FA-06/08 MIDI Implementation

Model: FA-06/08
Date: January 1, 2014
Version: 1.00

1. Data Reception (Sound Source Section)

■ Channel Voice Messages

* Not received when the Rx Switch (Sw) parameter (PART VIEW: Level/Pan) is OFF.

● Note off

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

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

● Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH

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

● Polyphonic Key Pressure

Status	2nd byte	3rd byte
AnH	kkH	vvH

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

* Not received when the Receive Polyphonic Key Pressure (PA) parameter (PART VIEW: MIDI Rx Filter) is OFF.

● Control Change

* If the corresponding Controller number is selected for the MFX Control Source1, 2, 3 or 4 parameter (TONE EDIT: MFX Control) or the PCM Synth Tone Matrix Control1, 2, 3 or 4 Source parameter (TONE EDIT PCMS: Matrix Control 1-4), the corresponding effect will occur.
* When the Control Source Select parameter (SYSTEM SETUP: Control) is set to SYSTEM, if a controller number that corresponds to the System Control Src1, 2, 3 or 4 parameter (SYSTEM SETUP: Control) is selected, the specified effect will apply if the MFX Control Source1, 2, 3 or 4 parameter (TONE EDIT: MFX Control) or the PCM Synth Tone Matrix Control1, 2, 3 or 4 Source parameter (TONE EDIT PCMS: Matrix Control 1-4) is set to SYS CTRL1, SYS CTRL2, SYS CTRL3 or SYS CTRL4.
* When the Control Source Select parameter (SYSTEM SETUP: Control) is set to STUDIO SET, if a controller number that corresponds to the Tone Control Src1, 2, 3 or 4 parameter (STUDIO SET COMMON: Control) is selected, the specified effect will apply if the MFX Control Source1, 2, 3 or 4 parameter (TONE EDIT: MFX Control) or the PCM Synth Tone Matrix Control1, 2, 3 or 4 Source parameter (TONE EDIT PCMS: Matrix Control 1-4) is set to SYS CTRL1, SYS CTRL2, SYS CTRL3 or SYS CTRL4.

❍ 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 - 16)
mm, ll = Bank number: 00 00H - 7F 7FH (bank.1 - bank.16384)

* Not received when the Receive Bank Select parameter (SYSTEM SETUP: MIDI) is OFF.
* Not received when the Receive Bank Select (BS) parameter (PART VIEW: MIDI Rx Filter) is OFF.

The Studio Sets corresponding to each Bank Select are as follows.

BANK SELECT MSB	BANK SELECT LSB	PROGRAM NUMBER	GROUP	NUMBER
085	000 - 003	001 - 128	User Studio Set	01 - 512
085	064	001 - 064	Preset Studio Set	01 - 064

The SuperNATURAL Acoustic Tones corresponding to each Bank Select are as follows.

BANK SELECT MSB	BANK SELECT LSB	PROGRAM NUMBER	GROUP	NUMBER
089	000	001 - 128	User SN Acoustic Tone	0001 - 0128
089	064	001 - 100	Preset SN Acoustic Tone	0001 - 0100

The SuperNATURAL Synth Tones corresponding to each Bank Select are as follows.

BANK SELECT MSB	BANK SELECT LSB	PROGRAM NUMBER	GROUP	NUMBER
095	000 - 003	001 - 128	User SN Synth Tone	0001 - 0512
095	064	001 - 128	Preset SN Synth Tone	0001 - 0128
:	:	:		:
095	072	001 - 091		1025 - 1115

The SuperNATURAL Drum Kits corresponding to each Bank Select are as follows.

BANK SELECT MSB	BANK SELECT LSB	PROGRAM NUMBER	GROUP	NUMBER
088	000	001 - 008	User SN Drum Kit	0001 - 0008
088	064	001 - 005	Preset SN Drum Kit	0001 - 0005

The PCM Synth Tones corresponding to each Bank Select are as follows.

BANK SELECT MSB	BANK SELECT LSB	PROGRAM NUMBER	GROUP	NUMBER
087	000 - 001	001 - 128	User PCM Synth Tone	0001 - 0256
087	064	001 - 128	Preset PCM Synth Tone	0001 - 0896
:	:	:		:
087	071	001		0001
121	000 -	001 - 128	GM2 Tone	0001 - 0256

The PCM Drum Kits corresponding to each Bank Select are as follows.

BANK SELECT MSB	BANK SELECT LSB	PROGRAM NUMBER	GROUP	NUMBER
086	000	001 - 032	User PCM Drum Kit	0001 - 0032
086	064	001 - 056	Preset PCM Drum Kit	0001 - 0056
120	000	001 - 009	GM2 Drum Kit	0001 - 0009

❍ Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH

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

* Not received when the Receive Modulation (MD) parameter (PART VIEW: MIDI Rx Filter) is OFF.

❍ Breath Type (Controller number 2)

Status	2nd byte	3rd byte
BnH	02H	vvH

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

❍ Foot Type (Controller number 4)

Status	2nd byte	3rd byte
BnH	04H	vvH

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

❍ Portamento Time (Controller number 5)

Status	2nd byte	3rd byte
BnH	05H	vvH

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

* Not received when the Portamento Time (Porta Time) parameter (PART VIEW: Pitch) is OFF.

❍ Data Entry (Controller number 6, 38)

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

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

❍ Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH

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

* Not received when the Receive Volume (VO) parameter (PART VIEW: MIDI Rx Filter) is OFF.
* The Level parameter (PART VIEW: Level/Pan) will change.

❍ Panpot (Controller number 10)

Status	2nd byte	3rd byte
BnH	0AH	vvH

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

* Not received when the Receive Pan (PN) parameter (PART VIEW: MIDI Rx Filter) is OFF.
* The Pan parameter (PART VIEW: Level/Pan) will change.

❍ Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH

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

* Not received when the Receive Expression (EX) parameter (PART VIEW: MIDI Rx Filter) is OFF.
* Not received when the Rx Expression parameter (TONE EDIT PCMS: Control) is OFF.
* Not received when the Partial Rx Expression parameter (TONE EDIT PCMD: Common) is OFF.

❍ General Purpose Controller 1 (Tone Modify 1) (Controller number 16)

Status	2nd byte	3rd byte
BnH	10H	vvH

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

❍ General Purpose Controller 2 (Tone Modify 2) (Controller number 17)

Status	2nd byte	3rd byte
BnH	11H	vvH

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

❍ General Purpose Controller 3 (Tone Modify 3) (Controller number 18)

Status	2nd byte	3rd byte
BnH	12H	vvH

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

❍ General Purpose Controller 4 (Tone Modify 4) (Controller number 19)

Status	2nd byte	3rd byte
BnH	13H	vvH

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

❍ Hold 1 (Controller number 64)

Status	2nd byte	3rd byte
BnH	40H	vvH

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

* Not received when the Receive Hold-1 (HD) parameter (PART VIEW: MIDI Rx Filter) is OFF.
* Not received when the Rx Hold-1 parameter (TONE EDIT PCMS: Control) is OFF.
* Not received when the Partial Rx Hold-1 parameter (TONE EDIT PCMD: Common) is OFF.

❍ Portamento (Controller number 65)

Status	2nd byte	3rd byte
BnH	41H	vvH

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

* The Portamento Switch (Porta Sw) parameter (PART VIEW: Pitch) will change.

❍ Sostenuto (Controller number 66)

Status	2nd byte	3rd byte
BnH	42H	vvH

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

❍ Soft (Controller number 67)

Status	2nd byte	3rd byte
BnH	43H	vvH

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

❍ Legato Foot Switch (Controller number 68)

Status	2nd byte	3rd byte
BnH	44H	vvH

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

* The Legato Switch (Legato) parameter (PART VIEW: Mono/Poly/Legato) will change.

❍ Hold-2 (Controller number 69)

Status	2nd byte	3rd byte
BnH	45H	vvH

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

* A hold movement isn't done.

❍ Resonance (Controller number 71)

Status	2nd byte	3rd byte
BnH	47H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv= Resonance value (relative change): 00H - 40H - 7FH (-64 - 0 - +63),

* The Resonance Offset (Reso) parameter (PART VIEW: Offset) will change.

❍ Release Time (Controller number 72)

Status	2nd byte	3rd byte
BnH	48H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Release Time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63),

* The Release Time Offset (Release) parameter (PART VIEW: Offset) will change.

❍ Attack time (Controller number 73)

Status	2nd byte	3rd byte
BnH	49H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Attack time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63),

* The Attack Time Offset (Attack) parameter (PART VIEW: Offset) will change.

❍ Cutoff (Controller number 74)

Status	2nd byte	3rd byte
BnH	4AH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Cutoff value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* The Cutoff Offset (CutOff) parameter (PART VIEW: Offset) will change.

❍ Decay Time (Controller number 75)

Status	2nd byte	3rd byte
BnH	4BH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Decay Time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* The Decay Time Offset (Decay) parameter (PART VIEW: Offset) will change.

❍ Vibrato Rate (Controller number 76)

Status	2nd byte	3rd byte
BnH	4CH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Vibrato Rate value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* The Vibrato Rate (Rate) parameter (PART VIEW: Vibrato) will change.

❍ Vibrato Depth (Controller number 77)

Status	2nd byte	3rd byte
BnH	4DH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Vibrato Depth Value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* The Vibrato Depth (Depth) parameter (PART VIEW: Vibrato) will change.

❍ Vibrato Delay (Controller number 78)

Status	2nd byte	3rd byte
BnH	4EH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Vibrato Delay value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* The Vibrato Delay (Delay) parameter (PART VIEW: Vibrato) will change.

❍ General Purpose Controller 5 (Tone Variation 1) (Controller number 80)

Status	2nd byte	3rd byte
BnH	50H	vvH

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

❍ General Purpose Controller 6 (Tone Variation 2) (Controller number 81)

Status	2nd byte	3rd byte
BnH	51H	vvH

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

❍ General Purpose Controller 7 (Tone Variation 3) (Controller number 82)

Status	2nd byte	3rd byte
BnH	52H	vvH

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

❍ General Purpose Controller 8 (Tone Variation 4) (Controller number 83)

Status	2nd byte	3rd byte
BnH	53H	vvH

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

❍ Portamento control (Controller number 84)

Status	2nd byte	3rd byte
BnH	54H	kkH

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

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

❍ General Purpose Effect 1 (Reverb Send Level) (Controller number 91)

Status	2nd byte	3rd byte
BnH	5BH	vvH

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

* The Reverb Send Level (Rev) parameter (PART VIEW: Output/EFX) will change.

❍ General Purpose Effect 3 (Chorus Send Level) (Controller number 93)

Status	2nd byte	3rd byte
BnH	5DH	vvH

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

* The Chorus Send Level (Cho) parameter (PART VIEW: Output/EFX) will change.

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

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

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

<<< RPN >>>
Control Changes include RPN (Registered Parameter Numbers), which are extended. When using RPNs, first RPN (Controller numbers 100 and 101; they can be sent in any order) should be sent in order to select the parameter, then Data Entry (Controller numbers 6 and 38) should be sent to set the value. Once RPN messages are received, Data Entry messages that is received at the same MIDI channel after that are recognized as changing toward the value of the RPN messages. In order not to make any mistakes, transmitting RPN Null is recommended after setting parameters you need.

This device receives the following RPNs.

RPN MSB, LSB	Data entry MSB, LSB	Notes
00H, 00H	mmH, llH	Pitch Bend Sensitivity mm: 00H - 18H (0 - 24 semitones) ll: ignored (processed as 00H) Up to 2 octave can be specified in semitone steps.

* The Pitch Bend Range (Bend Range) parameter (PART VIEW: Pitch) will change.

00H, 01H	mmH, llH	Channel Fine Tuning mm, ll: 20 00H - 40 00H - 60 00H (-4096 x 100 / 8192 - 0 - +4096 x 100 / 8192 cent)

* The Fine Tune (Fine) parameter (PART VIEW: Pitch) will change.

00H, 02H	mmH, llH	Channel Coarse Tuning mm: 10H - 40H - 70H (-48 - 0 - +48 semitones) ll: ignored (processed as 00H)

* The Coarse Tune (Coarse) parameter (PART VIEW: Pitch) will change.

7FH, 7FH	---, ---	RPN null RPN and NRPN will be set as "unspecified." Once this setting has been made, subsequent Parameter values that were previously set will not change. mm, ll: ignored

● Program Change

Status	2nd byte
CnH	ppH

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

* Not received when the Receive Program Change parameter (SYSTEM SETUP: MIDI) is OFF.
* Not received when the Receive Program Change (PC) parameter (PART VIEW: MIDI Rx Filter) is OFF.

● Channel Pressure

Status	2nd byte
DnH	vvH

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

* Not received when the Receive Channel Pressure (CA) parameter (PART VIEW: MIDI Rx Filter) is OFF.

● Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH

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

* Not received when the Receive Pitch Bend (PB) parameter (PART VIEW: MIDI Rx Filter) is OFF.
* Not received when the Rx Bender parameter (TONE EDIT PCMS: Control) is OFF.

■ Channel Mode Messages

* Not received when the Rx Switch (Sw) parameter (PART VIEW: Level/Pan) is OFF.

● All Sounds Off (Controller number 120)

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

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

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

● Reset All Controllers (Controller number 121)

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

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

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

Controller	Reset value
Pitch Bend Change	+/-0 (center)
Polyphonic Key Pressure	0 (off)
Channel Pressure	0 (off)
Modulation	0 (off)
Breath Type	0 (min)
Foot Type	0 (min)
Expression	127 (max) However the controller will be at minimum.
Hold 1	0 (off)
Sostenuto	0 (off)
Soft	0 (off)
Hold 2	0 (off)
RPN	unset; previously set data will not change
NRPN	unset; previously set data will not change

● All Notes Off (Controller number 123)

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

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

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

● OMNI OFF (Controller number 124)

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

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

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

● OMNI ON (Controller number 125)

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

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

* The same processing will be carried out as when All Notes Off is received. OMNI ON will not be turned on.

● MONO (Controller number 126)

Status	2nd byte	3rd byte
BnH	7EH	mmH

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

* The same processing will be carried out as when All Notes Off is received.
* The Mono/Poly parameter (PART VIEW: Mono/Poly/Legato) will change.

● POLY (Controller number 127)

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

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

* The same processing will be carried out as when All Notes Off is received.
* The Mono/Poly parameter (PART VIEW: Mono/Poly/Legato) will change.

■ System Realtime Message

● Timing Clock

Status
F8H

* Received when Sync Mode parameter (SYSTEM SETUP: Sync/Tempo) is set to SLAVE.

● Active Sensing

Status
FEH

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

■ System Exclusive Message

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

F0H:	System Exclusive Message status
ii = ID number:	an ID number (manufacturer ID) to indicate the manufacturer whose Exclusive message this is. Roland's manufacturer ID is 41H. ID numbers 7EH and 7FH are extensions of the MIDI standard; Universal Non-realtime Messages (7EH) and Universal Realtime Messages (7FH).
dd,...,ee = data:	00H - 7FH (0 - 127)
F7H:	EOX (End Of Exclusive)

Of the System Exclusive messages received by this device, the Universal Non-realtime messages and the Universal Realtime messages and the Data Request (RQ1) messages and the Data Set (DT1) messages will be set automatically.

● 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 (dev: 10H - 1FH, 7FH)
06H	Sub ID#1 (General Information)
01H	Sub ID#2 (Identity Request)
F7H	EOX (End Of Exclusive)

* When this message is received, Identity Reply message (p. 9) will be transmitted.

● Universal Realtime System Exclusive Messages

❍ Master Volume

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

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

* The lower byte (llH) of Master Volume will be handled as 00H.
* The Master Level parameter (SYSTEM SETUP: Sound) will change.

❍ Master Fine Tuning

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 03H, llH, mmH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
03H	Sub ID#2 (Master Fine Tuning)
llH	Master Fine Tuning LSB
mmH	Master Fine Tuning MSB
F7H	EOX (End Of Exclusive)

mm, ll: 00 00H - 40 00H - 7F 7FH (-100 - 0 - +99.9 [cents])

* The Master Tune parameter (SYSTEM SETUP :Sound) will change.

❍ Master Coarse Tuning

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 04H, llH, mmH	F7

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
04H	Sub ID#2 (Master Coarse Tuning)
llH	Master Coarse Tuning LSB
mmH	Master Coarse Tuning MSB
F7H	EOX (End Of Exclusive)

llH:	ignored (processed as 00H)
mmH:	28H - 40H - 58H (-24 - 0 - +24 [semitones])

* The Master Key Shift parameter (SYSTEM SETUP: Sound) will change.

● 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 64H.

❍ 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, 77H, 11H, aaH, bbH, ccH, ddH, ssH, ttH, uuH, vvH, sum	F7H

Byte	Remarks
F0H	Exclusive status
41H	ID number (Roland)
dev	device ID (dev: 10H - 1FH, 7FH)
00H	model ID #1 (FA-06/08)
00H	model ID #2 (FA-06/08)
77H	model ID #3 (FA-06/08)
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 Parameter Address Map (p. 13).
* For the checksum, refer to p. 36.
* Not received when the Receive Exclusive parameter (SYSTEM SETUP: MIDI) is OFF.

❍ Data set 1 (DT1)

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

Status	Data byte	Status
F0H	41H, dev, 00H, 00H, 77H, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation	
F0H	Exclusive status	
41H	ID number (Roland)	
dev	Device ID (dev: 10H - 1FH, 7FH)	
00H	Model ID #1 (FA-06/08)	
00H	Model ID #2 (FA-06/08)	
77H	Model ID #3 (FA-06/08)	
12H	Command ID (DT1)	
aaH	Address MSB:	upper byte of the starting address of the data to be sent
bbH	Address:	upper middle byte of the starting address of the data to be sent
ccH	Address:	lower middle byte of the starting address of the data to be sent
ddH	Address LSB:	lower byte of the starting address of the data to be sent.
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 Parameter Address Map (p. 13).
* 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.
* Regarding the checksum, please refer to p. 36.
* Not received when the Receive Exclusive parameter (SYSTEM SETUP: MIDI) is OFF.

2. Data Transmission (Sound Source Section)

■ Channel Voice Messages

● Note off

Status	2nd byte	3rd byte
8nH	kkH	vvH

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

● Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH

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

● Polyphonic Key Pressure

Status	2nd byte	3rd byte
AnH	kkH	vvH

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

● Control Change

* By selecting a controller number that corresponds to the setting of parameters of controllers (knobs, etc.), the FA-06/08 can transmit any control change message.

❍ 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 - 16)
mm, ll = Bank number: 00 00H - 7F 7FH (bank.1 - bank.16384)

* These messages are transmitted when Tone, Drum Kit or Studio Set is selected. But not transmitted when Transmit Program Change (SYSTEM SETUP: MIDI) or Transmit Bank Select parameter (SYSTEM SETUP: MIDI) is OFF.
* Although with the FA-06/08 you can select the Bank Select messages to be transmitted, be sure to refer to the Program Change Map on "Sound List" for the Bank Select messages transmitted when the FA-06/08 is select a Tone, Drum Kit or Studio Set.

❍ Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH

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

❍ Portamento Time (Controller number 5)

Status	2nd byte	3rd byte
BnH	05H	vvH

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

❍ Data Entry (Controller number 6, 38)

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

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

❍ Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH

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

❍ Panpot (Controller number 10)

Status	2nd byte	3rd byte
BnH	0AH	vvH

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

❍ Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH

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

❍ Hold 1 (Controller number 64)

Status	2nd byte	3rd byte
BnH	40H	vvH

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

* When Continuous Hold Pedal parameter (SYSTEM SETUP: Pedal) is OFF, just only 00H (0FF) and 7FH (0N) can be send as the control value.

❍ Portamento (Controller number 65)

Status	2nd byte	3rd byte
BnH	41H	vvH

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

❍ Sostenuto (Controller number 66)

Status	2nd byte	3rd byte
BnH	42H	vvH

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

❍ Soft (Controller number 67)

Status	2nd byte	3rd byte
BnH	43H	vvH

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

❍ Legato Foot Switch (Controller number 68)

Status	2nd byte	3rd byte
BnH	44H	vvH

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

❍ Resonance (Controller number 71)

Status	2nd byte	3rd byte
BnH	47H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv= Resonance value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

❍ Release Time (Controller number 72)

Status	2nd byte	3rd byte
BnH	48H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Release Time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

❍ Attack time (Controller number 73)

Status	2nd byte	3rd byte
BnH	49H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Attack time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

❍ Cutoff (Controller number 74)

Status	2nd byte	3rd byte
BnH	4AH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Cutoff value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

❍ Decay Time (Controller number 75)

Status	2nd byte	3rd byte
BnH	4BH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Decay Time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

❍ Vibrato Rate (Controller number 76)

Status	2nd byte	3rd byte
BnH	4CH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Vibrato Rate value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

❍ Vibrato Depth (Controller number 77)

Status	2nd byte	3rd byte
BnH	4DH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Vibrato Depth Value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

❍ Vibrato Delay (Controller number 78)

Status	2nd byte	3rd byte
BnH	4EH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Vibrato Delay value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

❍ General Purpose Controller 1 (Controller number 16)

Status	2nd byte	3rd byte
BnH	10H	vvH

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

❍ General Purpose Controller 2 (Controller number 17)

Status	2nd byte	3rd byte
BnH	11H	vvH

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

❍ General Purpose Controller 3 (Controller number 18)

Status	2nd byte	3rd byte
BnH	12H	vvH

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

❍ General Purpose Controller 4 (Controller number 19)

Status	2nd byte	3rd byte
BnH	13H	vvH

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

❍ General Purpose Controller 5 (Controller number 80)

Status	2nd byte	3rd byte
BnH	50H	vvH

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

❍ General Purpose Controller 6 (Controller number 81)

Status	2nd byte	3rd byte
BnH	51H	vvH

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

❍ General Purpose Controller 7 (Controller number 82)

Status	2nd byte	3rd byte
BnH	52H	vvH

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

❍ General Purpose Controller 8 (Controller number 83)

Status	2nd byte	3rd byte
BnH	53H	vvH

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

❍ Portamento control (Controller number 84)

Status	2nd byte	3rd byte
BnH	54H	kkH

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

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

Status	2nd byte	3rd byte
BnH	5BH	vvH

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

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

Status	2nd byte	3rd byte
BnH	5DH	vvH

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

❍ General Controller

Status	2nd byte	3rd byte
BnH	kkH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
kk = Controller number: 00H - 77H (0 - 31, 33 - 95)
vv = Modulation depth:00H - 7FH (0 - 127)

● Program Change

Status	2nd byte
CnH	ppH

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

* These messages are transmitted when Tone, Drum Kit or Studio Set is selected. But not transmitted when Transmit Program Change parameter (SYSTEM SETUP: MIDI) is OFF.

● Channel Pressure

Status	2nd byte
DnH	vvH

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

● Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH

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

■ Channel Mode Messages

● MONO (Controller number 126)

Status	2nd byte	3rd byte
BnH	7EH	mmH

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

● POLY (Controller number 127)

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

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

■ System Realtime Messages

● Active Sensing

Status
FEH

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

■ System Exclusive Messages

Universal Non-realtime System Exclusive Message and Data Set 1 (DT1) are the only System Exclusive messages transmitted by the FA-06/08.

● Universal Non-realtime System Exclusive Message

❍ Identity Reply Message (FA-06)

Receiving Identity Request Message (p. 5), the FA-06 send this message.

Status	Data byte	Status
F0H	7EH, dev, 06H, 02H, 41H, 77H, 02H, 00H, 00H, 00H, 00H, 00H, 00H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 10H - 1FH)
06H	Sub ID#1 (General Information)
02H	Sub ID#2 (Identity Reply)
41H	ID number (Roland)
77H 02H	Device family code
00H 00H	Device family number code
00H 00H 00H 00H	Software revision level
F7H	EOX (End of Exclusive)

❍ Identity Reply Message (FA-08)

Receiving Identity Request Message (p. 5), the FA-08 send this message.

Status	Data byte	Status
F0H	7EH, dev, 06H, 02H, 41H, 77H, 02H, 00H, 00H, 01H, 00H, 00H, 00H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 10H - 1FH)
06H	Sub ID#1 (General Information)
02H	Sub ID#2 (Identity Reply)
41H	ID number (Roland)
77H 02H	Device family code
00H 00H	Device family number code
01H 00H 00H 00H	Software revision level
F7H	EOX (End of Exclusive)

● Data Transmission

❍ Data set 1 (DT1)

Status	Data byte	Status
F0H	41H, dev, 00H, 00H, 64H, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation	
F0H	Exclusive status	
41H	ID number (Roland)	
dev	Device ID (dev: 00H - 1FH, 7FH)	
00H	Model ID #1 (FA-06/08)	
00H	Model ID #2 (FA-06/08)	
77H	Model ID #3 (FA-06/08)	
12H	Command ID (DT1)	
aaH	Address MSB:	upper byte of the starting address of the data to be sent
bbH	Address:	upper middle byte of the starting address of the data to be sent
ccH	Address:	lower middle byte of the starting address of the data to be sent
ddH	Address LSB:	lower byte of the starting address of the data to be sent.
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 Parameter Address Map (p. 13).
* 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. Data reception (Sequencer Section)

3.1 Messages recorded during recording

■ Channel Voice Messages

● Note Off

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

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

* Not recorded when the Note parameter (Recording Select window) is 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)

* Not recorded when the Note parameter (Recording Select window) is OFF.

● Polyphonic Aftertouch

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=Polyphonic Aftertouch: 00H - 7FH (0 - 127)

* Not recorded when the Poly Afertouch parameter (Recording Select window) is OFF.

● Control Change

Status	2nd byte	3rd byte
BnH	kkH	vvH

n=MIDI channel number: 0H - FH (ch.1 - ch.16)
kk=Control number: 00H - 78H (0 - 120)
vv=value: 00H - 7FH (0 - 127)

* Not recorded when the Control Change parameter (Recording Select window) is OFF.
* kk = 00H and kk = 20H are not recorded when the Program Change parameter (Recording Select window) is OFF.

● 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 recorded when the Program Change parameter (Recording Select window) is OFF.

● Channel Aftertouch

Status	2nd byte
DnH	vvH

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

* Not recorded when the Channel Aftertouch parameter (Recording Select window) is OFF.

● Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH

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

* Not recorded when the Pitch Bend parameter (Recording Select window) is OFF.

■ Channel Mode messages

● All Sound Off (Controller number 120)

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

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

* The same processing will be done as when an All Note Off message is received. Not recorded when the Control Change parameter (Recording Select window) is OFF.

● Reset All Controller (Controller number 121)

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

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

* Not recorded when the Control Change parameter (Recording Select window) is OFF.

● 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 done as when an All Note Off message is received. Not recorded when the Control Change parameter (Recording Select window) is OFF.

● 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 done as when an All Note Off message is received. Not recorded when the Control Change parameter (Recording Select window) is OFF.

● 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 done as when an All Note Off message is received. Not recorded when the Control Change parameter (Recording Select window) is OFF.

● 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 done as when an All Note Off message is received. Not recorded when the Control Change parameter (Recording Select window) is OFF.

■ System Exclusive Messages

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

F0H:	System Exclusive message status
ii=ID number:	This is the ID number (manufacturer ID) that specifies the manufacturer whose exclusive message this is. Roland's manufacturer ID is 41H. ID numbers 7EH and 7FH are defined in an expansion of the MIDI standard as Universal Non-real-time messages (7EH) and Universal Realtime Messages (7FH).
dd,..., ee = data:	00H - 7FH (0 - 127)
F7H:	EOX (End of System Exclusive)

* Not recorded when the System Exclusive parameter (Recording Select window) is OFF.
* MIDI Machine Control and MIDI Time code is not recorded.

3.2 Messages not recorded during recording

■ Channel mode messages

● Local On/Off (Controller number 122)

Status	2nd byte	3rd byte
BnH	7AH	vvH

n=MIDI channel number: 0H - FH (ch.1 - ch.16)
vv=Value: 00H, 7FH (Local Off, Local On)

● All notes off (Controller number 123)

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

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

* When an All Note Off message is received, all notes of the corresponding channel that are on will be sent Note Off's, and the resulting Note Off messages will be recorded.

3.3 Messages acknowledged for synchronization

■ System Common messages

● Song Position Pointer

Status	2nd byte	3rd byte
F2H	mmH	llH

mm, ll=value: 00 00H - 7F 7FH (0 - 16383)

* Received when Sync Mode parameter (System/Sync/Tempo) is set to SLAVE or REMOTE.

■ System Realtime Messages

● Timing Clock

Status
F8H

* Received when Sync Mode parameter (System/Sync/Tempo) is set to SLAVE.

● Start

Status
FAH

* Received when Sync Mode parameter (System/Sync/Tempo) is set to SLAVE or REMOTE.

● Continue

Status
FBH

* Received when Sync Mode parameter (System/Sync/Tempo) is set to SLAVE or REMOTE.

● Stop

Status
FCH

* Received when Sync Mode parameter (System/Sync/Tempo) is set to SLAVE or REMOTE.

4. Data transmission (Sequencer Section)

4.1 Messages transmitted during playing

Recorded messages are transmitted during playback.

4.2 Messages that are generated and transmitted

Messages are generated and transmitted to synchronize with other devices.

■ System Common Messages

* Sent when Sync Output parameter (System/Sync/Tempo) is set to ON.

● Song Position Pointer

Status	2nd byte	3rd byte
F2H	mmH	llH

mm, ll=value: 00 00H - 7F 7FH (0 - 16383)

■ System Realtime Messages

* Sent when Sync Output parameter (System/Sync/Tempo) is set to ON.

● Timing Clock

Status
F8H

● Start

Status
FAH

● Continue

Status
FBH

● Stop

Status
FCH

5. Parameter Address Map

* Transmission of "#" marked address is divided to some packets. For example, ABH in hexadecimal notation will be divided to 0AH and 0BH, and is sent/received in this order.
* "<*>" marked address or parameters are ignored when the FA-06/08 received them.

FA-06/08 (ModelID = 00H 00H 77H)

Start Address	Description
01 00 00 00	Setup
02 00 00 00	System
18 00 00 00	Temporary Studio Set
19 00 00 00	Temporary Tone (Studio Mode Part 1)
19 20 00 00	Temporary Tone (Studio Mode Part 2)
:	
1C 60 00 00	Temporary Tone (Studio Mode Part 16)

* System

Offset Address	Description
00 00 00	System Common
00 01 00	System Master EQ
00 02 00	System Input EFX
00 03 00	TFX
00 05 00	System Controller

* Temporary Tone

Offset Address	Description
00 00 00	Temporary PCM Tone
01 00 00	Temporary Synth Tone
02 00 00	Temporary SuperNATURAL Tone
03 00 00	Temporary Drum Kit
10 00 00	Temporary Rhythm Set

* Studio Set

Offset Address	Description
00 00 00	Studio Set Common
00 01 00	Studio Set Chorus
00 02 00	Studio Set Reverb
00 03 00	IFX
00 05 00	Studio Set Master Comp
00 06 00	Studio Set MIDI (Channel 1)
00 07 00	Studio Set MIDI (Channel 2)
:	
00 15 00	Studio Set MIDI (Channel 16)
00 20 00	Studio Set Part (Part 1)
00 21 00	Studio Set Part (Part 2)
:	
00 2F 00	Studio Set Part (Part 16)
00 30 00	Studio Set Part EQ (Part 1)
00 31 00	Studio Set Part EQ (Part 2)
:	
00 3F 00	Studio Set Part EQ (Part 16)
00 40 00	Studio Set Zone (Zone 1)
00 41 00	Studio Set Zone (Zone 2)
:	
00 4F 00	Studio Set Zone (Zone 16)
00 50 00	Studio Set Controller

* PCM Systh Tone

Offset Address	Description
00 00 00	PCM Systh Tone Common
00 02 00	PCM Systh Tone Common MFX
00 10 00	PCM Systh Tone PMT (Partial Mix Table)
00 20 00	PCM Systh Tone Partial (Partial 1)
00 22 00	PCM Systh Tone Partial (Partial 2)
00 24 00	PCM Systh Tone Partial (Partial 3)
00 26 00	PCM Systh Tone Partial (Partial 4)
00 30 00	PCM Systh Tone Common 2

* PCM Drum Kit

Offset Address	Description
00 00 00	PCM Drum Kit Common
00 02 00	PCM Drum Kit Common MFX
00 08 00	PCM Drum Kit Common Comp/EQ
00 10 00	PCM Drum Kit Partial (Key # 21)
00 12 00	PCM Drum Kit Partial (Key # 22)
:	
01 3E 00	PCM Drum Kit Partial (Key # 108)
02 00 00	PCM Drum Kit Common 2

* SuperNATURAL Synth Tone

Offset Address	Description
00 00 00	SuperNATURAL Synth Tone Common
00 02 00	SuperNATURAL Synth Tone MFX
00 20 00	SuperNATURAL Synth Tone Partial (1)
00 21 00	SuperNATURAL Synth Tone Partial (2)
00 22 00	SuperNATURAL Synth Tone Partial (3)
00 50 00	SuperNATURAL Synth Tone Misc

* SuperNATURAL Acoustic Tone

Offset Address	Description
00 00 00	SuperNATURAL Acoustic Tone Common
00 02 00	SuperNATURAL Acoustic Tone MFX

* SuperNATURAL Drum Kit

Offset Address	Description
00 00 00	SuperNATURAL Drum Kit Common
00 02 00	SuperNATURAL Drum Kit MFX
00 08 00	SuperNATURAL Drum Kit Common Comp/EQ
00 10 00	SuperNATURAL Drum Kit Note (Key # 27)
00 11 00	SuperNATURAL Drum Kit Note (Key # 28)
:	
00 4D 00	SuperNATURAL Drum Kit Note (Key # 88)

* Setup

Offset Address		Description	
00 00	0000 0aaa	Sound Mode	(1 - 4) STUDIO, GM1, GM2, GS
00 01	0aaa aaaa	(reserve) <*>	
00 02	0aaa aaaa	(reserve) <*>	
00 03	0aaa aaaa	(reserve) <*>	
00 04	0aaa aaaa	Studio Set BS MSB (CC# 0)	(0 - 127)
00 05	0aaa aaaa	Studio Set BS LSB (CC# 32)	(0 - 127)
00 06	0aaa aaaa	Studio Set PC (PC)	(0 - 127)
00 07	0aaa aaaa	(reserve) <*>	
:			
00 0B	0aaa aaaa	(reserve) <*>	
00 0C	0000 aaaa	Transpose Value	(59 - 70) -5 - +6
00 0D	0000 0aaa	Octave Shift	(61 - 67) -3 - +3
00 0E	0000 aaaa	(reserve) <*>	
00 00 00 0F	Total Size		

* System Common

Offset Address		Description	
# 00 00	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Master Tune	(24 - 2024) -100.0 - 100.0 [cent]
00 04	00aa aaaa	Master Key Shift	(40 - 88) -24 - +24
00 05	0aaa aaaa	Master Level	(0 - 127)
00 06	0000 000a		(0 - 1)
00 07	0000 000a	Tone Remain	(0 - 1) OFF, ON
00 08	0000 000a	(reserve) <*>	
00 09	000a aaaa	(reserve) <*>	
:			
00 10	000a aaaa	(reserve) <*>	
00 11	000a aaaa	Studio Set Control Channel	(0 - 16) 1 - 16, OFF
00 12	0aaa aaaa	(reserve) <*>	
:			
00 1F	0aaa aaaa	(reserve) <*>	
00 20	0aaa aaaa	System Control 1 Source	(0 - 97) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT
00 21	0aaa aaaa	System Control 2 Source	(0 - 97) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT
00 22	0aaa aaaa	System Control 3 Source	(0 - 97) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT

	00 23	0aaa aaaa	System Control 4 Source (0 - 97) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT
	00 24	0000 000a	Control Source (0 - 1) SYS, STUDIO
	00 25	0000 000a	Tempo Assign Source (0 - 1) SYSTEM, STUDIO SET
	00 26	0000 000a	Receive Program Change (0 - 1) OFF, ON
	00 27	0000 000a	Receive Bank Select (0 - 1) OFF, ON
	00 28	0000 000a	TFX Location (0 - 1) MAIN, INPUT
	00 29	0000 0aaa	TFX Input Gain (0 - 6) -18dB, -15dB, -12dB, -9dB, -6dB, -3dB, 0dB
	00 2A : 00 2D	0aaa aaaa 0aaa aaaa	(reserve) <*> (reserve) <*>
00 00 00 2E	Total Size		

* System Master EQ

Offset Address		Description
00 00	0000 000a	EQ Switch (0 - 1) OFF, ON
00 01	000a aaaa	EQ Input Gain (0 - 30) -15 - +15[dB]
00 02	000a aaaa	EQ Low Freq (0 - 17) 16,20,25,31,40, 50,63,80,100,125, 160,200,250,315,400, 500,630,800 [Hz]
00 03	000a aaaa	EQ Low Gain (0 - 30) -15 - +15 [dB]
00 04	000a aaaa	EQ Mid1 Freq (0 - 30) 16,20,25,31,40, 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, 16000,[Hz]
00 05	000a aaaa	EQ Mid1 Gain (0 - 30) -15 - +15 [dB]
00 06	0000 0aaa	EQ Mid1 Q (0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 07	000a aaaa	EQ Mid2 Freq (0 - 30) 16,20,25,31,40, 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, 16000,[Hz]
00 08	000a aaaa	EQ Mid2 Gain (0 - 30) -15 - +15 [dB]
00 09	0000 0aaa	EQ Mid2 Q (0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 0A	000a aaaa	EQ Mid3 Freq (0 - 30) 16,20,25,31,40, 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, 16000,[Hz]
00 0B	000a aaaa	EQ Mid3 Gain (0 - 30) -15 - +15 [dB]
00 0C	0000 0aaa	EQ Mid3 Q (0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 0D	0000 aaaa	EQ High Freq (0 - 14) 630,800,1000,1250,1600, 2000,2500,3150,4000,5000, 6300,8000,10000,12500,16000,[Hz]
00 0E	000a aaaa	EQ High Gain (0 - 30) -15 - +15 [dB]
00 00 00 0F	Total Size	

* System Input EFX

Offset Address		Description
00 00	0000 000a	Input Reverb Switch (0 - 1) OFF, ON
00 01	0000 0aaa	Input Reverb Type (0 - 7) ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2, DELAY, PAN-DELAY
00 02	0aaa aaaa	Input Reverb Time (0 - 127)
00 03	0aaa aaaa	Input Reverb Level (0 - 127)
00 04	0000 000a	NS Switch (0 - 1) OFF, ON
00 05	0aaa aaaa	NS Threshold (0 - 127)
00 06	0aaa aaaa	NS Release (0 - 127)
00 07	0aaa aaaa	(reserve) <*>
:		
00 0A	0aaa aaaa	(reserve) <*>
00 00 00 0B	Total Size	

* TFX

Offset Address		Description	
00 00	0000 000a	TFX Switch	(0 - 1) OFF, ON
00 01	000a aaaa	Type	(0 - 29)
00 02	0aaa aaaa		(0 - 127)
00 03	0aaa aaaa		(0 - 127)
00 04	0aaa aaaa		(0 - 127)
00 05	0aaa aaaa		(0 - 127)
# 00 06	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 1	(12768 - 52768) -20000 - +20000
# 00 0A	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 2	(12768 - 52768) -20000 - +20000
# 00 0E	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 3	(12768 - 52768) -20000 - +20000
# 00 12	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 4	(12768 - 52768) -20000 - +20000
# 00 16	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 5	(12768 - 52768) -20000 - +20000
# 00 1A	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 6	(12768 - 52768) -20000 - +20000
# 00 1E	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 7	(12768 - 52768) -20000 - +20000
# 00 22	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 8	(12768 - 52768) -20000 - +20000
00 00 00 26	Total Size		

* System Controller

Offset Address		Description	
00 00	0000 000a	Transmit Program Change	(0 - 1) OFF, ON
00 01	0000 000a	Transmit Bank Select	(0 - 1) OFF, ON
00 02	0aaa aaaa	Keyboard Velocity	(0 - 127) REAL, 1 - 127
00 03	0000 00aa	Keyboard Velocity Curve	(1 - 3) LIGHT, MEDIUM, HEAVY
00 04	000a aaaa	Keyboard Velocity Curve Offset	(54 - 73) -10 - +9
00 05	0000 0aaa	Hold Pedal Polarity	(0 - 1) STANDARD, REVERSE
00 06	0000 000a	Continuous Hold Pedal	(0 - 1) OFF, ON
00 07	0aaa aaaa	Pedal 1 Assign	(0 - 106) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND-DOWN, BEND-UP, AFT, START/STOP, TAP-TEMPO, STUDIO-DOWN, STUDIO-UP, FAV-DOWN, FAV-UP, PANEL-DEC, PANEL-INC
00 08	0000 0aaa	Pedal 1 Polarity	(0 - 1) STANDARD, REVERSE
00 09	0aaa aaaa	Pedal 2 Assign	(0 - 106) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND-DOWN, BEND-UP, AFT, START/STOP, TAP-TEMPO, STUDIO-DOWN, STUDIO-UP, FAV-DOWN, FAV-UP, PANEL-DEC, PANEL-INC
00 0A	0000 0aaa	Pedal 2 Polarity	(0 - 1) STANDARD, REVERSE
00 0B	0000 aaaa	(reserve) <*>	

00 0C	0000 00aa	Beam Switch	(0 - 3)
			OFF, SOLO-SYN, EXPRESSION, ASSIGN
00 0D	0aaa aaaa	Beam Assign	(0 - 123)
			OFF, CC01 - CC31, OFF, CC33 - CC95, BEND-DOWN, BEND-UP, AFT, CUTOFF, RESO, ATK, REL, PAN, LEVEL, EQ_LO, EQ_MID1, EQ_MID2, EQ_MID3, EQ_HIGH, IN_LEVEL, KNOB_ASGN1, KNOB_ASGN2, KNOB_ASGN3, KNOB_ASGN4, KNOB_ASGN5, KNOB_ASGN6, COMP, TONE, CHORUS, REVERB, TFX_SEL, TFX_CTRL,PAD
00 0E	0aaa aaaa	Beam Range Lower	(0 - 127)
00 0F	0aaa aaaa	Beam Range Upper	(0 - 127)
00 10	0000 0aaa	Beam Assign Pad Bank	(0 - 3)
00 11	0000 aaaa	Beam Assign Pad Number	(0 - 15)
00 12	0000 0aaa	Beam Assign Konb Polarity	(0 - 1)
			STANDARD, REVERSE
00 13	0000 000a	Switch S1 Assign Mode	(0 - 1)
			MOMENTARY, LATCH
00 14	0aaa aaaa	Switch S1 Assign	(0 - 103)
			OFF, CC01 - CC31, OFF, CC33 - CC95, AFT, MONO-POLY, CHO-SW, REV-SW, MASTER-EQ-SW, TFX-SW, MASTER-KEY-DOWN, MASTER-KEY-UP
00 15	0000 000a	Switch S2 Assign Mode	(0 - 1)
			MOMENTARY, LATCH
00 16	0aaa aaaa	Switch S2 Assign	(0 - 103)
			OFF, CC01 - CC31, OFF, CC33 - CC95, AFT, MONO-POLY, CHO-SW, REV-SW, MASTER-EQ-SW, TFX-SW, MASTER-KEY-DOWN, MASTER-KEY-UP
00 17	0000 aaaa	(reserve) <*>	
00 18	0000 00aa	Sound Modify Select	(0 - 3)
00 19	0aaa aaaa	Sound Modify Knob 1 Assign	(0 - 100)
			OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT, TFX_PRM1, TFX_PRM2, TFX_PRM3
00 1A	0aaa aaaa	Sound Modify Knob 2 Assign	(0 - 100)
			OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT, TFX_PRM1, TFX_PRM2, TFX_PRM3
00 1B	0aaa aaaa	Sound Modify Knob 3 Assign	(0 - 100)
			OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT, TFX_PRM1, TFX_PRM2, TFX_PRM3
00 1C	0aaa aaaa	Sound Modify Knob 4 Assign	(0 - 100)
			OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT, TFX_PRM1, TFX_PRM2, TFX_PRM3
00 1D	0aaa aaaa	Sound Modify Knob 5 Assign	(0 - 100)
			OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT, TFX_PRM1, TFX_PRM2, TFX_PRM3
00 1E	0aaa aaaa	Sound Modify Knob 6 Assign	(0 - 100)
			OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT, TFX_PRM1, TFX_PRM2, TFX_PRM3
00 1F	0000 000a	D-Beam Assign Source	(0 - 1)
			SYS, STUDIO
00 20	0000 000a	S1/S2 Assign Source	(0 - 1)
			SYS, STUDIO
00 21	0000 000a	Pedal Assign Source	(0 - 1)
			SYS, STUDIO
00 22	0000 000a	Knob Assign Source	(0 - 1)
			SYS, STUDIO
00 23	0000 000a	Knob Mode	(0 - 1)
			DIRECT, CATCH
00 24	0000 000a	Auto Knob Reset for Single	(0 - 1)
			OFF, ON
00 25	00aa aaaa	(reserve) <*>	
:			
00 2C	0aaa aaaa	(reserve) <*>	
00 00 00 2D	Total Size		

* Studio Set Common

Offset Address		Description	
00 00	0aaa aaaa	Studio Set Name 1	(32 - 127)
			32 - 127 [ASCII]
00 01	0aaa aaaa	Studio Set Name 2	(32 - 127)
			32 - 127 [ASCII]
00 02	0aaa aaaa	Studio Set Name 3	(32 - 127)
			32 - 127 [ASCII]
00 03	0aaa aaaa	Studio Set Name 4	(32 - 127)
			32 - 127 [ASCII]
00 04	0aaa aaaa	Studio Set Name 5	(32 - 127)
			32 - 127 [ASCII]
00 05	0aaa aaaa	Studio Set Name 6	(32 - 127)
			32 - 127 [ASCII]
00 06	0aaa aaaa	Studio Set Name 7	(32 - 127)
			32 - 127 [ASCII]
00 07	0aaa aaaa	Studio Set Name 8	(32 - 127)
			32 - 127 [ASCII]
00 08	0aaa aaaa	Studio Set Name 9	(32 - 127)
			32 - 127 [ASCII]
00 09	0aaa aaaa	Studio Set Name 10	(32 - 127)
			32 - 127 [ASCII]
00 0A	0aaa aaaa	Studio Set Name 11	(32 - 127)
			32 - 127 [ASCII]
00 0B	0aaa aaaa	Studio Set Name 12	(32 - 127)
			32 - 127 [ASCII]
00 0C	0aaa aaaa	Studio Set Name 13	(32 - 127)
			32 - 127 [ASCII]
00 0D	0aaa aaaa	Studio Set Name 14	(32 - 127)
			32 - 127 [ASCII]
00 0E	0aaa aaaa	Studio Set Name 15	(32 - 127)
			32 - 127 [ASCII]
00 0F	0aaa aaaa	Studio Set Name 16	(32 - 127)
			32 - 127 [ASCII]
00 10	0aaa aaaa	(reserve) <*>	
:			
00 13	00aa aaaa	(reserve) <*>	
00 14	0aaa aaaa	Voice Reserve 1	(0 - 64)
			0 - 63, FULL
00 15	0aaa aaaa	Voice Reserve 2	(0 - 64)
			0 - 63, FULL
00 16	0aaa aaaa	Voice Reserve 3	(0 - 64)
			0 - 63, FULL
00 17	0aaa aaaa	Voice Reserve 4	(0 - 64)
			0 - 63, FULL
00 18	0aaa aaaa	Voice Reserve 5	(0 - 64)
			0 - 63, FULL
00 19	0aaa aaaa	Voice Reserve 6	(0 - 64)
			0 - 63, FULL
00 1A	0aaa aaaa	Voice Reserve 7	(0 - 64)
			0 - 63, FULL
00 1B	0aaa aaaa	Voice Reserve 8	(0 - 64)
			0 - 63, FULL
00 1C	0aaa aaaa	Voice Reserve 9	(0 - 64)
			0 - 63, FULL
00 1D	0aaa aaaa	Voice Reserve 10	(0 - 64)
			0 - 63, FULL
00 1E	0aaa aaaa	Voice Reserve 11	(0 - 64)
			0 - 63, FULL
00 1F	0aaa aaaa	Voice Reserve 12	(0 - 64)
			0 - 63, FULL
00 20	0aaa aaaa	Voice Reserve 13	(0 - 64)
			0 - 63, FULL
00 21	0aaa aaaa	Voice Reserve 14	(0 - 64)
			0 - 63, FULL
00 22	0aaa aaaa	Voice Reserve 15	(0 - 64)
			0 - 63, FULL
00 23	0aaa aaaa	Voice Reserve 16	(0 - 64)
			0 - 63, FULL
00 24	0aaa aaaa	(reserve) <*>	
:			
00 33	0aaa aaaa	(reserve) <*>	
00 34	0000 aaaa		(0 - 15)
00 35	0aaa aaaa	Tone Control 1 Source	(0 - 97)
			OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT
00 36	0aaa aaaa	Tone Control 2 Source	(0 - 97)
			OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT
00 37	0aaa aaaa	Tone Control 3 Source	(0 - 97)
			OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT
00 38	0aaa aaaa	Tone Control 4 Source	(0 - 97)
			OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT
00 39	000a aaaa	Solo Part	(0 - 16)
			OFF, 1 - 16
00 3A	0000 000a	Drum Comp/EQ Switch	(0 - 1)
			OFF, ON
00 3B	0000 aaaa	Drum Comp/EQ Part	(0 - 15)
			1 - 16
00 3C	0000 00aa	Drum Comp/EQ 1 Output Assign	(0 - 1)
			PART, SUB
00 3D	0000 00aa	Drum Comp/EQ 2 Output Assign	(0 - 1)
			PART, SUB
00 3E	0000 00aa	Drum Comp/EQ 3 Output Assign	(0 - 1)
			PART, SUB
00 3F	0000 00aa	Drum Comp/EQ 4 Output Assign	(0 - 1)
			PART, SUB
00 40	0000 00aa	Drum Comp/EQ 5 Output Assign	(0 - 1)
			PART, SUB
00 41	0000 00aa	Drum Comp/EQ 6 Output Assign	(0 - 1)
			PART, SUB
00 42	0000 000a	Master Comp/IFX Select	(0 - 1)
			MASTER-COMP, IFX
00 43	0000 000a	IFX Part1 Switch	(0 - 1)
			OFF, ON
00 44	0000 000a	IFX Part2 Switch	(0 - 1)
			OFF, ON
00 45	0000 000a	IFX Part3 Switch	(0 - 1)
			OFF, ON
00 46	0000 000a	IFX Part4 Switch	(0 - 1)
			OFF, ON
00 47	0000 000a	IFX Part5 Switch	(0 - 1)
			OFF, ON
00 48	0000 000a	IFX Part6 Switch	(0 - 1)
			OFF, ON
00 49	0000 000a	IFX Part7 Switch	(0 - 1)
			OFF, ON
00 4A	0000 000a	IFX Part8 Switch	(0 - 1)
			OFF, ON
00 4B	0000 000a	IFX Part9 Switch	(0 - 1)
			OFF, ON
00 4C	0000 000a	IFX Part10 Switch	(0 - 1)
			OFF, ON
00 4D	0000 000a	IFX Part11 Switch	(0 - 1)
			OFF, ON
00 4E	0000 000a	IFX Part12 Switch	(0 - 1)
			OFF, ON
00 4F	0000 000a	IFX Part13 Switch	(0 - 1)
			OFF, ON
00 50	0000 000a	IFX Part14 Switch	(0 - 1)

			OFF, ON
00 51	0000 000a	IFX Part15 Switch	(0 - 1) OFF, ON
00 52	0000 000a	IFX Part16 Switch	(0 - 1) OFF, ON
00 53	000a aaaa	(reserve) <*>	
00 54	0000 aaaa	Current Part	(0 - 15) 1 - 16
00 55	0aaa aaaa	(reserve) <*>	
:			
00 5C	0aaa aaaa	(reserve) <*>	
00 00 00 5D	Total Size		

* Studio Set Chorus

Offset Address		Description	
00 00	0000 000a	Chorus Switch	(0 - 1) OFF, ON
00 01	0000 aaaa	Chorus Type	(0 - 3)
00 02	0aaa aaaa	Chorus Level	(0 - 127)
00 03	0000 00aa	Chorus Output Assign <*>	(0 - 1) MAIN, SUB
00 04	0000 00aa	Chorus Output Select	(0 - 2) MAIN, REV, MAIN+REV
# 00 05	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 1	(12768 - 52768) -20000 - +20000
# 00 09	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 2	(12768 - 52768) -20000 - +20000
# 00 0D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 3	(12768 - 52768) -20000 - +20000
# 00 11	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 4	(12768 - 52768) -20000 - +20000
# 00 15	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 5	(12768 - 52768) -20000 - +20000
# 00 19	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 6	(12768 - 52768) -20000 - +20000
# 00 1D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 7	(12768 - 52768) -20000 - +20000
# 00 21	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 8	(12768 - 52768) -20000 - +20000
# 00 25	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 9	(12768 - 52768) -20000 - +20000
# 00 29	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 10	(12768 - 52768) -20000 - +20000
# 00 2D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 11	(12768 - 52768) -20000 - +20000
# 00 31	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 12	(12768 - 52768) -20000 - +20000
# 00 35	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 13	(12768 - 52768) -20000 - +20000
# 00 39	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 14	(12768 - 52768) -20000 - +20000
# 00 3D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 15	(12768 - 52768) -20000 - +20000
# 00 41	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 16	(12768 - 52768) -20000 - +20000
# 00 45	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 17	(12768 - 52768) -20000 - +20000
# 00 49	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 18	(12768 - 52768) -20000 - +20000
# 00 4D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 19	(12768 - 52768) -20000 - +20000
# 00 51	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 20	(12768 - 52768) -20000 - +20000
00 00 00 55	Total Size		

* Studio Set Reverb

Offset Address		Description	
00 00	0000 000a	Reverb Switch	(0 - 1) OFF, ON
00 01	0000 aaaa	Reverb Type	(0 - 6)
00 02	0aaa aaaa	Reverb Level	(0 - 127)
00 03	0000 00aa	Reverb Output Assign <*>	(0 - 1) MAIN, SUB
# 00 04	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 1	(12768 - 52768) -20000 - +20000
# 00 08	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 2	(12768 - 52768) -20000 - +20000
# 00 0C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 3	(12768 - 52768) -20000 - +20000
# 00 10	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 4	(12768 - 52768) -20000 - +20000
# 00 14	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 5	(12768 - 52768) -20000 - +20000
# 00 18	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 6	(12768 - 52768) -20000 - +20000
# 00 1C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 7	(12768 - 52768) -20000 - +20000
# 00 20	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 8	(12768 - 52768) -20000 - +20000
# 00 24	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 9	(12768 - 52768) -20000 - +20000
# 00 28	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 10	(12768 - 52768) -20000 - +20000
# 00 2C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 11	(12768 - 52768) -20000 - +20000
# 00 30	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 12	(12768 - 52768) -20000 - +20000
# 00 34	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 13	(12768 - 52768) -20000 - +20000
# 00 38	0000 aaaa 0000 bbbb 0000 cccc		

	0000 dddd	Reverb Parameter 14	(12768 - 52768) -20000 - +20000
# 00 3C	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Reverb Parameter 15	(12768 - 52768) -20000 - +20000
# 00 40	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Reverb Parameter 16	(12768 - 52768) -20000 - +20000
# 00 44	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Reverb Parameter 17	(12768 - 52768) -20000 - +20000
# 00 48	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Reverb Parameter 18	(12768 - 52768) -20000 - +20000
# 00 4C	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Reverb Parameter 19	(12768 - 52768) -20000 - +20000
# 00 50	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Reverb Parameter 20	(12768 - 52768) -20000 - +20000
# 00 54	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Reverb Parameter 21	(12768 - 52768) -20000 - +20000
# 00 58	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Reverb Parameter 22	(12768 - 52768) -20000 - +20000
# 00 5C	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Reverb Parameter 23	(12768 - 52768) -20000 - +20000
# 00 60	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Reverb Parameter 24	(12768 - 52768) -20000 - +20000
00 00 00 64	Total Size		

* IFX

Offset Address		Description	
00 00	0000 000a	IFX Switch	(0 - 1) OFF, ON
00 01	0aaa aaaa	IFX Type	(0 - 78)
00 02	0aaa aaaa	(reserve) <*>	
00 03	0aaa aaaa	IFX Chorus Send Level	(0 - 127)
00 04	0aaa aaaa	IFX Reverb Send Level	(0 - 127)
00 05	0000 00aa	IFX Output Assign <*>	(0 - 1) MAIN, SUB
00 06	0aaa aaaa	(reserve) <*>	
00 07	0aaa aaaa	(reserve) <*>	
00 08	0aaa aaaa	(reserve) <*>	
00 09	0aaa aaaa	(reserve) <*>	
00 0A	0aaa aaaa	(reserve) <*>	
00 0B	0aaa aaaa	(reserve) <*>	
00 0C	0aaa aaaa	(reserve) <*>	
00 0D	0aaa aaaa	(reserve) <*>	
00 0E	000a aaaa	(reserve) <*>	
00 0F	000a aaaa	(reserve) <*>	
00 10	000a aaaa	(reserve) <*>	
00 11	000a aaaa	(reserve) <*>	
# 00 12	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 1	(12768 - 52768) -20000 - +20000
# 00 16	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 2	(12768 - 52768) -20000 - +20000
# 00 1A	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 3	(12768 - 52768) -20000 - +20000
# 00 1E	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 4	(12768 - 52768) -20000 - +20000
# 00 22	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 5	(12768 - 52768) -20000 - +20000
# 00 26	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 6	(12768 - 52768) -20000 - +20000
# 00 2A	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 7	(12768 - 52768) -20000 - +20000
# 00 2E	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 8	(12768 - 52768) -20000 - +20000
# 00 32	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 9	(12768 - 52768) -20000 - +20000
# 00 36	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 10	(12768 - 52768) -20000 - +20000
# 00 3A	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 11	(12768 - 52768) -20000 - +20000
# 00 3E	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 12	(12768 - 52768) -20000 - +20000
# 00 42	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 13	(12768 - 52768) -20000 - +20000
# 00 46	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 14	(12768 - 52768) -20000 - +20000
# 00 4A	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 15	(12768 - 52768) -20000 - +20000
# 00 4E	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 16	(12768 - 52768) -20000 - +20000
# 00 52	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 17	(12768 - 52768) -20000 - +20000
# 00 56	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 18	(12768 - 52768) -20000 - +20000
# 00 5A	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 19	(12768 - 52768) -20000 - +20000
# 00 5E	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 20	(12768 - 52768) -20000 - +20000
# 00 62	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 21	(12768 - 52768) -20000 - +20000
# 00 66	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 22	(12768 - 52768) -20000 - +20000
# 00 6A	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 23	(12768 - 52768) -20000 - +20000
# 00 6E	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 24	(12768 - 52768) -20000 - +20000
# 00 72	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 25	(12768 - 52768) -20000 - +20000
# 00 76	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	IFX Parameter 26	(12768 - 52768) -20000 - +20000
# 00 7A	0000 aaaa		

	0000 bbbb			
	0000 cccc			
	0000 dddd	IFX Parameter 27	(12768 - 52768)	
			-20000 - +20000	
# 00 7E	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	IFX Parameter 28	(12768 - 52768)	
			-20000 - +20000	
# 01 02	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	IFX Parameter 29	(12768 - 52768)	
			-20000 - +20000	
# 01 06	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	IFX Parameter 30	(12768 - 52768)	
			-20000 - +20000	
# 01 0A	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	IFX Parameter 31	(12768 - 52768)	
			-20000 - +20000	
# 01 0E	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	IFX Parameter 32	(12768 - 52768)	
			-20000 - +20000	
00 00 01 12	Total Size			

* Studio Set Master Comp

Offset Address		Description	
00 00	0000 000a	Master Comp Switch	(0 - 1) OFF, ON
00 01	0aaa aaaa	Low band Attack time	(0 - 100)
00 02	0aaa aaaa	Low band Release time	(0 - 100)
00 03	00aa aaaa	Low band Threshold	(0 - 36) -36, -35, -34, -33, -32, -31, -30, -29, -28, -27, -26, -25, -24, -23, -22, -21, -20, -19, -18, -17, -16, -15, -14, -13, -12, -11, -10, -9, -8, -7, -6, -5, -4, -3, -2, -1, 0 [dB]
00 04	0000 aaaa	Low band Ratio	(0 - 13) 1:1.0, 1:1.1, 1:1.2, 1:1.4, 1:1.6, 1:1.8, 1:2.0, 1:2.5, 1:3.2, 1:4.0, 1:5.6, 1:8.0, 1:16, 1:INF
00 05	000a aaaa	Low band Level	(0 - 24) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 [dB]
00 06	0aaa aaaa	Mid band Attack time	(0 - 100)
00 07	0aaa aaaa	Mid band Release time	(0 - 100)
00 08	00aa aaaa	Mid band Threshold	(0 - 36) -36, -35, -34, -33, -32, -31, -30, -29, -28, -27, -26, -25, -24, -23, -22, -21, -20, -19, -18, -17, -16, -15, -14, -13, -12, -11, -10, -9, -8, -7, -6, -5, -4, -3, -2, -1, 0 [dB]
00 09	0000 aaaa	Mid band Ratio	(0 - 13) 1:1.0, 1:1.1, 1:1.2, 1:1.4, 1:1.6, 1:1.8, 1:2.0, 1:2.5, 1:3.2, 1:4.0, 1:5.6, 1:8.0, 1:16, 1:INF
00 0A	000a aaaa	Mid band Level	(0 - 24) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 [dB]
00 0B	0aaa aaaa	High band Attack time	(0 - 100)
00 0C	0aaa aaaa	High band Release time	(0 - 100)
00 0D	00aa aaaa	High band Threshold	(0 - 36) -36, -35, -34, -33, -32, -31, -30, -29, -28, -27, -26, -25, -24, -23, -22, -21, -20, -19, -18, -17, -16, -15, -14, -13, -12, -11, -10, -9, -8, -7, -6, -5, -4, -3, -2, -1, 0 [dB]
00 0E	0000 aaaa	High band Ratio	(0 - 13) 1:1.0, 1:1.1, 1:1.2, 1:1.4, 1:1.6, 1:1.8, 1:2.0, 1:2.5, 1:3.2, 1:4.0, 1:5.6, 1:8.0, 1:16, 1:INF
00 0F	000a aaaa	High band Level	(0 - 24) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 [dB]
00 10	0000 0aaa	Split Freq Low	(0 - 6) 200, 250, 315, 400, 500, 630, 800 [Hz]
00 11	0000 0aaa	Split Freq High	(0 - 6) 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
00 00 00 12	Total Size		

* Studio Set MIDI

Offset Address		Description	
00 00	0000 000a	Phase Lock	(0 - 1) OFF, ON
00 00 00 01	Total Size		

* Studio Set Part

Offset Address		Description	
00 00	0000 aaaa	Receive Channel	(0 - 15) 1 - 16
00 01	0000 000a	Part Switch	(0 - 1) OFF, ON
00 02	0000 000a	Receive Src1	(0 - 1) OFF, ON
00 03	0000 000a	Receive Src2	(0 - 1) OFF, ON
00 04	0000 000a	Receive Src3	(0 - 1) OFF, ON
00 05	0000 000a	Receive Src4	(0 - 1) OFF, ON
00 06	0aaa aaaa	Tone Bank Select MSB (CC# 0)	(0 - 127)
00 07	0aaa aaaa	Tone Bank Select LSB (CC# 32)	(0 - 127)
00 08	0aaa aaaa	Tone Program Number (PC)	(0 - 127)
00 09	0aaa aaaa	Part Level (CC# 7)	(0 - 127)
00 0A	0aaa aaaa	Part Pan (CC# 10)	(0 - 127) L64 - 63R
00 0B	0aaa aaaa	Part Coarse Tune (RPN# 2)	(16 - 112) -48 - +48
00 0C	0aaa aaaa	Part Fine Tune (RPN# 1)	(14 - 114) -50 - +50
00 0D	0000 00aa	Part Mono/Poly (MONO ON/POLY ON)	(0 - 2) MONO, POLY, TONE
00 0E	0000 00aa	Part Legato Switch (CC# 68)	(0 - 2) OFF, ON, TONE
00 0F	000a aaaa	Part Pitch Bend Range (RPN# 0)	(0 - 25) 0 - 24, TONE
00 10	0000 00aa	Part Portamento Switch (CC# 65)	(0 - 2) OFF, ON, TONE
# 00 11	0000 aaaa		
	0000 bbbb	Part Portamento Time (CC# 5)	(0 - 128) 0 - 127, TONE
00 13	0aaa aaaa	Part Cutoff Offset (CC# 74)	(0 - 127) -64 - +63
00 14	0aaa aaaa	Part Resonance Offset (CC# 71)	(0 - 127) -64 - +63
00 15	0aaa aaaa	Part Attack Time Offset (CC# 73)	(0 - 127) -64 - +63
00 16	0aaa aaaa	Part Decay Time Offset (CC# 75)	(0 - 127) -64 - +63
00 17	0aaa aaaa	Part Release Time Offset (CC# 72)	(0 - 127) -64 - +63
00 18	0aaa aaaa	Part Vibrato Rate (CC# 76)	(0 - 127) -64 - +63
00 19	0aaa aaaa	Part Vibrato Depth (CC# 77)	(0 - 127) -64 - +63
00 1A	0aaa aaaa	Part Vibrato Delay (CC# 78)	(0 - 127) -64 - +63
00 1B	0000 0aaa	Part Octave Shift	(61 - 67) -3 - +3
00 1C	0aaa aaaa	Part Velocity Sens Offset	(1 - 127) -63 - +63
00 1D : 00 20	0aaa aaaa	(reserve) <*> : (reserve) <*>	
00 21	0aaa aaaa	Velocity Range Lower	0 - 127 (1 - 127) 1 - UPPER
00 22	0aaa aaaa	Velocity Range Upper	(0 - 127) LOWER - 127
00 23	0aaa aaaa	Velocity Fade Width Lower	(0 - 127)
00 24	0aaa aaaa	Velocity Fade Width Upper	(0 - 127)
00 25	0000 000a	Mute Switch	(0 - 1) OFF, MUTE
00 26 : 00 29	0aaa aaaa	(reserve) <*> : (reserve) <*>	
00 2A	0aaa aaaa	(reserve) <*>	
00 2B	0aaa aaaa	Part Chorus Send Level (CC# 93)	(0 - 127)
00 2C	0aaa aaaa	Part Reverb Send Level (CC# 91)	(0 - 127)
00 2D	0000 000a	Part Output Assign	(0 - 1) MAIN, SUB
00 2E	0000 00aa	(reserve) <*>	
00 2F	0aaa aaaa	Part Scale Tune Type	(0 - 8) CUSTOM, EQUAL, JUST-MAJ, JUST-MIN, PYTHAGORE, KIRNBERGE, MEANTONE, WERCKMEIS, ARABIC
00 30	0aaa aaaa	Part Scale Tune Key	(0 - 11) C, C#, D, D#, E, F, F#, G, G#, A, A#, B
00 31	0aaa aaaa	Part Scale Tune for C	(0 - 127) -64 - +63
00 32	0aaa aaaa	Part Scale Tune for C#	(0 - 127)

			-64 - +63
00 33	0aaa aaaa	Part Scale Tune for D	(0 - 127) -64 - +63
00 34	0aaa aaaa	Part Scale Tune for D#	(0 - 127) -64 - +63
00 35	0aaa aaaa	Part Scale Tune for E	(0 - 127) -64 - +63
00 36	0aaa aaaa	Part Scale Tune for F	(0 - 127) -64 - +63
00 37	0aaa aaaa	Part Scale Tune for F#	(0 - 127) -64 - +63
00 38	0aaa aaaa	Part Scale Tune for G	(0 - 127) -64 - +63
00 39	0aaa aaaa	Part Scale Tune for G#	(0 - 127) -64 - +63
00 3A	0aaa aaaa	Part Scale Tune for A	(0 - 127) -64 - +63
00 3B	0aaa aaaa	Part Scale Tune for A#	(0 - 127) -64 - +63
00 3C	0aaa aaaa	Part Scale Tune for B	(0 - 127) -64 - +63
00 3D	0000 000a	Receive Program Change	(0 - 1) OFF, ON
00 3E	0000 000a	Receive Bank Select	(0 - 1) OFF, ON
00 3F	0000 000a	Receive Pitch Bend	(0 - 1) OFF, ON
00 40	0000 000a	Receive Polyphonic Key Pressure	(0 - 1) OFF, ON
00 41	0000 000a	Receive Channel Pressure	(0 - 1) OFF, ON
00 42	0000 000a	Receive Modulation	(0 - 1) OFF, ON
00 43	0000 000a	Receive Volume	(0 - 1) OFF, ON
00 44	0000 000a	Receive Pan	(0 - 1) OFF, ON
00 45	0000 000a	Receive Expression	(0 - 1) OFF, ON
00 46	0000 000a	Receive Hold-1	(0 - 1) OFF, ON
00 47	0000 0aaa	Velocity Curve Type	(0 - 4) OFF, 1 - 4
00 48 : 00 4B	0aaa aaaa	(reserve) <*> (reserve) <*>	
00 00 00 4C	Total Size		

* Studio Set Part EQ

Offset Address		Description	
00 00	0000 000a	EQ Switch	(0 - 1) OFF, ON
00 01	000a aaaa	EQ Low Freq	(0 - 17) 16,20,25,31,40, 50,63,80,100,125, 160,200,250,315,400, 500,630,800 [Hz]
00 02	000a aaaa	EQ Low Gain	(0 - 30) -15 - +15 [dB]
00 03	000a aaaa	EQ Mid Freq	(0 - 30) 16,20,25,31,40, 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, 16000,[Hz]
00 04	000a aaaa	EQ Mid Gain	(0 - 30) -15 - +15 [dB]
00 05	0000 0aaa	EQ Mid Q	(0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 06	0000 aaaa	EQ High Freq	(0 - 14) 630,800,1000,1250,1600, 2000,2500,3150,4000,5000, 6300,8000,10000,12500,16000,[Hz]
00 07	000a aaaa	EQ High Gain	(0 - 30) -15 - +15 [dB]
00 00 00 08	Total Size		

* Studio Set Zone

Offset Address		Description	
00 00	0aaa aaaa	Keyboard Range Lower	(0 - 127) C-1 - UPPER
00 01	0aaa aaaa	Keyboard Range Upper	(0 - 127) LOWER - G9
00 02	0000 000a	Keyboard Switch	(0 - 1) OFF, ON
00 03	0000 000a	Arpeggio Switch	(0 - 1) OFF, ON
00 04	0000 000a	Control Bender	(0 - 1) OFF, ON
00 05	0000 000a	(reserve) <*>	
00 06	0000 000a	Control Modulation	(0 - 1) OFF, ON
00 07	0000 000a	Control Hold Pedal	(0 - 1) OFF, ON
00 08	0000 000a	Control Pedal 1	(0 - 1) OFF, ON
00 09	0000 000a	Control Pedal 2	(0 - 1) OFF, ON
00 0A	0000 000a	Control DBeam	(0 - 1) OFF, ON
00 0B	0000 000a	Control S1	(0 - 1) OFF, ON
00 0C	0000 000a	Control S2	(0 - 1) OFF, ON
00 0D	0000 000a	(reserve) <*>	
00 0E : 00 22	0000 aaaa 0aaa aaaa	(reserve) <*> (reserve) <*>	
00 00 00 23	Total Size		

* Studio Set Controller

Offset Address		Description	
00 00	0aaa aaaa	Pedal 1 Assign	(0 - 98) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND-DOWN, BEND-UP, AFT
00 01	0aaa aaaa	Pedal 2 Assign	(0 - 98) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND-DOWN, BEND-UP, AFT
00 02	0000 aaaa	(reserve) <*>	
00 03	0000 00aa	Beam Switch	(0 - 3) OFF, SOLO-SYN, EXPRESSION, ASSIGN
00 04	0aaa aaaa	Beam Assign	(0 - 123) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND-DOWN, BEND-UP, AFT, CUTOFF, RESO, ATK, REL, PAN, LEVEL, EQ_LO, EQ_MID1, EQ_MID2, EQ_MID3, EQ_HIGH, IN_LEVEL, KNOB_ASGN1, KNOB_ASGN2, KNOB_ASGN3, KNOB_ASGN4, KNOB_ASGN5, KNOB_ASGN6, COMP, TONE, CHORUS, REVERB, TFX_SEL, TFX_CTRL, PAD
00 05	0aaa aaaa	Beam Range Lower	(0 - 127)
00 06	0aaa aaaa	Beam Range Upper	(0 - 127)
00 07	0000 0aaa	Beam Assign Pad Bank	(0 - 3)
00 08	0000 aaaa	Beam Assign Pad Number	(0 - 15)
00 09	0000 0aaa	Beam Assign Konb Polarity	(0 - 1) STANDARD, REVERSE
00 0A	0000 000a	Switch S1 Assign Mode	(0 - 1) MOMENTARY, LATCH
00 0B	0aaa aaaa	Switch S1 Assign	(0 - 103) OFF, CC01 - CC31, OFF, CC33 - CC95, AFT, MONO-POLY, CHO-SW, REV-SW, MASTER-EQ-SW, TFX-SW, MASTER-KEY-DOWN, MASTER-KEY-UP
00 0C	0000 000a	Switch S2 Assign Mode	(0 - 1) MOMENTARY, LATCH
00 0D	0aaa aaaa	Switch S2 Assign	(0 - 103) OFF, CC01 - CC31, OFF, CC33 - CC95, AFT, MONO-POLY, CHO-SW, REV-SW, MASTER-EQ-SW, TFX-SW, MASTER-KEY-DOWN, MASTER-KEY-UP
00 0E	0000 aaaa	(reserve) <*>	
00 0F	0000 00aa	Sound Modify Select	(0 - 3)
00 10	0aaa aaaa	Sound Modify Knob 1 Assign	(0 - 100) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT, TFX_PRM1, TFX_PRM2, TFX_PRM3
00 11	0aaa aaaa	Sound Modify Knob 2 Assign	(0 - 100) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT, TFX_PRM1, TFX_PRM2, TFX_PRM3
00 12	0aaa aaaa	Sound Modify Knob 3 Assign	(0 - 100) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT, TFX_PRM1, TFX_PRM2, TFX_PRM3
00 13	0aaa aaaa	Sound Modify Knob 4 Assign	(0 - 100) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT, TFX_PRM1, TFX_PRM2, TFX_PRM3
00 14	0aaa aaaa	Sound Modify Knob 5 Assign	(0 - 100) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT, TFX_PRM1, TFX_PRM2, TFX_PRM3
00 15	0aaa aaaa	Sound Modify Knob 6 Assign	(0 - 100) OFF, CC01 - CC31, OFF, CC33 - CC95, BEND, AFT, TFX_PRM1, TFX_PRM2, TFX_PRM3
00 16	0000 000a	Arpeggio Switch	(0 - 1) OFF, ON
00 17	0000 000a	Arpeggio Hold	(0 - 1) OFF, ON
00 18	0000 aaaa		(0 - 15)
00 19	0000 00aa	Arp/Chd Zone for Split	(0 - 2) BOTH, LOWER, UPPER
00 1A	0000 00aa	Arp/Chd Zone for Dual	(0 - 2) BOTH, LOWER, UPPER
00 1B	0000 000a	Chord Switch	(0 - 1) OFF, ON
00 1C	0000 000a	Rhythm Pattern Key Trigger	(0 - 1) OFF, ON
00 1D	0000 aaaa	(reserve) <*>	
00 1E	0000 00aa	Keyboard Mode	(0 - 3) SINGLE, SPLIT, DUAL, STUDIO
00 1F	0aaa aaaa	Split Point	(0 - 127)

Offset Address		Description	
00 20	0000 000a	Arpeggio Bank	(0 - 1) PRESET, USER
00 21	0aaa aaaa	Arpeggio Style	(0 - 127)
00 22	0aaa aaaa	Arpeggio Variation	(0 - 127)
00 23	0000 aaaa	Arpeggio Motif	(0 - 9) UP, DOWN, UP&DOWN, RANDOM, NOTE-ORDER, GLISSANDO, CHORD, AUTO1, AUTO2, PHRASE
00 24	0aaa aaaa	Arpeggio Accent Rate	(0 - 100)
00 25	0aaa aaaa	Arpeggio Shuffle Rate	(0 - 100)
00 26	0000 000a	Arpeggio Shuffle Resolution	(0 - 1) 16TH, 8TH
00 27	0aaa aaaa	Arpeggio Keyboard Velocity	(0 - 127) REAL, 1 - 127
00 28	0000 0aaa	Arpeggio Octave Range	(61 - 67) -3 - +3
00 29	0000 000a	Arpeggio Key Trigger	(0 - 1) OFF, ON
00 2A	000a aaaa	Chord Form	(0 - 16) 1 - 17
00 2B	0000 aaaa	Chord Key	(59 - 70) -5 - +6
00 2C	0000 000a	Rolled Chord	(0 - 1) OFF, ON
00 2D	0000 0aaa	Rolled Chord Type	(0 - 2) UP, DOWN, ALTERNATE
00 2E	0000 000a	Rhythm Pattern Bank	(0 - 1) PRESET, USER
00 2F	0aaa aaaa	Rhythm Pattern Variation	(0 - 127)
00 30	0aaa aaaa	Rhythm Pattern Number	(0 - 127)
00 31 : 00 33	0000 000a	(reserve) <*>	
00 34	000a aaaa	Pad Part Select	(0 - 16) 1 - 16, OFF
00 35 : 00 3D	0000 000a 0aaa aaaa	(reserve) <*> (reserve) <*>	
00 00 00 3E		Total Size	

PCM Synth Tone Common

Offset Address		Description	
00 00	0aaa aaaa	PCM Synth Tone Name 1	(32 - 127) 32 - 127 [ASCII]
00 01	0aaa aaaa	PCM Synth Tone Name 2	(32 - 127) 32 - 127 [ASCII]
00 02	0aaa aaaa	PCM Synth Tone Name 3	(32 - 127) 32 - 127 [ASCII]
00 03	0aaa aaaa	PCM Synth Tone Name 4	(32 - 127) 32 - 127 [ASCII]
00 04	0aaa aaaa	PCM Synth Tone Name 5	(32 - 127) 32 - 127 [ASCII]
00 05	0aaa aaaa	PCM Synth Tone Name 6	(32 - 127) 32 - 127 [ASCII]
00 06	0aaa aaaa	PCM Synth Tone Name 7	(32 - 127) 32 - 127 [ASCII]
00 07	0aaa aaaa	PCM Synth Tone Name 8	(32 - 127) 32 - 127 [ASCII]
00 08	0aaa aaaa	PCM Synth Tone Name 9	(32 - 127) 32 - 127 [ASCII]
00 09	0aaa aaaa	PCM Synth Tone Name 10	(32 - 127) 32 - 127 [ASCII]
00 0A	0aaa aaaa	PCM Synth Tone Name 11	(32 - 127) 32 - 127 [ASCII]
00 0B	0aaa aaaa	PCM Synth Tone Name 12	(32 - 127) 32 - 127 [ASCII]
00 0C	0aaa aaaa	(reserve) <*>	
00 0D	0000 000a	(reserve) <*>	
00 0E	0aaa aaaa	PCM Synth Tone Level	(0 - 127)
00 0F	0aaa aaaa	PCM Synth Tone Pan	(0 - 127) L64 - 63R
00 10	0000 000a	PCM Synth Tone Priority	(0 - 1) LAST, LOUDEST
00 11	0aaa aaaa	PCM Synth Tone Coarse Tune	(16 - 112) -48 - +48
00 12	0aaa aaaa	PCM Synth Tone Fine Tune	(14 - 114) -50 - +50
00 13	0000 0aaa	Octave Shift	(61 - 67) -3 - +3
00 14	0000 00aa	Stretch Tune Depth	(0 - 3) OFF, 1 - 3
00 15	0aaa aaaa	Analog Feel	(0 - 127)
00 16	0000 000a	Mono/Poly	(0 - 1) MONO, POLY
00 17	0000 000a	Legato Switch	(0 - 1) OFF, ON
00 18	0000 000a	Legato Retrigger	(0 - 1) OFF, ON
00 19	0000 000a	Portamento Switch	(0 - 1) OFF, ON
00 1A	0000 000a	Portamento Mode	(0 - 1) NORMAL, LEGATO
00 1B	0000 000a	Portamento Type	(0 - 1) RATE, TIME
00 1C	0000 000a	Portamento Start	(0 - 1) PITCH, NOTE
00 1D	0aaa aaaa	Portamento Time	(0 - 127)
00 1E	0000 000a	(reserve) <*>	
# 00 1F	0000 aaaa		
	0000 bbbb	(reserve) <*>	
00 21	0000 000a	(reserve) <*>	
00 22	0aaa aaaa	Cutoff Offset	(1 - 127) -63 - +63
00 23	0aaa aaaa	Resonance Offset	(1 - 127) -63 - +63
00 24	0aaa aaaa	Attack Time Offset	(1 - 127) -63 - +63
00 25	0aaa aaaa	Release Time Offset	(1 - 127) -63 - +63
00 26	0aaa aaaa	Velocity Sens Offset	(1 - 127) -63 - +63
00 27	0000 aaaa	(reserve) <*>	
00 28	0000 000a	PMT Control Switch	(0 - 1) OFF, ON
00 29	00aa aaaa	Pitch Bend Range Up	(0 - 48)
00 2A	00aa aaaa	Pitch Bend Range Down	(0 - 48)
00 2B	0aaa aaaa	Matrix Control 1 Source	(0 - 109) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, CTRL1 - CTRL4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT-ENV, TVF-ENV, TVA-ENV
00 2C	00aa aaaa	Matrix Control 1 Destination 1	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
00 2D	0aaa aaaa	Matrix Control 1 Sens 1	(1 - 127) -63 - +63
00 2E	00aa aaaa	Matrix Control 1 Destination 2	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
00 2F	0aaa aaaa	Matrix Control 1 Sens 2	(1 - 127) -63 - +63
00 30	00aa aaaa	Matrix Control 1 Destination 3	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
00 31	0aaa aaaa	Matrix Control 1 Sens 3	(1 - 127) -63 - +63
00 32	00aa aaaa	Matrix Control 1 Destination 4	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
00 33	0aaa aaaa	Matrix Control 1 Sens 4	(1 - 127) -63 - +63
00 34	0aaa aaaa	Matrix Control 2 Source	(0 - 109) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, CTRL1 - CTRL4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT-ENV, TVF-ENV, TVA-ENV
00 35	00aa aaaa	Matrix Control 2 Destination 1	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
00 36	0aaa aaaa	Matrix Control 2 Sens 1	(1 - 127) -63 - +63
00 37	00aa aaaa	Matrix Control 2 Destination 2	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
00 38	0aaa aaaa	Matrix Control 2 Sens 2	(1 - 127)

			-63 - +63
	00 39	00aa aaaa	Matrix Control 2 Destination 3 (0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
	00 3A	0aaa aaaa	Matrix Control 2 Sens 3 (1 - 127) -63 - +63
	00 3B	00aa aaaa	Matrix Control 2 Destination 4 (0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
	00 3C	0aaa aaaa	Matrix Control 2 Sens 4 (1 - 127) -63 - +63
	00 3D	0aaa aaaa	Matrix Control 3 Source (0 - 109) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, CTRL1 - CTRL4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT-ENV, TVF-ENV, TVA-ENV
	00 3E	00aa aaaa	Matrix Control 3 Destination 1 (0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
	00 3F	0aaa aaaa	Matrix Control 3 Sens 1 (1 - 127) -63 - +63
	00 40	00aa aaaa	Matrix Control 3 Destination 2 (0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
	00 41	0aaa aaaa	Matrix Control 3 Sens 2 (1 - 127) -63 - +63
	00 42	00aa aaaa	Matrix Control 3 Destination 3 (0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
	00 43	0aaa aaaa	Matrix Control 3 Sens 3 (1 - 127) -63 - +63
	00 44	00aa aaaa	Matrix Control 3 Destination 4 (0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
	00 45	0aaa aaaa	Matrix Control 3 Sens 4 (1 - 127) -63 - +63
	00 46	0aaa aaaa	Matrix Control 4 Source (0 - 109) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, CTRL1 - CTRL4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT-ENV, TVF-ENV, TVA-ENV
	00 47	00aa aaaa	Matrix Control 4 Destination 1 (0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
	00 48	0aaa aaaa	Matrix Control 4 Sens 1 (1 - 127) -63 - +63
	00 49	00aa aaaa	Matrix Control 4 Destination 2 (0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
	00 4A	0aaa aaaa	Matrix Control 4 Sens 2 (1 - 127) -63 - +63
	00 4B	00aa aaaa	Matrix Control 4 Destination 3 (0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
	00 4C	0aaa aaaa	Matrix Control 4 Sens 3 (1 - 127) -63 - +63
	00 4D	00aa aaaa	Matrix Control 4 Destination 4 (0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, PMT, FXM, ---, ---, ---, ---
	00 4E	0aaa aaaa	Matrix Control 4 Sens 4 (1 - 127) -63 - +63
	00 4F	0000 000a	(reserve) <*>
00 00 00 50			Total Size

PCM Synth Tone Common MFX

Offset Address		Description
00 00	0aaa aaaa	MFX Type (0 - 67)
00 01	0aaa aaaa	(reserve) <*>
00 02	0aaa aaaa	MFX Chorus Send Level (0 - 127)
00 03	0aaa aaaa	MFX Reverb Send Level (0 - 127)
00 04	0000 00aa	(reserve) <*>
00 05	0aaa aaaa	MFX Control 1 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 06	0aaa aaaa	MFX Control 1 Sens (1 - 127) -63 - +63
00 07	0aaa aaaa	MFX Control 2 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 08	0aaa aaaa	MFX Control 2 Sens (1 - 127) -63 - +63
00 09	0aaa aaaa	MFX Control 3 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 0A	0aaa aaaa	MFX Control 3 Sens (1 - 127) -63 - +63
00 0B	0aaa aaaa	MFX Control 4 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 0C	0aaa aaaa	MFX Control 4 Sens (1 - 127) -63 - +63
00 0D	000a aaaa	MFX Control Assign 1 (0 - 16) OFF, 1 - 16
00 0E	000a aaaa	MFX Control Assign 2 (0 - 16) OFF, 1 - 16
00 0F	000a aaaa	MFX Control Assign 3 (0 - 16) OFF, 1 - 16
00 10	000a aaaa	MFX Control Assign 4 (0 - 16) OFF, 1 - 16
# 00 11	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 1 (12768 - 52768) -20000 - +20000
# 00 15	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 2 (12768 - 52768) -20000 - +20000
# 00 19	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 3 (12768 - 52768) -20000 - +20000
# 00 1D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 4 (12768 - 52768) -20000 - +20000
# 00 21	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 5 (12768 - 52768) -20000 - +20000
# 00 25	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 6 (12768 - 52768) -20000 - +20000
# 00 29	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 7 (12768 - 52768) -20000 - +20000

#	00 2D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 8	(12768 - 52768) -20000 - +20000
#	00 31	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 9	(12768 - 52768) -20000 - +20000
#	00 35	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 10	(12768 - 52768) -20000 - +20000
#	00 39	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 11	(12768 - 52768) -20000 - +20000
#	00 3D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 12	(12768 - 52768) -20000 - +20000
#	00 41	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 13	(12768 - 52768) -20000 - +20000
#	00 45	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 14	(12768 - 52768) -20000 - +20000
#	00 49	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 15	(12768 - 52768) -20000 - +20000
#	00 4D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 16	(12768 - 52768) -20000 - +20000
#	00 51	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 17	(12768 - 52768) -20000 - +20000
#	00 55	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 18	(12768 - 52768) -20000 - +20000
#	00 59	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 19	(12768 - 52768) -20000 - +20000
#	00 5D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 20	(12768 - 52768) -20000 - +20000
#	00 61	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 21	(12768 - 52768) -20000 - +20000
#	00 65	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 22	(12768 - 52768) -20000 - +20000
#	00 69	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 23	(12768 - 52768) -20000 - +20000
#	00 6D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 24	(12768 - 52768) -20000 - +20000
#	00 71	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 25	(12768 - 52768) -20000 - +20000
#	00 75	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 26	(12768 - 52768) -20000 - +20000
#	00 79	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 27	(12768 - 52768) -20000 - +20000
#	00 7D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 28	(12768 - 52768) -20000 - +20000
#	01 01	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 29	(12768 - 52768) -20000 - +20000
#	01 05	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 30	(12768 - 52768) -20000 - +20000
#	01 09	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 31	(12768 - 52768) -20000 - +20000
#	01 0D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 32	(12768 - 52768) -20000 - +20000
	00 00 01 11	Total Size		

PCM Synth Tone PMT (Partial Mix Table)

Offset Address		Description	
00 00	0000 aaaa	Structure Type 1 & 2	(0 - 9) 1 - 10
00 01	0000 00aa	Booster 1 & 2	(0 - 3) 0, +6, +12, +18 [dB]
00 02	0000 aaaa	Structure Type 3 & 4	(0 - 9) 1 - 10
00 03	0000 00aa	Booster 3 & 4	(0 - 3) 0, +6, +12, +18 [dB]
00 04	0000 00aa	PMT Velocity Control	(0 - 3) OFF, ON, RANDOM, CYCLE
00 05	0000 000a	PMT1 Partial Switch	(0 - 1) OFF, ON
00 06	0aaa aaaa	PMT1 Keyboard Range Lower	(0 - 127) C-1 - UPPER
00 07	0aaa aaaa	PMT1 Keyboard Range Upper	(0 - 127) LOWER - G9
00 08	0aaa aaaa	PMT1 Keyboard Fade Width Lower	(0 - 127)
00 09	0aaa aaaa	PMT1 Keyboard Fade Width Upper	(0 - 127)
00 0A	0aaa aaaa	PMT1 Velocity Range Lower	(1 - 127) 1 - UPPER
00 0B	0aaa aaaa	PMT1 Velocity Range Upper	(1 - 127) LOWER - 127
00 0C	0aaa aaaa	PMT1 Velocity Fade Width Lower	(0 - 127)
00 0D	0aaa aaaa	PMT1 Velocity Fade Width Upper	(0 - 127)
00 0E	0000 000a	PMT2 Partial Switch	(0 - 1) OFF, ON
00 0F	0aaa aaaa	PMT2 Keyboard Range Lower	(0 - 127) C-1 - UPPER
00 10	0aaa aaaa	PMT2 Keyboard Range Upper	(0 - 127) LOWER - G9
00 11	0aaa aaaa	PMT2 Keyboard Fade Width Lower	(0 - 127)
00 12	0aaa aaaa	PMT2 Keyboard Fade Width Upper	(0 - 127)
00 13	0aaa aaaa	PMT2 Velocity Range Lower	(1 - 127) 1 - UPPER
00 14	0aaa aaaa	PMT2 Velocity Range Upper	(1 - 127) LOWER - 127
00 15	0aaa aaaa	PMT2 Velocity Fade Width Lower	(0 - 127)
00 16	0aaa aaaa	PMT2 Velocity Fade Width Upper	(0 - 127)
00 17	0000 000a	PMT3 Partial Switch	(0 - 1) OFF, ON
00 18	0aaa aaaa	PMT3 Keyboard Range Lower	(0 - 127) C-1 - UPPER
00 19	0aaa aaaa	PMT3 Keyboard Range Upper	(0 - 127) LOWER - G9
00 1A	0aaa aaaa	PMT3 Keyboard Fade Width Lower	(0 - 127)
00 1B	0aaa aaaa	PMT3 Keyboard Fade Width Upper	(0 - 127)
00 1C	0aaa aaaa	PMT3 Velocity Range Lower	(1 - 127) 1 - UPPER
00 1D	0aaa aaaa	PMT3 Velocity Range Upper	(1 - 127) LOWER - 127
00 1E	0aaa aaaa	PMT3 Velocity Fade Width Lower	(0 - 127)
00 1F	0aaa aaaa	PMT3 Velocity Fade Width Upper	(0 - 127)
00 20	0000 000a	PMT4 Partial Switch	(0 - 1) OFF, ON
00 21	0aaa aaaa	PMT4 Keyboard Range Lower	(0 - 127) C-1 - UPPER
00 22	0aaa aaaa	PMT4 Keyboard Range Upper	(0 - 127) LOWER - G9
00 23	0aaa aaaa	PMT4 Keyboard Fade Width Lower	(0 - 127)
00 24	0aaa aaaa	PMT4 Keyboard Fade Width Upper	(0 - 127)
00 25	0aaa aaaa	PMT4 Velocity Range Lower	(1 - 127) 1 - UPPER
00 26	0aaa aaaa	PMT4 Velocity Range Upper	(1 - 127) LOWER - 127
00 27	0aaa aaaa	PMT4 Velocity Fade Width Lower	(0 - 127)
00 28	0aaa aaaa	PMT4 Velocity Fade Width Upper	(0 - 127)
00 00 00 29	Total Size		

PCM Synth Tone Partial

	Offset Address		Description	
	00 00	0aaa aaaa	Partial Level	(0 - 127)
	00 01	0aaa aaaa	Partial Coarse Tune	(16 - 112) -48 - +48
	00 02	0aaa aaaa	Partial Fine Tune	(14 - 114) -50 - +50
	00 03	000a aaaa	Partial Random Pitch Depth	(0 - 30) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200
	00 04	0aaa aaaa	Partial Pan	(0 - 127) L64 - 63R
	00 05	000a aaaa	Partial Pan Keyfollow	(54 - 74) -100 - +100
	00 06	00aa aaaa	Partial Random Pan Depth	(0 - 63)
	00 07	0aaa aaaa	Partial Alternate Pan Depth	(1 - 127) L63 - 63R
	00 08	0000 000a	Partial Env Mode	(0 - 1) NO-SUS, SUSTAIN
	00 09	0000 00aa	Partial Delay Mode	(0 - 3) NORMAL, HOLD, KEY-OFF-NORMAL, KEY-OFF-DECAY
#	00 0A	0000 aaaa 0000 bbbb	Partial Delay Time	(0 - 149) 0 - 127, MUSICAL-NOTES
	00 0C	0aaa aaaa	Partial Output Level	(0 - 127)
	00 0D	0aaa aaaa	(reserve) <*>	
	00 0E	0aaa aaaa	(reserve) <*>	
	00 0F	0aaa aaaa	Partial Chorus Send Level	(0 - 127)
	00 10	0aaa aaaa	Partial Reverb Send Level	(0 - 127)
	00 11	0000 aaaa	(reserve) <*>	
	00 12	0000 000a	Partial Receive Bender	(0 - 1) OFF, ON
	00 13	0000 000a	Partial Receive Expression	(0 - 1) OFF, ON
	00 14	0000 000a	Partial Receive Hold-1	(0 - 1) OFF, ON
	00 15	0000 000a	(reserve) <*>	
	00 16	0000 000a	Partial Redamper Switch	(0 - 1) OFF, ON
	00 17	0000 00aa	Partial Control 1 Switch 1	(0 - 2) OFF, ON, REVERSE
	00 18	0000 00aa	Partial Control 1 Switch 2	(0 - 2) OFF, ON, REVERSE
	00 19	0000 00aa	Partial Control 1 Switch 3	(0 - 2) OFF, ON, REVERSE
	00 1A	0000 00aa	Partial Control 1 Switch 4	(0 - 2) OFF, ON, REVERSE
	00 1B	0000 00aa	Partial Control 2 Switch 1	(0 - 2) OFF, ON, REVERSE
	00 1C	0000 00aa	Partial Control 2 Switch 2	(0 - 2) OFF, ON, REVERSE
	00 1D	0000 00aa	Partial Control 2 Switch 3	(0 - 2) OFF, ON, REVERSE
	00 1E	0000 00aa	Partial Control 2 Switch 4	(0 - 2) OFF, ON, REVERSE
	00 1F	0000 00aa	Partial Control 3 Switch 1	(0 - 2) OFF, ON, REVERSE
	00 20	0000 00aa	Partial Control 3 Switch 2	(0 - 2) OFF, ON, REVERSE
	00 21	0000 00aa	Partial Control 3 Switch 3	(0 - 2) OFF, ON, REVERSE
	00 22	0000 00aa	Partial Control 3 Switch 4	(0 - 2) OFF, ON, REVERSE
	00 23	0000 00aa	Partial Control 4 Switch 1	(0 - 2) OFF, ON, REVERSE
	00 24	0000 00aa	Partial Control 4 Switch 2	(0 - 2) OFF, ON, REVERSE
	00 25	0000 00aa	Partial Control 4 Switch 3	(0 - 2) OFF, ON, REVERSE
	00 26	0000 00aa	Partial Control 4 Switch 4	(0 - 2) OFF, ON, REVERSE
	00 27	0000 00aa	Wave Group Type	(0 - 3) INT, SRX, ---, ---
#	00 28	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Wave Group ID	(0 - 16384) OFF, 1 - 16384
#	00 2C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Wave Number L (Mono)	(0 - 16384) OFF, 1 - 16384
#	00 30	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Wave Number R	(0 - 16384) OFF, 1 - 16384
	00 34	0000 00aa	Wave Gain	(0 - 3) -6, 0, +6, +12 [dB]
	00 35	0000 000a	Wave FXM Switch	(0 - 1) OFF, ON
	00 36	0000 00aa	Wave FXM Color	(0 - 3) 1 - 4
	00 37	000a aaaa	Wave FXM Depth	(0 - 16)
	00 38	0000 000a	Wave Tempo Sync	(0 - 1) OFF, ON
	00 39	00aa aaaa	Wave Pitch Keyfollow	(44 - 84) -200 - +200
	00 3A	000a aaaa	Pitch Env Depth	(52 - 76) -12 - +12
	00 3B	0aaa aaaa	Pitch Env Velocity Sens	(1 - 127) -63 - +63
	00 3C	0aaa aaaa	Pitch Env Time 1 Velocity Sens	(1 - 127) -63 - +63
	00 3D	0aaa aaaa	Pitch Env Time 4 Velocity Sens	(1 - 127) -63 - +63
	00 3E	000a aaaa	Pitch Env Time Keyfollow	(54 - 74) -100 - +100
	00 3F	0aaa aaaa	Pitch Env Time 1	(0 - 127)
	00 40	0aaa aaaa	Pitch Env Time 2	(0 - 127)
	00 41	0aaa aaaa	Pitch Env Time 3	(0 - 127)
	00 42	0aaa aaaa	Pitch Env Time 4	(0 - 127)
	00 43	0aaa aaaa	Pitch Env Level 0	(1 - 127) -63 - +63
	00 44	0aaa aaaa	Pitch Env Level 1	(1 - 127) -63 - +63
	00 45	0aaa aaaa	Pitch Env Level 2	(1 - 127) -63 - +63
	00 46	0aaa aaaa	Pitch Env Level 3	(1 - 127) -63 - +63
	00 47	0aaa aaaa	Pitch Env Level 4	(1 - 127) -63 - +63
	00 48	0000 0aaa	TVF Filter Type	(0 - 6) OFF, LPF, BPF, HPF, PKG, LPF2, LPF3
	00 49	0aaa aaaa	TVF Cutoff Frequency	(0 - 127)
	00 4A	00aa aaaa	TVF Cutoff Keyfollow	(44 - 84) -200 - +200
	00 4B	0000 0aaa	TVF Cutoff Velocity Curve	(0 - 7) FIXED, 1 - 7
	00 4C	0aaa aaaa	TVF Cutoff Velocity Sens	(1 - 127) -63 - +63
	00 4D	0aaa aaaa	TVF Resonance	(0 - 127)
	00 4E	0aaa aaaa	TVF Resonance Velocity Sens	(1 - 127) -63 - +63
	00 4F	0aaa aaaa	TVF Env Depth	(1 - 127) -63 - +63
	00 50	0000 0aaa	TVF Env Velocity Curve	(0 - 7) FIXED, 1 - 7
	00 51	0aaa aaaa	TVF Env Velocity Sens	(1 - 127) -63 - +63
	00 52	0aaa aaaa	TVF Env Time 1 Velocity Sens	(1 - 127) -63 - +63
	00 53	0aaa aaaa	TVF Env Time 4 Velocity Sens	(1 - 127) -63 - +63
	00 54	000a aaaa	TVF Env Time Keyfollow	(54 - 74) -100 - +100
	00 55	0aaa aaaa	TVF Env Time 1	(0 - 127)
	00 56	0aaa aaaa	TVF Env Time 2	(0 - 127)
	00 57	0aaa aaaa	TVF Env Time 3	(0 - 127)
	00 58	0aaa aaaa	TVF Env Time 4	(0 - 127)
	00 59	0aaa aaaa	TVF Env Level 0	(0 - 127)
	00 5A	0aaa aaaa	TVF Env Level 1	(0 - 127)
	00 5B	0aaa aaaa	TVF Env Level 2	(0 - 127)
	00 5C	0aaa aaaa	TVF Env Level 3	(0 - 127)
	00 5D	0aaa aaaa	TVF Env Level 4	(0 - 127)
	00 5E	000a aaaa	Bias Level	(54 - 74) -100 - +100
	00 5F	0aaa aaaa	Bias Position	(0 - 127) C-1 - G9
	00 60	0000 00aa	Bias Direction	(0 - 3) LOWER, UPPER, LOWER&UPPER, ALL
	00 61	0000 0aaa	TVA Level Velocity Curve	(0 - 7) FIXED, 1 - 7
	00 62	0aaa aaaa	TVA Level Velocity Sens	(1 - 127) -63 - +63
	00 63	0aaa aaaa	TVA Env Time 1 Velocity Sens	(1 - 127) -63 - +63
	00 64	0aaa aaaa	TVA Env Time 4 Velocity Sens	(1 - 127) -63 - +63
	00 65	000a aaaa	TVA Env Time Keyfollow	(54 - 74) -100 - +100
	00 66	0aaa aaaa	TVA Env Time 1	(0 - 127)
	00 67	0aaa aaaa	TVA Env Time 2	(0 - 127)
	00 68	0aaa aaaa	TVA Env Time 3	(0 - 127)
	00 69	0aaa aaaa	TVA Env Time 4	(0 - 127)
	00 6A	0aaa aaaa	TVA Env Level 1	(0 - 127)
	00 6B	0aaa aaaa	TVA Env Level 2	(0 - 127)
	00 6C	0aaa aaaa	TVA Env Level 3	(0 - 127)
	00 6D	0000 aaaa	LFO1 Waveform	(0 - 12) SIN, TRI, SAW-UP, SAW-DW, SQR, RND, BEND-UP, BEND-DW, TRP, S&H, CHS, VSIN, STEP
#	00 6E	0000 aaaa 0000 bbbb	LFO1 Rate	(0 - 149) 0 - 127, MUSICAL-NOTES
	00 70	0000 0aaa	LFO1 Offset	(0 - 4) -100, -50, 0, +50, +100
	00 71	0aaa aaaa	LFO1 Rate Detune	(0 - 127)
	00 72	0aaa aaaa	LFO1 Delay Time	(0 - 127)
	00 73	000a aaaa	LFO1 Delay Time Keyfollow	(54 - 74) -100 - +100
	00 74	0000 00aa	LFO1 Fade Mode	(0 - 3) ON-IN, ON-OUT, OFF-IN, OFF-OUT
	00 75	0aaa aaaa	LFO1 Fade Time	(0 - 127)
	00 76	0000 000a	LFO1 Key Trigger	(0 - 1) OFF, ON
	00 77	0aaa aaaa	LFO1 Pitch Depth	(1 - 127)

			-63 - +63
00 78	0aaa aaaa	LFO1 TVF Depth	(1 - 127)
			-63 - +63
00 79	0aaa aaaa	LFO1 TVA Depth	(1 - 127)
			-63 - +63
00 7A	0aaa aaaa	LFO1 Pan Depth	(1 - 127)
			-63 - +63
00 7B	0000 aaaa	LFO2 Waveform	(0 - 12)
			SIN, TRI, SAW-UP, SAW-DW, SQR,
			RND, BEND-UP, BEND-DW, TRP, S&H,
			CHS, VSIN, STEP
# 00 7C	0000 aaaa		
	0000 bbbb	LFO2 Rate	(0 - 149)
			0 - 127, MUSICAL-NOTES
00 7E	0000 0aaa	LFO2 Offset	(0 - 4)
			-100, -50, 0, +50, +100
00 7F	0aaa aaaa	LFO2 Rate Detune	(0 - 127)
01 00	0aaa aaaa	LFO2 Delay Time	(0 - 127)
01 01	000a aaaa	LFO2 Delay Time Keyfollow	(54 - 74)
			-100 - +100
01 02	0000 00aa	LFO2 Fade Mode	(0 - 3)
			ON-IN, ON-OUT, OFF-IN, OFF-OUT
01 03	0aaa aaaa	LFO2 Fade Time	(0 - 127)
01 04	0000 000a	LFO2 Key Trigger	(0 - 1)
			OFF, ON
01 05	0aaa aaaa	LFO2 Pitch Depth	(1 - 127)
			-63 - +63
01 06	0aaa aaaa	LFO2 TVF Depth	(1 - 127)
			-63 - +63
01 07	0aaa aaaa	LFO2 TVA Depth	(1 - 127)
			-63 - +63
01 08	0aaa aaaa	LFO2 Pan Depth	(1 - 127)
			-63 - +63
01 09	0000 aaaa	LFO Step Type	(0 - 1)
01 0A	0aaa aaaa	LFO Step1	(28 - 100)
			-36 - +36
01 0B	0aaa aaaa	LFO Step2	(28 - 100)
			-36 - +36
01 0C	0aaa aaaa	LFO Step3	(28 - 100)
			-36 - +36
01 0D	0aaa aaaa	LFO Step4	(28 - 100)
			-36 - +36
01 0E	0aaa aaaa	LFO Step5	(28 - 100)
			-36 - +36
01 0F	0aaa aaaa	LFO Step6	(28 - 100)
			-36 - +36
01 10	0aaa aaaa	LFO Step7	(28 - 100)
			-36 - +36
01 11	0aaa aaaa	LFO Step8	(28 - 100)
			-36 - +36
01 12	0aaa aaaa	LFO Step9	(28 - 100)
			-36 - +36
01 13	0aaa aaaa	LFO Step10	(28 - 100)
			-36 - +36
01 14	0aaa aaaa	LFO Step11	(28 - 100)
			-36 - +36
01 15	0aaa aaaa	LFO Step12	(28 - 100)
			-36 - +36
01 16	0aaa aaaa	LFO Step13	(28 - 100)
			-36 - +36
01 17	0aaa aaaa	LFO Step14	(28 - 100)
			-36 - +36
01 18	0aaa aaaa	LFO Step15	(28 - 100)
			-36 - +36
01 19	0aaa aaaa	LFO Step16	(28 - 100)
			-36 - +36
00 00 01 1A	Total Size		

PCM Synth Tone Common 2

Offset Address	Description		
00 00	0aaa aaaa	(reserve) <*>	
:			
00 0F	0aaa aaaa	(reserve) <*>	
00 10	0aaa aaaa	Tone Category	(0 - 127)
00 11	0000 aaaa	(reserve) <*>	
00 12	0000 bbbb	(reserve) <*>	
00 13	0000 0aaa	Phrase Octave Shift	(61 - 67)
			-3 - +3
00 14	0000 000a	(reserve) <*>	
:			
00 32	0000 000a	(reserve) <*>	
			OFF, ON
00 33	0000 000a	MFX Switch	(0 - 1)
			OFF, ON
00 34	0aaa aaaa	(reserve) <*>	
:			
00 37	0aaa aaaa	(reserve) <*>	
# 00 38	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Phrase Number	(0 - 65535)
			CATEG, 1 - 65535
00 3C	0000 00aa	Bend Mode	(0 - 1)
			NORMAL, CATCH+LAST
00 3D	000a aaaa	(reserve) <*>	
00 3E	000a aaaa	(reserve) <*>	
00 00 00 3F	Total Size		

PCM Drum Kit Common

Offset Address	Description		
00 00	0aaa aaaa	Kit Name 1	(32 - 127)
			32 - 127 [ASCII]
00 01	0aaa aaaa	Kit Name 2	(32 - 127)
			32 - 127 [ASCII]
00 02	0aaa aaaa	Kit Name 3	(32 - 127)
			32 - 127 [ASCII]
00 03	0aaa aaaa	Kit Name 4	(32 - 127)
			32 - 127 [ASCII]
00 04	0aaa aaaa	Kit Name 5	(32 - 127)
			32 - 127 [ASCII]
00 05	0aaa aaaa	Kit Name 6	(32 - 127)
			32 - 127 [ASCII]
00 06	0aaa aaaa	Kit Name 7	(32 - 127)
			32 - 127 [ASCII]
00 07	0aaa aaaa	Kit Name 8	(32 - 127)
			32 - 127 [ASCII]
00 08	0aaa aaaa	Kit Name 9	(32 - 127)
			32 - 127 [ASCII]
00 09	0aaa aaaa	Kit Name 10	(32 - 127)
			32 - 127 [ASCII]
00 0A	0aaa aaaa	Kit Name 11	(32 - 127)
			32 - 127 [ASCII]
00 0B	0aaa aaaa	Kit Name 12	(32 - 127)
			32 - 127 [ASCII]
00 0C	0aaa aaaa	Kit Level	(0 - 127)
00 0D	0000 000a		
# 00 0E	0000 aaaa		
	0000 bbbb		
00 10	0000 000a		
00 11	0000 aaaa	(reserve) <*>	
00 00 00 12	Total Size		

PCM Drum Kit Common MFX

Offset Address	Description		
00 00	0aaa aaaa	MFX Type	(0 - 67)
00 01	0aaa aaaa	(reserve) <*>	
00 02	0aaa aaaa	MFX Chorus Send Level	(0 - 127)
00 03	0aaa aaaa	MFX Reverb Send Level	(0 - 127)
00 04	0000 00aa	(reserve) <*>	
00 05	0aaa aaaa	MFX Control 1 Source	(0 - 101)
			OFF, CC01 - CC31, CC33 - CC95,
			BEND, AFT, SYS1 - SYS4
00 06	0aaa aaaa	MFX Control 1 Sens	(1 - 127)
			-63 - +63
00 07	0aaa aaaa	MFX Control 2 Source	(0 - 101)
			OFF, CC01 - CC31, CC33 - CC95,
			BEND, AFT, SYS1 - SYS4
00 08	0aaa aaaa	MFX Control 2 Sens	(1 - 127)
			-63 - +63
00 09	0aaa aaaa	MFX Control 3 Source	(0 - 101)
			OFF, CC01 - CC31, CC33 - CC95,
			BEND, AFT, SYS1 - SYS4
00 0A	0aaa aaaa	MFX Control 3 Sens	(1 - 127)
			-63 - +63
00 0B	0aaa aaaa	MFX Control 4 Source	(0 - 101)
			OFF, CC01 - CC31, CC33 - CC95,
			BEND, AFT, SYS1 - SYS4
00 0C	0aaa aaaa	MFX Control 4 Sens	(1 - 127)
			-63 - +63
00 0D	000a aaaa	MFX Control Assign 1	(0 - 16)
			OFF, 1 - 16
00 0E	000a aaaa	MFX Control Assign 2	(0 - 16)
			OFF, 1 - 16
00 0F	000a aaaa	MFX Control Assign 3	(0 - 16)
			OFF, 1 - 16
00 10	000a aaaa	MFX Control Assign 4	(0 - 16)
			OFF, 1 - 16
# 00 11	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 1	(12768 - 52768)
			-20000 - +20000
# 00 15	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 2	(12768 - 52768)
			-20000 - +20000
# 00 19	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 3	(12768 - 52768)
			-20000 - +20000
# 00 1D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 4	(12768 - 52768)
			-20000 - +20000
# 00 21	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 5	(12768 - 52768)
			-20000 - +20000

#	00 25	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 6	(12768 - 52768) -20000 - +20000
#	00 29	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 7	(12768 - 52768) -20000 - +20000
#	00 2D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 8	(12768 - 52768) -20000 - +20000
#	00 31	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 9	(12768 - 52768) -20000 - +20000
#	00 35	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 10	(12768 - 52768) -20000 - +20000
#	00 39	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 11	(12768 - 52768) -20000 - +20000
#	00 3D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 12	(12768 - 52768) -20000 - +20000
#	00 41	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 13	(12768 - 52768) -20000 - +20000
#	00 45	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 14	(12768 - 52768) -20000 - +20000
#	00 49	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 15	(12768 - 52768) -20000 - +20000
#	00 4D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 16	(12768 - 52768) -20000 - +20000
#	00 51	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 17	(12768 - 52768) -20000 - +20000
#	00 55	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 18	(12768 - 52768) -20000 - +20000
#	00 59	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 19	(12768 - 52768) -20000 - +20000
#	00 5D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 20	(12768 - 52768) -20000 - +20000
#	00 61	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 21	(12768 - 52768) -20000 - +20000
#	00 65	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 22	(12768 - 52768) -20000 - +20000
#	00 69	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 23	(12768 - 52768) -20000 - +20000
#	00 6D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 24	(12768 - 52768) -20000 - +20000
#	00 71	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 25	(12768 - 52768) -20000 - +20000
#	00 75	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 26	(12768 - 52768) -20000 - +20000
#	00 79	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 27	(12768 - 52768) -20000 - +20000
#	00 7D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 28	(12768 - 52768) -20000 - +20000
#	01 01	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 29	(12768 - 52768) -20000 - +20000
#	01 05	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 30	(12768 - 52768) -20000 - +20000
#	01 09	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 31	(12768 - 52768) -20000 - +20000
#	01 0D	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	MFX Parameter 32	(12768 - 52768) -20000 - +20000
	00 00 01 11	Total Size		

PCM Drum Kit Common Comp/EQ

Offset Address		Description	
00 00	0000 000a	Comp1 Switch	(0 - 1) OFF, ON
00 01	000a aaaa	Comp1 Attack Time	(0 - 31) 0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0 [msec]
00 02	000a aaaa	Comp1 Release Time	(0 - 23) 0.05, 0.07, 0.1, 0.5, 1, 5, 10, 17, 25, 50, 75, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 2000 [msec]
00 03	0aaa aaaa	Comp1 Threshold	(0 - 127)
00 04	000a aaaa	Comp1 Ratio	(0 - 19) 1:1, 2:1, 3:1, 4:1, 5:1, 6:1, 7:1, 8:1, 9:1, 10:1, 20:1, 30:1, 40:1, 50:1, 60:1, 70:1, 80:1, 90:1, 100:1, inf:1
00 05	000a aaaa	Comp1 Output Gain	(0 - 24) 0 - +24 [dB]
00 06	0000 000a	EQ1 Switch	(0 - 1) OFF, ON
00 07	0000 000a	EQ1 Low Freq	(0 - 1) 200, 400 [Hz]
00 08	000a aaaa	EQ1 Low Gain	(0 - 30) -15 - +15 [dB]
00 09	000a aaaa	EQ1 Mid Freq	(0 - 16) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
00 0A	000a aaaa	EQ1 Mid Gain	(0 - 30) -15 - +15 [dB]
00 0B	0000 0aaa	EQ1 Mid Q	(0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 0C	0000 00aa	EQ1 High Freq	(0 - 2) 2000, 4000, 8000 [Hz]
00 0D	000a aaaa	EQ1 High Gain	(0 - 30) -15 - +15 [dB]
00 0E	0000 000a	Comp2 Switch	(0 - 1) OFF, ON
00 0F	000a aaaa	Comp2 Attack Time	(0 - 31) 0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0 [msec]
00 10	000a aaaa	Comp2 Release Time	(0 - 23) 0.05, 0.07, 0.1, 0.5, 1, 5, 10, 17, 25, 50, 75, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 2000 [msec]
00 11	0aaa aaaa	Comp2 Threshold	(0 - 127)
00 12	000a aaaa	Comp2 Ratio	(0 - 19) 1:1, 2:1, 3:1, 4:1, 5:1, 6:1, 7:1, 8:1, 9:1, 10:1, 20:1, 30:1, 40:1, 50:1, 60:1, 70:1, 80:1, 90:1, 100:1, inf:1
00 13	000a aaaa	Comp2 Output Gain	(0 - 24) 0 - +24 [dB]
00 14	0000 000a	EQ2 Switch	(0 - 1) OFF, ON
00 15	0000 000a	EQ2 Low Freq	(0 - 1) 200, 400 [Hz]
00 16	000a aaaa	EQ2 Low Gain	(0 - 30) -15 - +15 [dB]
00 17	000a aaaa	EQ2 Mid Freq	(0 - 16)

			200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
00 18	000a aaaa	EQ2 Mid Gain	(0 - 30) -15 - +15 [dB]
00 19	0000 0aaa	EQ2 Mid Q	(0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 1A	0000 00aa	EQ2 High Freq	(0 - 2) 2000, 4000, 8000 [Hz]
00 1B	000a aaaa	EQ2 High Gain	(0 - 30) -15 - +15 [dB]
00 1C	0000 000a	Comp3 Switch	(0 - 1) OFF, ON
00 1D	000a aaaa	Comp3 Attack Time	(0 - 31) 0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0 [msec]
00 1E	000a aaaa	Comp3 Release Time	(0 - 23) 0.05, 0.07, 0.1, 0.5, 1, 5, 10, 17, 25, 50, 75, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 2000 [msec]
00 1F	0aaa aaaa	Comp3 Threshold	(0 - 127)
00 20	000a aaaa	Comp3 Ratio	(0 - 19) 1:1, 2:1, 3:1, 4:1, 5:1, 6:1, 7:1, 8:1, 9:1, 10:1, 20:1, 30:1, 40:1, 50:1, 60:1, 70:1, 80:1, 90:1, 100:1, inf:1
00 21	000a aaaa	Comp3 Output Gain	(0 - 24) 0 - +24 [dB]
00 22	0000 000a	EQ3 Switch	(0 - 1) OFF, ON
00 23	0000 000a	EQ3 Low Freq	(0 - 1) 200, 400 [Hz]
00 24	000a aaaa	EQ3 Low Gain	(0 - 30) -15 - +15 [dB]
00 25	000a aaaa	EQ3 Mid Freq	(0 - 16) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
00 26	000a aaaa	EQ3 Mid Gain	(0 - 30) -15 - +15 [dB]
00 27	0000 0aaa	EQ3 Mid Q	(0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 28	0000 00aa	EQ3 High Freq	(0 - 2) 2000, 4000, 8000 [Hz]
00 29	000a aaaa	EQ3 High Gain	(0 - 30) -15 - +15 [dB]
00 2A	0000 000a	Comp4 Switch	(0 - 1) OFF, ON
00 2B	000a aaaa	Comp4 Attack Time	(0 - 31) 0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0 [msec]
00 2C	000a aaaa	Comp4 Release Time	(0 - 23) 0.05, 0.07, 0.1, 0.5, 1, 5, 10, 17, 25, 50, 75, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 2000 [msec]
00 2D	0aaa aaaa	Comp4 Threshold	(0 - 127)
00 2E	000a aaaa	Comp4 Ratio	(0 - 19) 1:1, 2:1, 3:1, 4:1, 5:1, 6:1, 7:1, 8:1, 9:1, 10:1, 20:1, 30:1, 40:1, 50:1, 60:1, 70:1, 80:1, 90:1, 100:1, inf:1
00 2F	000a aaaa	Comp4 Output Gain	(0 - 24) 0 - +24 [dB]
00 30	0000 000a	EQ4 Switch	(0 - 1) OFF, ON
00 31	0000 000a	EQ4 Low Freq	(0 - 1) 200, 400 [Hz]
00 32	000a aaaa	EQ4 Low Gain	(0 - 30) -15 - +15 [dB]
00 33	000a aaaa	EQ4 Mid Freq	(0 - 16) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
00 34	000a aaaa	EQ4 Mid Gain	(0 - 30) -15 - +15 [dB]
00 35	0000 0aaa	EQ4 Mid Q	(0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 36	0000 00aa	EQ4 High Freq	(0 - 2) 2000, 4000, 8000 [Hz]
00 37	000a aaaa	EQ4 High Gain	(0 - 30) -15 - +15 [dB]
00 38	0000 000a	Comp5 Switch	(0 - 1) OFF, ON
00 39	000a aaaa	Comp5 Attack Time	(0 - 31) 0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0 [msec]
00 3A	000a aaaa	Comp5 Release Time	(0 - 23) 0.05, 0.07, 0.1, 0.5, 1, 5, 10, 17, 25, 50, 75, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 2000 [msec]
00 3B	0aaa aaaa	Comp5 Threshold	(0 - 127)
00 3C	000a aaaa	Comp5 Ratio	(0 - 19) 1:1, 2:1, 3:1, 4:1, 5:1, 6:1, 7:1, 8:1, 9:1, 10:1, 20:1, 30:1, 40:1, 50:1, 60:1, 70:1, 80:1, 90:1, 100:1, inf:1
00 3D	000a aaaa	Comp5 Output Gain	(0 - 24) 0 - +24 [dB]
00 3E	0000 000a	EQ5 Switch	(0 - 1) OFF, ON
00 3F	0000 000a	EQ5 Low Freq	(0 - 1) 200, 400 [Hz]
00 40	000a aaaa	EQ5 Low Gain	(0 - 30) -15 - +15 [dB]
00 41	000a aaaa	EQ5 Mid Freq	(0 - 16) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
00 42	000a aaaa	EQ5 Mid Gain	(0 - 30) -15 - +15 [dB]
00 43	0000 0aaa	EQ5 Mid Q	(0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 44	0000 00aa	EQ5 High Freq	(0 - 2) 2000, 4000, 8000 [Hz]
00 45	000a aaaa	EQ5 High Gain	(0 - 30) -15 - +15 [dB]
00 46	0000 000a	Comp6 Switch	(0 - 1) OFF, ON
00 47	000a aaaa	Comp6 Attack Time	(0 - 31) 0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0 [msec]
00 48	000a aaaa	Comp6 Release Time	(0 - 23) 0.05, 0.07, 0.1, 0.5, 1, 5, 10, 17, 25, 50, 75, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 2000 [msec]
00 49	0aaa aaaa	Comp6 Threshold	(0 - 127)
00 4A	000a aaaa	Comp6 Ratio	(0 - 19) 1:1, 2:1, 3:1, 4:1, 5:1, 6:1, 7:1, 8:1, 9:1, 10:1, 20:1, 30:1, 40:1, 50:1, 60:1, 70:1, 80:1, 90:1, 100:1, inf:1
00 4B	000a aaaa	Comp6 Output Gain	(0 - 24) 0 - +24 [dB]
00 4C	0000 000a	EQ6 Switch	(0 - 1) OFF, ON
00 4D	0000 000a	EQ6 Low Freq	(0 - 1) 200, 400 [Hz]
00 4E	000a aaaa	EQ6 Low Gain	(0 - 30) -15 - +15 [dB]
00 4F	000a aaaa	EQ6 Mid Freq	(0 - 16) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
00 50	000a aaaa	EQ6 Mid Gain	(0 - 30) -15 - +15 [dB]
00 51	0000 0aaa	EQ6 Mid Q	(0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 52	0000 00aa	EQ6 High Freq	(0 - 2) 2000, 4000, 8000 [Hz]
00 53	000a aaaa	EQ6 High Gain	(0 - 30) -15 - +15 [dB]
00 00 00 54	Total Size		

PCM Drum Kit Partial

Offset Address		Description	
00 00	0aaa aaaa	Partial Name 1	(32 - 127) 32 - 127 [ASCII]
00 01	0aaa aaaa	Partial Name 2	(32 - 127) 32 - 127 [ASCII]
00 02	0aaa aaaa	Partial Name 3	(32 - 127) 32 - 127 [ASCII]
00 03	0aaa aaaa	Partial Name 4	(32 - 127) 32 - 127 [ASCII]
00 04	0aaa aaaa	Partial Name 5	(32 - 127) 32 - 127 [ASCII]
00 05	0aaa aaaa	Partial Name 6	(32 - 127) 32 - 127 [ASCII]
00 06	0aaa aaaa	Partial Name 7	(32 - 127) 32 - 127 [ASCII]
00 07	0aaa aaaa	Partial Name 8	(32 - 127) 32 - 127 [ASCII]
00 08	0aaa aaaa	Partial Name 9	(32 - 127) 32 - 127 [ASCII]
00 09	0aaa aaaa	Partial Name 10	(32 - 127) 32 - 127 [ASCII]
00 0A	0aaa aaaa	Partial Name 11	(32 - 127) 32 - 127 [ASCII]
00 0B	0aaa aaaa	Partial Name 12	(32 - 127) 32 - 127 [ASCII]
00 0C	0000 000a	Assign Type	(0 - 1) MULTI, SINGLE
00 0D	000a aaaa	Mute Group	(0 - 31) OFF, 1 - 31

00 0E	0aaa aaaa	Partial Level	(0 - 127)
00 0F	0aaa aaaa	Partial Coarse Tune	(0 - 127) C-1 - G9
00 10	0aaa aaaa	Partial Fine Tune	(14 - 114) -50 - +50
00 11	000a aaaa	Partial Random Pitch Depth	(0 - 30) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200
00 12	0aaa aaaa	Partial Pan	(0 - 127) L64 - 63R
00 13	00aa aaaa	Partial Random Pan Depth	(0 - 63)
00 14	0aaa aaaa	Partial Alternate Pan Depth	(1 - 127) L63 - 63R
00 15	0000 000a	Partial Env Mode	(0 - 1) NO-SUS, SUSTAIN
00 16	0aaa aaaa	Partial Output Level	(0 - 127)
00 17	0aaa aaaa	(reserve) <*>	
00 18	0aaa aaaa	(reserve) <*>	
00 19	0aaa aaaa	Partial Chorus Send Level	(0 - 127)
00 1A	0aaa aaaa	Partial Reverb Send Level	(0 - 127)
00 1B	0000 aaaa	Partial Output Assign	(0 - 6) PART, COMP+EQ1, COMP+EQ2, COMP+EQ3, COMP+EQ4, COMP+EQ5, COMP+EQ6
00 1C	00aa aaaa	Partial Pitch Bend Range	(0 - 48)
00 1D	0000 000a	Partial Receive Expression	(0 - 1) OFF, ON
00 1E	0000 000a	Partial Receive Hold-1	(0 - 1) OFF, ON
00 1F	0000 000a	(reserve) <*>	
00 20	0000 00aa	WMT Velocity Control	(0 - 2) OFF, ON, RANDOM
00 21	0000 000a	WMT1 Wave Switch	(0 - 1) OFF, ON
00 22	0000 00aa	WMT1 Wave Group Type	(0 - 3) INT, SRX, ---, ---
# 00 23	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT1 Wave Group ID	(0 - 16384) OFF, 1 - 16384
# 00 27	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT1 Wave Number L (Mono)	(0 - 16384) OFF, 1 - 16384
# 00 2B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT1 Wave Number R	(0 - 16384) OFF, 1 - 16384
00 2F	0000 00aa	WMT1 Wave Gain	(0 - 3) -6, 0, +6, +12 [dB]
00 30	0000 000a	WMT1 Wave FXM Switch	(0 - 1) OFF, ON
00 31	0000 00aa	WMT1 Wave FXM Color	(0 - 3) 1 - 4
00 32	000a aaaa	WMT1 Wave FXM Depth	(0 - 16)
00 33	0000 000a	WMT1 Wave Tempo Sync	(0 - 1) OFF, ON
00 34	0aaa aaaa	WMT1 Wave Coarse Tune	(16 - 112) -48 - +48
00 35	0aaa aaaa	WMT1 Wave Fine Tune	(14 - 114) -50 - +50
00 36	0aaa aaaa	WMT1 Wave Pan	(0 - 127) L64 - 63R
00 37	0000 000a	WMT1 Wave Random Pan Switch	(0 - 1) OFF, ON
00 38	0000 00aa	WMT1 Wave Alternate Pan Switch	(0 - 2) OFF, ON, REVERSE
00 39	0aaa aaaa	WMT1 Wave Level	(0 - 127)
00 3A	0aaa aaaa	WMT1 Velocity Range Lower	(1 - 127) 1 - UPPER
00 3B	0aaa aaaa	WMT1 Velocity Range Upper	(1 - 127) LOWER - 127
00 3C	0aaa aaaa	WMT1 Velocity Fade Width Lower	(0 - 127)
00 3D	0aaa aaaa	WMT1 Velocity Fade Width Upper	(0 - 127)
00 3E	0000 000a	WMT2 Wave Switch	(0 - 1) OFF, ON
00 3F	0000 00aa	WMT2 Wave Group Type	(0 - 3) INT, SRX, ---, ---
# 00 40	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT2 Wave Group ID	(0 - 16384) OFF, 1 - 16384
# 00 44	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT2 Wave Number L (Mono)	(0 - 16384) OFF, 1 - 16384
# 00 48	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT2 Wave Number R	(0 - 16384) OFF, 1 - 16384
00 4C	0000 00aa	WMT2 Wave Gain	(0 - 3) -6, 0, +6, +12 [dB]
00 4D	0000 000a	WMT2 Wave FXM Switch	(0 - 1) OFF, ON
00 4E	0000 00aa	WMT2 Wave FXM Color	(0 - 3) 1 - 4
00 4F	000a aaaa	WMT2 Wave FXM Depth	(0 - 16)
00 50	0000 000a	WMT2 Wave Tempo Sync	(0 - 1) OFF, ON
00 51	0aaa aaaa	WMT2 Wave Coarse Tune	(16 - 112) -48 - +48
00 52	0aaa aaaa	WMT2 Wave Fine Tune	(14 - 114) -50 - +50
00 53	0aaa aaaa	WMT2 Wave Pan	(0 - 127) L64 - 63R
00 54	0000 000a	WMT2 Wave Random Pan Switch	(0 - 1) OFF, ON
00 55	0000 00aa	WMT2 Wave Alternate Pan Switch	(0 - 2) OFF, ON, REVERSE
00 56	0aaa aaaa	WMT2 Wave Level	(0 - 127)
00 57	0aaa aaaa	WMT2 Velocity Range Lower	(1 - 127) 1 - UPPER
00 58	0aaa aaaa	WMT2 Velocity Range Upper	(1 - 127) LOWER - 127
00 59	0aaa aaaa	WMT2 Velocity Fade Width Lower	(0 - 127)
00 5A	0aaa aaaa	WMT2 Velocity Fade Width Upper	(0 - 127)
00 5B	0000 000a	WMT3 Wave Switch	(0 - 1) OFF, ON
00 5C	0000 00aa	WMT3 Wave Group Type	(0 - 3) INT, SRX, ---, ---
# 00 5D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT3 Wave Group ID	(0 - 16384) OFF, 1 - 16384
# 00 61	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT3 Wave Number L (Mono)	(0 - 16384) OFF, 1 - 16384
# 00 65	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT3 Wave Number R	(0 - 16384) OFF, 1 - 16384
00 69	0000 00aa	WMT3 Wave Gain	(0 - 3) -6, 0, +6, +12 [dB]
00 6A	0000 000a	WMT3 Wave FXM Switch	(0 - 1) OFF, ON
00 6B	0000 00aa	WMT3 Wave FXM Color	(0 - 3) 1 - 4
00 6C	000a aaaa	WMT3 Wave FXM Depth	(0 - 16)
00 6D	0000 000a	WMT3 Wave Tempo Sync	(0 - 1) OFF, ON
00 6E	0aaa aaaa	WMT3 Wave Coarse Tune	(16 - 112) -48 - +48
00 6F	0aaa aaaa	WMT3 Wave Fine Tune	(14 - 114) -50 - +50
00 70	0aaa aaaa	WMT3 Wave Pan	(0 - 127) L64 - 63R
00 71	0000 000a	WMT3 Wave Random Pan Switch	(0 - 1) OFF, ON
00 72	0000 00aa	WMT3 Wave Alternate Pan Switch	(0 - 2) OFF, ON, REVERSE
00 73	0aaa aaaa	WMT3 Wave Level	(0 - 127)
00 74	0aaa aaaa	WMT3 Velocity Range Lower	(1 - 127) 1 - UPPER
00 75	0aaa aaaa	WMT3 Velocity Range Upper	(1 - 127) LOWER - 127
00 76	0aaa aaaa	WMT3 Velocity Fade Width Lower	(0 - 127)
00 77	0aaa aaaa	WMT3 Velocity Fade Width Upper	(0 - 127)
00 78	0000 000a	WMT4 Wave Switch	(0 - 1) OFF, ON
00 79	0000 00aa	WMT4 Wave Group Type	(0 - 3) INT, SRX, ---, ---
# 00 7A	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT4 Wave Group ID	(0 - 16384) OFF, 1 - 16384
# 00 7E	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT4 Wave Number L (Mono)	(0 - 16384) OFF, 1 - 16384
# 01 02	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT4 Wave Number R	(0 - 16384) OFF, 1 - 16384
01 06	0000 00aa	WMT4 Wave Gain	(0 - 3) -6, 0, +6, +12 [dB]
01 07	0000 000a	WMT4 Wave FXM Switch	(0 - 1) OFF, ON
01 08	0000 00aa	WMT4 Wave FXM Color	(0 - 3) 1 - 4
01 09	000a aaaa	WMT4 Wave FXM Depth	(0 - 16)
01 0A	0000 000a	WMT4 Wave Tempo Sync	(0 - 1) OFF, ON
01 0B	0aaa aaaa	WMT4 Wave Coarse Tune	(16 - 112) -48 - +48
01 0C	0aaa aaaa	WMT4 Wave Fine Tune	(14 - 114) -50 - +50
01 0D	0aaa aaaa	WMT4 Wave Pan	(0 - 127) L64 - 63R
01 0E	0000 000a	WMT4 Wave Random Pan Switch	(0 - 1) OFF, ON
01 0F	0000 00aa	WMT4 Wave Alternate Pan Switch	(0 - 2)

			OFF, ON, REVERSE
01 10	0aaa aaaa	WMT4 Wave Level	(0 - 127)
01 11	0aaa aaaa	WMT4 Velocity Range Lower	(1 - 127) 1 - UPPER
01 12	0aaa aaaa	WMT4 Velocity Range Upper	(1 - 127) LOWER - 127
01 13	0aaa aaaa	WMT4 Velocity Fade Width Lower	(0 - 127)
01 14	0aaa aaaa	WMT4 Velocity Fade Width Upper	(0 - 127)
01 15	000a aaaa	Pitch Env Depth	(52 - 76) -12 - +12
01 16	0aaa aaaa	Pitch Env Velocity Sens	(1 - 127) -63 - +63
01 17	0aaa aaaa	Pitch Env Time 1 Velocity Sens	(1 - 127) -63 - +63
01 18	0aaa aaaa	Pitch Env Time 4 Velocity Sens	(1 - 127) -63 - +63
01 19	0aaa aaaa	Pitch Env Time 1	(0 - 127)
01 1A	0aaa aaaa	Pitch Env Time 2	(0 - 127)
01 1B	0aaa aaaa	Pitch Env Time 3	(0 - 127)
01 1C	0aaa aaaa	Pitch Env Time 4	(0 - 127)
01 1D	0aaa aaaa	Pitch Env Level 0	(1 - 127) -63 - +63
01 1E	0aaa aaaa	Pitch Env Level 1	(1 - 127) -63 - +63
01 1F	0aaa aaaa	Pitch Env Level 2	(1 - 127) -63 - +63
01 20	0aaa aaaa	Pitch Env Level 3	(1 - 127) -63 - +63
01 21	0aaa aaaa	Pitch Env Level 4	(1 - 127) -63 - +63
01 22	0000 0aaa	TVF Filter Type	(0 - 6) OFF, LPF, BPF, HPF, PKG, LPF2, LPF3
01 23	0aaa aaaa	TVF Cutoff Frequency	(0 - 127)
01 24	0000 0aaa	TVF Cutoff Velocity Curve	(0 - 7) FIXED, 1 - 7
01 25	0aaa aaaa	TVF Cutoff Velocity Sens	(1 - 127) -63 - +63
01 26	0aaa aaaa	TVF Resonance	(0 - 127)
01 27	0aaa aaaa	TVF Resonance Velocity Sens	(1 - 127) -63 - +63
01 28	0aaa aaaa	TVF Env Depth	(1 - 127) -63 - +63
01 29	0000 0aaa	TVF Env Velocity Curve Type	(0 - 7) FIXED, 1 - 7
01 2A	0aaa aaaa	TVF Env Velocity Sens	(1 - 127) -63 - +63
01 2B	0aaa aaaa	TVF Env Time 1 Velocity Sens	(1 - 127) -63 - +63
01 2C	0aaa aaaa	TVF Env Time 4 Velocity Sens	(1 - 127) -63 - +63
01 2D	0aaa aaaa	TVF Env Time 1	(0 - 127)
01 2E	0aaa aaaa	TVF Env Time 2	(0 - 127)
01 2F	0aaa aaaa	TVF Env Time 3	(0 - 127)
01 30	0aaa aaaa	TVF Env Time 4	(0 - 127)
01 31	0aaa aaaa	TVF Env Level 0	(0 - 127)
01 32	0aaa aaaa	TVF Env Level 1	(0 - 127)
01 33	0aaa aaaa	TVF Env Level 2	(0 - 127)
01 34	0aaa aaaa	TVF Env Level 3	(0 - 127)
01 35	0aaa aaaa	TVF Env Level 4	(0 - 127)
01 36	0000 0aaa	TVA Level Velocity Curve	(0 - 7) FIXED, 1 - 7
01 37	0aaa aaaa	TVA Level Velocity Sens	(1 - 127) -63 - +63
01 38	0aaa aaaa	TVA Env Time 1 Velocity Sens	(1 - 127) -63 - +63
01 39	0aaa aaaa	TVA Env Time 4 Velocity Sens	(1 - 127) -63 - +63
01 3A	0aaa aaaa	TVA Env Time 1	(0 - 127)
01 3B	0aaa aaaa	TVA Env Time 2	(0 - 127)
01 3C	0aaa aaaa	TVA Env Time 3	(0 - 127)
01 3D	0aaa aaaa	TVA Env Time 4	(0 - 127)
01 3E	0aaa aaaa	TVA Env Level 1	(0 - 127)
01 3F	0aaa aaaa	TVA Env Level 2	(0 - 127)
01 40	0aaa aaaa	TVA Env Level 3	(0 - 127)
01 41	0000 000a	One Shot Mode	(0 - 1) OFF, ON
01 42	0aaa aaaa	(reserve)	(64)
00 00 01 43	Total Size		

PCM Drum Kit Common 2

Offset Address		Description	
00 00	0aaa aaaa	(reserve) <*>	
:			
00 0F	0aaa aaaa	(reserve) <*>	
# 00 10	0000 aaaa		
	0000 bbbb	Phrase Number	(0 - 255)
00 12	0000 000a	(reserve) <*>	
:			
00 30	0000 000a	(reserve) <*>	
00 31	0000 000a	MFX Switch	(0 - 1) OFF, ON
00 00 00 32	Total Size		

SuperNATURAL Synth Tone Common

Offset Address		Description	
00 00	0aaa aaaa	Tone Name 1	(32 - 127) 32 - 127 [ASCII]
00 01	0aaa aaaa	Tone Name 2	(32 - 127) 32 - 127 [ASCII]
00 02	0aaa aaaa	Tone Name 3	(32 - 127) 32 - 127 [ASCII]
00 03	0aaa aaaa	Tone Name 4	(32 - 127) 32 - 127 [ASCII]
00 04	0aaa aaaa	Tone Name 5	(32 - 127) 32 - 127 [ASCII]
00 05	0aaa aaaa	Tone Name 6	(32 - 127) 32 - 127 [ASCII]
00 06	0aaa aaaa	Tone Name 7	(32 - 127) 32 - 127 [ASCII]
00 07	0aaa aaaa	Tone Name 8	(32 - 127) 32 - 127 [ASCII]
00 08	0aaa aaaa	Tone Name 9	(32 - 127) 32 - 127 [ASCII]
00 09	0aaa aaaa	Tone Name 10	(32 - 127) 32 - 127 [ASCII]
00 0A	0aaa aaaa	Tone Name 11	(32 - 127) 32 - 127 [ASCII]
00 0B	0aaa aaaa	Tone Name 12	(32 - 127) 32 - 127 [ASCII]
00 0C	0aaa aaaa	Tone Level	(0 - 127)
# 00 0D	0000 aaaa		
	0000 bbbb		
	0000 cccc	(reserve) <*>	
00 10	0000 000a	(reserve) <*>	
00 11	0000 000a	(reserve) <*>	
00 12	0000 000a	Portamento Switch	(0 - 1) OFF, ON
00 13	0aaa aaaa	Portamento Time	(0 - 127)
00 14	0000 00aa	Mono Switch	(0 - 1) OFF, ON
00 15	0000 0aaa	Octave Shift	(61 - 67) -3 - +3
00 16	000a aaaa	Pitch Bend Range Up	(0 - 24)
00 17	000a aaaa	Pitch Bend Range Down	(0 - 24)
00 18	0000 0aaa	Bend Mode	(0 - 1) NORMAL, CATCH+LAST
00 19	0000 000a	Partial1 Switch	(0 - 1) OFF, ON
00 1A	0000 000a	Partial1 Select	(0 - 1) OFF, ON
00 1B	0000 000a	Partial2 Switch	(0 - 1) OFF, ON
00 1C	0000 000a	Partial2 Select	(0 - 1) OFF, ON
00 1D	0000 000a	Partial3 Switch	(0 - 1) OFF, ON
00 1E	0000 000a	Partial3 Select	(0 - 1) OFF, ON
00 1F	0000 00aa	RING Switch	(0 - 2) OFF, ---, ON
00 20	0000 000a	MFX Switch	(0 - 1) OFF, ON
00 21	0000 00aa	(reserve) <*>	
:			
00 2D	0000 000a	(reserve) <*>	
00 2E	0000 000a	Unison Switch	(0 - 1) OFF, ON
00 2F	0000 000a	(reserve) <*>	
00 30	0000 000a	(reserve) <*>	
00 31	0000 000a	Portamento Mode	(0 - 1) NORMAL, LEGATO
00 32	0000 000a	Legato Switch	(0 - 1) OFF, ON
00 33	0000 000a	(reserve) <*>	
00 34	0aaa aaaa	Analog Feel	(0 - 127)
00 35	0aaa aaaa	Wave Shape	(0 - 127)
00 36	0aaa aaaa	Tone Category	(0 - 127)
# 00 37	0000 aaaa		
	0000 bbbb		
	0000 cccc		

	0000 dddd	Phrase Number	(0 - 65535) CATEG, 1 - 65535
00 3B	0000 0aaa	Phrase Octave Shift	(61 - 67) -3 - +3
00 3C	0000 00aa	Unison Size	(0 - 3) 2, 4, 6, 8
00 3D	0aaa aaaa	(reserve) <*>	
:			
00 3F	0aaa aaaa	(reserve) <*>	
00 00 00 40	Total Size		

SuperNATURAL Synth Tone Misc

Offset Address	Description	
00 00	0aaa aaaa	(reserve) <*>
00 01	0aaa aaaa	Attack Time Interval Sens (0 - 127)
00 02	0aaa aaaa	Release Time Interval Sens (0 - 127)
00 03	0aaa aaaa	Portamento Time Interval Sens (0 - 127)
00 04	0aaa aaaa	(reserve) <*>
:		
00 24	0aaa aaaa	(reserve) <*>
00 00 00 25	Total Size	

SuperNATURAL Synth Tone Common MFX

Offset Address	Description	
00 00	0aaa aaaa	MFX Type (0 - 67)
00 01	0aaa aaaa	(reserve) <*>
00 02	0aaa aaaa	MFX Chorus Send Level (0 - 127)
00 03	0aaa aaaa	MFX Reverb Send Level (0 - 127)
00 04	0000 00aa	(reserve) <*>
00 05	0aaa aaaa	MFX Control 1 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 06	0aaa aaaa	MFX Control 1 Sens (1 - 127) -63 - +63
00 07	0aaa aaaa	MFX Control 2 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 08	0aaa aaaa	MFX Control 2 Sens (1 - 127) -63 - +63
00 09	0aaa aaaa	MFX Control 3 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 0A	0aaa aaaa	MFX Control 3 Sens (1 - 127) -63 - +63
00 0B	0aaa aaaa	MFX Control 4 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 0C	0aaa aaaa	MFX Control 4 Sens (1 - 127) -63 - +63
00 0D	000a aaaa	MFX Control Assign 1 (0 - 16) OFF, 1 - 16
00 0E	000a aaaa	MFX Control Assign 2 (0 - 16) OFF, 1 - 16
00 0F	000a aaaa	MFX Control Assign 3 (0 - 16) OFF, 1 - 16
00 10	000a aaaa	MFX Control Assign 4 (0 - 16) OFF, 1 - 16
# 00 11	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 1 (12768 - 52768) -20000 - +20000
# 00 15	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 2 (12768 - 52768) -20000 - +20000
# 00 19	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 3 (12768 - 52768) -20000 - +20000
# 00 1D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 4 (12768 - 52768) -20000 - +20000
# 00 21	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 5 (12768 - 52768) -20000 - +20000
# 00 25	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 6 (12768 - 52768) -20000 - +20000
# 00 29	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 7 (12768 - 52768) -20000 - +20000
# 00 2D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 8 (12768 - 52768) -20000 - +20000
# 00 31	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 9 (12768 - 52768) -20000 - +20000
# 00 35	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 10 (12768 - 52768) -20000 - +20000
# 00 39	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 11 (12768 - 52768) -20000 - +20000
# 00 3D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 12 (12768 - 52768) -20000 - +20000
# 00 41	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 13 (12768 - 52768) -20000 - +20000
# 00 45	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 14 (12768 - 52768) -20000 - +20000
# 00 49	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 15 (12768 - 52768) -20000 - +20000
# 00 4D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 16 (12768 - 52768) -20000 - +20000
# 00 51	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 17 (12768 - 52768) -20000 - +20000
# 00 55	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 18 (12768 - 52768) -20000 - +20000
# 00 59	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 19 (12768 - 52768) -20000 - +20000
# 00 5D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 20 (12768 - 52768) -20000 - +20000
# 00 61	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 21 (12768 - 52768) -20000 - +20000
# 00 65	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 22 (12768 - 52768) -20000 - +20000
# 00 69	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 23 (12768 - 52768) -20000 - +20000
# 00 6D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 24 (12768 - 52768) -20000 - +20000
# 00 71	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 25 (12768 - 52768) -20000 - +20000
# 00 75	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 26 (12768 - 52768) -20000 - +20000
# 00 79	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 27 (12768 - 52768) -20000 - +20000
# 00 7D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 28 (12768 - 52768) -20000 - +20000
# 01 01	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 29 (12768 - 52768)

			-20000 - +20000
# 01 05	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 30	(12768 - 52768)
			-20000 - +20000
# 01 09	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 31	(12768 - 52768)
			-20000 - +20000
# 01 0D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 32	(12768 - 52768)
			-20000 - +20000
00 00 01 11	Total Size		

SuperNATURAL Synth Tone Partial

Offset Address		Description	
00 00	0000 0aaa	OSC Wave	(0 - 7)
			SAW, SQR, PW-SQR, TRI, SINE, NOISE, SUPER-SAW, PCM
00 01	00aa aaaa	OSC Wave Variation	(0 - 2)
			A, B, C
00 02	0000 00aa	(reserve) <*>	
00 03	00aa aaaa	OSC Pitch	(40 - 88)
			-24 - +24
00 04	0aaa aaaa	OSC Detune	(14 - 114)
			-50 - +50
00 05	0aaa aaaa	OSC Pulse Width Mod Depth	(0 - 127)
00 06	0aaa aaaa	OSC Pulse Width	(0 - 127)
00 07	0aaa aaaa	OSC Pitch Env Attack Time	(0 - 127)
00 08	0aaa aaaa	OSC Pitch Env Decay	(0 - 127)
00 09	0aaa aaaa	OSC Pitch Env Depth	(1 - 127)
			-63 - +63
00 0A	0000 0aaa	FILTER Mode	(0 - 7)
			BYPASS, LPF, HPF, BPF, PKG, LPF2, LPF3, LPF4
00 0B	0000 000a	FILTER Slope	(0 - 1)
			-12, -24 [dB]
00 0C	0aaa aaaa	FILTER Cutoff	(0 - 127)
00 0D	00aa aaaa	FILTER Cutoff Keyfollow	(54 - 74)
			-100 - +100
00 0E	0aaa aaaa	FILTER Env Velocity Sens	(1 - 127)
			-63 - +63
00 0F	0aaa aaaa	FILTER Resonance	(0 - 127)
00 10	0aaa aaaa	FILTER Env Attack Time	(0 - 127)
00 11	0aaa aaaa	FILTER Env Decay Time	(0 - 127)
00 12	0aaa aaaa	FILTER Env Sustain Level	(0 - 127)
00 13	0aaa aaaa	FILTER Env Release Time	(0 - 127)
00 14	0aaa aaaa	FILTER Env Depth	(1 - 127)
			-63 - +63
00 15	0aaa aaaa	AMP Level	(0 - 127)
00 16	0aaa aaaa	AMP Level Velocity Sens	(1 - 127)
			-63 - +63
00 17	0aaa aaaa	AMP Env Attack Time	(0 - 127)
00 18	0aaa aaaa	AMP Env Decay Time	(0 - 127)
00 19	0aaa aaaa	AMP Env Sustain Level	(0 - 127)
00 1A	0aaa aaaa	AMP Env Release Time	(0 - 127)
00 1B	0aaa aaaa	AMP Pan	(0 - 127)
			L64 - 63R
00 1C	0000 0aaa	LFO Shape	(0 - 5)
			TRI, SIN, SAW, SQR, S&H, RND
00 1D	0aaa aaaa	LFO Rate	(0 - 127)
00 1E	0000 000a	LFO Tempo Sync Switch	(0 - 1)
			OFF, ON
00 1F	000a aaaa	LFO Tempo Sync Note	(0 - 19)
			16, 12, 8, 4, 2, 1, 3/4, 2/3, 1/2, 3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32, 1/12, 1/16, 1/24, 1/32
00 20	0aaa aaaa	LFO Fade Time	(0 - 127)
00 21	0000 000a	LFO Key Trigger	(0 - 1)
			OFF, ON
00 22	0aaa aaaa	LFO Pitch Depth	(1 - 127)
			-63 - +63
00 23	0aaa aaaa	LFO Filter Depth	(1 - 127)
			-63 - +63
00 24	0aaa aaaa	LFO Amp Depth	(1 - 127)
			-63 - +63
00 25	0aaa aaaa	LFO Pan Depth	(1 - 127)
			-63 - +63
00 26	0000 0aaa	Modulation LFO Shape	(0 - 5)
			TRI, SIN, SAW, SQR, S&H, RND
00 27	0aaa aaaa	Modulation LFO Rate	(0 - 127)
00 28	0000 000a	Modulation LFO Tempo Sync Switch	(0 - 1)
			OFF, ON
00 29	000a aaaa	Modulation LFO Tempo Sync Note	(0 - 19)
			16, 12, 8, 4, 2, 1, 3/4, 2/3, 1/2, 3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32, 1/12, 1/16, 1/24, 1/32
00 2A	0aaa aaaa	OSC Pulse Width Shift	(0 - 127)
00 2B	0000 000a	(reserve) <*>	
00 2C	0aaa aaaa	Modulation LFO Pitch Depth	(1 - 127)
			-63 - +63
00 2D	0aaa aaaa	Modulation LFO Filter Depth	(1 - 127)
			-63 - +63
00 2E	0aaa aaaa	Modulation LFO Amp Depth	(1 - 127)
			-63 - +63
00 2F	0aaa aaaa	Modulation LFO Pan Depth	(1 - 127)
			-63 - +63
00 30	0aaa aaaa	Cutoff Aftertouch Sens	(1 - 127)
			-63 - +63
00 31	0aaa aaaa	Level Aftertouch Sens	(1 - 127)
			-63 - +63
00 32	0aaa aaaa	(reserve) <*>	
00 33	0aaa aaaa	(reserve) <*>	
00 34	0000 00aa	Wave Gain	(0 - 3)
			-6, 0, +6, +12 [dB]
# 00 35	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Wave Number	(0 - 16384)
			OFF, 1 - 16384
00 39	0aaa aaaa	HPF Cutoff	(0 - 127)
00 3A	0aaa aaaa	Super Saw Detune	(0 - 127)
00 3B	0aaa aaaa	Modulation LFO Rate Control	(1 - 127)
			-63 - +63
00 3C	000a aaaa	AMP Level Keyfollow	(54 - 74)
			-100 - +100
00 00 00 3D	Total Size		

SuperNATURAL Acoustic Tone Common

Offset Address		Description	
00 00	0aaa aaaa	Tone Name 1	(32 - 127)
			32 - 127 [ASCII]
00 01	0aaa aaaa	Tone Name 2	(32 - 127)
			32 - 127 [ASCII]
00 02	0aaa aaaa	Tone Name 3	(32 - 127)
			32 - 127 [ASCII]
00 03	0aaa aaaa	Tone Name 4	(32 - 127)
			32 - 127 [ASCII]
00 04	0aaa aaaa	Tone Name 5	(32 - 127)
			32 - 127 [ASCII]
00 05	0aaa aaaa	Tone Name 6	(32 - 127)
			32 - 127 [ASCII]
00 06	0aaa aaaa	Tone Name 7	(32 - 127)
			32 - 127 [ASCII]
00 07	0aaa aaaa	Tone Name 8	(32 - 127)
			32 - 127 [ASCII]
00 08	0aaa aaaa	Tone Name 9	(32 - 127)
			32 - 127 [ASCII]
00 09	0aaa aaaa	Tone Name 10	(32 - 127)
			32 - 127 [ASCII]
00 0A	0aaa aaaa	Tone Name 11	(32 - 127)
			32 - 127 [ASCII]
00 0B	0aaa aaaa	Tone Name 12	(32 - 127)
			32 - 127 [ASCII]
00 0C	0aaa aaaa	(reserve)	(32 - 127)
			32 - 127 [ASCII]
00 0D	0aaa aaaa	(reserve)	(32 - 127)
			32 - 127 [ASCII]
00 0E	0aaa aaaa	(reserve)	(32 - 127)
			32 - 127 [ASCII]
00 0F	0aaa aaaa	(reserve)	(32 - 127)
			32 - 127 [ASCII]
00 10	0aaa aaaa	Tone Level	(0 - 127)
00 11	0000 000a	Mono/Poly	(0 - 1)
			MONO, POLY
00 12	0aaa aaaa	Portamento Time Offset	(0 - 127)
			-64 - +63
00 13	0aaa aaaa	Cutoff Offset	(0 - 127)
			-64 - +63
00 14	0aaa aaaa	Resonance Offset	(0 - 127)
			-64 - +63
00 15	0aaa aaaa	Attack Time Offset	(0 - 127)
			-64 - +63
00 16	0aaa aaaa	Release Time Offset	(0 - 127)
			-64 - +63
00 17	0aaa aaaa	Vibrato Rate	(0 - 127)
			-64 - +63
00 18	0aaa aaaa	Vibrato Depth	(0 - 127)
			-64 - +63
00 19	0aaa aaaa	Vibrato Delay	(0 - 127)
			-64 - +63
00 1A	0000 0aaa	Octave Shift	(61 - 67)
			-3 - +3
00 1B	0aaa aaaa	Category	(0 - 127)
# 00 1C	0000 aaaa		
	0000 bbbb	Phrase Number	(0 - 255)
00 1E	0000 0aaa	Phrase Octave Shift	(61 - 67)
			-3 - +3
00 1F	0000 000a	MFX Switch	(0 - 1)
			OFF,ON
00 20	0aaa aaaa	Inst Variation	(0 - 127)
00 21	0aaa aaaa	Inst Number	(0 - 127)
00 22	0aaa aaaa	Modify Parameter 1	(0 - 127)
00 23	0aaa aaaa	Modify Parameter 2	(0 - 127)
00 24	0aaa aaaa	Modify Parameter 3	(0 - 127)
00 25	0aaa aaaa	Modify Parameter 4	(0 - 127)
00 26	0aaa aaaa	Modify Parameter 5	(0 - 127)
00 27	0aaa aaaa	Modify Parameter 6	(0 - 127)
00 28	0aaa aaaa	Modify Parameter 7	(0 - 127)
00 29	0aaa aaaa	Modify Parameter 8	(0 - 127)

	00 2A	0aaa aaaa	Modify Parameter 9 (0 - 127)
	00 2B	0aaa aaaa	Modify Parameter 10 (0 - 127)
	00 2C	0aaa aaaa	Modify Parameter 11 (0 - 127)
	00 2D	0aaa aaaa	Modify Parameter 12 (0 - 127)
	00 2E	0aaa aaaa	Modify Parameter 13 (0 - 127)
	00 2F	0aaa aaaa	Modify Parameter 14 (0 - 127)
	00 30	0aaa aaaa	Modify Parameter 15 (0 - 127)
	00 31	0aaa aaaa	Modify Parameter 16 (0 - 127)
	00 32	0aaa aaaa	Modify Parameter 17 (0 - 127)
	00 33	0aaa aaaa	Modify Parameter 18 (0 - 127)
	00 34	0aaa aaaa	Modify Parameter 19 (0 - 127)
	00 35	0aaa aaaa	Modify Parameter 20 (0 - 127)
	00 36	0aaa aaaa	Modify Parameter 21 (0 - 127)
	00 37	0aaa aaaa	Modify Parameter 22 (0 - 127)
	00 38	0aaa aaaa	Modify Parameter 23 (0 - 127)
	00 39	0aaa aaaa	Modify Parameter 24 (0 - 127)
	00 3A	0aaa aaaa	Modify Parameter 25 (0 - 127)
	00 3B	0aaa aaaa	Modify Parameter 26 (0 - 127)
	00 3C	0aaa aaaa	Modify Parameter 27 (0 - 127)
	00 3D	0aaa aaaa	Modify Parameter 28 (0 - 127)
	00 3E	0aaa aaaa	Modify Parameter 29 (0 - 127)
	00 3F	0aaa aaaa	Modify Parameter 30 (0 - 127)
	00 40	0aaa aaaa	Modify Parameter 31 (0 - 127)
	00 41	0aaa aaaa	Modify Parameter 32 (0 - 127)
	00 42	0000 00aa	Bend Mode (0 - 1) NORMAL, CATCH+LAST
	00 43 : 00 46	000a aaaa 0aaa aaaa	(reserve) <*> (reserve) <*>
	00 00 00 47	Total Size	

SuperNATURAL Acoustic Tone MFX

	00 00	0aaa aaaa	MFX Type (0 - 67)
	00 01	0aaa aaaa	(reserve) <*>
	00 02	0aaa aaaa	MFX Chorus Send Level (0 - 127)
	00 03	0aaa aaaa	MFX Reverb Send Level (0 - 127)
	00 04	0000 00aa	(reserve) <*>
	00 05	0aaa aaaa	MFX Control 1 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 06	0aaa aaaa	MFX Control 1 Sens (1 - 127) -63 - +63
	00 07	0aaa aaaa	MFX Control 2 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 08	0aaa aaaa	MFX Control 2 Sens (1 - 127) -63 - +63
	00 09	0aaa aaaa	MFX Control 3 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 0A	0aaa aaaa	MFX Control 3 Sens (1 - 127) -63 - +63
	00 0B	0aaa aaaa	MFX Control 4 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 0C	0aaa aaaa	MFX Control 4 Sens (1 - 127) -63 - +63
	00 0D	000a aaaa	MFX Control Assign 1 (0 - 16) OFF, 1 - 16
	00 0E	000a aaaa	MFX Control Assign 2 (0 - 16) OFF, 1 - 16
	00 0F	000a aaaa	MFX Control Assign 3 (0 - 16) OFF, 1 - 16
	00 10	000a aaaa	MFX Control Assign 4 (0 - 16) OFF, 1 - 16
#	00 11	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 1 (12768 - 52768) -20000 - +20000
#	00 15	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 2 (12768 - 52768) -20000 - +20000
#	00 19	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 3 (12768 - 52768) -20000 - +20000
#	00 1D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 4 (12768 - 52768) -20000 - +20000
#	00 21	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 5 (12768 - 52768) -20000 - +20000
#	00 25	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 6 (12768 - 52768) -20000 - +20000
#	00 29	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 7 (12768 - 52768) -20000 - +20000
#	00 2D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 8 (12768 - 52768) -20000 - +20000
#	00 31	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 9 (12768 - 52768) -20000 - +20000
#	00 35	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 10 (12768 - 52768) -20000 - +20000
#	00 39	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 11 (12768 - 52768) -20000 - +20000
#	00 3D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 12 (12768 - 52768) -20000 - +20000
#	00 41	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 13 (12768 - 52768) -20000 - +20000
#	00 45	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 14 (12768 - 52768) -20000 - +20000
#	00 49	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 15 (12768 - 52768) -20000 - +20000
#	00 4D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 16 (12768 - 52768) -20000 - +20000
#	00 51	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 17 (12768 - 52768) -20000 - +20000
#	00 55	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 18 (12768 - 52768) -20000 - +20000
#	00 59	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 19 (12768 - 52768) -20000 - +20000
#	00 5D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 20 (12768 - 52768) -20000 - +20000
#	00 61	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 21 (12768 - 52768) -20000 - +20000
#	00 65	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 22 (12768 - 52768) -20000 - +20000
#	00 69	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 23 (12768 - 52768) -20000 - +20000
#	00 6D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 24 (12768 - 52768) -20000 - +20000
#	00 71	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 25 (12768 - 52768) -20000 - +20000
#	00 75	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 26 (12768 - 52768) -20000 - +20000
#	00 79	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 27 (12768 - 52768) -20000 - +20000
#	00 7D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 28 (12768 - 52768) -20000 - +20000

Offset Address		Description	
# 01 01	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 29	(12768 - 52768) -20000 - +20000
# 01 05	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 30	(12768 - 52768) -20000 - +20000
# 01 09	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 31	(12768 - 52768) -20000 - +20000
# 01 0D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 32	(12768 - 52768) -20000 - +20000
00 00 01 11	Total Size		

SuperNATURAL Drum Kit Common

Offset Address		Description	
00 00	0aaa aaaa	Kit Name 1	(32 - 127) 32 - 127 [ASCII]
00 01	0aaa aaaa	Kit Name 2	(32 - 127) 32 - 127 [ASCII]
00 02	0aaa aaaa	Kit Name 3	(32 - 127) 32 - 127 [ASCII]
00 03	0aaa aaaa	Kit Name 4	(32 - 127) 32 - 127 [ASCII]
00 04	0aaa aaaa	Kit Name 5	(32 - 127) 32 - 127 [ASCII]
00 05	0aaa aaaa	Kit Name 6	(32 - 127) 32 - 127 [ASCII]
00 06	0aaa aaaa	Kit Name 7	(32 - 127) 32 - 127 [ASCII]
00 07	0aaa aaaa	Kit Name 8	(32 - 127) 32 - 127 [ASCII]
00 08	0aaa aaaa	Kit Name 9	(32 - 127) 32 - 127 [ASCII]
00 09	0aaa aaaa	Kit Name 10	(32 - 127) 32 - 127 [ASCII]
00 0A	0aaa aaaa	Kit Name 11	(32 - 127) 32 - 127 [ASCII]
00 0B	0aaa aaaa	Kit Name 12	(32 - 127) 32 - 127 [ASCII]
00 0C	0aaa aaaa	(reserve)	(32 - 127) 32 - 127 [ASCII]
00 0D	0aaa aaaa	(reserve)	(32 - 127) 32 - 127 [ASCII]
00 0E	0aaa aaaa	(reserve)	(32 - 127) 32 - 127 [ASCII]
00 0F	0aaa aaaa	(reserve)	(32 - 127) 32 - 127 [ASCII]
00 10	0aaa aaaa	Kit Level	(0 - 127)
00 11	0aaa aaaa	Ambience Level	(0 - 127)
00 12	0aaa aaaa	Phrase Number	(0 - 127)
00 13	0000 000a	MFX Switch	(0 - 1) OFF, ON
00 00 00 14	Total Size		

SuperNATURAL Drum Kit MFX

Offset Address		Description	
00 00	0aaa aaaa	MFX Type	(0 - 67)
00 01	0aaa aaaa	(reserve) <*>	
00 02	0aaa aaaa	MFX Chorus Send Level	(0 - 127)
00 03	0aaa aaaa	MFX Reverb Send Level	(0 - 127)
00 04	0000 00aa	(reserve) <*>	
00 05	0aaa aaaa	MFX Control 1 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 06	0aaa aaaa	MFX Control 1 Sens	(1 - 127) -63 - +63
00 07	0aaa aaaa	MFX Control 2 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 08	0aaa aaaa	MFX Control 2 Sens	(1 - 127) -63 - +63
00 09	0aaa aaaa	MFX Control 3 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 0A	0aaa aaaa	MFX Control 3 Sens	(1 - 127) -63 - +63
00 0B	0aaa aaaa	MFX Control 4 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 0C	0aaa aaaa	MFX Control 4 Sens	(1 - 127) -63 - +63
00 0D	000a aaaa	MFX Control Assign 1	(0 - 16) OFF, 1 - 16
00 0E	000a aaaa	MFX Control Assign 2	(0 - 16) OFF, 1 - 16
00 0F	000a aaaa	MFX Control Assign 3	(0 - 16) OFF, 1 - 16
00 10	000a aaaa	MFX Control Assign 4	(0 - 16) OFF, 1 - 16
# 00 11	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 1	(12768 - 52768) -20000 - +20000
# 00 15	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 2	(12768 - 52768) -20000 - +20000
# 00 19	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 3	(12768 - 52768) -20000 - +20000
# 00 1D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 4	(12768 - 52768) -20000 - +20000
# 00 21	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 5	(12768 - 52768) -20000 - +20000
# 00 25	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 6	(12768 - 52768) -20000 - +20000
# 00 29	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 7	(12768 - 52768) -20000 - +20000
# 00 2D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 8	(12768 - 52768) -20000 - +20000
# 00 31	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 9	(12768 - 52768) -20000 - +20000
# 00 35	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 10	(12768 - 52768) -20000 - +20000
# 00 39	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 11	(12768 - 52768) -20000 - +20000
# 00 3D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 12	(12768 - 52768) -20000 - +20000
# 00 41	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 13	(12768 - 52768) -20000 - +20000
# 00 45	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 14	(12768 - 52768) -20000 - +20000
# 00 49	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 15	(12768 - 52768) -20000 - +20000
# 00 4D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 16	(12768 - 52768) -20000 - +20000
# 00 51	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 17	(12768 - 52768) -20000 - +20000
# 00 55	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 18	(12768 - 52768) -20000 - +20000
# 00 59	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 19	(12768 - 52768) -20000 - +20000
# 00 5D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 20	(12768 - 52768) -20000 - +20000
# 00 61	0000 aaaa 0000 bbbb 0000 cccc		

		0000 dddd	MFX Parameter 21	(12768 - 52768) -20000 - +20000
#	00 65	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 22	(12768 - 52768) -20000 - +20000
#	00 69	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 23	(12768 - 52768) -20000 - +20000
#	00 6D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 24	(12768 - 52768) -20000 - +20000
#	00 71	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 25	(12768 - 52768) -20000 - +20000
#	00 75	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 26	(12768 - 52768) -20000 - +20000
#	00 79	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 27	(12768 - 52768) -20000 - +20000
#	00 7D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 28	(12768 - 52768) -20000 - +20000
#	01 01	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 29	(12768 - 52768) -20000 - +20000
#	01 05	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 30	(12768 - 52768) -20000 - +20000
#	01 09	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 31	(12768 - 52768) -20000 - +20000
#	01 0D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 32	(12768 - 52768) -20000 - +20000
	00 00 01 11	Total Size		

SuperNATURAL Drum Kit Common Comp/EQ

Offset Address		Description	
00 00	0000 000a	Comp1 Switch	(0 - 1) OFF, ON
00 01	000a aaaa	Comp1 Attack Time	(0 - 31) 0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0 [msec]
00 02	000a aaaa	Comp1 Release Time	(0 - 23) 0.05, 0.07, 0.1, 0.5, 1, 5, 10, 17, 25, 50, 75, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 2000 [msec]
00 03	0aaa aaaa	Comp1 Threshold	(0 - 127)
00 04	000a aaaa	Comp1 Ratio	(0 - 19) 1:1, 2:1, 3:1, 4:1, 5:1, 6:1, 7:1, 8:1, 9:1, 10:1, 20:1, 30:1, 40:1, 50:1, 60:1, 70:1, 80:1, 90:1, 100:1, inf:1
00 05	000a aaaa	Comp1 Output Gain	(0 - 24) 0 - +24 [dB]
00 06	0000 000a	EQ1 Switch	(0 - 1) OFF, ON
00 07	0000 000a	EQ1 Low Freq	(0 - 1) 200, 400 [Hz]
00 08	000a aaaa	EQ1 Low Gain	(0 - 30) -15 - +15 [dB]
00 09	000a aaaa	EQ1 Mid Freq	(0 - 16) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
00 0A	000a aaaa	EQ1 Mid Gain	(0 - 30) -15 - +15 [dB]
00 0B	0000 0aaa	EQ1 Mid Q	(0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 0C	0000 00aa	EQ1 High Freq	(0 - 2) 2000, 4000, 8000 [Hz]
00 0D	000a aaaa	EQ1 High Gain	(0 - 30) -15 - +15 [dB]
00 0E	0000 000a	Comp2 Switch	(0 - 1) OFF, ON
00 0F	000a aaaa	Comp2 Attack Time	(0 - 31) 0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0 [msec]
00 10	000a aaaa	Comp2 Release Time	(0 - 23) 0.05, 0.07, 0.1, 0.5, 1, 5, 10, 17, 25, 50, 75, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 2000 [msec]
00 11	0aaa aaaa	Comp2 Threshold	(0 - 127)
00 12	000a aaaa	Comp2 Ratio	(0 - 19) 1:1, 2:1, 3:1, 4:1, 5:1, 6:1, 7:1, 8:1, 9:1, 10:1, 20:1, 30:1, 40:1, 50:1, 60:1, 70:1, 80:1, 90:1, 100:1, inf:1
00 13	000a aaaa	Comp2 Output Gain	(0 - 24) 0 - +24 [dB]
00 14	0000 000a	EQ2 Switch	(0 - 1) OFF, ON
00 15	0000 000a	EQ2 Low Freq	(0 - 1) 200, 400 [Hz]
00 16	000a aaaa	EQ2 Low Gain	(0 - 30) -15 - +15 [dB]
00 17	000a aaaa	EQ2 Mid Freq	(0 - 16) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
00 18	000a aaaa	EQ2 Mid Gain	(0 - 30) -15 - +15 [dB]
00 19	0000 0aaa	EQ2 Mid Q	(0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 1A	0000 00aa	EQ2 High Freq	(0 - 2) 2000, 4000, 8000 [Hz]
00 1B	000a aaaa	EQ2 High Gain	(0 - 30) -15 - +15 [dB]
00 1C	0000 000a	Comp3 Switch	(0 - 1) OFF, ON
00 1D	000a aaaa	Comp3 Attack Time	(0 - 31) 0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0 [msec]
00 1E	000a aaaa	Comp3 Release Time	(0 - 23) 0.05, 0.07, 0.1, 0.5, 1, 5, 10, 17, 25, 50, 75, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 2000 [msec]
00 1F	0aaa aaaa	Comp3 Threshold	(0 - 127)
00 20	000a aaaa	Comp3 Ratio	(0 - 19) 1:1, 2:1, 3:1, 4:1, 5:1, 6:1, 7:1, 8:1, 9:1, 10:1, 20:1, 30:1, 40:1, 50:1, 60:1, 70:1, 80:1, 90:1, 100:1, inf:1
00 21	000a aaaa	Comp3 Output Gain	(0 - 24) 0 - +24 [dB]
00 22	0000 000a	EQ3 Switch	(0 - 1) OFF, ON
00 23	0000 000a	EQ3 Low Freq	(0 - 1) 200, 400 [Hz]
00 24	000a aaaa	EQ3 Low Gain	(0 - 30) -15 - +15 [dB]
00 25	000a aaaa	EQ3 Mid Freq	(0 - 16) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
00 26	000a aaaa	EQ3 Mid Gain	(0 - 30) -15 - +15 [dB]
00 27	0000 0aaa	EQ3 Mid Q	(0 - 4) 0.5, 1.0, 2.0, 4.0, 8.0
00 28	0000 00aa	EQ3 High Freq	(0 - 2) 2000, 4000, 8000 [Hz]
00 29	000a aaaa	EQ3 High Gain	(0 - 30) -15 - +15 [dB]
00 2A	0000 000a	Comp4 Switch	(0 - 1) OFF, ON
00 2B	000a aaaa	Comp4 Attack Time	(0 - 31) 0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0 [msec]
00 2C	000a aaaa	Comp4 Release Time	(0 - 23) 0.05, 0.07, 0.1, 0.5, 1, 5, 10, 17, 25, 50, 75, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 2000 [msec]
00 2D	0aaa aaaa	Comp4 Threshold	(0 - 127)
00 2E	000a aaaa	Comp4 Ratio	(0 - 19) 1:1, 2:1, 3:1, 4:1, 5:1, 6:1, 7:1, 8:1, 9:1, 10:1, 20:1, 30:1, 40:1, 50:1, 60:1, 70:1, 80:1, 90:1, 100:1, inf:1
00 2F	000a aaaa	Comp4 Output Gain	(0 - 24) 0 - +24 [dB]
00 30	0000 000a	EQ4 Switch	(0 - 1) OFF, ON
00 31	0000 000a	EQ4 Low Freq	(0 - 1)

			200, 400 [Hz]
00 32	000a aaaa	EQ4 Low Gain	(0 - 30)
			-15 - +15 [dB]
00 33	000a aaaa	EQ4 Mid Freq	(0 - 16)
			200, 250, 315, 400, 500, 630,
			800, 1000, 1250, 1600, 2000,
			2500, 3150, 4000, 5000, 6300,
			8000 [Hz]
00 34	000a aaaa	EQ4 Mid Gain	(0 - 30)
			-15 - +15 [dB]
00 35	0000 0aaa	EQ4 Mid Q	(0 - 4)
			0.5, 1.0, 2.0, 4.0, 8.0
00 36	0000 00aa	EQ4 High Freq	(0 - 2)
			2000, 4000, 8000 [Hz]
00 37	000a aaaa	EQ4 High Gain	(0 - 30)
			-15 - +15 [dB]
00 38	0000 000a	Comp5 Switch	(0 - 1)
			OFF, ON
00 39	000a aaaa	Comp5 Attack Time	(0 - 31)
			0.05, 0.06, 0.07, 0.08, 0.09,
			0.1, 0.2, 0.3, 0.4, 0.5, 0.6,
			0.7, 0.8, 0.9, 1.0, 2.0, 3.0,
			4.0, 5.0, 6.0, 7.0, 8.0, 9.0,
			10.0, 15.0, 20.0, 25.0, 30.0,
			35.0, 40.0, 45.0, 50.0 [msec]
00 3A	000a aaaa	Comp5 Release Time	(0 - 23)
			0.05, 0.07, 0.1, 0.5, 1, 5,
			10, 17, 25, 50, 75, 100, 200,
			300, 400, 500, 600, 700, 800,
			900, 1000, 1200, 1500, 2000 [msec]
00 3B	0aaa aaaa	Comp5 Threshold	(0 - 127)
00 3C	000a aaaa	Comp5 Ratio	(0 - 19)
			1:1, 2:1, 3:1, 4:1, 5:1, 6:1,
			7:1, 8:1, 9:1, 10:1, 20:1, 30:1,
			40:1, 50:1, 60:1, 70:1, 80:1,
			90:1, 100:1, inf:1
00 3D	000a aaaa	Comp5 Output Gain	(0 - 24)
			0 - +24 [dB]
00 3E	0000 000a	EQ5 Switch	(0 - 1)
			OFF, ON
00 3F	0000 000a	EQ5 Low Freq	(0 - 1)
			200, 400 [Hz]
00 40	000a aaaa	EQ5 Low Gain	(0 - 30)
			-15 - +15 [dB]
00 41	000a aaaa	EQ5 Mid Freq	(0 - 16)
			200, 250, 315, 400, 500, 630,
			800, 1000, 1250, 1600, 2000,
			2500, 3150, 4000, 5000, 6300,
			8000 [Hz]
00 42	000a aaaa	EQ5 Mid Gain	(0 - 30)
			-15 - +15 [dB]
00 43	0000 0aaa	EQ5 Mid Q	(0 - 4)
			0.5, 1.0, 2.0, 4.0, 8.0
00 44	0000 00aa	EQ5 High Freq	(0 - 2)
			2000, 4000, 8000 [Hz]
00 45	000a aaaa	EQ5 High Gain	(0 - 30)
			-15 - +15 [dB]
00 46	0000 000a	Comp6 Switch	(0 - 1)
			OFF, ON
00 47	000a aaaa	Comp6 Attack Time	(0 - 31)
			0.05, 0.06, 0.07, 0.08, 0.09,
			0.1, 0.2, 0.3, 0.4, 0.5, 0.6,
			0.7, 0.8, 0.9, 1.0, 2.0, 3.0,
			4.0, 5.0, 6.0, 7.0, 8.0, 9.0,
			10.0, 15.0, 20.0, 25.0, 30.0,
			35.0, 40.0, 45.0, 50.0 [msec]
00 48	000a aaaa	Comp6 Release Time	(0 - 23)
			0.05, 0.07, 0.1, 0.5, 1, 5,
			10, 17, 25, 50, 75, 100, 200,
			300, 400, 500, 600, 700, 800,
			900, 1000, 1200, 1500, 2000 [msec]
00 49	0aaa aaaa	Comp6 Threshold	(0 - 127)
00 4A	000a aaaa	Comp6 Ratio	(0 - 19)
			1:1, 2:1, 3:1, 4:1, 5:1, 6:1,
			7:1, 8:1, 9:1, 10:1, 20:1, 30:1,
			40:1, 50:1, 60:1, 70:1, 80:1,
			90:1, 100:1, inf:1
00 4B	000a aaaa	Comp6 Output Gain	(0 - 24)
			0 - +24 [dB]
00 4C	0000 000a	EQ6 Switch	(0 - 1)
			OFF, ON
00 4D	0000 000a	EQ6 Low Freq	(0 - 1)
			200, 400 [Hz]
00 4E	000a aaaa	EQ6 Low Gain	(0 - 30)
			-15 - +15 [dB]
00 4F	000a aaaa	EQ6 Mid Freq	(0 - 16)
			200, 250, 315, 400, 500, 630,
			800, 1000, 1250, 1600, 2000,
			2500, 3150, 4000, 5000, 6300,
			8000 [Hz]
00 50	000a aaaa	EQ6 Mid Gain	(0 - 30)
			-15 - +15 [dB]
00 51	0000 0aaa	EQ6 Mid Q	(0 - 4)
			0.5, 1.0, 2.0, 4.0, 8.0
00 52	0000 00aa	EQ6 High Freq	(0 - 2)
			2000, 4000, 8000 [Hz]
00 53	000a aaaa	EQ6 High Gain	(0 - 30)
			-15 - +15 [dB]
00 00 00 54	Total Size		

SuperNATURAL Drum Kit Note

Offset Address	Description
# 00 00	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd
00 04	0aaa aaaa
00 05	0aaa aaaa
00 06	0aaa aaaa
00 07	0aaa aaaa
# 00 08	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd
00 0C	0aaa aaaa
00 0D	0aaa aaaa
00 0E	000a aaaa
00 0F	0aaa aaaa
00 10	00aa aaaa
00 11	0aaa aaaa
00 12	0000 0aaa
00 00 00 13	Total Size

# 00 00	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Inst Number	(0 - 512)
00 04	0aaa aaaa	Level	(0 - 127)
00 05	0aaa aaaa	Pan	(0 - 127) L64 - 63R
00 06	0aaa aaaa	Chorus Send Level	(0 - 127)
00 07	0aaa aaaa	Reverb Send Level	(0 - 127)
# 00 08	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Tune	(8 - 248) -1200 - +1200
00 0C	0aaa aaaa	Attack	(0 - 100) 0 - 100 [%]
00 0D	0aaa aaaa	Decay	(1 - 64) -63 - 0
00 0E	000a aaaa	Brilliance	(49 - 76) -15 - +12
00 0F	0aaa aaaa	Variation	(0 - 7) OFF, FLAM1, FLAM2, FLAM3, BUZZ1, BUZZ2, BUZZ3, ROLL
00 10	00aa aaaa	Dynamic Range	(0 - 63)
00 11	0aaa aaaa	Stereo Width	(0 - 127)
00 12	0000 0aaa	Output Assign	(0 - 6) PART, COMP+EQ1, COMP+EQ2, COMP+EQ3, COMP+EQ4, COMP+EQ5, COMP+EQ6
00 00 00 13	Total Size		

6. 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.

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

<Example1> What is the decimal expression of 5AH?
From the preceding table, 5AH = 90

<Example2>
What is the decimal expression of the value 12 34H given as hexadecimal for each 7 bits?
From the preceding table, since 12H = 18 and 34H = 52
18 x 128+52 = 2356

<Example3>
What is the decimal expression of the nibbled value 0A 03 09 0D?
From the preceding table, since 0AH = 10, 03H = 3, 09H = 9, 0DH = 13
((10 x 16+3) x 16+9) x 16+13 = 41885

<Example4> What is the nibbled expression of the decimal value 1258?

```
16 ) 1258
16 )   78 ...10
16 )    4 ...14
         0 ... 4
```

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

■ Examples of Actual MIDI Messages

<Example1> 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.

<Example2> CE 49
CnH is the Program Change status, and n is the MIDI channel number. Since EH = 14 and 49H = 73, this is a Program Change message with MIDI CH = 15, program number 74.

<Example3> EA 00 28
EnH is the Pitch Bend Change status, and n is the MIDI channel number. The 2nd byte (00H = 0) is the LSB and the 3rd byte (28H = 40) is the MSB, but Pitch Bend Value is a signed number in which 40 00H (= 64 x 12+80 = 8192) is 0, so this Pitch Bend Value is 28 00H - 40 00H = 40 x 12+80 - (64 x 12+80) = 5120 - 8192 = -3072

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

<Example4> B3 64 00 65 00 06 0C 26 00 64 7F 65 7F
BnH is the Control Change status, and n is the MIDI channel number. For Control Changes, the 2nd byte is the control number, and the 3rd byte is the value. In a case in which two or more messages consecutive messages have the same status, MIDI has a provision called "running status" which allows the status byte of the second and following messages to be omitted. Thus, the above messages have the following meaning.

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

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

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

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

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

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

* TPQN: Ticks Per Quarter Note

■ Example of an Exclusive Message and Calculating a Checksum

Roland Exclusive messages (RQ1, DT1) are transmitted with a checksum at the end (before F7) to make sure that the message was correctly received. The value of the checksum is determined by the address and data (or size) of the transmitted Exclusive message.

● How to calculate the checksum

(hexadecimal numbers are indicated by "H")
The checksum is a value derived by adding the address, size, and checksum itself and inverting the lower 7 bits.
Here's an example of how the checksum is calculated. We will assume that in the Exclusive message we are transmitting, the address is aabbccddH and the data or size is eeffH.

aa + bb + cc + dd + ee + ff = sum
sum ? 128 = quotient ... remainder
128 - remainder = checksum

<Example> Setting Reverb Type of Studio Set to Room 2 (DT1)
According to the Parameter Address Map (p. 13), the start address of Temporary Studio Set is 18 00 00 00H, the offset address of Reverb at Studio Set is 02 00H, and the address of Reverb Type is 00 01H. Therefore the address of Reverb Type is;

```
   18 00 00 00H
         02 00H
+)       00 01H
   18 00 02 01H
```

Room 2 has the value of 02H.
So the system exclusive message should be sent is;

F0	41	10	00 00 77	12	18 00 02 01	02	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum	(6)

(1) Exclusive Status (2) ID (Roland) (3) Device ID (17)
(4) Model ID (FA-06/08) (5) Command ID (DT1) (6) End of Exclusive

Then calculate the checksum.

18H + 00H + 02H + 01H + 02H = 24 + 0 + 2 + 1 + 2 = 29 (sum)
29 (sum) / 128 = 0 (quotient) ... 29 (remainder)
checksum = 128 - 29 (remainder) = 99 = 63H

This means that F0 41 10 00 00 77 12 18 00 02 01 02 63 F7 is the message should be sent.

ASCII Code Table

Studio Set Name, etc., of MIDI data are described the ASCII code in the table below.

D	H	Char	D	H	Char	D	H	Char
32	20H	SP	64	40H	@	96	60H	`
33	21H	!	65	41H	A	97	61H	a
34	22H	"	66	42H	B	98	62H	b
35	23H	#	67	43H	C	99	63H	c
36	24H	$	68	44H	D	100	64H	d
37	25H	%	69	45H	E	101	65H	e
38	26H	&	70	46H	F	102	66H	f
39	27H	`	71	47H	G	103	67H	g
40	28H	(	72	48H	H	104	68H	h
41	29H	)	73	49H	I	105	69H	i
42	2AH	*	74	4AH	J	106	6AH	j
43	2BH	+	75	4BH	K	107	6BH	k
44	2CH	,	76	4CH	L	108	6CH	l
45	2DH	-	77	4DH	M	109	6DH	m
46	2EH	.	78	4EH	N	110	6EH	n
47	2FH	/	79	4FH	O	111	6FH	o
48	30H	0	80	50H	P	112	70H	p
49	31H	1	81	51H	Q	113	71H	q
50	32H	2	82	52H	R	114	72H	r
51	33H	3	83	53H	S	115	73H	s
52	34H	4	84	54H	T	116	74H	t
53	35H	5	85	55H	U	117	75H	u
54	36H	6	86	56H	V	118	76H	v
55	37H	7	87	57H	W	119	77H	w
56	38H	8	88	58H	X	120	78H	x
57	39H	9	89	59H	Y	121	79H	y
58	3AH	:	90	5AH	Z	122	7AH	z
59	3BH	;	91	5BH	[	123	7BH	{
60	3CH	<	92	5CH	\	124	7CH	|
61	3DH	=	93	5DH	]	125	7DH	}
62	3EH	>	94	5EH	^			
63	3FH	?	95	5FH	_			

D: decimal
H: hexadecimal

* "SP" is space.