

microKONTROL MIDI Implementation

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microKONTROL MIDI Implementation

Revision 1.0 (2003.07.18)

1. Transmitted Data

1-1 Channel Messages

[H]:Hex, [D]:Decimal

Status [Hex]	Second [H] [D]	Third [H] [D]	Description (Transmitted by)
8n	kk (kk)	40 (64)	Note Off (Keyboard)*1, (Pad)
8n	dd (dd)	dd (dd)	Note Off (Message)
9n	kk (kk)	VV (vv)	Note On (Keyboard)*1, (Pad)
9n	dd (dd)	dd (dd)	Note On (Message)
An	nn (nn)	vv (vv)	Poly Key Pressure (Joystick)
An	dd (dd)	dd (dd)	Poly Key Pressure (Message)
Bn	cc (cc)	vv (vv)	Control Change (Panel Control)
Bn	06 (06)	vv (vv)	Data Entry (MSB) (Panel Control)
Bn	62 (98)	vv (vv)	NRPN (LSB) (Panel Control)
Bn	63 (99)	vv (vv)	NRPN (MSB) (Panel Control)
Bn	64 (100)	vv (vv)	RPN (LSB) (Panel Control)
Bn	65 (101)	vv (vv)	RPN (MSB) (Panel Control)
Bn	dd (dd)	dd (dd)	Control Change (Message)
Cn	dd (dd)	-- --	Program Change (Message)
Dn	vv (vv)	-- --	Channel Pressure (Joystick)
Dn	dd (dd)	-- --	Channel Pressure (Message)
En	bb (bb)	bb (bb)	Pitch Bend Change (Joystick)
En	dd (dd)	dd (dd)	Pitch Bend Change (Message)

n : MIDI Channel = 0~15

kk : Note# 0~127 *1 (37Keys + OctaveShift + Transpose)

dd : Data = 0~127

cc : Control Change# = 0~127

vv : Value = 0~127

VV : Velocity = 1~127

nn : Last Note# = 0~127

1-2 System Common Messages

Status [Hex]	Second [H] [D]	Third [H] [D]	Description
F1	dd (dd)	-- --	MIDI Time Code Quarter Frame
F2	dd (dd)	dd (dd)	Song Position Pointer
F3	dd (dd)	-- --	Song Select
F6	-- --	-- --	Tune Request

dd : Data = 0~127

Transmitted when in Message mode.

1-3 System Realtime Messages

Status[H]	Description
F8	Timing Clock *2
FA	Start
FB	Continue
FC	Stop
FE	Active Sensing
FF	System Reset

Transmitted when in Message mode.

*2 :This message is transmitted when the "Tempo" is not "ClockOff".

1-4 Universal System Exclusive Messages (Non Realtime)

(1) Device Inquiry Reply

Byte[H]	Description
F0	Exclusive Status
7E	Non Realtime Message
0g	Global MIDI Channel (Device ID)
06	General Information
02	Identity Reply
42	KORG ID (Manufacturers ID)
6E	Software Project (Family ID (LSB))
00	(Family ID (MSB))
00	microKONTROL (Member ID (LSB))
00	(Member ID (MSB))
xx	(Minor Ver. (LSB))
xx	(Minor Ver. (MSB))
xx	(Major Ver. (LSB))
xx	(Major Ver. (MSB))
F7	End Of Exclusive

This message is transmitted whenever an INQUIRY MESSAGE REQUEST is received.

(2) General MIDI Mode ON

Byte[H]	Description
F0	Exclusive Status
7E	Non Realtime Message
7F	Device ID (All-Call)
09	General MIDI Message (Sub ID 1)
01	General MIDI On (Sub ID 2)
F7	End Of Exclusive

Transmitted when in Message mode.

1-5 Universal System Exclusive Messages (Realtime)

Master Balance

Byte[H]	Description
F0	Exclusive Status
7F	Realtime Message
7F	Device ID (All-Call)
04	Device Control
02	Master Balance
11	Value (LSB)
mm	Value (MSB)
F7	End Of Exclusive

mm,11 : 00,00 ~ 7F,7F :Left ~ Right

Transmitted by Joystick.

1-6 microKONTROL System Exclusive Message Transmitted Command List

Structure of microKONTROL System Exclusive Messages

1st Byte = F0 : Exclusive Status

2nd Byte = 42 : KORG

3rd Byte = 4g : g : Global MIDI Channel

4th Byte = 6E : Software Project

5th Byte = 00 : microKONTROL (SubID)

6th Byte = cd : 0dvmmmmm d (1:Controller->Host)
v (0:2Bytes Data Format, 1:Variable)
mmmmmm (Command Number)

7th Byte = nn : 2Bytes Format: Operation Number, Variable: Num of Data

8th Byte = dd : Data

LastByte = F7 : End of Exclusive

6th Byte command# [Bin (Hex)]	Description/Command	
010 00000 (40)	Native KORG mode In/Out	
010 00011 (43)	Encoder Output	*3
010 00100 (44)	Slider Output	*3
010 00101 (45)	Pad Output	*3
010 00111 (47)	Pedal Output	*3
010 01000 (48)	SW Output	*3
010 01011 (4B)	Joystick Output	*3
011 11110 (7E)	Port Detect	
010 11111 (5F)	Packet Communication	*4
011 11111 (7F)	Data Dump	*4

*3 :Transmitted when in native KORG mode.

*4 :Function ID Code List

Function ID [Hex]	Description/Function	
40	Current Scene Data Dump	R,D
51	Global Data Dump	R,D
4F	Scene Change	R,C
26	Data Format Error	E
23	Data Load Completed	E
24	Data Load Error	E
21	Write Completed	E
22	Write Error	E
00~03	Native KORG mode Dump Data Reply	S

Transmitted when

- R : Request Message is received.
- D : Data Dump from DUMP page.
- C : Change Scene.
- E : Exclusive Message is received.
- S : Native KORG mode Messages is received.

2. Recognized Receive Data

2-1 Universal System Exclusive Message (Non Realtime)

Inquiry Message Request

Byte[H]	Description
F0	Exclusive Status
7E	Non Realtime Message
gg	Global MIDI Channel
06	General Information
01	Identity Request
F7	End Of Exclusive

gg = 00~0F :Received if Global Channel
 7F :Received on any Channel

2-2 microKONTROL System Exclusive Message Received Command List

Structure of microKONTROL System Exclusive Messages

1st Byte = F0 : Exclusive Status
 2nd Byte = 42 : KORG
 3rd Byte = 4g : g : Global MIDI Channel
 4th Byte = 6E : Software Project
 5th Byte = 00 : microKONTROL (SubID)
 6th Byte = cd : 0dvmmmm d (0:Host->Controller)
 v (0:2Bytes Data Format, 1:Variable)
 mmmmm (Command Number)
 7th Byte = nn : 2Bytes Format: Operation Number, Variable: Num of Data
 8th Byte = dd : Data
 |
 LastByte = F7 : End of Exclusive

6th Byte command# [Bin (Hex)]	Description/Command
000 0000 (00)	Native KORG mode In/Out Req
000 0001 (01)	Display LED *5
001 00010 (22)	Display LCD *5
000 11110 (1E)	Port Detect Req
000 11111 (1F)	Data Dump Req *6
001 11111 (3F)	Packet Communication *6
011 11111 (7F)	Data Dump *6

*5 : Received when in native KORG mode.
 *6 : Function ID Code List

Function ID [Hex]	Description/Function	
14	Scene Change Request	A
10	Current Scene Data Dump Request	D
0E	Global Data Dump Request	D
40	Current Scene Data Dump	D
51	Global Data Dump	D
11	Scene Write Request	D
00~03	Native KORG mode Dump Data	S

Received when

A : Always.
 D : in DUMP page.
 S : in native KORG mode.

3. MIDI Exclusive Format

(R: Receive, T: Transmit)

3-1 Standard Messages

(1) Current Scene Data Dump Request

R,-

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0001 1111 (1F)	Data Dump Command (Host->Controller, 2Bytes Format)
0001 0000 (10)	Current Scene Data Dump Request
0000 0000 (00)	
1111 0111 (F7)	End of Exclusive (EOX)

Receive this message, and transmits Func=40 or Func=24,26 message.

(2) Global Data Dump Request

R,-

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0001 1111 (1F)	Data Dump Command (Host->Controller, 2Bytes Format)
0000 1110 (0E)	Global Data Dump Request
0000 0000 (00)	
1111 0111 (F7)	End of Exclusive (EOX)

Receive this message, and transmits Func=51 or Func=24 message.

(3) Scene Write Request

R,-

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0001 1111 (1F)	Data Dump Command (Host->Controller, 2Bytes Format)
0001 0001 (11)	Scene Write Request
0sss ssss (ss)	Destination Scene No.(0~11)
1111 0111 (F7)	End of Exclusive (EOX)

Receive this message, and transmits Func=4F & Func=21 or Func=22 message.

(4) Scene Change Request

R,-

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0001 1111 (1F)	Data Dump Command (Host->Controller, 2Bytes Format)
0001 0100 (14)	Scene Change Request
0sss ssss (ss)	Destination Scene No.(0~11)
1111 0111 (F7)	End of Exclusive (EOX)

Receive this message, and transmits Func=4F & Func=23 or Func=24 message.

(5) Current Scene Data Dump

R,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0111 1111 (7F)	Data Dump Command (Host<->Controller, Variable Format)
0101 1111 (5F)	Num of Data (1+94Bytes)
0100 0000 (40)	Current Scene Data Dump
0ddd dddd (dd)	Data (NOTE 1,7)
:	:
1111 0111 (F7)	End of Exclusive (EOX)

Receive this message & data, save them to Edit Buffer and transmits Func=23 or Func=24 message.
Receive Func=10 message, and transmits this message & data from Edit Buffer.

(6) Global Data Dump

R,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0111 1111 (7F)	Data Dump Command (Host<->Controller, Variable Format)
0010 0110 (26)	Num of Data (1+37Bytes)
0101 0001 (51)	Global Data Dump
0ddd dddd (dd)	Data (NOTE 2,7)
:	:
1111 0111 (F7)	End of Exclusive (EOX)

Receive this message & data, save them to Internal Memory and transmits Func=23 or Func=24 message.
Receive Func=0E message, and transmits this message & data from Edit Buffer.
When DATA DUMP is executed, transmit this message & data from Edit Buffer.

(7) Receive Data Format Error

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0101 1111 (5F)	Data Dump Command (Host<-Controller, 2Bytes Format)
0010 0110 (26)	Data Format Error
0000 0000 (00)	
1111 0111 (F7)	End of Exclusive (EOX)

When found an error in the received message (ex.data length), transmits this message.

(8) Data Load Completed (ACK)

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0101 1111 (5F)	Data Dump Command (Host<-Controller, 2Bytes Format)
0010 0011 (23)	Data Load Completed
0000 0000 (00)	
1111 0111 (F7)	End of Exclusive (EOX)

When Data Load have been completed, transmits this message.

(9) Data Load Error (NAK)

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0101 1111 (5F)	Data Dump Command (Host<-Controller, 2Bytes Format)
0010 0100 (24)	Data Load Error
0000 0000 (00)	
1111 0111 (F7)	End of Exclusive (EOX)

When Data Load have not been completed, transmits this message.

(10) Write Completed

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0101 1111 (5F)	Data Dump Command (Host<-Controller, 2Bytes Format)
0010 0001 (21)	Write Completed
0000 0000 (00)	
1111 0111 (F7)	End of Exclusive (EOX)

When "Complete" has been completed, transmits this message.

(11) Write Error

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0101 1111 (5F)	Data Dump Command (Host<-Controller, 2Bytes Format)
0010 0010 (22)	Write Error
0000 0000 (00)	
1111 0111 (F7)	End of Exclusive (EOX)

When "Complete" has not been completed, transmits this message.

(12) Scene Change

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0101 1111 (5F)	Data Dump Command (Host<-Controller, 2Bytes Format)
0100 1111 (4F)	Scene Change
0sss ssss (ss)	Destination Scene No.(0~11)
1111 0111 (F7)	End of Exclusive (EOX)

When Scene Change have been completed, transmits this message.

(13) Port Detect Request

R,-

Byte	Description
F0,42,4x,6E	microKONTROL Exclusive Header x;every MIDI Channel [Hex]
0ttt tttt (tt)	Device Sub ID
0001 1110 (1E)	Port Detect Command (Host->Controller, 2Bytes Format)
0000 0000 (00)	
0ppp pppp (pp)	Host Port Number
1111 0111 (F7)	End of Exclusive (EOX)

tt : 00=microKONTROL, 7F=All-Call

pp : 1-127

Receive this message, and transmits Command=7E message.

(14) Port Detect

-,T

Byte	Description
F0,42,4x,6E,00	microKONTROL Exclusive Header x;Request MIDI Channel [Hex]
0111 1110 (7E)	Port Detect Command (Host<-Controller, Variable Format)
0000 0101 (05)	Num of Data (5Bytes)
0ppp pppp (pp)	Host Port Number
0000 0011 (03)	Num of IN-Port
0000 0010 (02)	Dedicated IN-Port Number
0000 0010 (02)	Num of OUT-Port
0000 0010 (02)	Dedicated OUT-Port Number
1111 0111 (F7)	End of Exclusive (EOX)

Receive Command=1E message, and transmits this message.

(15) Native KORG mode In/Out Request

R,-

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0000 0000 (00)	Native KORG mode In/Out Command (Host->Controller, 2Bytes Format)
0000 0000 (00)	
0qqq qqqq (qq)	Native KORG mode In/Out Request (qq = 00:Out Req,01:In Req)
1111 0111 (F7)	End of Exclusive (EOX)

Receive this message, and transmits Command=40 message.

(16) Native KORG mode In/Out

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0100 0000 (40)	Native KORG mode In/Out Command (Host<-Controller, 2Bytes Format)
0000 0000 (00)	
0rrr rrrr (rr)	Native KORG mode In/Out (rr = 02:Out,03:In)
1111 0111 (F7)	End of Exclusive (EOX)

Receive Command=00 message, and transmits this message.

(17) Native KORG mode Packet Communication 1

R,-

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0011 1111 (3F)	Packet Communication Command (Host->Controller, Variable Format)
0010 0111 (27)	Num of Data (1+38Bytes)
0000 0000 (00)	1st Packet Data
0ddd dddd (dd)	Data (include Global MIDI Channel) (NOTE 3)
:	:
1111 0111 (F7)	End of Exclusive (EOX)

Receive this message, and transmits Command=5F(1st) OK/NG message.

(18) Native KORG mode Packet Communication 1 Reply

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0101 1111 (5F)	Packet Communication Command (Host<-Controller, 2Bytes Format)
0000 0000 (00)	1st Packet Data
0rrr rrrr (rr)	Packet Data Received (rr = 00:Complete,01:Error)
1111 0111 (F7)	End of Exclusive (EOX)

Receive Command=3F(1st) message, and transmits this message.

4g : g:Received Global MIDI Channel

(19) Native KORG mode Packet Communication 2

R,-

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0011 1111 (3F)	Packet Communication Command (Host->Controller, Variable Format)
0001 0010 (12)	Num of Data (1+17Bytes)
0000 0001 (01)	2nd Packet Data
0ddd dddd (dd)	Data (NOTE 4)
:	:
1111 0111 (F7)	End of Exclusive (EOX)

Receive this message, and transmits Command=5F(2nd) OK/NG message.

(20) Native KORG mode Packet Communication 2 Reply

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0101 1111 (5F)	Packet Communication Command (Host<-Controller, 2Bytes Format)
0000 0001 (01)	2nd Packet Data
0rrr rrrr (rr)	Packet Data Received (rr = 00:Complete,01:Error)
1111 0111 (F7)	End of Exclusive (EOX)

Receive Command=3F(2nd) message, and transmits this message.

(21) Native KORG mode Packet Communication 3

R,-

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0011 1111 (3F)	Packet Communication Command (Host->Controller, Variable Format)
0010 0001 (21)	Num of Data (1+32Bytes)
0000 0010 (02)	3rd Packet Data
0ddd dddd (dd)	Data (NOTE 5)
:	:
1111 0111 (F7)	End of Exclusive (EOX)

Receive this message, and transmits Command=5F(3rd) OK/NG message.

(22) Native KORG mode Packet Communication 3 Reply

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0101 1111 (5F)	Packet Communication Command (Host<-Controller, 2Bytes Format)
0000 0010 (02)	3rd Packet Data
0rrr rrrr (rr)	Packet Data Received (rr = 00:Complete,01:Error)
1111 0111 (F7)	End of Exclusive (EOX)

Receive Command=3F(3rd) message, and transmits this message.

(23) Native KORG mode Packet Communication 4

R,-

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0011 1111 (3F)	Packet Communication Command (Host->Controller, Variable Format)
0010 0001 (21)	Num of Data (1+32Bytes)
0000 0011 (03)	4th Packet Data
0ddd dddd (dd)	Data (NOTE 6)
:	:
1111 0111 (F7)	End of Exclusive (EOX)

Receive this message, and transmits Command=5F(4th) OK/NG message.

(24) Native KORG mode Packet Communication 4 Reply

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0101 1111 (5F)	Packet Communication Command (Host<-Controller, 2Bytes Format)
0000 0011 (03)	4th Packet Data
0rrr rrrr (rr)	Packet Data Received (rr = 00:Complete,01:Error)
1111 0111 (F7)	End of Exclusive (EOX)

Receive Command=3F(4th) message, and transmits this message.

3-2 Native KORGM mode Messages

(1) Native KORGM mode Display LEDs

R,-

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0000 0001 (01)	Display LED Command (Host->Controller, 2Bytes Format)
0nnn nnnn (nn)	LED's Number of Data
0eet tttt (et)	Display Information
1111 0111 (F7)	End of Exclusive (EOX)

nn : LED Number 00~0F, 10, 11, 12, 13, 14, 15, 16, 18, 19, 1C, 1D
 = PAD1-16, SETTING, MESSAGE, SCENE, EXIT, ENTER, HEX, Tempo, >Grn, <Grn, >Red, <Red
 et : ee (0:Off, 1:On, 2:OneShot, 3:Blink), ttttt (OneShot Timer(9msec.))

(2) Native KORGM mode Display LCDs

R,-

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0010 0010 (22)	Display LCD Command (Host->Controller, Variable Format)
0000 1001 (09)	Num of Data (9Bytes)
0bbb nnnn (bn)	Display Information
0ccc cccc (cc)	1st Character ASCII code (20~7F)
0ccc cccc (cc)	2nd Character ASCII code (20~7F)
0ccc cccc (cc)	3rd Character ASCII code (20~7F)
0ccc cccc (cc)	4th Character ASCII code (20~7F)
0ccc cccc (cc)	5th Character ASCII code (20~7F)
0ccc cccc (cc)	6th Character ASCII code (20~7F)
0ccc cccc (cc)	7th Character ASCII code (20~7F)
0ccc cccc (cc)	8th Character ASCII code (20~7F)
1111 0111 (F7)	End of Exclusive (EOX)

bn : bbb Backlit Condition (0:Off, 1:Red, 2:Green, 3:Orange)
 nnnn LCD Number (0~7, 8 = Sub1~8, Main)

(3) Native KORGM mode Encoder Output

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0100 0011 (43)	Encoder Output Command (Host<-Controller, 2Bytes Format)
0nnn nnnn (nn)	Encoder Number (0~7, 8 : Encoder1~8, Main)
0ddd dddd (dd)	Encoder Inc/Dec Data (40~7F, 0~3F : -64~0~63)
1111 0111 (F7)	End of Exclusive (EOX)

(4) Native KORGM mode Slider Output

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0100 0100 (44)	Slider Output Command (Host<-Controller, 2Bytes Format)
0nnn nnnn (nn)	Slider Number (0~7 : Slider1~8)
0vvv vvvv (vv)	Slider Value (0~127)
1111 0111 (F7)	End of Exclusive (EOX)

(5) Native KORGM mode Pad Output

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0100 0101 (45)	Pad Output Command (Host<-Controller, 2Bytes Format)
0c00 nnnn (cn)	Pad Information
0VVV VVVV (VV)	Velocity (On:1~127, Off:64)
1111 0111 (F7)	End of Exclusive (EOX)

cn : c PAD Condition (0:Off, 1:On)
 nnnn PAD Number (0~15 = 1~16)

(6) Native KORGM mode Pedal Output

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0100 0111 (47)	Pedal Output Command (Host<-Controller, 2Bytes Format)
0000 0000 (00)	Pedal Data (Off:0, On:127)
0ddd dddd (dd)	Pedal Data (Off:0, On:127)
1111 0111 (F7)	End of Exclusive (EOX)

(7) Native KORG mode SW Output

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0100 1000 (48)	SW Output Command (Host<-Controller, 2Bytes Format)
0nnn nnnn (nn)	SW Number
0ddd dddd (dd)	SW Data (Off:0, On:127)
1111 0111 (F7)	End of Exclusive (EOX)

nn : SW number (0~8 = <, >, ENTER, HEX LOCK, EXIT, SCENE, MESSAGE, SETTING, Joystick-SW)

(8) Native KORG mode Joystick Output

-,T

Byte	Description
F0,42,4g,6E,00	microKONTROL Exclusive Header g;Global Channel [Hex]
0100 1011 (4B)	Joystick Output Command (Host<-Controller, 2Bytes Format)
0xxx xxxx (xx)	X-direction Data (0~127)
0yyy yyyy (yy)	Y-direction Data (0~127)
1111 0111 (F7)	End of Exclusive (EOX)

NOTE 1: Current Scene Data Dump Format
82Bytes = 7*11+5 -> (7+1)*11+(5+1) => 94Bytes
(TABLE 1)

NOTE 2: Global Data Dump Format
32Bytes = 7*4+4 -> (7+1)*4+(4+1) => 37Bytes
(TABLE 2)

NOTE 3: Native KORG mode Packet Communication 1st Data Dump Format
38Bytes
(TABLE 3)

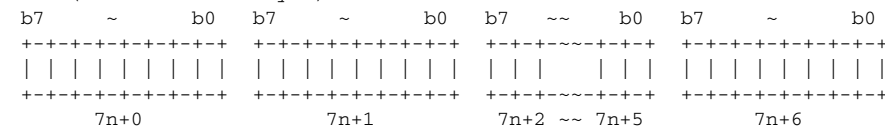
NOTE 4: Native KORG mode Packet Communication 2nd Data Dump Format
17Bytes
(TABLE 4)

NOTE 5: Native KORG mode Packet Communication 3rd Data Dump Format
32Bytes
(TABLE 5)

NOTE 6: Native KORG mode Packet Communication 4th Data Dump Format
32Bytes
(TABLE 6)

NOTE 7: The Dump Data Conversion

Data (1set = 8bit x 7Byte)



MIDI Data (1set = 7bit x 8Byte)

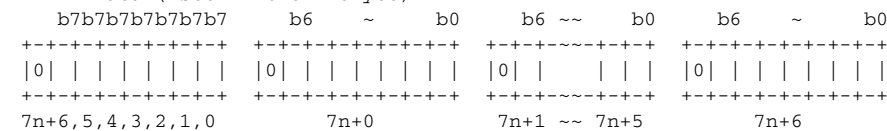


TABLE 1 : Scene Parameter

Rotary Encoder Assignment			
0	B4~7	Encoder1 MIDI Ch.	0~15=1~16
	B0~3	Encoder2 MIDI Ch.	0~15=1~16
1	B4~7	Encoder3 MIDI Ch.	0~15=1~16
	B0~3	Encoder4 MIDI Ch.	0~15=1~16
2	B4~7	Encoder5 MIDI Ch.	0~15=1~16
	B0~3	Encoder6 MIDI Ch.	0~15=1~16
3	B4~7	Encoder7 MIDI Ch.	0~15=1~16
	B0~3	Encoder8 MIDI Ch.	0~15=1~16
4	B6,7	Enc.1 Asgn Type	00/01/10/11=CC/NRPN/RPN/NoAssign
4	B0~5	Enc.1 MSB	0~127 CC:Name#, NoAssign:not use
5	B7		*T-1
5	B0~6	Enc.1 LSB	0~127 CC:CC#, NoAsgn:not use
6,7		Enc.2 Assign	(same as Enc.1 Assign Format)
8,9		Enc.3 Assign	(same as Enc.1 Assign Format)
10,11		Enc.4 Assign	(same as Enc.1 Assign Format)
12,13		Enc.5 Assign	(same as Enc.1 Assign Format)
14,15		Enc.6 Assign	(same as Enc.1 Assign Format)
16,17		Enc.7 Assign	(same as Enc.1 Assign Format)
18,19		Enc.8 Assign	(same as Enc.1 Assign Format)
Slider Assignment			
20	B4~7	Slider1 MIDI Ch.	0~15=1~16
	B0~3	Slider2 MIDI Ch.	0~15=1~16
21	B4~7	Slider3 MIDI Ch.	0~15=1~16
	B0~3	Slider4 MIDI Ch.	0~15=1~16
22	B4~7	Slider5 MIDI Ch.	0~15=1~16
	B0~3	Slider6 MIDI Ch.	0~15=1~16
23	B4~7	Slider7 MIDI Ch.	0~15=1~16
	B0~3	Slider8 MIDI Ch.	0~15=1~16
24	B6,7	Sld.1 Asgn Type	00/01/10/11=CC/NRPN/RPN/NoAssign
24	B0~5	Sld.1 MSB	0~127 CC:Name#, NoAssign:not use
25	B7		*T-1
25	B0~6	Sld.1 LSB	0~127 CC:CC#, NoAsgn:not use
26,27		Sld.2 Assign	(same as Sld.1 Assign Format)
28,29		Sld.3 Assign	(same as Sld.1 Assign Format)
30,31		Sld.4 Assign	(same as Sld.1 Assign Format)
32,33		Sld.5 Assign	(same as Sld.1 Assign Format)
34,35		Sld.6 Assign	(same as Sld.1 Assign Format)
36,37		Sld.7 Assign	(same as Sld.1 Assign Format)
38,39		Sld.8 Assign	(same as Sld.1 Assign Format)

Pad Assignment			
40	B4~7	Pad1 MIDI Ch.	0~15=1~16
	B0~3	Pad2 MIDI Ch.	0~15=1~16
41	B4~7	Pad3 MIDI Ch.	0~15=1~16
	B0~3	Pad4 MIDI Ch.	0~15=1~16
42	B4~7	Pad5 MIDI Ch.	0~15=1~16
	B0~3	Pad6 MIDI Ch.	0~15=1~16
43	B4~7	Pad7 MIDI Ch.	0~15=1~16
	B0~3	Pad8 MIDI Ch.	0~15=1~16
44	B4~7	Pad9 MIDI Ch.	0~15=1~16
	B0~3	Pad10 MIDI Ch.	0~15=1~16
45	B4~7	Pad11 MIDI Ch.	0~15=1~16
	B0~3	Pad12 MIDI Ch.	0~15=1~16
46	B4~7	Pad13 MIDI Ch.	0~15=1~16
	B0~3	Pad14 MIDI Ch.	0~15=1~16
47	B4~7	Pad15 MIDI Ch.	0~15=1~16
	B0~3	Pad16 MIDI Ch.	0~15=1~16
48	B7	Pad8 Status	0/1=NoAssign/Assign Enable
	B6	Pad7 Status	0/1=NoAssign/Assign Enable
	B5	Pad6 Status	0/1=NoAssign/Assign Enable
	B4	Pad5 Status	0/1=NoAssign/Assign Enable
	B3	Pad4 Status	0/1=NoAssign/Assign Enable
	B2	Pad3 Status	0/1=NoAssign/Assign Enable
	B1	Pad2 Status	0/1=NoAssign/Assign Enable
	B0	Pad1 Status	0/1=NoAssign/Assign Enable
49	B7	Pad16 Status	0/1=NoAssign/Assign Enable
	B6	Pad15 Status	0/1=NoAssign/Assign Enable
	B5	Pad14 Status	0/1=NoAssign/Assign Enable
	B4	Pad13 Status	0/1=NoAssign/Assign Enable
	B3	Pad12 Status	0/1=NoAssign/Assign Enable
	B2	Pad11 Status	0/1=NoAssign/Assign Enable
	B1	Pad10 Status	0/1=NoAssign/Assign Enable
	B0	Pad9 Status	0/1=NoAssign/Assign Enable
50	B7	Pad1 Asgn Type	0/1=Note# Assign/CC# Assign
	B0~6	Pad1 Asgn Number	0~127 CC:CC#, Note:Note#
51	Pad2 Assign	(same as Pad1 Assign Format)	
52	Pad3 Assign	(same as Pad1 Assign Format)	
53	Pad4 Assign	(same as Pad1 Assign Format)	
54	Pad5 Assign	(same as Pad1 Assign Format)	
55	Pad6 Assign	(same as Pad1 Assign Format)	
56	Pad7 Assign	(same as Pad1 Assign Format)	
57	Pad8 Assign	(same as Pad1 Assign Format)	
58	Pad9 Assign	(same as Pad1 Assign Format)	

MIDI Impelmentaton

59		Pad10 Assign	(same as Pad1 Assign Format)
60		Pad11 Assign	(same as Pad1 Assign Format)
61		Pad12 Assign	(same as Pad1 Assign Format)
62		Pad13 Assign	(same as Pad1 Assign Format)
63		Pad14 Assign	(same as Pad1 Assign Format)
64		Pad15 Assign	(same as Pad1 Assign Format)
65		Pad16 Assign	(same as Pad1 Assign Format)
66	B7	Pad8 SW Mode	0/1=Momentary/Toggle
	B6	Pad7 SW Mode	0/1=Momentary/Toggle
	B5	Pad6 SW Mode	0/1=Momentary/Toggle
	B4	Pad5 SW Mode	0/1=Momentary/Toggle
	B3	Pad4 SW Mode	0/1=Momentary/Toggle
	B2	Pad3 SW Mode	0/1=Momentary/Toggle
	B1	Pad2 SW Mode	0/1=Momentary/Toggle
	B0	Pad1 SW Mode	0/1=Momentary/Toggle
67	B7	Pad16 SW Mode	0/1=Momentary/Toggle
	B6	Pad15 SW Mode	0/1=Momentary/Toggle
	B5	Pad14 SW Mode	0/1=Momentary/Toggle
	B4	Pad13 SW Mode	0/1=Momentary/Toggle
	B3	Pad12 SW Mode	0/1=Momentary/Toggle
	B2	Pad11 SW Mode	0/1=Momentary/Toggle
	B1	Pad10 SW Mode	0/1=Momentary/Toggle
	B0	Pad9 SW Mode	0/1=Momentary/Toggle
Joystick X direction Assignment			
68	B6,7	Joy-X Asgn Mode	0/1=+-Param(1Prm)/+Prm-Prm(2Prms)
	B3-5	Joy-X(R) Asgn Type	0~7=NoAssign~MasterBalance *T-2
	B0-2	Joy-X L Asgn Type	0~7=NoAssign~MasterBalance *T-2
69	B4-7	Joy-X(R) MIDI Ch.	0~15=1~16
	B0-3	Joy-X L MIDI Ch.	0~15=1~16
70	B7	not use	(0)
	B0-6	Joy-X(R) Asgn CC#	0~127
71	B7	not use	(0)
	B0-6	Joy-X L Asgn CC#	0~127
Joystick Y direction Assignment			
72	B6,7	Joy-Y Asgn Mode	0/1=+-Param(1Prm)/+Prm-Prm(2Prms)
	B3-5	Joy-Y(U) Asgn Type	0~7=NoAssign~MasterBalance *T-2
	B0-2	Joy-Y D Asgn Type	0~7=NoAssign~MasterBalance *T-2
73	B4-7	Joy-Y(U) MIDI Ch.	0~15=1~16
	B0-3	Joy-Y D MIDI Ch.	0~15=1~16
74	B7	not use	(0)
	B0-6	Joy-Y(U) Asgn CC#	0~127
75	B7	not use	(0)
	B0-6	Joy-Y D Asgn CC#	0~127

Joystick SW Assignment			
76	B4~7	Joy-SW Asgn Type	0~5=NoAssign~ControlChange *T-3
	B0~3	Joy-SW MIDI Ch.	0~15=1~16
77	B7	Joy-SW Mode	0/1=Momentary/Toggle
	B0~6	Joy-SW CC Number	0~127
Pedal Assignment			
78	B4~7	Pedal Asgn Type	0~5=NoAssign~ControlChange *T-3
	B0~3	Pedal MIDI Ch.	0~15=1~16
79	B7	Pedal Mode	0/1=Momentary/Toggle
	B0~6	Pedal CC Number	0~127
USB-MIDI Port Setting			
80	B7	Joystick-SW Port	0/1=PortA/PortB
	B6	Joystick-Y Port	0/1=PortA/PortB
	B5	Joystick-X Port	0/1=PortA/PortB
	B4	Pedal Port	0/1=PortA/PortB
	B3	Pad(9-16) Port	0/1=PortA/PortB
	B2	Pad(1-8) Port	0/1=PortA/PortB
	B1	Slider Port	0/1=PortA/PortB
	B0	Encoder Port	0/1=PortA/PortB
81	B7	Message Port	0/1=PortA/PortB
	B6	Keyboard Port	0/1=PortA/PortB
	B0~5	Scene Name	0~49 SceneName# *T-4

TABLE 2 : Global Parameter

0	B4~7	not use	(0,0,0,0)
	B0~3	Last Scene Number	0~11=Scene1~12
1		Transpose	0+/-24
2	B4~7	not use	(0,0,0,0)
	B0~3	MIDI Ch.	0~15=1~16
3		(dummy byte)	
4	B4~7	not use	(0,0,0,0)
	B0~3	Kbd Vel.Curve	0~7,8=Curve1~8,Constant
5	B7	not use	(0)
	B0~6	Kbd Vel.Value	1~127
6	B7	Pad Vel.Type	0,1=VelocitySens,Constant
	B0~6	Pad Vel.Value	1~127
7,8		(dummy bytes)	
9	B6,7	Encoder Blit.Color	0,1,2,3=off/Red/Green/Orange
	B4,5	Slider Blit.Color	0,1,2,3=off/Red/Green/Orange
	B2,3	not use	(0,0)
	B0,1	Main Backlit Color	0,1,2,3=off/Red/Green/Orange
10	B1~7	not use	(0,0,0,0,0,0,0)
	B0	Disp.Pad Oneshot	0,1=Off,On

11	B1-7	not use	(0,0,0,0,0,0,0)
	B0	Pedal Polarity	0,1=-,+
12	B2-7	not use	(0,0,0,0,0,0)
	B0,1	Init Encoder Val.	0/1/2/3=000/064/127/Last
13-31		(dummy bytes)	

TABLE 3 : Native KORG mode Packet Communication 1st Data

0	B6,7	not use	(0,0)
	B0-5	Transpose	0+/-24
1	B4-7	not use	(0,0,0,0)
	B0-3	Global MIDI Ch.	0~15=1~16
2	B4-7	not use	(0,0,0,0)
	B0-3	PitchBend MIDI Ch.	0~15=1~16
3	B7	not use	(0)
	B6	Pad7 Note Transmit	0/1=Disable/Enable
	B5	Pad6 Note Transmit	0/1=Disable/Enable
	B4	Pad5 Note Transmit	0/1=Disable/Enable
	B3	Pad4 Note Transmit	0/1=Disable/Enable
	B2	Pad3 Note Transmit	0/1=Disable/Enable
	B1	Pad2 Note Transmit	0/1=Disable/Enable
	B0	Pad1 Note Transmit	0/1=Disable/Enable
4	B7	not use	(0)
	B6	Pad14 NoteTransmit	0/1=Disable/Enable
	B5	Pad13 NoteTransmit	0/1=Disable/Enable
	B4	Pad12 NoteTransmit	0/1=Disable/Enable
	B3	Pad11 NoteTransmit	0/1=Disable/Enable
	B2	Pad10 NoteTransmit	0/1=Disable/Enable
	B1	Pad9 Note Transmit	0/1=Disable/Enable
	B0	Pad8 Note Transmit	0/1=Disable/Enable
5	B2-7	not use	(0,0,0,0)
	B1	Pad16 NoteTransmit	0/1=Disable/Enable
	B0	Pad15 NoteTransmit	0/1=Disable/Enable
6	B4-7	not use	(0,0,0,0)
	B0-3	Pad1 MIDI Ch.	0~15=1~16
7		Pad2 MIDI Ch.	(same as Pad1 MIDI Ch.)
8		Pad3 MIDI Ch.	(same as Pad1 MIDI Ch.)
9		Pad4 MIDI Ch.	(same as Pad1 MIDI Ch.)
10		Pad5 MIDI Ch.	(same as Pad1 MIDI Ch.)
11		Pad6 MIDI Ch.	(same as Pad1 MIDI Ch.)
12		Pad7 MIDI Ch.	(same as Pad1 MIDI Ch.)
13		Pad8 MIDI Ch.	(same as Pad1 MIDI Ch.)
14		Pad9 MIDI Ch.	(same as Pad1 MIDI Ch.)
15		Pad10 MIDI Ch.	(same as Pad1 MIDI Ch.)

16	Pad11 MIDI Ch.	(same as Pad1 MIDI Ch.)
17	Pad12 MIDI Ch.	(same as Pad1 MIDI Ch.)
18	Pad13 MIDI Ch.	(same as Pad1 MIDI Ch.)
19	Pad14 MIDI Ch.	(same as Pad1 MIDI Ch.)
20	Pad15 MIDI Ch.	(same as Pad1 MIDI Ch.)
21	Pad16 MIDI Ch.	(same as Pad1 MIDI Ch.)
22	B7	not use (0)
	B0~6	Pad1 Note Number 0~127
23	Pad2 Note Number	(same as Pad1 Note Number)
24	Pad3 Note Number	(same as Pad1 Note Number)
25	Pad4 Note Number	(same as Pad1 Note Number)
26	Pad5 Note Number	(same as Pad1 Note Number)
27	Pad6 Note Number	(same as Pad1 Note Number)
28	Pad7 Note Number	(same as Pad1 Note Number)
29	Pad8 Note Number	(same as Pad1 Note Number)
30	Pad9 Note Number	(same as Pad1 Note Number)
31	Pad10 Note Number	(same as Pad1 Note Number)
32	Pad11 Note Number	(same as Pad1 Note Number)
33	Pad12 Note Number	(same as Pad1 Note Number)
34	Pad13 Note Number	(same as Pad1 Note Number)
35	Pad14 Note Number	(same as Pad1 Note Number)
36	Pad15 Note Number	(same as Pad1 Note Number)
37	Pad16 Note Number	(same as Pad1 Note Number)

TABLE 4 : Native KORG mode Packet Communication 2nd Data

0	B7	not use (0)
	B6	Pad7 LED 0/1=Off/On
	B5	Pad6 LED 0/1=Off/On
	B4	Pad5 LED 0/1=Off/On
	B3	Pad4 LED 0/1=Off/On
	B2	Pad3 LED 0/1=Off/On
	B1	Pad2 LED 0/1=Off/On
	B0	Pad1 LED 0/1=Off/On
1	B7	not use (0)
	B6	Pad14 LED 0/1=Off/On
	B5	Pad13 LED 0/1=Off/On
	B4	Pad12 LED 0/1=Off/On
	B3	Pad11 LED 0/1=Off/On
	B2	Pad10 LED 0/1=Off/On
	B1	Pad9 LED 0/1=Off/On
	B0	Pad8 LED 0/1=Off/On

2	B7	not use	(0)
	B6	ENTER SW LED	0/1=Off/On
	B5	EXIT SW LED	0/1=Off/On
	B4	SCENE SW LED	0/1=Off/On
	B3	MESSAGE SW LED	0/1=Off/On
	B2	SETTING SW LED	0/1=Off/On
	B1	Pad16 LED	0/1=Off/On
	B0	Pad15 LED	0/1=Off/On
3	B7	not use	(0)
	B6	< Red LED	0=Off(1=On)
	B5	> Red LED	0=Off(1=On)
	B4	< Green LED	0=Off(1=On)
	B3	> Green LED	0=Off(1=On)
	B7	not use	(0)
	B2	Tempo LED	0/1=Off/On
	B0	HEX LOCK SW LED	0/1=Off/On
4	B6,7	not use	(0,0)
	B4,5	SubLCD2 Blit.Color	0,1,2,3=off/Red/Green/Orange
	B2,3	not use	(0,0)
	B0,1	SubLCD1 Blit.Color	0,1,2,3=off/Red/Green/Orange
5	B6,7	not use	(0,0)
	B4,5	SubLCD4 Blit.Color	0,1,2,3=off/Red/Green/Orange
	B2,3	not use	(0,0)
	B0,1	SubLCD3 Blit.Color	0,1,2,3=off/Red/Green/Orange
6	B6,7	not use	(0,0)
	B4,5	SubLCD6 Blit.Color	0,1,2,3=off/Red/Green/Orange
	B2,3	not use	(0,0)
	B0,1	SubLCD5 Blit.Color	0,1,2,3=off/Red/Green/Orange
7	B6,7	not use	(0,0)
	B4,5	SubLCD8 Blit.Color	0,1,2,3=off/Red/Green/Orange
	B2,3	not use	(0,0)
	B0,1	SubLCD7 Blit.Color	0,1,2,3=off/Red/Green/Orange
8	B2~7	not use	(0,0,0,0,0,0)
	B0,1	Main Backlit Color	0,1,2,3=off/Red/Green/Orange
9	B7	not use	(0)
	B0~6	Disp MainLCD 1st	ASCII code (20~7F)
10		Disp MainLCD 2nd	(same as Disp MainLCD 1st)
11		Disp MainLCD 3rd	(same as Disp MainLCD 1st)
12		Disp MainLCD 4th	(same as Disp MainLCD 1st)
13		Disp MainLCD 5th	(same as Disp MainLCD 1st)
14		Disp MainLCD 6th	(same as Disp MainLCD 1st)
15		Disp MainLCD 7th	(same as Disp MainLCD 1st)
16		Disp MainLCD 8th	(same as Disp MainLCD 1st)

TABLE 5 : Native KORG mode Packet Communication 3rd Data

0	B7	not use	(0)
	B0~6	Disp SubLCD1 1st	ASCII code (20~7F)
1		Disp SubLCD1 2nd	(same as Disp SubLCD1 1st)
2		Disp SubLCD1 3rd	(same as Disp SubLCD1 1st)
3		Disp SubLCD1 4th	(same as Disp SubLCD1 1st)
4		Disp SubLCD1 5th	(same as Disp SubLCD1 1st)
5		Disp SubLCD1 6th	(same as Disp SubLCD1 1st)
6		Disp SubLCD1 7th	(same as Disp SubLCD1 1st)
7		Disp SubLCD1 8th	(same as Disp SubLCD1 1st)
8~15		Disp SubLCD2 Data	(same as Disp SubLCD1 Data)
16~23		Disp SubLCD3 Data	(same as Disp SubLCD1 Data)
24~31		Disp SubLCD4 Data	(same as Disp SubLCD1 Data)

TABLE 6 : Native KORG mode Packet Communication 4th Data

0	B7	not use	(0)
	B0~6	Disp SubLCD5 1st	ASCII code (20~7F)
1		Disp SubLCD5 2nd	(same as Disp SubLCD5 1st)
2		Disp SubLCD5 3rd	(same as Disp SubLCD5 1st)
3		Disp SubLCD5 4th	(same as Disp SubLCD5 1st)
4		Disp SubLCD5 5th	(same as Disp SubLCD5 1st)
5		Disp SubLCD5 6th	(same as Disp SubLCD5 1st)
6		Disp SubLCD5 7th	(same as Disp SubLCD5 1st)
7		Disp SubLCD5 8th	(same as Disp SubLCD5 1st)
8~15		Disp SubLCD6 Data	(same as Disp SubLCD5 Data)
16~23		Disp SubLCD7 Data	(same as Disp SubLCD5 Data)
24~31		Disp SubLCD8 Data	(same as Disp SubLCD5 Data)

***T-1 : Parameter Name List**

0: Level	32: OSC1 Prm	64: Env2 Prm	96: Drive
1: Pan	33: OSC2Type	65: LFO1Type	97: Feedback
2: Send 1	34: OSC2 Lvl	66: LFO1Rate	98: Flanger
3: Send 2	35: OSC2Indx	67: LFO1 Amt	99: Glide
4: Send 3	36: OSC2 Prm	68: LFO1Dest	100: Mix
5: Send 4	37: OSC3Type	69: LFO1 Prm	101: Octave
6: High	38: OSC3 Lvl	70: LFO2Type	102: Perc.
7: Mid	39: OSC3Indx	71: LFO2Rate	103: Phase
8: Low	40: OSC3 Prm	72: LFO2 Amt	104: Pitch
9: EQ1 Type	41: NoiseTyp	73: LFO2Dest	105: Portamnt
10: EQ1 Freq	42: NoiseLvl	74: LFO2 Prm	106: Rate
11: EQ1 Q	43: NoisIndx	75: Mod1Type	107: Ratio
12: EQ1 Gain	44: NoisePrm	76: Mod1Rate	108: Release
13: EQ1 Prm	45: Flt1Type	77: Mod1Dest	109: Reverb
14: EQ2 Type	46: Flt1 Cut	78: Mod1 Prm	110: Ring Mod
15: EQ2 Freq	47: Flt1Reso	79: Mod2Type	111: Shape
16: EQ2 Q	48: EG1 Int	80: Mod2Rate	112: Speed
17: EQ2 Gain	49: Flt1 Prm	81: Mod2Dest	113: Spread
18: EQ2 Prm	50: Flt2Type	82: Mod2 Prm	114: Sustain
19: EQ3 Type	51: Flt2 Cut	83: Velo Amt	115: Thrsld
20: EQ3 Freq	52: Flt2Reso	84: Velo Prm	116: Tempo
21: EQ3 Q	53: EG2 Int	85: Amount	117: Time
22: EQ3 Gain	54: Flt2 Prm	86: Attack	118: Tone
23: EQ3 Prm	55: Env1 A	87: Brightns	119: Tremolo
24: EQ4 Type	56: Env1 D	88: Chorus	120: Tune
25: EQ4 Freq	57: Env1 S	89: Comp/Lmt	121: Volume
26: EQ4 Q	58: Env1 R	90: Decay	122: Waveform
27: EQ4 Gain	59: Env1 Prm	91: Delay	123: Xfade
28: EQ4 Prm	60: Env2 A	92: Depth	124: SynPrm 1
29: OSC1Type	61: Env2 D	93: Detune	125: SynPrm 2
30: OSC1 Lvl	62: Env2 S	94: Distortn	126: FxPrm1
31: OSC1Indx	63: Env2 R	95: Drawbar	127: FxPrm2

***T-2 : Joystick Assignment Type**

+Param (1Parameter Assign)	+Prm-Prm (2Parameters)
0: No Assign	0: No Assign
1: Pitch Bend	2: Channel Pressure
2: Channel Pressure	3: Keyboard Velocity
3: Keyboard Velocity	4: Pad Velocity
4: Pad Velocity	5: Control Change
5: Control Change	6: PolyKey Pressure
6: PolyKey Pressure	
7: Master Balance	

***T-3 : Pedal/Joystick-SW Assignment Type**

0: No Assign	
1: Damper	(Momentary)
2: Sostenuit	(Momentary)
3: Soft	(Momentary)
4: Portamento	(Toggle)
5: Control Change	

***T-4 : Scene Name List**

0: Absynth	16: MoogMd V	32: RsSbtrct	48: Sequence
1: Atmosphr	17: MS-20	33: Smp1Tank	49: DAW
2: Attack	18: Polysix	34: SONAR	
3: Battery	19: PPG Wave	35: Stylus	
4: Cubase	20: Pro53	36: Traktor	
5: DP	21: Project5	37: Trilogy	
6: ES1/2	22: Reactor	38: Unity	
7: EXS24	23: ReBirth	39: Virt.Gtr	
8: FM7	24: RB 303	40: VStation	
9: FLstudio	25: RB 808	41: WaveSt.	
10: GrooveAg	26: RB 909	42: Synth	
11: HALion	27: Reason	43: Organ	
12: Kontakt	28: Rs DrRex	44: E.Piano	
13: KORGE	29: RsMlstrm	45: Sampler	
14: Live	30: Rs NN	46: Vocoder	
15: Logic	31: Rs Redrm	47: Effect	

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