T1, T2, T3 MIDI IMPLEMENTATION

1. TRANSMITTED DATA

1-1 CHANNEL MESSAGES

Status	Second	Third	Description			ENA
1000 nnnn	0kkk kkkk	0100 0000	Note Off		*1	A
1001 nnnn	0kkk kkkk	0vvv vvvv	Note On vvv vvvv=1～127		*1	A
1011 nnnn	0000 0001	0vvv vvvv	Pitch Modulation	(Joy Stick(+Y))		C
1011 nnnn	0000 0010	0vvv vvvv	VDF Modulation	(Joy Stick(-Y))		C
1011 nnnn	0000 0110	0vvv vvvv	Data Entry (MSB)	(E.Slider, A.Pedal)	*2	E
1011 nnnn	0000 0111	0vvv vvvv	Volume	(Assignable Pedal)		C
1011 nnnn	0010 0110	0vvv vvvv	Data Entry (LSB)	(E.Slider, A.Pedal)	*2	E
1011 nnnn	0100 0000	0000 0000	Damper Off	(Damper Pedal)		C
1011 nnnn	0100 0000	0111 1111	Damper On	(Damper Pedal)		C
1011 nnnn	0110 0000	0000 0000	Data Increment	(UP Switch)	*2	E
1011 nnnn	0110 0001	0000 0000	Data Decrement	(DOWN Switch)	*2	E
1011 nnnn	0ccc cccc	0vvv vvvv	Control Data ccc cccc=00～101		*3	CorQ
1100 nnnn	0ppp pppp	---- ----	Program Change ppp pppp=0～99	(Program or Combi)		P
1101 nnnn	0vvv vvvv	---- ----	Channel Pressure	(After Touch)		T
1110 nnnn	0bbb bbbb	0bbb bbbb	Bender Change	(Joy Stick(X))		C

nnnn : MIDI Channel No.(0～15) Usually Global Channel. When using Sequencer, each track's channel, and when in Combination Mode, each timbre's channel.

ENA = A : Always Enabled
C : Enabled when Control On
P : Enabled when Program On
T : Enable when After Touch On
E : Enabled when Exclusive On
Q : Enabled when Sequencer is Playing(T), Recording(R)

*1 T1 : kkk kkkk=9～120 (88Keys + Transpose)
T2 : kkk kkkk=16～115 (76Keys + Transpose)
T3 : kkk kkkk=24～108 (61Keys + Transpose)

*2 : Prog.E.Prog, Combi.E.Combi Mode Only

*3 : Seq.recorded Data, External assigned pedal and Control Number assigned Joy Stick use all c=0～101 area

1-2 SYSTEM COMMON MESSAGES

Status	Second	Third	Description
1111 0010	0111 1111	0hhh hhhh	Song Position Pointer 111 1111 : Least significant hhh hhhh : Most significant
1111 0011	000s ssss	---- ----	Song Select s ssss : Song No. = 0～19

Transmits when Sequencer Mode (Internal Clock)

[redacted]

1-3 SYSTEM REALTIME MESSAGES

Status	Description	
1111 1000	Timing Clock	*4
1111 1010	Start	*4
1111 1011	Continue	*4
1111 1100	Stop	*4
1111 1110	Active Sensing	

*4 : Transmits when Sequencer Mode (Internal Clock)

1-4 UNIVERSAL SYSTEM EXCLUSIVE MESSAGES

1st Byte = 1111 0000 (F0) : Exclusive Status
2nd Byte = 0111 1110 (7E) : Non Realtime Message
3rd Byte = 0ccc cccc (cc) : Channel Number *5
4th Byte = 0sss ssss (ss) : Sub ID1
5th Byte = 0sss ssss (ss) : Sub ID2 (Sub ID1=5or6) or Data
6th Byte = 0ddd dddd (dd) : Data
: : :
LastByte = 1111 0111 (F7) : EOX

(1st～3rd : EX.Header)

*5 : ccc cccc = 00～0F : Global Channel
= 7F : Receive any Channel

Sub ID1	Sub ID2	Description	R	E
01	--	Sample Dump Header	○	
02	--	Sample Data Packet	○	
05	01	Loop Point Transmission	○	
06	02	Inquiry ID Reply	○	
7D	--	Cancel		○
7E	--	NAK		○
7F	--	ACK		○

Transmit when
R : Request Message received
E : EX.Message received
(Does not respond to Exclusive on, off in DATA DUMP Page, except Inquiry ID Reply)

1-5 SYSTEM EXCLUSIVE MESSAGES

1st Byte = 1111 0000 (F0) : Exclusive Status
2nd Byte = 0100 0010 (42) : KORG ID
3rd Byte = 0011 nnnn (3n) : Format ID n:Global ch.
4th Byte = 0010 0110 (26) : T1, T2, T3 ID
(= 0001 1001 (19) : M1, M1R ID)
5th Byte = 0fff ffff (ff) : Function Code
6th Byte = 0ddd dddd (dd) : Data
: : :
LastByte = 1111 0111 (F7) : End of Exclusive ····· EOX

(1st～4th : EX.Header)

Function Code List

Func	Description	T1, T2, T3				M1, M1R			
		R	C	D	E	R	C	D	E
42	MODE DATA	○							
47	ALL DRUM SOUND NAME DUMP	○							
45	ALL MULTISOUND NAME DUMP	○							
4E	MODE CHANGE		○				○		
41	PARAMETER CHANGE		○						
40	PROGRAM PARAMETER DUMP	○	○						
4C	ALL PROGRAM PARAMETER DUMP	○		○		○		○	
49	COMBINATION PARAMETER DUMP	○	○						
4D	ALL COMBINATION PARAMETER DUMP	○		○		○		○	
48	ALL SEQUENCE DATA DUMP	○		○					
51	GLOBAL DATA DUMP	○		○		○		○	
50	ALL DATA(GLB. CMB. PRG. SEQ) DUMP	○		○					
44	MULTISOUND PARAMETER DUMP	○							
26	RECEIVED MESSAGE FORMAT ERROR	○			○				○
23	DATA LOAD COMPLETED				○				○
24	DATA LOAD ERROR				○				○
21	WRITE COMPLETED				○				
22	WRITE ERROR				○				

Transmitted when
R : Request Message is received
C : Mode or No. is changed by SW
D : Data dump by SW (Don't respond to Exclusive On, Off)
E : EX. Message received

2. RECOGNIZED RECEIVE DATA

2-1 CHANNEL MESSAGES

Status	Second	Third	Description	ENA
1000 nnnn	0kkk kkkk	0xxx xxxx	Note Off	A
1001 nnnn	0kkk kkkk	0000 0000	Note Off	A
1001 nnnn	0kkk kkkk	0vvv vvvv	Note On vvv vvvv=1-127	A
1011 nnnn	0000 0001	0vvv vvvv	Pitch Modulation	C
1011 nnnn	0000 0010	0vvv vvvv	VDF Modulation	C
1011 nnnn	0000 0110	0vvv vvvv	Data Entry (MSB) *1, 3	E
1011 nnnn	0000 0111	0vvv vvvv	Volume	C
1011 nnnn	0010 0110	0vvv vvvv	Data Entry (LSB) *1, 3	E
1011 nnnn	0100 0000	00xx xxxx	Damper Off	C
1011 nnnn	0100 0000	01xx xxxx	Damper On	C
1011 nnnn	0110 0000	0000 0000	DATA Increment *1, 3	E
1011 nnnn	0110 0001	0000 0000	DATA Decrement *1, 3	E
1011 nnnn	0110 0100	0000 0001	RPC Parameter No. (LSB) (M. Tune) *3	E
1011 nnnn	0110 0101	0000 0000	RPC Parameter No. (MSB) (M. Tune) *3	E
1011 nnnn	0ccc cccc	0vvv vvvv	Control Data (For Seq. Recording) ccc cccc=00～101	Q
1011 nnnn	0111 1010	0000 0000	Local Control Off	A
1011 nnnn	0111 1010	0111 1111	Local Control On	A
1011 nnnn	0111 1011	0000 0000	All Notes Off	A
1011 nnnn	0111 110x	0000 0000	(All Notes Off)	A
1011 nnnn	0111 1110	000m mmmm	(All Notes Off) m mmmm=0～16	A
1011 nnnn	0111 1111	0000 0000	(All Notes Off)	A
1100 nnnn	0ppp pppp	---- ----	Program, Combination Change *2, 3	P
1101 nnnn	0vvv vvvv	---- ----	Channel Pressure (After Touch)	T
1110 nnnn	0bbb bbbb	0bbb bbbb	Bender Change	C

x : Random

ENA ····· Same as TRANSMITTED DATA

*1 : Prog, E. Prog, Combi, E. Combi Mode Only
*2 : Data beyond value of 99 are assigned a new value by subtracting 100.
ex. 100→00, 127→27

*3 : After Processing (While Exclusive On),
Transmits Exclusive Message[DATA LOAD COMPLETED]or[DATA LOAD ERROR].

2-2 SYSTEM COMMON MESSAGES

Status	Second	Third	Description
1111 0010	0111 1111	0hhh hhhh	Song Position Pointer 111 1111 : Least significant hhh hhhh : Most significant
1111 0011	000s ssss	---- ----	Song Select s ssss : Song No. = 0～19

Receive when in Sequencer Mode (External Clock)

2-3 SYSTEM REALTIME MESSAGES

Status	Description	
1111 1000	Timing Clock	*4
1111 1010	Start	*4
1111 1011	Continue	*4
1111 1100	Stop	*4
1111 1110	Active Sensing	

*4 : Receive when in Sequencer Mode (External Clock)

2-4 UNIVERSAL SYSTEM EXCLUSIVE MESSAGE

Sub ID1	Sub ID2	Description
01	--	Sample Dump Header
02	--	Sample Data Packet
03	--	Sample Dump Request
05	01	Loop Point Transmission
05	02	Loop Point Request
06	01	Inquiry ID Request
7C	--	Wait
7D	--	Cancel
7E	--	NAK
7F	--	ACK

(Does not respond to Exclusive On, Off in DATA DUMP Page, except Inquiry ID Request)

2-5 SYSTEM EXCLUSIVE MESSAGES

* Don't receive when Sequencer is Playing, Recording

Function Code List

Func	Description	T1, T2, T3				M1, M1R	
		G	C	P	A	G	A
12	MODE REQUEST	○	○	○	○		
1F	ALL DRUM SOUND NAME DUMP REQUEST	○	○	○	○		
16	ALL MULTISOUND NAME DUMP REQUEST	○	○	○	○		
10	PROGRAM PARAMETER DUMP REQUEST			○			
1C	ALL PROGRAM PARAMETER DUMP REQUEST	◎	○	○	○	◎	○
19	COMBINATION PARAMETER DUMP REQUEST		○				
1D	ALL COMBINATION PARAMETER DUMP REQUEST	◎	○	○	○	◎	○
18	ALL SEQUENCE DATA DUMP REQUEST	◎	○	○	○		
0E	GLOBAL DATA DUMP REQUEST	◎	○	○	○	◎	○
0F	ALL DATA(GLOBAL, COMBI, PROG, SEQ.)DUMP REQUEST	◎	○	○	○		
15	MULTISOUND PARAMETER DUMP REQUEST	○	○	○	○		
11	PROGRAM WRITE REQUEST			○			
1A	COMBINATION WRITE REQUEST		○				
47	ALL DRUM SOUND NAME DUMP	○	○	○	○		
40	PROGRAM PARAMETER DUMP			○			
4C	ALL PROGRAM PARAMETER DUMP	◎	○	○	○	◎	○
49	COMBINATION PARAMETER DUMP		○				
4D	ALL COMBINATION PARAMETER DUMP	◎	○	○	○	◎	○
48	ALL SEQUENCE DATA DUMP	◎	○	○	○	◎	○
51	GLOBAL DATA DUMP	◎	○	○	○	◎	○
50	ALL DATA(GLOBAL, COMBI, PROG, SEQ.) DUMP	◎	○	○	○	◎	○
44	MULTISOUND PARAMETER DUMP	○	○	○	○		
4E	MODE CHANGE	○	○	○	○		
41	PARAMETER CHANGE		○	○			
53	DRUM-KIT AND MULTISOUND PARAMETER CHANGE	○					

Receive when in
G : GLOBAL MODE
(◎···Does not respond to Exclusive On, Off in DATA DUMP Page)
C : COMBI, E. COMBI MODE
P : PROG, E. PROG MODE
S : SEQUENCER MODE
A : ANY OTHER MODE

[redacted]

3. MIDI EXCLUSIVE FORMAT (R : Receive, T : Transmit)

(1) MODE REQUEST R

Byte	Description
F0, 42, 3n, 26	EXCLUSIVE HEADER
0001 0010	MODE REQUEST 12H
1111 0111	EOX

Receives this message, and transmits Func=42 message.

(2) PROGRAM PARAMETER DUMP REQUEST R

Byte	Description
F0, 42, 3n, 26	EXCLUSIVE HEADER
0001 0000	PROGRAM PARAMETER DUMP REQUEST 10H
1111 0111	EOX

Receives this message, and transmits Func=40 or Func=24 message.

(3) ALL DRUM SOUND NAME DUMP REQUEST R

Byte	Description
F0, 42, 3n, 26	EXCLUSIVE HEADER
0001 1111	ALL DRUM SOUND NAME DUMP REQUEST 1FH
0000 000c	PCM Data Bank (NOTE 18)
1111 0111	EOX

Receives this message, and transmits Func=47 or Func=24 message.

(4) ALL MULTISOUND NAME DUMP REQUEST R

Byte	Description
F0, 42, 3n, 26	EXCLUSIVE HEADER
0001 0110	ALL MULTISOUND NAME DUMP REQUEST 16H
0000 000c	PCM Data Bank (NOTE 18)
1111 0111	EOX

Receives this message, and transmits Func=45 or Func=24 message.

(5) ALL PROGRAM PARAMETER DUMP REQUEST R

Byte	Description
F0, 42, 3n, 26(19)	EXCLUSIVE HEADER
0001 1100	ALL PROGRAM PARAMETER DUMP REQUEST 1CH
0000 000c	Program Bank (NOTE 3-2)
1111 0111	EOX

Receives this message, and transmits Func=4C or Func=24 message.

(6) COMBINATION PARAMETER DUMP REQUEST R

Byte	Description
F0, 42, 3n, 26	EXCLUSIVE HEADER
0001 1001	COMBINATION PARAMETER DUMP REQUEST 19H
1111 0111	EOX

Receives this message, and transmits Func=49 or Func=24 message.

(7) ALL COMBINATION PARAMETER DUMP REQUEST R

Byte	Description
F0, 42, 3n, 26(19)	EXCLUSIVE HEADER
0001 1101	ALL COMBI. PARAMETER DUMP REQUEST 1DH
0000 0000	
1111 0111	EOX

Receives this message, and transmits Func=4D or Func=24 message.

(8) ALL SEQUENCE DATA DUMP REQUEST R

Byte	Description
F0, 42, 3n, 26	EXCLUSIVE HEADER
0001 1000	ALL SEQUENCE DATA DUMP REQUEST 18H
0000 0000	
1111 0111	EOX

Receives this message, and transmits Func=48 or Func=24 message.

(9) GLOBAL DATA DUMP REQUEST R

Byte	Description
F0, 42, 3n, 26(19)	EXCLUSIVE HEADER
0000 1110	GLOBAL DATA DUMP REQUEST 0EH
0000 0000	
1111 0111	EOX

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

(10) ALL DATA(GLOBAL, COMBI, PROG, SEQ.) DUMP REQUEST R

Byte	Description
F0, 42, 3n, 26	EXCLUSIVE HEADER
0000 1111	ALL DATA(GLB, CMB, PRG, SEQ.) DUMP REQ. 0FH
0000 0000	
1111 0111	EOX

Receives this message, and transmits Func=50 or Func=24 message.

(11) MULTISOUND PARAMETER DUMP REQUEST R

Byte	Description
F0, 42, 3n, 26	EXCLUSIVE HEADER
0001 0101	MULTISOUND PARAMETER DUMP REQUEST 15H
1111 0111	EOX

Receives this message only if the PCM RAM has been installed.
Receives this message, and transmits Func=44 or Func=24 message.

(12) PROGRAM WRITE REQUEST R

Byte	Description
F0, 42, 3n, 26	EXCLUSIVE HEADER
0001 0001	PROGRAM WRITE REQUEST 11H
0000 000c	Program Bank (NOTE 3-1)
0ppp pppp	Write Program No. (0-99)
1111 0111	EOX

Receives this message, writes the data and transmits Func=21 or Func=22 message.

(13) COMBINATION WRITE REQUEST R

Byte	Description
F0, 42, 3n, 26	EXCLUSIVE HEADER
0001 1010	COMBINATION WRITE REQUEST 1AH
0000 0000	
0ppp pppp	Write Combination No. (0-99)
1111 0111	EOX

Receives this message, writes the data and transmits Func=21 or Func=22 message.

(14) PROGRAM PARAMETER DUMP R, T

Byte	Description
F0, 42, 3n, 26	EXCLUSIVE HEADER
0100 0000	PROGRAM PARAMETER DUMP 40H
0ddd dddd	Data (NOTE 6)
⋮	⋮
1111 0111	EOX

Receives this message & data, and transmits Func=23 or Func=24 message.
Receives Func=10 message, and transmits this message & data.
When the Program No. is changed by SW, transmits this message & data.

(15) ALL PROGRAM PARAMETER DUMP R, T

Byte	Description	
F0. 42. 3n. 26(19)	EXCLUSIVE HEADER	
0100 1100	PROGRAM PARAMETER DUMP	4CH
0000 000c	Program Bank	(NOTE 3-2)
0ddd dddd	Data	(NOTE 7)
:	:	
1111 0111	EOX	

Receives this message & data, and transmits Func=23 or Func=24 message.
Receives Func=1C message, and transmits this message & data.
Transmits this message & data by DATA DUMP.

(16) COMBINATION PARAMETER DUMP R, T

Byte	Description	
F0. 42. 3n. 26	EXCLUSIVE HEADER	
0100 1001	COMBINATION PARAMETER DUMP	49H
0ddd dddd	Data	(NOTE 8)
:	:	
1111 0111	EOX	

Receives this message & data, and transmits Func=23 or Func=24 message.
Receives Func=19 message, and transmits this message & data.
When the Combi No. is changed by SW, transmits this message & data.

(17) ALL COMBINATION PARAMETER DUMP R, T

Byte	Description	
F0. 42. 3n. 26(19)	EXCLUSIVE HEADER	
0100 1101	ALL COMBINATION PARAMETER DUMP	4DH
0000 0000		
0ddd dddd	Data	(NOTE 9)
:	:	
1111 0111	EOX	

Receives this message & data, and transmits Func=23 or Func=24 message.
Receives Func=1D message, and transmits this message & data.
Transmits this message & data by DATA DUMP.

(18) ALL SEQUENCE DATA DUMP R, T(26 only)

Byte	Description	
F0. 42. 3n. 26(19)	EXCLUSIVE HEADER	
0100 1000	ALL SEQUENCE DATA DUMP	48H
0000 0000		
0sss ssss	Seq. Data Size	(NOTE 10-1)
:	:	
0ddd dddd	Control Data	(NOTE 10-2)
:	:	
0ddd dddd	Sequence Data	(NOTE 10-3)
:	:	
1111 0111	EOX	

Receives this message & data, and transmits Func=23 or Func=24 message.
Receives Func=18 message, and transmits this message & data.
Transmits this message & data by DATA DUMP.

(19) GLOBAL DATA DUMP R, T

Byte	Description	
F0. 42. 3n. 26(19)	EXCLUSIVE HEADER	
0101 0001	GLOBAL DATA DUMP	51H
0000 0000		
0ddd dddd	Data	(NOTE 11)
:	:	
1111 0111	EOX	

Receives this message & data, and transmits Func=23 or Func=24 message.
Receives Func=0E message, and transmits this message & data.
Transmits this message & data by DATA DUMP.

(20) ALL DATA(GLOBAL, COMBI, PROG, SEQ.) DUMP R, T(26 only)

Byte	Description	
F0. 42. 3n. 26(19)	EXCLUSIVE HEADER	
0101 0000	ALL DATA(GLBL, COMBI, PROG, SEQ.) DUMP	50H
0000 0000		
0sss ssss	Seq. Data Size	(NOTE 10-1)
:	:	
0ddd dddd	Data	(NOTE 12)
:	:	
1111 0111	EOX	

Receives this message & data, and transmits Func=23 or Func=24 message.
Receives Func=0F message, and transmits this message & data.
Transmits this message & data by DATA DUMP.

(21) MULTISOUND PARAMETER DUMP R, T

Byte	Description	
F0. 42. 3n. 26	EXCLUSIVE HEADER	
0100 0100	MULTISOUND PARAMETER DUMP	44H
000m mmmm	Number of Multisound	(NOTE 16)
0ddd dddd	Data	(NOTE 16)
:	:	
1111 0111	EOX	

Receives and transmets this message only if the PCM RAM has been installed.
Receives this message & data, and transmits Func=23 or Func=24 message.
Receives Func=15 message, and transmits this message & data.
Note: When this Multisound Parameter dump is received, Drum sounds loaded from a PCM disk and PCM data received as Drum sounds via Sample Dump can be used as a Multisound.

(22) MODE CHANGE R(26 only), T

Byte	Description	
F0. 42. 3n. 26(19)	EXCLUSIVE HEADER	
0100 1110	MODE CHANGE	4EH
000b mmmm	Mode Data	(NOTE 1. 2)
000b 000c	Program Bank	(NOTE 2. 3-3)
1111 0111	EOX	

Receives this message & data, changes the Mode/Bank, and transmits Func=23 or Func=24.
When the Mode is changed by SW, transmits this message & data.

(23) PARAMETER CHANGE R, T

Byte	Description	
F0, 42, 3n, 26	EXCLUSIVE HEADER	
0100 0001	PARAMETER CHANGE	41H
0000 0ppp	Parameter Page	(TABLE 6, 7)
0000 0sss	Parameter Stage	(TABLE 6, 7)
0000 0ppp	Parameter Position	(TABLE 6, 7)
0vvv vvvv	Value (LSB bit6-0)	(NOTE 13)
0vvv vvvv	Value (MSB bit15-7)	(NOTE 13)
1111 0111	EOX	

Receives this message & data, and transmits Func=23 or Func=24 message.
When the Parameter No. is changed by SW, transmits this message & data.

(24) DRUM-KIT AND MULTISOUND PARAMETER CHANGE R

Byte	Description	
F0, 42, 3n, 26	EXCLUSIVE HEADER	
0101 0011	DRUM KIT AND MULTISOUND PARAMETER CHANGE	53H
0000 000c	Bank	(NOTE 17)
000n nnnn	Drum Kit / Multisound Number	(NOTE 17)
0sss ssss	Index / Sound Number	(NOTE 17)
0000 pppp	Parameter Number	(TABLE 8)
0vvv vvvv	Value (LSB bit6～0)	(NOTE 13)
0vvv vvvv	Value (MSB bit13～7)	(NOTE 13)
1111 0111	EOX	

Receives this message & data, and transmits Func=23 or Func=24 message.

(25) ALL DRUM SOUND NAME R, T

Byte	Description	
F0, 42, 3n, 26	EXCLUSIVE HEADER	
0100 0111	ALL DRUM SOUND NAME	47H
0000 000c	PCM Data Bank	(NOTE 18)
0sss ssss	Number of Drum Sound	(NOTE 14)
0ddd dddd	Data	(NOTE 14)
⋮	⋮	
1111 0111	EOX	

Receives Func=1F message, and transmits this message & data or transmits Func=24 message.
Receives this message only when c=1, and transmits Func=23 or Func=24 message.
Note: The transmitting device can send names for all Drums sounds loaded from a PCM disk and received via Sample Dump. If the number of drum sounds on the PCM RAM exceeds the number of received names, the extra Drum Sounds will be deleted.

(26) ALL MULTISOUND NAME T

Byte	Description	
F0, 42, 3n, 26	EXCLUSIVE HEADER	
0100 0101	ALL MULTISOUND NAME	45H
0000 000c	PCM Data Bank	(NOTE 18)
0sss ssss	Number of Multisound	(NOTE 14)
0ddd dddd	Data	(NOTE 14)
⋮	⋮	
1111 0111	EOX	

Receivs Func=16 message, and transmits this message & data or transmits Func=24 message.

(27) MODE DATA T

Byte	Description	
F0, 42, 3n, 26	EXCLUSIVE HEADER	
0100 0010	MODE DATA	42H
0000 mmmm	Mode Data	(NOTE 1)
0000 000c	Program Bank	(NOTE 3-3)
0011 00mm	Card Variation	(NOTE 4)
000r 01cc	PCM Memory Status	(NOTE 5)
1111 0111	EOX	

Receives Func=12 message, and transmits this message & data.

(28) MIDI IN DATA FORMAT ERROR T

Byte	Description	
F0, 42, 3n, 26(19)	EXCLUSIVE HEADER	
0010 0110	MIDI IN DATA FORMAT ERROR	26H
1111 0111	EOX	

Transmits this message when there is an error in the MIDI IN message (ex. data length).

(29) DATA LOAD COMPLETED T

Byte	Description	
F0, 42, 3n, 26(19)	EXCLUSIVE HEADER	
0010 0011	DATA LOAD COMPLETED	23H
1111 0111	EOX	

Transmits this message when DATA LOAD, PROCESSING have been completed.

(30) DATA LOAD ERROR T

Byte	Description	
F0, 42, 3n, 26(19)	EXCLUSIVE HEADER	
0010 0100	DATA LOAD ERROR	24H
1111 0111	EOX	

Transmits this message when DATA LOAD, PROCESSING have not been completed (ex. protected)

(31) WRITE COMPLETED T

Byte	Description	
F0, 42, 3n, 26	EXCLUSIVE HEADER	
0010 0001	WRITE COMPLETED	21H
1111 0111	EOX	

Transmits this message when DATA WRITE MIDI has been completed.

(32) WRITE ERROR T

Byte	Description	
F0, 42, 3n, 26	EXCLUSIVE HEADER	
0010 0010	WRITE ERROR	22H
1111 0111	EOX	

Transmits this message when DATA WRITE MIDI has not been completed.

NOTE 1 : mmmm = 0 : COMBINATION　　3 : EDIT PROG.　　8:DISK/CARD
1 : EDIT COMBI.　　4 : GLOBAL
2 : PROGRAM　　6 : SEQUENCER

NOTE 2 : b = 0 : Change the Mode, Bank
= 1 : Don't change the Mode, Bank

NOTE 3-1 : c = 0 : Prog. A
= 1 : Prog. B

NOTE 3-2 : If product ID is 26　　C=0 : fixed
19　　C=0 : Prog A
C=1 : Prog B

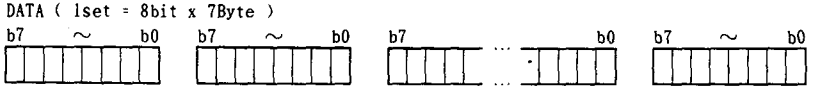
NOTE 3-3 : If mmmm=2 or 3　　C=0 or 1
otherwise　　C=0 fixed

NOTE 4 : ll, mm = 0, 0 : Card Off
= 0, 1 : NG Card (ROM)
= 0, 2 : - - (RAM)
ll = 1 : ROM Card　　mm = 0 : Glb. +100:100
= 2 : RAM Card (Protect Off)　　= 1 : Glb. + 50: 50+Seq.
= 3 : - - (- On)　　= 2 : Sequencer

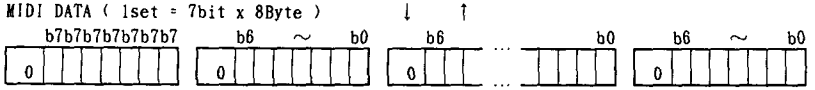
NOTE 5 : cc = 0 : Card Off　　r = 0 : No PCM RAM
= 1 : NG Card　　= 1 : 512k Word PCM RAM
= 2 : PCM Card In

DUMP DATA FORMAT n=0～　　for NOTE 6, 7, 8, 9, 10-2, 10-3, 11, 12, 14, 15, 16

DATA (1set = 8bit x 7Byte)



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



NOTE 6 : PROGRAM PARAMETER DUMP FORMAT　　(See TABLE 1)

T1, T2, T3 : [Parameter No. 00], ……, [Parameter No. 159]

160Byte = 7x22+6 → 8x22+(1+6) = 183Byte

NOTE 7 : ALL PROGRAM PARAMETER DUMP FORMAT

T1, T2, T3 : [Prog. A 00 (160Byte)], ……, [Prog. B 99 (160Byte)]

160x200Byte = 4571x7+3 → 8x4571+(1+3) = 36572Byte (11.7Sec)

M1, M1R : [Prog. No. 00 (143Byte)], ……, [Prog. No. 99 (143Byte)]

14300Byte = 7x2042+6 → 8x2042+(1+6) = 16343Byte (5.2Sec)

NOTE 8 : COMBINATION PARAMETER DUMP FORMAT　　(See TABLE 2)

T1, T2, T3 : [Parameter No. 00], ……, [Parameter No. 239]

240Byte = 7x34+2 → 8x34+(1+2) = 275Byte

NOTE 9 : ALL COMBINATION PARAMETER DUMP FORMAT

T1, T2, T3 : [Combi. No. 00 (240Byte)], ……, [Combi. No. 99 (240Byte)]

240x100Byte = 7x3428+4 → 8x3428+(1+4) = 27429Byte (8.8Sec)

M1, M1R : [Combi. No. 00 (124Byte)], ……, [Combi. No. 99 (124Byte)]

12400Byte = 7x1771+3 → 8x1771+(1+3) = 14172Byte (4.5Sec)

NOTE 10 : ALL SEQUENCE DATA DUMP FORMAT　　(See TABLE 4)

10-1 : Sequence Data Size (2Byte)

[Data Size (bit6-0)],
[Data Size (bit12-7)]

10-2 : T1, T2, T3 Control Data Dump Format (4322Byte)

[Control Data　　(Song Size(160) x 20 = 3200Byte)],
[Pattern Data　　(400Byte)],
[Song0-Track1 Address (2Byte)], …, [Song0-Track8 Address],
[Song1-Track1 Address], …, [Song19-Track8 Address] (320Byte),
[Pattern0 Address (2Byte)], ……, [Pattern199 Address] (400Byte),
[Pattern End Address　　(2Byte)]

M1, M1R Control Data Dump Format (1522Byte)

[Control Data　　(Song Size(96) x 10 = 960Byte)],
[Pattern Data　　(200Byte)],
[Song0-Track1 Address (2Byte)], …, [Song0-Track8 Address],
[Song1-Track1 Address], …, [Song9-Track8 Address] (160Byte),
[Pattern0 Address (2Byte)], ……, [Pattern99 Address] (200Byte),
[Pattern End Address　　(2Byte)]

10-3 : Sequence Data Dump Format

[Sequence 1st Data(4Byte)], ……, [Seq. nth Data]

n : Seq. Data Size = 0 ～ 50000 (T1, T2, T3)
0 ～ 7700 (M1, M1R)

T1, T2, T3 : 4322Byte+4x[Seq. Data Size]Byte = 7xA+B → 8xA+(1+B)Byte
∴ 10-1, 10-2, 10-3 = 2+8xA+(1+B)Byte (1.6～74.7Sec)

M1, M1R : 1522Byte+4x[Seq. Data Size]Byte = 7xC+D → 8xC+(1+D)Byte
∴ 10-1, 10-2, 10-3 = 2+8xC+(1+D)Byte (0.6～11.8Sec)

NOTE 11 : GLOBAL DATA DUMP FORMAT　　(See TABLE 3)

[Global Data (19+2Byte)],
T1, T2, T3 : [Drum Kit Data (7x240Byte)]
21+1680Byte = 7x243+0 → 8x243 =1944Byte
M1, M1R : [Drum Kit Data (7x120Byte)]
21+ 840Byte = 7x123+0 → 8x123 = 984Byte

NOTE 12 : ALL DATA (GLOBAL, COMBI, PROG, SEQ) DUMP FORMAT

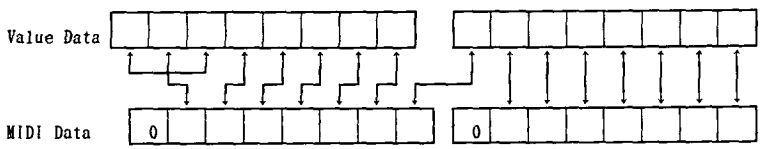
[Global Data], (See NOTE 11)
[All Combination Parameter Data], (See NOTE 9)
[All Program Parameter Data], (See NOTE 7)
[All Sequence Data] (See NOTE 10-2, 10-3)

T1, T2, T3 : 1701+24000+32000+4322+4x[Seq. Data Size]Byte = 7xE+F
→ 8xE+(1+F)Byte (22.7～95.8Sec)

M1, M1R : 861+12400+14300+1522+4x[Seq. Data Size]Byte = 7xG+H
→ 8xG+(1+H)Byte (10.7～17.1Sec)

NOTE 13 : VALUE DATA FORMAT

Bit15-13 of Value Data is the Sign Flag, and each bit has the same value



NOTE 14 : ALL DRUM SOUND NAME DATA FORMAT

[Drum Sound 1 Name (10Byte)], ……, [Drum Sound n Name (10Byte)]
n : Drum Sound Number

NOTE 15 : ALL MULTISOUND NAME DATA FORMAT

[Multisound 1 Name (10Byte)], ……, [Multisound n Name (10Byte)]
n : Multisound Number

NOTE 16 : MULTISOUND PARAMETER FORMAT (See TABLE 5)

[Multisound 1 Data], ……, [Multisound m Data]
m : Number of Multisound 0～28

NOTE 17 : c=0 DRUM KIT PARAMETER CHANGE

n nnnn : Drum Kit Number = 0～3
sss ssss : Index = 0～59
c=1 MULTISOUND PARAMETER CHANGE
n nnnn : Multisound Number = 0～27
sss ssss : Sound Number = 0～m-1
m : Number of Sound in Multisound (See TABLE 5)

NOTE 18 : c=0 : PCM Card
c=1 : PCM RAM
Receives and transmits the message with c=1 only if the PCM RAM has been installed.

SEQUENCER CONTROL DATA

No.	PARAMETER	DATA(Hex) : VALUE
	SONG 0 CONTROL DATA	
00	MIDI Channel (Tr. 1)	00～0F : 1～16
⋮	⋮	
07	MIDI Channel (Tr. 8)	
08	STATUS (Tr. 1)	00～03 *9
⋮	⋮	
15	STATUS (Tr. 8)	
16	BEAT	*14
17	TEMPO	28～D0 : 40～208
18	PROTECT (Tr. 1)	bit0=0:ENA, =1:DIS
⋮	⋮	⋮
	PROTECT (Tr. 8)	bit7
19	NEXT SONG NO.	FF～13:OFF, 0～19
20	SONG NAME (Head)	20～7F : ' '～'←'
⋮	⋮	
29	SONG NAME (Tail)	
30	(NUL)	
31	EFFECT PARAMETER	
⋮		*11
55		
	TRACK 1 CONTROL DATA	
56	PROGRAM NO.	00～C7 : A00～B99
57	OUTPUT LEVEL	00～63
58	KEY TRANSPOSE	E8～18 : -24～24
59	DETUNE	CE～32 : -50～50
60	PAN	00～0D *5
61	KEY WINDOW TOP	00～7F
62	KEY WINDOW BOTTOM	00～7F
63	VELOCITY WINDOW TOP	01～7F
64	VELOCITY WINDOW BOTTOM	01～7F
65	MIDI OUT A/B	bit6 =0:A, =1:B
66	MIDI CHANNEL	00～0F : 1～16
	TRACK 2～8 CONTROL DATA	
67	SAME AS TRACK 1(56～66) x 7	
⋮		
143		
144	VELOCITY CURVE	01～08
145	AFTER TOUCH CURVE	01～08
146	FOOT CONTROLLER 1	00～09 *7
147	FOOT CONTROLLER 2	00～09 *7
148	SCALE TYPE	00～04 *8
149	PURE SCALE KEY	00～0B : 1～8
150	METRONOME LEVEL	00～63 : 0～99
151	METRONOME PAN	00～0D *5
152	METRONOME LEAD IN	0～2
153	(NUL)	
⋮		
159		
	SONG 1～19 CONTROL DATA	
160	SAME AS SONG 0(00～159) x 19	
⋮		
3199		

(TABLE 4)

	PATTERN 0 CONTROL DATA	
3200	BEAT	*14
3201	LENGTH	01～63 : 1～99
	PATTERN 1～199 CONTROL DATA	
3202	SAME AS PATTERN 0(3200, 3201) x 199	
⋮		
3599		
	SONG0-TRACK1 DATA ADDRESS	
3600	DATA ADDRESS(LSB)	0000 (Start Addr)
3601	- - (MSB)	
	SONG0-TRACK2 ～ SONG19-TRACK8 DATA ADDRESS	
3602	SAME AS SONG0-TRACK1 ADDRESS(3600, 3601) x 159	
⋮		
3919		
	PATTERN 0 DATA ADDRESS	
3920	DATA ADDRESS (LSB)	
3921	- - (MSB)	
	PATTERN 1 ～ PATTERN 199 DATA ADDRESS	
3922	SAME AS PATTERN 0(3920, 3921)	
⋮		
4319		
4320	End Pattern Addr(L)	
4321	- - - (H)	

SEQUENCE DATA

No.	PARAMETER	DATA(Hex) : VALUE
	SEQUENCE DATA 1	
4322	DATA (1-L)	*10
4323	DATA (1-H)	*10
4324	DATA (2-L)	*10
4325	DATA (2-H)	*10
	SEQUENCE DATA 2 ～	
4326	SAME AS SEQUENCE DATA 1(4322～4325)	
⋮		

MULTISOUND PARAMETERS (TABLE 5)

No.	PARAMETER	DATA(Hex) : VALUE
	MULTISOUND DATA	
00	NUMBER OF SOUND	00～64 : 0～100
01	MULTISOUND NAME (Head)	20～7F:' '～'←'
⋮		
10	MULTISOUND NAME (Tail)	
	SOUND 1 DATA	
11	SOUND NUMBER	*16
12	(NUL)	00
13	TOP KEY	0C～73 : C0～G8
14	PAN	05
15	TUNE	CE～32 : -50～50
16	TRANSPOSE SWITCH	bit7=0 TRANSPOSE, =1 NOT TRANSPOSE
	ORIGINAL KEY	bit6～0 : 0～127
17	LEVEL	CE～32 : -50～50
18	CUT OFF	CE～32 : -50～50
19	VDA DECAY	CE～32 : -50～50
20	(NUL)	00
	SOUND 2 ～ n DATA	
21	SAME AS SOUND 1 DATA (11～20) x (n-1)	
⋮	n:DATA of NUMBER OF SOUND (offset No. 00)	

No.	PARAMETER	DATA(Hex) : VALUE
144	VELOCITY CURVE	01～08
145	AFTER TOUCH CURVE	01～08
146	FOOT CONTROLLER 1	00～09 *7
147	FOOT CONTROLLER 2	00～09 *7
148	SCALE TYPE	00～04 *8
149	PURE SCALE KEY	00～0B : C～B
150 ⋮ 159	(NUL)	00

*1 : bit0 : ATTACK TIME SW =0:OFF, =1:ON
bit1 : DECAY TIME
bit2 : SLOPE TIME
bit3 : RELEASE TIME
bit4 : ATTACK TIME POLARITY =0:+, =1:-
bit5 : DECAY TIME
bit6 : SLOPE TIME
bit7 : RELEASE TIME

*2 : 0 : SINGLE
1 : DOUBLE
2 : DRUM

*3 : 0 : TRIANGLE (∧)
1 : UP SAW (/|)
2 : DOWN SAW (|\)
3 : RECTANGLE (⊓)

*4 : 4 : MULTI Fixed

*5 : A B
00 : 10:00
⋮ ⋮ ⋮
0A : 00:10
0B : C
0C : C+D
0D : D

*6 : bit0 : PROGRAM CHANGE =0:DIS, =1:ENA
bit1 : DAMPER
bit2 : AFTER TOUCH
bit3 : CONTROL CHANGE
bit6 : MIDI OUT =0:A, =1:B

*7 : 00 : PROGRAM(COMBINATION) UP
01 : - - DOWN
03 : EFFECT 1 ON/OFF
04 : - 2 -
05 : VOLUME
06 : VDF CUTOFF
07 : EFFECT 1 CONTROL
08 : - 2 -
09 : DATA ENTRY
0A : EXTERNAL (COMBINATION ONLY)

*8 : 0 : EQUAL TEMP 1
1 : EQUAL TEMP 2
2 : PURE MAJOR
3 : PURE MINOR
4 : USER PROGRAM

*9 : 0 : Off
1 : Internal
2 : Extern
3 : Both

*10 : SEQUENCE DATA FORMAT

DATA(1-H) DATA(1-L) DATA(2-H) DATA(2-L)

*10-1 NOTE ON/OFF

1vvv vvv t	tttt tttt	kkkk kkk 1	1111 1111
Velocity	Event Time	Key No.	Length

t =30 : ♩, t =1FE : Tie from Last Bar
1 =30 : ♩, 1 =1FE : Tie to Next Bar

*10-2 PITCH BEND

0001 000 t	tttt tttt	0 vvv vvvv	0 vvv vvvv
	Event Time	Value(H)	Value(L)

*10-3 AFTER TOUCH

0010 000 t	tttt tttt	0000 0000	0 vvv vvvv
	Event Time		Value

*10-4 PROGRAM CHANGE

0011 000 t	tttt tttt	0000 0000	pppp pppp
	Event Time		Program No.

p=00～199(A00～B99)

*10-5 CONTROL CHANGE

0100 000 t	tttt tttt	0 vvv vvvv	0 ccc cccc
	Event Time	Value	Control No.

c= 00～ 65 : Same as MIDI Control Change
= 66 : Assignable Pedal
= 67 : Effect 1 ON/OFF
= 68 : - 2 -
= 69 : Effect 1 Balance
= 6A : Effect 2 Balance
= 6B : Tempo

*10-6 BAR

0110 00bb	bbbb bbbb	xx ss ssss	pppp pppp
	Bar No.	Type Beat	Pattern No.

xx= 00 : Don't use Pattern
= 10 : Pattern continual
= 11 : Pattern Start
s= 10～18 : 1/4～9/4
= 20～2F : 1/8～16/8
= 30～3F : 1/16～16/16

*10-7 TRACK END

0111 000 t	tttt tttt	0000 00bb	bbbb bbbb
	Event Time		Last Bar No.

COMBINATION PARAMETERS

No.	PARAMETER	DATA(Hex) : VALUE
	COMBINATION CONTROLLER	
00 ⋮ 09	COMBI. NAME (Head) ⋮ COMBI. NAME (Tail)	20～7F : ' '～'←'
10	COMBINATION TYPE	04 *4
	EFFECT PARAMETER	
11 ⋮ 35		*11
	TIMBRE 1 PARAMETER	
36	PROGRAM NO.	00:OFF, 01～C8:A00～B99
37	OUTPUT LEVEL	00～63
38	KEY TRANSPOSE	E8～18 : -24～24
39	DETUNE	CE～32 : -50～50
40	TIMBRE, INST	bit7=0:TIM, =1:INS
	PAN	bit3～0 : 0～0D *5
41	KEY WINDOW TOP	00～7F : C-1～G9
42	KEY WINDOW BOTTOM	00～7F : C-1～G9
43	VEL. WINDOW TOP	01～7F
44	VEL. WINDOW BOTTOM	01～7F
45	CONTROL FILTER	*6
46	TIMBRE ON, OFF	bit4=0:ON, =1:OFF
	MIDI CHANNEL	bit3～0 : 1～16
	TIMBRE 2～8 PARAMETER	
47 ⋮ 123	SAME AS TIMBRE 1(36～46) x 7	
	TIMBRE 1' PARAMETER	
124	EXTERNAL PROGRAM	00:OFF, 01～80:00～127
125	EXTERNAL VOLUME	00～7F
126	(NUL)	00
127	(NUL)	00
128	(NUL)	00
129	VELOCITY CURVE	01～08
130	AFTER TOUCH CURVE	01～08
131	EXTERNAL VEL CURVE	01～08
132	EXTERNAL AFT. TOUCH CURVE	01～08
133	(NUL)	00
134	(NUL)	00
	TIMBRE 2'～8' PARAMETER	
135 ⋮ 211	SAME AS TIMBRE 1' (124～134) x 7	
	CONTROLLER ASSIGN	
212	FOOT CONTROLLER 1	00～0A *7
213	FOOT CONTROLLER 2	00～0A *7
214	FC 1 CONTROL NO.	00～65 : 0～101
215	FC 2 CONTROL NO.	00～65 : 0～101
216	JOY STICK X	FF:BENDER, 00～65:0～101
217	(NUL)	00
218	JOY STICK +Y	00～65 : 0～101
219	JOY STICK -Y	00～65 : 0～101

(TABLE 2)

	SCALE TYPE	
220	SCALE TYPE	00～04 *8
221	PURE TYPE KEY	00～0B : C～B
222 ⋮ 239	(NUL)	00

GLOBAL PARAMETERS

(TABLE 3)

No.	PARAMETER	DATA(Hex) : VALUE
	GLOBAL PARAMETER	
00	MASTER TUNE	CE～32 : -50～50
01	KEY TRANSPOSE	F4～0C : -12～12
02	DAMPER POLARITY	00 : + , 01 : -
03	(ASSIGNABLE PEDAL 1)	00～09 *7, 17
04	(ASSIGNABLE PEDAL 2)	00～09 *7, 17
05	(SCALE TYPE)	00～04 *8, 17
06	(PURE TYPE KEY)	00～0B : C～B *17
07 ⋮ 18	USER SCALE	CE～32 : -50～50
19	(NUL)	00
20	(NUL)	00
	DRUM KIT1-INDEX#0	
21	INST NO.	*16
22	KEY	0C～73 : C0～G8
23	PAN	00～0D *5
24	TUNE	88～78:-120～120
25	LEVEL	CE～32 : -50～50
26	DECAY	CE～32 : -50～50
27	(NUL)	00
	DRUM KIT1-INDEX#1 ～ DRUM KIT4-INDEX#59	
28 ⋮ 1700	SAME AS DRUM KIT1-0(21～27) x(60x4-1)	

SEQUENCER CONTROL DATA

No.	PARAMETER	DATA(Hex) : VALUE
	SONG 0 CONTROL DATA	
00	MIDI Channel (Tr. 1)	00～0F : 1～16
⋮	⋮	
07	MIDI Channel (Tr. 8)	
08	STATUS (Tr. 1)	00～03 *9
⋮	⋮	
15	STATUS (Tr. 8)	
16	BEAT	*14
17	TEMPO	28～D0 : 40～208
18	PROTECT (Tr. 1)	bit0=0:ENA. =1:DIS
⋮	⋮	
	PROTECT (Tr. 8)	bit7
19	NEXT SONG NO.	FF～13:OFF, 0～19
20	SONG NAME (Head)	20～7F : ' '～'←'
⋮	⋮	
29	SONG NAME (Tail)	
30	(NUL)	
31	EFFECT PARAMETER	*11
⋮		
55		
	TRACK 1 CONTROL DATA	
56	PROGRAM NO.	00～C7 : A00～B99
57	OUTPUT LEVEL	00～63
58	KEY TRANSPOSE	E8～18 : -24～24
59	DETUNE	CE～32 : -50～50
60	PAN	00～0D *5
61	KEY WINDOW TOP	00～7F
62	KEY WINDOW BOTTOM	00～7F
63	VELOCITY WINDOW TOP	01～7F
64	VELOCITY WINDOW BOTTOM	01～7F
65	MIDI OUT A/B	bit6 =0:A, =1:B
66	MIDI CHANNEL	00～0F : 1～16
	TRACK 2～8 CONTROL DATA	
67	SAME AS TRACK 1(56～66) x 7	
⋮		
143		
144	VELOCITY CURVE	01～08
145	AFTER TOUCH CURVE	01～08
146	FOOT CONTROLLER 1	00～09 *7
147	FOOT CONTROLLER 2	00～09 *7
148	SCALE TYPE	00～04 *8
149	PURE SCALE KEY	00～0B : 1～8
150	METRONOME LEVEL	00～63 : 0～99
151	METRONOME PAN	00～0D *5
152	METRONOME LEAD IN	0～2
153	(NUL)	
⋮		
159		
	SONG 1～19 CONTROL DATA	
160	SAME AS SONG 0(00～159) x 19	
⋮		
3199		

(TABLE 4)

	PATTERN 0 CONTROL DATA	
3200	BEAT	*14
3201	LENGTH	01～63 : 1～99
	PATTERN 1～199 CONTROL DATA	
3202	SAME AS PATTERN 0(3200, 3201) x 199	
⋮		
3599		
	SONG0-TRACK1 DATA ADDRESS	
3600	DATA ADDRESS(LSB)	0000 (Start Addr)
3601	- - (MSB)	
	SONG0-TRACK2 ～ SONG19-TRACK8 DATA ADDRESS	
3602	SAME AS SONG0-TRACK1 ADDRESS(3600, 3601) x 159	
⋮		
3919		
	PATTERN 0 DATA ADDRESS	
3920	DATA ADDRESS (LSB)	
3921	- - (MSB)	
	PATTERN 1 ～ PATTERN 199 DATA ADDRESS	
3922	SAME AS PATTERN 0(3920, 3921)	
⋮		
4319		
4320	End Pattern Addr(L)	
4321	- - - (H)	

SEQUENCE DATA

No.	PARAMETER	DATA(Hex) : VALUE
	SEQUENCE DATA 1	
4322	DATA (1-L)	*10
4323	DATA (1-H)	*10
4324	DATA (2-L)	*10
4325	DATA (2-H)	*10
	SEQUENCE DATA 2 ～	
4326	SAME AS SEQUENCE DATA 1(4322～4325)	
⋮		

MULTISOUND PARAMETERS (TABLE 5)

No.	PARAMETER	DATA(Hex) : VALUE
	MULTISOUND DATA	
00	NUMBER OF SOUND	00～64 : 0～100
01	MULTISOUND NAME (Head)	20～7F:' '～'←'
⋮		
10	MULTISOUND NAME (Tail)	
	SOUND 1 DATA	
11	SOUND NUMBER	*16
12	(NUL)	00
13	TOP KEY	0C～73 : C0～G8
14	PAN	05
15	TUNE	CE～32 : -50～50
16	TRANSPOSE SWITCH	bit7=0 TRANSPOSE, =1 NOT TRANSPOSE
	ORIGINAL KEY	bit6～0 : 0～127
17	LEVEL	CE～32 : -50～50
18	CUT OFF	CE～32 : -50～50
19	VDA DECAY	CE～32 : -50～50
20	(NUL)	00
	SOUND 2 ～ n DATA	
21	SAME AS SOUND 1 DATA (11～20) x (n-1)	
⋮	n:DATA of NUMBER OF SOUND (offset No. 00)	

PROGRAM PARAMETER

PAGE STAGE POSITION → OFFSET TABLE (TABLE 6)

STAGE SGL	STAGE DBL	PARAMETER	POSITION A	B	C	D	E	F	G	H
PROGRAM MODE										
		PAGE 0	0	1	2	3	4	5	6	7
1			*	*	*	*	*	*	*	*
EDIT PROGRAM MODE										
		PAGE 0 OSC	0	1	2	3	4	5	6	7
0	0	OSD MODE	10							
1	1	ASSIGN/HOLD	11				11			
2	2	OSC1 MULTISOUND	11, 12			86	13			
--	3	OSC2 MULTISOUND	11, 14			126	15	16	17	18
3	4	OSC1 PITCH EG	63	64	65	66	67	68	70	69
--	5	OSC2 PITCH EG	103	104	105	106	107	108	110	109
		PAGE 1 VDF1	0	1	2	3	4	5	6	7
0	0	CUT OFF	71							
1	1	KBD TRACKING	73				72			
2	2	EG INTENSITY	74				77			
3	3	EG TIME VELOCITY SENSE	76				100	100	100	100
4	4	EG TIME KBD TRACK	75				99	99	99	99
5	5	VDF1 EG	78	79	80	81	82	83	84	85
		PAGE 2 (DBL) VDF2	0	1	2	3	4	5	6	7
--	0	CUT OFF	111							
--	1	KBD TRACKING	113				112			
--	2	EG INTENSITY	114				117			
--	3	EG TIME VELOCITY SENSE	116				140	140	140	140
--	4	EG TIME KBD TRACK	115				139	139	139	139
--	5	VDF2 EG	118	119	120	121	122	123	124	125
		PAGE 2(SGL) PAGE 3(DBL) VDA1	0	1	2	3	4	5	6	7
0	0	VELOCITY SENSE	89							
1	1	KBD TRACKING	88				87			
2	2	EG TIME VELOCITY SENSE	91				102	102	102	102
3	3	EG TIME KBD TRACK	90				101	101	101	101
4	4	VDA1 EG	92	93	94	95	96	97	98	
		PAGE 4(DBL) VDA2	0	1	2	3	4	5	6	7
--	0	VELOCITY SENSE	129							
--	1	KBD TRACKING	128				127			
--	2	EG TIME VELOCITY SENSE	131				142	142	142	142
--	3	EG TIME KBD TRACK	130				141	141	141	141
--	4	VDA2 EG	132	133	134	135	136	137	138	
		PAGE 3(SGL) PAGE 5(DBL) BEND/MG	0	1	2	3	4	5	6	7
0	0	PITCH BEND	32				33			
1	1	AFTER TOUCH	27				29		31	
2	2	PITCH MG	19				20	21	22	19
3	3				19		28		34	35
4	4	VDF MG	23				24	25	26	23
5	5				23		30		36	37
		PAGE 4(SGL) PAGE 6(DBL) EFFECT	0	1	2	3	4	5	6	7
0	0	EFFECT1 TYPE	38					46		
1	1	EFFECT1 PARAMETER	*	*	*	*	*	*	*	*
2	2	EFFECT2 TYPE	39					46		
3	3	EFFECT2 PARAMETER	*	*	*	*	*	*	*	*
4	4	PLACEMENT	46		44			45		
		PAGE 5(SGL) PAGE 7(DBL) WRITE	0	1	2	3	4	5	6	7
2	2	FOOT CONTROLLER	146				147			
3	3	SCALE TYPE	148				149			
4	4	VELOCITY/AFTER TOUCH CURVE	144				145			

See P. 6
See P. 36
See P. 36

COMBINATION PARAMETER

PAGE STAGE POSITION → OFFSET TABLE (TABLE 7)

STAGE	PARAMETER	POSITION							
		A	B	C	D	E	F	G	H
COMBINATION MODE									
	PAGE 0	0	1	2	3	4	5	6	7
1	PROGRAM	36	47	58	69	80	91	102	113
2	OUTPUT LEVEL	37	48	59	70	81	92	103	114
	PAGE 1	0	1	2	3	4	5	6	7
1	EXTERNAL PROGRAM	124	135	146	157	168	179	190	201
2	EXTERNAL VOLUME	125	136	147	158	169	180	191	202
EDIT COMBINATION MODE									
	PAGE 0 INT-1	0	1	2	3	4	5	6	7
0	PROGRAM SELECT	36	47	58	69	80	91	102	113
1	OUTPUT LEVEL	37	48	59	70	81	92	103	114
2	VELOCITY CURVE	129	140	151	162	173	184	195	206
3	AFTER TOUCH CURVE	130	141	152	163	174	185	196	207
	PAGE 1 INT-2	0	1	2	3	4	5	6	7
0	TRANSPOSE	38	49	60	71	82	93	104	115
1	DETUNE	39	50	61	72	83	94	105	116
2	PANPOT	40	51	62	73	84	95	106	117
	PAGE 2 EXTERNAL	0	1	2	3	4	5	6	7
0	PROGRAM	124	135	146	157	168	179	190	201
1	VOLUME	125	136	147	158	169	180	191	202
2	VELOCITY CURVE	131	142	153	164	175	186	197	208
3	AFTER TOUCH CURVE	132	143	154	165	176	187	198	209
	PAGE 3 MIDI-1	0	1	2	3	4	5	6	7
0	MIDI CHANNEL	46	57	68	79	90	101	112	123
1	VELOCITY WINDOW TOP	43	54	65	76	87	98	109	120
2	VELOCITY WINDOW BOTTOM	44	55	66	77	88	99	110	121
3	KEY WINDOW TOP	41	52	63	74	85	96	107	118
4	KEY WINDOW BOTTOM	42	53	64	75	86	97	108	119
	PAGE 4 MIDI-2	0	1	2	3	4	5	6	7
0	PROGRAM CHANGE	45	56	67	78	89	100	111	122
1	CONTROL CHANGE	45	56	67	78	89	100	111	122
2	DAMPER	45	56	67	78	89	100	111	122
3	AFTER TOUCH	45	56	67	78	89	100	111	122
	PAGE 5 CONTROL	0	1	2	3	4	5	6	7
0	JOY STICK X	216							
1	JOY STICL +Y	218							
2	JOY STICK -Y	219							
3	FOOT CONTROLLER 1	212				214			
4	FOOT CONTROLLER 2	213				215			
5	SCALE TYPE	220					221		
	PAGE 6 EFFECT	0	1	2	3	4	5	6	7
0	EFFECT 1 TYPE	11					19		
1	EFFECT 1 PARAMETER	*	*	*	*	*	*	*	*
2	EFFECT 2 TYPE	12					19		
3	EFFECT 2 PARAMETER	*	*	*	*	*	*	*	*
4	PLACEMENT	19		17			18		

See P. 36
See P. 36

DRUM KIT AND MULTISOUND PARAMETER CHANGE PARAMETER LIST (TABLE 8)

DRUM KIT PARAMETER CHANGE (C=0)

pppp	PARAMETER	DATA(Hex) : VALUE
1	INST NUMBER	*16
2	KEY	0C～73 : C0～G8
3	TUNE	88～78 : -120～120
4	LEVEL	CE～32 : -50～50
5	DECAY	CE～32 : -50～50
6	PAN	00～0D *5

MULTISOUND PARAMETER CHANGE (C=1)

pppp	PARAMETER	DATA(Hex) : VALUE
0	SOUND NUMBER	*16
1	TOP KEY	0C～73 : C0～G8
2	TUNE	CE～32 : -50～50
3	TRANSPOSE SWITCH	0 : TRANSPOSE 1 : NOT TRANSPOSE
4	ORIGINAL KEY	00～7F : C-1～G9
5	LEVEL	CE～32 : -50～50
6	CUT OFF	CE～32 : -50～50
7	VDA DECAY	CE～32 : -50～50

*11 EFFECT PARAMETER

No.	PARAMETER	DATA(Hex) : VALUE
(00)	Effect 1 Pattern No.	0~20, 21:1~33. Tru
(01)	- 2 - -	0~20, 21:1~33. Tru
(02)	- 1 L-Ch E. Balnc	00~64 : 00~100
(03)	- 1 R-Ch -	00~64 : 00~100
(04)	- 2 L-Ch -	00~64 : 00~100
(05)	- 2 R-Ch -	00~64 : 00~100
(06)	Output 3 Pan	00.01~65 *11-1
(07)	- 4 -	00.01~65 *11-1
(08)	Effect I/O	bit4~0 *11-2
(09) ⋮ (16)	Effect 1 Parameter	*11-3
(17) ⋮ (24)	Effect 2 Parameter	*11-3

*11-0 : DRY/EFFECT BALANCE : Set the same value L and R-ch of Effect Balance parameters for type 1~25

*11-1 : 00 : Off
01 : R
02 : 01:99
⋮ ⋮
64 : 99:01
65 : L

*11-2 :
bit0=0:Efct1 L-Ch Off, =1:On
bit1=0: - 1 R-Ch Off, =1:On
bit2=0: - 2 L-Ch Off, =1:On
bit3=0: - 2 R-Ch Off, =1:On
bit4=0:Efct2 Para, =1:Serial

*11-3 : Effect Parameter (8Byte) 33 Type

offset	PARAMETER	DATA(Hex) : VALUE
1~3 : Hall, (4, 5 : Room, 6 : Live Stage)		
(00)	Reverb Time	00~61(2F):0.2~9.9(4.9)
(01)	(NUL)	00
(02)	High Damp	00~63 : 00~99
(03)	Pre Delay	00~C8 : 00~200
(04)	E/R Level	00~63 : 00~99
(05)	(NUL)	00
(06)	EQ High	F4~0C : -12~12
(07)	EQ Low	F4~0C : -12~12

'Nul' is omitted from the next table. The data of 'Nul' must be 00.

7~9 : Early Reflection 1, 2, 3		
(00)	E/R Time	00~46 : 100~800
(01)	Pre Delay	00~C8 : 00~200
(06)	EQ High	F4~0C : -12~12
(07)	EQ Low	F4~0C : -12~12
10 : Stereo Delay, 11 : Cross Delay		
(00) (01)	Delay Time L (L) - - - (H)	00~1F4 : 00~500
(02)	Feed Back	9D~63 : -99~99
(03)	High Damp	00~63 : 00~99
(04) (05)	Delay Time R (L) - - - (H)	00~1F4 : 00~500
(06)	EQ High	F4~0C : -12~12
(07)	EQ Low	F4~0C : -12~12

12, 13 : Stereo Chorus 1, 2, (14, 15 : Flanger)

(00)	Depth	00~63 : 00~99
(01)	Speed	00~D8 *11-3-2
(02)	MG Status *11-3-3	bit0=0:Sin, =1:Tri bit1 ← 1 bit2 ← 0 (1)
(03)	(Feed Back)	(9D~63 : -99~99)
(04)	Delay Time	0~C8(32):0~200(50)
(06)	EQ High	F4~0C : -12~12
(07)	EQ Low	F4~0C : -12~12

16 : Phase Shifter 1, (17 : Phase Shifter 2)

(00)	Depth	00~63 : 00~99
(01)	Speed	00~D8 *11-3-2
(02)	MG Status *11-3-3	bit0=0:Sin, =1:Tri bit1 ← 0, (1) bit2 ← 0
(03)	Feedback	9D~63 : -99~99
(04)	Manual	00~63 : 00~99

18 : Stereo Tremolo 1, (19 : Stereo Tremolo 2)

(00)	Depth	00~63 : 00~99
(01)	Speed	00~D8 : *11-3-2
(02)	MG Status *11-3-3	bit0=0:Sin, =1:Tri bit1 ← 0, (1) bit2 ← 0
(03)	Shape	9D~63 : -99~99
(06)	EQ High	F4~0C : -12~12
(07)	EQ Low	F4~0C : -12~12

20 : 3 Band EQ

(00)	Mid fc	0, 1, 2 : 0.5k, 1k, 2k
(01)	Mid Gain	F4~0C : -12~12
(04)	Low fc	0, 1, 2:0.25k, 0.5k, 1k
(05)	High fc	0, 1, 2 : 1k, 2k, 4k
(06)	High Gain	F4~0C : -12~12
(07)	Low Gain	F4~0C : -12~12

21 : Over Drive

(00)	EQ Mid fc	0, 1, 2 : 0.5k, 1k, 2k
(01)	EQ Mid Gain	F4~0C : -12~12
(02)	Drive	00~63 : 00~99
(03)	Level	00~63 : 00~99
(06)	EQ High	F4~0C : -12~12
(07)	EQ Low	F4~0C : -12~12

22 : Distortion

(02)	Distortion	00~63 : 00~99
(03)	Level	00~63 : 00~99
(07)	EQ Low Gain	F4~0C : -12~12

23 : Exciter

(00)	Blend	9D~63 : -99~99
(01)	Emphatic Point	00~09 : 01~10
(06)	EQ High	F4~0C : -12~12
(07)	EQ Low	F4~0C : -12~12

24 : Symphonic Ensemble

(00)	Depth	00~63 : 00~99
(06)	EQ High	F4~0C : -12~12
(07)	EQ Low	F4~0C : -12~12

25 : Rotary Speaker

(00)	Depth	00~63 : 00~99
(02)	Speed Rate	F6~0A : -10~10

26 : Delay / Hall

(00) (01)	Delay Time (L) Delay Time (H)	00~1F4 : 00~500
(02)	Feed Back	9D~63 : -99~99
(03)	High Damp	00~63 : 00~99
(04)	Reverb Time	00~61 : 0.2~9.9
(06)	High Damp	00~63 : 00~99
(07)	Pre Delay	00~96 : 00~150

27 : Delay / Room

(00) ⋮ (03)	Delay Parameter	*11-3-1
(04)	Reverb Time	00~2F : 0.2~4.9
(06)	High Damp	00~63 : 00~99
(07)	Pre Delay	00~96 : 00~150

28 : Delay / Early Reflection

(00) ⋮ (03)	Delay Parameter	*11-3-1
(04)	E/R Time	00~1E : 100~400
(05)	Pre Delay	00~96 : 00~150

29 : Delay / Delay

(00) (01)	Delay Time L (L) - - - (H)	00~1F4 : 00~500
(02)	Feed Back L	9D~63 : -99~99
(03)	High Damp L	00~63 : 00~99
(04) (05)	Delay Time R (L) - - - (H)	00~1F4 : 00~500
(06)	Feed Back R	9D~63 : -99~99
(07)	High Damp R	00~63 : 00~99

30 : Delay / Chorus, (31 : Delay / Flanger)

(00) ⋮ (03)	Delay Parameter	*11-3-1
(04)	Depth	00~63 : 00~99
(05)	Speed	00~D8 *11-3-2
(06)	MG Status *11-3-3	bit0=0:S, =1:T (←0) bit1 ← 0 bit2 ← 0, (←1)
(07)	Feed Back	0, (9D~63:-99~99)

32 : Delay / Phaser

(00) ⋮ (03)	Delay Parameter	*11-3-1
(04)	Depth	00~63 : 00~99
(05)	Speed	00~D8 *11-3-2
(06)	Feedback	9D~63 : -99~99

33 : Delay / Tremolo

(00) ⋮ (03)	Delay Parameter	*11-3-1
(04)	Depth	00~63 : 00~99
(05)	Speed	00~D8 *11-3-2
(07)	Shape	9D~63 : -99~99

*11-3-1 : Delay Parameter
Same as 26-(00)~(03)

*11-3-2 : Data(Hex) Value[Hz]
00~63 0.03~ 3.00 (0.03step)
64~C7 3.1 ~13.0 (0.1 step)
C8~D8 14 ~30.0 (1 step)

*11-3-3 : MG Status
bit0 : Wave Form =0:Sin, =1:Tri
bit1 : Phase =0:0°, =1:180°
bit2 : Wave Shape =0: Normal
=1: for Flanger

*13 :

MULTISOUND	VALUE(for PARAMETER CHANGE)	NO. 11 bit4/6	NO. 12/14
00~99	00H~63H	0	00H~63H
100~189	64H~BDH	1	00H~59H
C0~C27	BEH~D9H	0	64H~7FH
D0~D27	BEH+nc~	1	64H~7FH

nc : NUMBER of MULTISOUND in CARD

*14 : 10~18 : 1/4~9/4
20~2F : 1/8~16/8
30~3F : 1/16~16/16

*16 :

DRUM SOUND	DRUMKIT PARAMETER CHANGE	OTHERWISE
NO ASSIGN	00H	00H
01~ 44	01H~2CH	01H~2CH
45~ 85	2DH~55H	4BH~73H
C00~C29	56H~73H	2DH~4AH
D00~	56H+nc~	83H~

nc : Number of DRUM SOUND in CARD

*17 : COPY OF PROGRAM A00

4. UNIVERSAL SYSTEM EXCLUSIVE MESSAGE (R : Receive, T : Transmit)

(1) Sample Dump Header R, T

Byte	Description
F0 7E cc	Exclusive Non-Realtime Header
01	Sample Dump Header (Sub ID)
ss ss	Sample Number (LSB first) (NOTE 1)
ee	Sample Format (NOTE 2)
ff ff ff	Sample Period (1/Sample Rate) (LSB first)
gg gg gg	Sample Length in Words (LSB first)
hh hh hh	Sustain Loop Start Point Word Number(LSB first)
ii ii ii	Sustain Loop End Point Word Number(LSB first)
tt	Loop Type (NOTE 3)
F7	EOX

(2) Sample Data Packet R, T

Byte	Description
F0 7E cc	Exclusive Non-Realtime Header
02	Sample Data Packet (Sub ID)
kk	Running Packet Count (0～7F)
dd ··· dd	Data (120 bytes)
ll	Check Sum (XOR of 7E cc 02 kk (120 bytes))
F7	EOX

(3) Sample Dump Request R

Byte	Description
F0 7E cc	Exclusive Non-Realtime Header
03	Sample Dump Request (Sub ID)
ss 00	Requested Sample (NOTE 4)
F7	EOX

(4) ACK R, T

Byte	Description
F0 7E cc	Exclusive Non-Realtime Header
7F	ACK (Sub ID)
pp	Packet Number
F7	EOX

(5) NAK R, T

Byte	Description
F0 7E cc	Exclusive Non-Realtime Header
7E	NAK (Sub ID)
pp	Packet Number
F7	EOX

(6) Cancel R, T

Byte	Description
F0 7E cc	Exclusive Non-Realtime Header
7D	Cancel (Sub ID)
pp	Packet Number
F7	EOX

(7) Wait R

Byte	Description
F0 7E cc	Exclusive Non-Realtime Header
7C	Wait (Sub ID)
pp	Packet Number
F7	EOX

(8) Loop Point Transmit R, T

Byte	Description
F0 7E cc	Exclusive Non-Realtime Header
05	Loop Point Message (Sub ID #1)
01	Loop Point Transmission (Sub ID #2)
ss 00	Sample Number (NOTE 4)
bb bb	Loop Number (NOTE 5, 6)
tt	Loop Type (NOTE 3)
dd dd dd	Loop Start Address (LSB first)
ee ee ee	Loop End Address (LSB first)
F7	EOX

(9) Loop Point Request R

Byte	Description
F0 7E cc	Exclusive Non-Realtime Header
05	Loop Point Message (Sub ID #1)
02	Loop Point Request (Sub ID #2)
ss 00	Sample Number (NOTE 4)
bb bb	Loop Number (LSB first) (NOTE 5)
F7	EOX

(10) Inquiry ID Request R

Byte	Description
F0 7E cc	Exclusive Non-Realtime Header
06	Inquiry Message (SUB ID #1)
01	ID Request (Sub ID #2)
F7	EOX

(11) Inquiry ID Reply T

Byte	Description
F0 7E cc	Exclusive Non-Realtime Header
06	Inquiry Message (Sub ID #1)
02	ID Reply (Sub ID #2)
42	KORG ID (Manufacturers ID)
26 00	T1, T2, T3 ID (Family Code, LSB first)
0m 00	m= 0:T1 = 1:T2 = 2:T3 (Member Code, LSB first)
rr 00	ROM Number 1～ (Minor Version, LSB first)
ss 00	Soft Version 1～ (Major Version, LSB first)
F7	EOX

cc = 00～0F : Global Channel
= 7F : Receive Any Channel

NOTE 1 : Sample Number is ignored on receiving Sample Dump Header, and the new sample is always appended as the last data and given an internal sample number.
On transmitting ss ss = 00H～63H

NOTE 2 : ee = 08～1CH (Receive)
= 0FH (Transmit)

NOTE 3 : tt = 00 : Forward Only
7F : Loop Off
If the received loop type is 01 (means backward/forward), this is converted into 00.

NOTE 4 : SS =00H～63H (Drum Sound D00～D99)
If the Sample Number is over 63H, the message is ignored.

NOTE 5 : Loop number is ignored on receiving, and the loop point is set to the last loop point.
On transmitting, loop number is always 00.

NOTE 6 : Delete All Loops (loop number 7F 7F) is ignored.

