbbb	
	00 1E	0000 cccc	
	00 1F	0000 dddd	Pan (0 - 127) L64 - R63

	Offset Address		Description	
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : SATURATOR

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Saturator Gain	(0 - 127) 0 - 127
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Saturator Drive	(0 - 127) 0 - 127
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Saturator Level	(0 - 127) 0 - 127
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Comp Depth	(0 - 127) 0 - 127
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Comp Level	(0 - 127) 0 - 127
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Hi Gain	(3 - 21) -12 - +6 [dB]
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : T-SCREAM

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Distortion	(0 - 127) 0 - 127
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Tone	(0 - 127) 0 - 127
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : BIT CRUSHER

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Sample Rate	(0 - 127) 0 - 127
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Bit Down	(0 - 18) 0 - 18
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Filter	(0 - 127) 0 - 127
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : SPEAKER SIMULATOR

	Offset Address		Description
#	00 04	0000 aaaa	
	00 05	0000 bbbb	
	00 06	0000 cccc	

	Offset Address		Description
	00 07	0000 dddd	SP Type (0 - 15) SMALL 1, SMALL 2, MIDDLE, JC-120, BUILT-IN 1, BUILT-IN 2, BUILT-IN 3, BUILT-IN 4, BUILT-IN 5, BG STACK 1, BG STACK 2, MS STACK 1, MS STACK 2, METAL STACK, 2-STACK, 3-STACK
#	00 08	0000 aaaa	
	00 09	0000 bbbb	
	00 0A	0000 cccc	
	00 0B	0000 dddd	Mic Setting (0 - 2) 1, 2, 3
#	00 0C	0000 aaaa	
	00 0D	0000 bbbb	
	00 0E	0000 cccc	
	00 0F	0000 dddd	Mic Level (0 - 127) 0 - 127
#	00 10	0000 aaaa	
	00 11	0000 bbbb	
	00 12	0000 cccc	
	00 13	0000 dddd	dummy (ignored)
#	00 14	0000 aaaa	
	00 15	0000 bbbb	
	00 16	0000 cccc	
	00 17	0000 dddd	Level (0 - 127) 0 - 127

MFX Type : GUITAR AMP SIM

	Offset Address		Description
#	00 04	0000 aaaa	
	00 05	0000 bbbb	
	00 06	0000 cccc	
	00 07	0000 dddd	Amp Sw (0 - 1) OFF, ON
#	00 08	0000 aaaa	
	00 09	0000 bbbb	
	00 0A	0000 cccc	
	00 0B	0000 dddd	Amp Type (0 - 13) JC-120, CLEAN TWIN, MATCH DRIVE, BG LEAD, MS1959I, MS1959II, MS1959I+II, SLDN LEAD, METAL 5150, METAL LEAD, OD-1, OD-2 TURBO, DISTORTION, FUZZ
#	00 0C	0000 aaaa	
	00 0D	0000 bbbb	
	00 0E	0000 cccc	
	00 0F	0000 dddd	Amp Volume (0 - 127) 0 - 127
#	00 10	0000 aaaa	
	00 11	0000 bbbb	
	00 12	0000 cccc	
	00 13	0000 dddd	Amp Master (0 - 127) 0 - 127
#	00 14	0000 aaaa	
	00 15	0000 bbbb	
	00 16	0000 cccc	
	00 17	0000 dddd	Amp Gain (0 - 2) LOW, MIDDLE, HIGH
#	00 18	0000 aaaa	
	00 19	0000 bbbb	
	00 1A	0000 cccc	
	00 1B	0000 dddd	Amp Bass (0 - 127) 0 - 127
#	00 1C	0000 aaaa	
	00 1D	0000 bbbb	
	00 1E	0000 cccc	
	00 1F	0000 dddd	Amp Middle (0 - 127) 0 - 127
#	00 20	0000 aaaa	
	00 21	0000 bbbb	
	00 22	0000 cccc	
	00 23	0000 dddd	Amp Treble (0 - 127) 0 - 127
#	00 24	0000 aaaa	
	00 25	0000 bbbb	
	00 26	0000 cccc	
	00 27	0000 dddd	Amp Presence (0 - 127) 0 - 127
#	00 28	0000 aaaa	
	00 29	0000 bbbb	
	00 2A	0000 cccc	
	00 2B	0000 dddd	Amp Bright (0 - 1) OFF, ON
#	00 2C	0000 aaaa	
	00 2D	0000 bbbb	
	00 2E	0000 cccc	
	00 2F	0000 dddd	Speaker Sw (0 - 1) OFF, ON
#	00 30	0000 aaaa	
	00 31	0000 bbbb	
	00 32	0000 cccc	
	00 33	0000 dddd	Spkr Type (0 - 15) SMALL 1, SMALL 2, MIDDLE, JC-120, BUILT-IN 1, BUILT-IN 2, BUILT-IN 3, BUILT-IN 4, BUILT-IN 5, BG STACK 1, BG STACK 2, MS STACK 1, MS STACK 2, METAL STACK, 2-STACK, 3-STACK
#	00 34	0000 aaaa	
	00 35	0000 bbbb	
	00 36	0000 cccc	
	00 37	0000 dddd	Mic Setting (0 - 2) 1, 2, 3
#	00 38	0000 aaaa	
	00 39	0000 bbbb	
	00 3A	0000 cccc	
	00 3B	0000 dddd	Mic Level (0 - 127) 0 - 127
#	00 3C	0000 aaaa	
	00 3D	0000 bbbb	
	00 3E	0000 cccc	
	00 3F	0000 dddd	dummy (ignored)
#	00 40	0000 aaaa	
	00 41	0000 bbbb	
	00 42	0000 cccc	
	00 43	0000 dddd	Pan (0 - 127) L64 - R63

Offset Address		Description	
# 00 44	0000 aaaa		
00 45	0000 bbbb		
00 46	0000 cccc		
00 47	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : LOW BOOST

Offset Address		Description	
# 00 04	0000 aaaa		
00 05	0000 bbbb		
00 06	0000 cccc		
00 07	0000 dddd	Boost Frequency 50, 56, 63, 71, 80, 90, 100, 112, 125[Hz]	(0 - 8)
# 00 08	0000 aaaa		
00 09	0000 bbbb		
00 0A	0000 cccc		
00 0B	0000 dddd	Boost Gain	(0 - 12) 0 - +12 [dB]
# 00 0C	0000 aaaa		
00 0D	0000 bbbb		
00 0E	0000 cccc		
00 0F	0000 dddd	Boost Width	(0 - 2) WIDE, MID, NARROW
# 00 10	0000 aaaa		
00 11	0000 bbbb		
00 12	0000 cccc		
00 13	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
# 00 14	0000 aaaa		
00 15	0000 bbbb		
00 16	0000 cccc		
00 17	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
# 00 18	0000 aaaa		
00 19	0000 bbbb		
00 1A	0000 cccc		
00 1B	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : ENHANCER

Offset Address		Description	
# 00 04	0000 aaaa		
00 05	0000 bbbb		
00 06	0000 cccc		
00 07	0000 dddd	Sens	(0 - 127) 0 - 127
# 00 08	0000 aaaa		
00 09	0000 bbbb		
00 0A	0000 cccc		
00 0B	0000 dddd	Mix	(0 - 127) 0 - 127
# 00 0C	0000 aaaa		
00 0D	0000 bbbb		
00 0E	0000 cccc		
00 0F	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
# 00 10	0000 aaaa		
00 11	0000 bbbb		
00 12	0000 cccc		
00 13	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
# 00 14	0000 aaaa		
00 15	0000 bbbb		
00 16	0000 cccc		
00 17	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : ISOLATOR

Offset Address		Description	
# 00 04	0000 aaaa		
00 05	0000 bbbb		
00 06	0000 cccc		
00 07	0000 dddd	Boost/Cut Low	(0 - 64) -60 - +4 [dB]
# 00 08	0000 aaaa		
00 09	0000 bbbb		
00 0A	0000 cccc		
00 0B	0000 dddd	Boost/Cut Mid	(0 - 64) -60 - +4 [dB]
# 00 0C	0000 aaaa		
00 0D	0000 bbbb		
00 0E	0000 cccc		
00 0F	0000 dddd	Boost/Cut High	(0 - 64) -60 - +4 [dB]
# 00 10	0000 aaaa		
00 11	0000 bbbb		
00 12	0000 cccc		
00 13	0000 dddd	Anti Phase Low Sw	(0 - 1) OFF, ON
# 00 14	0000 aaaa		
00 15	0000 bbbb		
00 16	0000 cccc		
00 17	0000 dddd	Anti Phase Low Level	(0 - 127) 0 - 127
# 00 18	0000 aaaa		
00 19	0000 bbbb		
00 1A	0000 cccc		
00 1B	0000 dddd	Anti Phase Mid Sw	(0 - 1) OFF, ON
# 00 1C	0000 aaaa		
00 1D	0000 bbbb		
00 1E	0000 cccc		
00 1F	0000 dddd	Anti Phase Mid Level	(0 - 127) 0 - 127

	Offset Address		Description	
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	Low Boost Sw	(0 - 1) OFF, ON
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	Low Boost Level	(0 - 127) 0 - 127
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : RING MODULATOR

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Frequency	(0 - 127) 0 - 127
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Sens	(0 - 127) 0 - 127
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Polarity	(0 - 1) UP, DOWN
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	dummy (ignored)	
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : PITCH SHIFTER

	Offset Address		Description	
#	00 04	0000 aaaa		
	00 05	0000 bbbb		
	00 06	0000 cccc		
	00 07	0000 dddd	Coarse	(0 - 36) -24 - +12 [semi]
#	00 08	0000 aaaa		
	00 09	0000 bbbb		
	00 0A	0000 cccc		
	00 0B	0000 dddd	Fine	(0 - 100) -100 - +100 [cent]
#	00 0C	0000 aaaa		
	00 0D	0000 bbbb		
	00 0E	0000 cccc		
	00 0F	0000 dddd	Tempo Sync	(0 - 1) OFF, ON
#	00 10	0000 aaaa		
	00 11	0000 bbbb		
	00 12	0000 cccc		
	00 13	0000 dddd	Delay Time (msec)	(1 - 1300) 1 - 1300 [msec]
#	00 14	0000 aaaa		
	00 15	0000 bbbb		
	00 16	0000 cccc		
	00 17	0000 dddd	Delay Time (note)	(0 - 21) MUSICAL-NOTES
#	00 18	0000 aaaa		
	00 19	0000 bbbb		
	00 1A	0000 cccc		
	00 1B	0000 dddd	Feedback	(0 - 98) -98 - +98 [%]
#	00 1C	0000 aaaa		
	00 1D	0000 bbbb		
	00 1E	0000 cccc		
	00 1F	0000 dddd	Low Gain	(0 - 30) -15 - +15 [dB]
#	00 20	0000 aaaa		
	00 21	0000 bbbb		
	00 22	0000 cccc		
	00 23	0000 dddd	High Gain	(0 - 30) -15 - +15 [dB]
#	00 24	0000 aaaa		
	00 25	0000 bbbb		
	00 26	0000 cccc		
	00 27	0000 dddd	dummy (ignored)	
#	00 28	0000 aaaa		
	00 29	0000 bbbb		
	00 2A	0000 cccc		
	00 2B	0000 dddd	Level	(0 - 127) 0 - 127

MFX Type : AUTO PAN

Offset Address		Description
# 00 04	0000 aaaa	
00 05	0000 bbbb	
00 06	0000 cccc	
00 07	0000 dddd	Mod Wave (0 - 5) TRI, SQR, SIN, SAW1, SAW2, TRP
# 00 08	0000 aaaa	
00 09	0000 bbbb	
00 0A	0000 cccc	
00 0B	0000 dddd	Tempo Sync (0 - 1) OFF, ON
# 00 0C	0000 aaaa	
00 0D	0000 bbbb	
00 0E	0000 cccc	
00 0F	0000 dddd	Rate (Hz) (1 - 200) 0.05 - 10.00 [Hz]
# 00 10	0000 aaaa	
00 11	0000 bbbb	
00 12	0000 cccc	
00 13	0000 dddd	Rate (note) (0 - 21) MUSICAL-NOTES
# 00 14	0000 aaaa	
00 15	0000 bbbb	
00 16	0000 cccc	
00 17	0000 dddd	Depth (0 - 127) 0 - 127
# 00 18	0000 aaaa	
00 19	0000 bbbb	
00 1A	0000 cccc	
00 1B	0000 dddd	Low Gain (0 - 30) -15 - +15 [dB]
# 00 1C	0000 aaaa	
00 1D	0000 bbbb	
00 1E	0000 cccc	
00 1F	0000 dddd	High Gain (0 - 30) -15 - +15 [dB]
# 00 20	0000 aaaa	
00 21	0000 bbbb	
00 22	0000 cccc	
00 23	0000 dddd	Level (0 - 127) 0 - 127

* [KitUnitCommon]

Offset Address		Description
00 00	0000 aaaa	PadMinVol (0 - 15) 0 - 15
# 00 01	0000 aaaa	
00 02	0000 bbbb	(reserve)
00 03	0000 aaaa	MuteGroupTx (0 - 8) OFF, 1 - 8
00 04	0000 aaaa	MuteGroupRx (0 - 8) OFF, 1 - 8
00 05	0000 000a	LayerSwitch (0 - 1) OFF, ON
00 06	0000 0aaa	LayerType (0 - 4) MIX, FADE1, FADE2, SWITCH, XFADE
00 07	0aaa aaaa	FadePoint (1 - 127) 1 - 127
# 00 08	0000 aaaa	
00 09	0000 bbbb	PedalBend (-24 - 24) -24 - 24
00 0A	0000 aaaa	PadLinkTx (0 - 8) OFF, 1 - 8
00 0B	0000 aaaa	PadLinkRx (0 - 8) OFF, 1 - 8
00 00 00 0C	Total Size	

* [KitUnitLayer]

Offset Address		Description
# 00 00	0000 aaaa	
00 01	0000 bbbb	
00 02	0000 cccc	
00 03	0000 dddd	InstNum (0 -)
# 00 04	0000 aaaa	
00 05	0000 bbbb	Pan (-30 - 30) L30 - 1, CENTER, R1 - 30
00 06	0aaa aaaa	Volume (0 - 127) 0 - 127
00 07	0000 0aaa	Curve (0 - 7) LINEAR, EXP1, LOG1, LOG2, LOG3, SPLINE1, SPLINE2, FIXED
00 08	0aaa aaaa	FixedValue (1 - 127) 1 - 127
00 09	0000 000a	LayerEq ON/OFF (0 - 1) OFF, ON
00 0A	000a aaaa	LayerEq LoFrq (0 - 17) 20Hz, 25Hz, 31.5Hz, 40Hz, 50Hz, 63Hz, 80Hz, 100Hz, 125Hz, 160Hz, 200Hz, 250Hz, 315Hz, 400Hz, 500Hz, 630Hz, 800Hz, 1KHz
# 00 0B	0000 aaaa	
00 0C	0000 bbbb	LayerEq LoGain (-15 - 15) -15 - +15 [dB]
00 0D	000a aaaa	LayerEq MidFrq (0 - 29) 20Hz, 25Hz, 31.5Hz, 40Hz, 50Hz, 63Hz, 80Hz, 100Hz, 125Hz, 160Hz, 200Hz, 250Hz, 315Hz, 400Hz, 500Hz, 630Hz, 800Hz, 1kHz, 1.25kHz, 1.6kHz, 2kHz, 2.5kHz, 3.15kHz, 4kHz, 5kHz, 6.3kHz, 8kHz, 10kHz, 12.5kHz, 16kHz
00 0E	0000 0aaa	LayerEq Mid Q (0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
# 00 0F	0000 aaaa	
00 10	0000 bbbb	LayerEq MidGain (-15 - 15)

			-15 - +15 [dB]
	00 11	0000 aaaa	LayerEq HiFrq (0 - 12) 1kHz, 1.25kHz, 1.6kHz, 2kHz, 2.5kHz, 3.15kHz, 4kHz, 5kHz, 6.3kHz, 8kHz, 10kHz, 12.5kHz, 16kHz
#	00 12	0000 aaaa	
	00 13	0000 bbbb	LayerEq HiGain (-15 - 15) -15 - +15 [dB]
	00 14	0aaa aaaa	MFXSend (0 - 127) 0 - 127
	00 15	0000 00aa	MFXSelect (1 - 3) MFX1, MFX2, MFX3
	00 16	0000 000a	Output (0 - 1) MFX, DRY+MFX
	00 17	0aaa aaaa	AmbSend (0 - 127) 0 - 127
#	00 18	0000 aaaa	
	00 19	0000 bbbb	CoarseTune (*) (-24 - 24) -24 - +24
#	00 1A	0000 aaaa	
	00 1B	0000 bbbb	FineTune (*) (-50 - 50) -50 - +50
#	00 1C	0000 aaaa	
	00 1D	0000 bbbb	Decay (*) (1 - 100) 1 - 100
00 00 00 1E			Total Size

(*) For some instruments, this cannot be set.

* [KitUnitVEdit]

Offset Address		Description	
00 00	0000 0000	(reserve)	
# 00 01	0000 aaaa		
00 02	0000 bbbb	V-Edit Parameter 1	(*)
# 00 03	0000 aaaa		
00 04	0000 bbbb	V-Edit Parameter 2	(*)
# 00 05	0000 aaaa		
00 06	0000 bbbb	V-Edit Parameter 3	(*)
# 00 07	0000 aaaa		
00 08	0000 bbbb	V-Edit Parameter 4	(*)
# 00 09	0000 aaaa		
00 0A	0000 bbbb	V-Edit Parameter 5	(*)
# 00 0B	0000 aaaa		
00 0C	0000 bbbb	V-Edit Parameter 6	(*)
# 00 0D	0000 aaaa		
00 0E	0000 bbbb	V-Edit Parameter 7	(*)
# 00 0F	0000 aaaa		
00 10	0000 bbbb	V-Edit Parameter 8	(*)
# 00 11	0000 aaaa		
00 12	0000 bbbb	V-Edit Parameter 9	(*)
# 00 13	0000 aaaa		
00 14	0000 bbbb	V-Edit Parameter 10	(*)
# 00 15	0000 aaaa		
00 16	0000 bbbb	V-Edit Parameter 11	(*)
# 00 17	0000 aaaa		
00 18	0000 bbbb	V-Edit Parameter 12	(*)
# 00 19	0000 aaaa		
00 1A	0000 bbbb	V-Edit Parameter 13	(*)
# 00 1B	0000 aaaa		
00 1C	0000 bbbb	V-Edit Parameter 14	(*)
# 00 1D	0000 aaaa		
00 1E	0000 bbbb	V-Edit Parameter 15	(*)
# 00 1F	0000 aaaa		
00 20	0000 bbbb	V-Edit Parameter 16	(*)
00 00 00 21		Total Size	

(*) This area has different assignments according to the assigned instrument. Addresses without any assigned instruments are ignored.

* [KitPad]

Offset Address		Description	
00 00	0000 000a	PadComp ON/OFF	(0 - 1) OFF, ON
00 01	0000 aaaa	PadComp Type	(0 - 10) KICK 1, KICK 2, SNARE 1, SNARE 2, TOM 1, TOM 2, CYMBAL 1, CYMBAL 2, SOFT COMP, HARD COMP, LIMITER
# 00 02	0000 aaaa		
00 03	0000 bbbb	PadComp Gain	(-48 - 48) -24.0 - +24.0 [dB]
# 00 04	0000 aaaa		
00 05	0000 bbbb	PadComp Thre	(-48 - 0) -48 - 0 [dB]
00 06	0000 0aaa	PadComp Ratio	(0 - 7) 1:1, 2:1, 3:1, 4:1, 8:1, 16:1, 32:1, 100:1
00 07	0000 00aa	PadComp Knee	(0 - 3) HARD, SOFT1 - 3
00 08	0aaa aaaa	PadComp Attack	(0 - 100) 0.1 - 100 [ms]
00 09	0aaa aaaa	PadComp Release	(0 - 99) 10 - 1000 [ms]
00 0A	0000 aaaa	(reserve)	
00 0B	0000 aaaa	(reserve)	
00 00 00 0C		Total Size	

* [KitRoom]

Offset Address		Description	
00 00	0000 000a	ON/OFF	(0 - 1) OFF, ON
00 01	0000 000a	(reserve)	

	00 02	0aaa aaaa	Level	(0 - 127) 0 - 127
#	00 03	0000 aaaa		
	00 04	0000 bbbb		
	00 05	0000 cccc		
	00 06	0000 dddd	Type	(0 - 4) ROOM1, ROOM2, HALL1, HALL2, PLATE
#	00 07	0000 aaaa		
	00 08	0000 bbbb		
	00 09	0000 cccc		
	00 0A	0000 dddd	Pre Delay	(0 - 100) 0 - 100 [ms]
#	00 0B	0000 aaaa		
	00 0C	0000 bbbb		
	00 0D	0000 cccc		
	00 0E	0000 dddd	Time	(1 - 100) 0.1 - 10.0 [s]
#	00 0F	0000 aaaa		
	00 10	0000 bbbb		
	00 11	0000 cccc		
	00 12	0000 dddd	Density	(0 - 127) 0 - 127
#	00 13	0000 aaaa		
	00 14	0000 bbbb		
	00 15	0000 cccc		
	00 16	0000 dddd	Diffusion	(0 - 127) 0 - 127
#	00 17	0000 aaaa		
	00 18	0000 bbbb		
	00 19	0000 cccc		
	00 1A	0000 dddd	LF Damp	(0 - 100) 0 - 100
#	00 1B	0000 aaaa		
	00 1C	0000 bbbb		
	00 1D	0000 cccc		
	00 1E	0000 dddd	HF Damp	(0 - 100) 0 - 100
#	00 1F	0000 aaaa		
	00 20	0000 bbbb		
	00 21	0000 cccc		
	00 22	0000 dddd	Spread	(0 - 127) 0 - 127
#	00 23	0000 aaaa		
	00 24	0000 bbbb		
	00 25	0000 cccc		
	00 26	0000 dddd	Tone	(0 - 127) 0 - 127
#	00 27	0000 aaaa		
	00 28	0000 bbbb		
	00 29	0000 cccc		
	00 2A	0000 dddd	(reserve)	
#	00 2B	0000 aaaa		
	00 2C	0000 bbbb		
	00 2D	0000 cccc		
	00 2E	0000 dddd	(reserve)	
#	00 2F	0000 aaaa		
	00 30	0000 bbbb		
	00 31	0000 cccc		
	00 32	0000 dddd	(reserve)	
#	00 33	0000 aaaa		
	00 34	0000 bbbb		
	00 35	0000 cccc		
	00 36	0000 dddd	(reserve)	
#	00 37	0000 aaaa		
	00 38	0000 bbbb		
	00 39	0000 cccc		
	00 3A	0000 dddd	(reserve)	
#	00 3B	0000 aaaa		
	00 3C	0000 bbbb		
	00 3D	0000 cccc		
	00 3E	0000 dddd	(reserve)	
#	00 3F	0000 aaaa		
	00 40	0000 bbbb		
	00 41	0000 cccc		
	00 42	0000 dddd	(reserve)	
#	00 43	0000 aaaa		
	00 44	0000 bbbb		
	00 45	0000 cccc		
	00 46	0000 dddd	(reserve)	
#	00 47	0000 aaaa		
	00 48	0000 bbbb		
	00 49	0000 cccc		
	00 4A	0000 dddd	(reserve)	
#	00 4B	0000 aaaa		
	00 4C	0000 bbbb		
	00 4D	0000 cccc		
	00 4E	0000 dddd	(reserve)	
#	00 4F	0000 aaaa		
	00 50	0000 bbbb		
	00 51	0000 cccc		
	00 52	0000 dddd	(reserve)	
	00 00 00 53	Total Size		

4. Supplementary Material

■Decimal and Hexadecimal Table

(An “H” is appended to the end of numbers in hexadecimal notation.)
In MIDI documentation, data values and addresses/sizes of exclusive messages etc. are expressed as hexadecimal values for each 7 bits.
The following table shows how these correspond to decimal numbers. (in the case of hexadecimal values for each 7 bits, or positive hexadecimal values for each 4 bits.)

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

* Decimal values such as MIDI channel, bank select, and program change are listed as one greater than the values given in the above table.
* A 7-bit byte in hexadecimals can express data in the range of 128 steps. For data where greater precision is required, we must use two or more bytes. For example, two hexadecimal numbers aa bbH expressing two 7-bit bytes would indicate a value of aa x 128+bb.
* In the case of data to which multiple addresses are assigned, a hexadecimal value is used for each four bits. A value 0a 0bH expressed as two-byte nibbles will be a×16+b.
* For values with a ± sign, 00H=-64, 40H=±0, and 7FH=+63. When expressing these values as decimal expressions, we use values that are 64 less than the values in the decimal table above. In the case of a two-byte value, 00 00H=-8192, 40 00H=±0, and 7F 7FH=+8191. For example, aa bbH expressed in decimal would be aa bbH - 40 00H=aa×128+bb-64×128.

<Example 1> What is the decimal expression of 5AH?

From the preceding table, 5AH = 90

<Example 2> What is the decimal expression of the value 12 34H given as hexadecimal for each 7 bits?

From the preceding table, since they are 12H = 18 and 34H = 52,
18 x 128 + 52 = 2356

■Examples of Actual MIDI Messages

<Example 1> 92 3E 5F

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

<Example 2> C9 20

CnH is the Program Change status, and n is the MIDI channel number. Since 9H = 9 and 20H = 32, this is a Program Change message with MIDI CH = 10, program number 33.

■Examples of Exclusive Messages and Checksum Calculation
When transmitting Roland exclusive messages (DT1), a checksum is added following the data (before F7) so that the receiving device can check whether the message was received correctly.
The checksum value is determined by the address and data of the exclusive message that is transmitted.

●How to calculate the checksum

(An “H” is appended to the end of numbers in hexadecimal notation.)
The checksum is a value derived by adding the address, data and checksum itself and inverting the lower 7 bits.
Here’s an example of how the checksum is calculated. We will assume that in the exclusive message we are transmitting, the address is aa bb cc ddH and the data is ee ff gg hhH.

aa + bb + cc + dd + ee + ff + gg + hh = sum
sum / 128 = quotient ... remainder
128 - remainder = checksum
(However, the checksum will be 0 if the remainder is 0.)

<Example 1>
Specifying 100 as the Volume of the main instrument assigned to the PAD1 of kit number 1
“Parameter address map” indicates that the start address of kit 1 is 04 00 00 00H, the offset address of the KitUnitLayer parameters of the main instrument assigned to the PAD1 is 00 40 00H, and the offset address of the Volume is 00 06H; therefore, the address is

```
      04 00 00 00H
         00 40 00H
+)          00 06H
-------------------
      04 00 40 06H
```

Since 100 is the parameter value 00 64H

F0	41	10	00 00 00 79	12	04 00 40 06	64	??	F7
(1)	(2)	(3)	(4)	(5)	address data	checksum		(6)

(1) Exclusive Status (2) ID (Roland)
(3) Device ID (17) (4) Model ID (SPD-20 PRO)
(5) Command ID (DT1) (6) EOX

Then calculate the checksum.
04H + 00H + 40H + 06H + 64H = 4 + 0 + 64 + 6 + 100 = 174 (sum)
174 (sum) ÷ 128 = 1 (quotient)… 46 (remainder) checksum = 128 - 46 (remainder) = 82 = 52H
This means that F0 41 10 00 00 00 79 12 04 00 40 06 64 52 F7 is the message should be sent.

<Example 2>
Requesting transmission of the pad compressor switch for the PAD1 of kit number 1
“Parameter address map” indicates that the start address of kit 1 is 04 00 00 00H, the offset address of the PAD1 KitPad parameters is 01 40 00H, and the offset address of the pad compressor switch is 00 00H; therefore, the address is

```
      04 00 00 00H
         01 40 00H
+)          00 00H
-------------------
      04 01 40 00H
```

Since the size is 00 00 00 01H

F0	41	10	00 00 00 79	11	04 01 40 00	00 00 00 01	??	F7
(1)	(2)	(3)	(4)	(5)	address data	checksum		(6)

(1) Exclusive Status (2) ID (Roland)
(3) Device ID (17) (4) Model ID (SPD-20 PRO)
(5) Command ID (RQ1) (6) EOX

Then calculate the checksum.
04H + 01H + 40H + 00H + 00H + 00H + 00H + 01H = 4 + 1 + 64 + 0 + 0 + 0 + 0 + 1 = 70 (sum)
70 (sum) ÷ 128 = 0 (quotient)··· 70 (remainder) checksum = 128 − 70 (remainder) = 58 = 3AH
This means that F0 41 10 00 00 00 79 11 04 01 40 00 00 00 00 01 3A F7 is the message should be sent.

5.MIDI Implementation Chart

Date : Nov. 1. 2020
Model SPD-20 PRO MIDI Implementation Chart Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	1-16, OFF	1-16, OFF	Memorized
Channel	Changed	1-16, OFF	1-16, OFF	
Mode	Default	Mode 3	Mode 3	
	Messages	x	x	
	Altered	**********	x	
Note Number	:True Voice	0-127 **********	0-127 0-127	Memorized
Velocity	Note On	o 9nH, v = 1-127	o	
	Note Off	o 8nH, v = 64	x	
After Touch	Key's	o	o	
	Channel's	x	x	
Pitch Bend		x	x	
Control Change	0, 32	o	o	Bank Select
	1	o (Pedal) *1	o *1	Modulation
	2	o (Pedal) *1	o *1	Breath Controller
	4	o (Pedal) *1	o *1	Foot Controller
	11	o (Pedal) *1	o *1	Expression
	16 - 19	o (Pedal) *1	o *1	General Purpose Controller 1-4
Program Change	:True Number	o 0-127 *2 **********	o 0-127 *2 0-127	Program No. 1-128
System Exclusive		o *4	o *2	
System Common	:Song Position	x	x	
	:Song Select	x	x	
	:Tune Request	x	x	
System Real Time	:Clock	x	x	
	:Commands	x	x	
Aux Messages	:All Sound Off	o	o (120, 123-127)	
	:Reset All Controllers	x	o	
	:Local On/Off	x	x	
	:All Notes Off	x	o *3	
	:Active Sensing	o	o	
	:System Reset	x	x	
Notes		*1 One is selected as the strike position. *2 ox is selectable. *3 The same result as All Sound Off. *4 Transmitted if TxEditData is on, or when RQ1 is received.		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No