

MIDI DATA FORMAT

1. Transmission Data

1-1. Channel information

1001nnnn Key ON & Channel number (n=0; ch1)
 0kkkkkkk Key number (k=36; C₁ ~ k=96; C₆)
 0vvvvvvv Key velocity (v=0; Key OFF, v=1; ppp ~ v=127; fff)

1011nnnn Control change & Channel number
 (n=0; ch1)

0ccccccc Control number

0vvvvvvv Control value

C	Parameter	V
1	Modulation wheel	0 ~ 127
2	Breath controller	0 ~ 127
4	Foot controller	0 ~ 127
6	Data entry knob	0 ~ 127
64	Sustain foot switch	0 ; OFF, 127 ; ON
65	Portamento foot switch	0 ; OFF, 127 ; ON
96	Data entry +1	127 ; ON only
97	Data entry -1	127 ; ON only

1100nnnn Program change & Channel number
 (n=0 ; ch1) (transmitted when it is unavailable)

0ppppppp Program number
 (p=0:INT1 ~ p=31:INT32,
 p=32:CRT1 ~ p=63:CRT32)

1101nnnn After touch & Channel number
 (n=0;ch1)

0vvvvvvv Touch value (0 ~ 127)

1110nnnn Pitch bender & Channel number (n=0 ; ch1)

0vvvvvvv Pitch bender value LS byte

0vvvvvvv Pitch bender value MS byte (0 ~ 64 ~ 127)

MS byte	LS byte
0 ~ 64	0
65 ~ 127	2 (MS byte-64)

1-2. System exclusive information

1-2-1. MIDI active sensing

11111110 Status byte

This message usually requests transmission every 80msec (except for the period of transmitting/receiving the bulk dump).

1-2-2. Bulk data of 1 voice

11110000 Status byte
 0iiiiiii Identification number (i=67; YAMAHA)
 Sub status (s=0) & Channel number
 (n=0 ; ch1)
 0ffffff Format number (f=0 ; 1 voice)
 0bbbbbbb Byte count MS byte (b=155 ; 1 voice)
 0bbbbbbb Byte count LS byte
 0ddddddd Data 1st byte
 }
 0ddddddd Data 155th byte
 0eeeeeee Check Sum (add 155th byte and make the 2's complement)

11110111 EOX

1-2-3. Bulk data of 32 voices

11110000 Status byte
 0iiiiiii Identification number (i=67 ; YAMAHA)
 0ssnnnn Sub status (s=0) & Channel number
 (n=0 ; ch1)
 0ffffff Format number (f=9 ; 32 voices)
 0bbbbbbb Byte count MS byte (b=4096 ; 32 voices)
 0bbbbbbb Byte count LS byte
 0ddddddd Data 1st byte
 }
 0ddddddd Data 4096th byte
 0eeeeeee Check Sum (add 4096th byte and make the 2's complement)

11110111 EOX

1-2-4. Parameter change

11110000 Status byte
 0iiiiiii Identification number (i=67 ; YAMAHA)
 0ssnnnn Sub status (s=1) & Channel number
 (n=0 ; ch1)
 0gggggpp Parameter group number (g=0 ; DX common Voice parameter, g=2 ; DX7 Function parameter)
 0ppppppp Parameter number
 0ddddddd Data
 11110111 EOX

\$F0 \$43 \$1Chan (14bit
 Param) Val \$F7
 Op6 EG Rate1 channel 1
 \$F0 \$43 \$10 \$00 \$00 val \$F7

g=0 : DX 共通 Voice parameter

P	Parameter	d	
0	OP6 EG RATE 1	0 ~ 99	E1
1	" RATE 2	"	E2
2	" RATE 3	"	E3
3	" RATE 4	"	E4
4	" LEVEL 1	"	E5
5	" LEVEL 2	"	E6
6	" LEVEL 3	"	E7
7	" LEVEL 4	"	E8
8	OP6 KEY BOARD LEVEL SCALE BREAK POINT	"	E9
9	" LEFT DEPTH	"	E10
10	" RIGHT DEPTH	"	E11
11	" LEFT CURVE	0 ~ 3	B10
12	" RIGHT CURVE	"	B11
13	OP6 KEY BOARD RATE SCALLING	0 ~ 7	B9
14	OP6 MOD SENSITIVITY AMPLITUDE	0 ~ 3	B1
15	OP6 OPERATOR KEY VELOCITY SENSITIVITY	0 ~ 7	E15
16	OP6 OPERATOR OUTPUT LEVEL	0 ~ 99	E16
17	OP6 OSCILLATOR MODE	0 ~ 1	B2
18	OP6 OSCILLATOR FREQUENCY COARSE	0 ~ 31	E12
19	" FINE	0 ~ 99	E13
20	DETUNE	0 ~ 14	E14
21			
} OP5 ~ OP1			
125			
126	PITCH EG RATE 1	0 ~ 99	E4
127	" RATE 2	00 7f	9
128	" RATE 3	01 00	E5
129	" RATE 4	01 01	0
130	" LEVEL 1	01 02	E5
131	" LEVEL 2	01 03	1
132	" LEVEL 3	01 04	E5
133	" LEVEL 4	01 05	2
134	ALGORITHM SELECT	01 06	E5
135	FEED BACK	01 07	3
136	OSCILLATOR SYNC	01 08	E5
137	LFO SPEED	01 09	4
138	" DELAY	01 0A	E5
139	" PMD	01 0B	5
140	" AMD	01 0C	E5
			6

P	Parameter	d	
141	LFO SYNC	0 ~ 1	B3
142	" WAVE	0 ~ 4	7
143	MOD SENSITIVITY PITCH	0 ~ 7	E4
144	TRANPOSE	0 ~ 48	3
145	VOICE NAME 1	ASCII	
154	VOICE NAME 10	ASCII	
155	OPERATOR ON/OFF	D ₆ D ₅ D ₄ D ₃ D ₂ D ₁ D ₀	
	0=OFF, 1=ON	0 OP1 OP2 OP3 OP4 OP5 OP6	

g=2 : DX7 Function parameter

P	Parameter	d
64	MONO/POLY MODE CHANGE	0 ~ 1
65	PITCH BEND RANGE	0 ~ 12
66	" STEP	0 ~ 12
67	PORTAMENT MODE	0 ~ 1
68	" GLISSAND	0 ~ 1
69	" TIME	0 ~ 99
70	MODULATION WHEEL RANGE	0 ~ 99
71	" ASSIGN	0 ~ 7
72	FOOT CONTROLLER RANGE	0 ~ 99
73	" ASSIGN	0 ~ 7
74	BREATH CONTROLLER RANGE	0 ~ 99
75	" ASSIGN	0 ~ 7
76	AFTER TOUCH RANGE	0 ~ 99
77	" ASSIGN	0 ~ 7

\$F0 \$43 \$1Chan (14bit
Param) Val \$F7

2. Reception Data

2-1. Channel information

This message can be received when the channel number of reception data accords with the channel number of the DX7.

1000nnnn Key OFF & Channel number
(n=0 ; ch1 ~ n=15 ; ch16)

0kkkkkkk Key number (k=0, 1 ; C₂[#] ~ k=127 ; G₈)

0vvvvvvv Key velocity (v : ignored)

1001nnnn Key ON & Channel number
(n=0 ; ch1 ~ n=15 ; ch16)

0kkkkkkk Key number (k=0, 1 ; C₂[#] ~ k=127 ; G₈)

0vvvvvvv Key velocity
(v=0 ; Key OFF, v=1 ; ppp ~ v=127 ; fff)

1011nnnn Control change & channel number
(n=0 ; ch1 ~ n=15 ; ch16)

0ccccccc Control number

0vvvvvvv Control value

c	Parameter	v
1	Modulation wheel	0 ~ 127
2	Breath controller	0 ~ 127
4	Foot controller	0 ~ 127
5	Portamento time	0 ~ 127
6	Data entry knob (MASTER TUNE only)	0 ~ 127
7	Volume (LS 4 bit are ignored.)	0 ~ 127
64	Sustain foot switch	0 : OFF, 127 : ON
65	Portamento foot switch	0 : OFF, 127 : ON
96	Data entry +1	127 ; ON only
97	Data entry -1	127 ; ON only
125	OMNI all key off	ignored
126	MONO all key off	1
127	POLY all key off	ignored

1100nnnn Program change & Channel number
(n=0 ; ch1 ~ n=15 ; ch16)

0ppppppp Program number (p=0:INT1 ~ p=31:INT32
p=32:CRT1 ~ p=63:CRT32)

1110nnnn Pitch bender & Channel number
(n=0 ; ch1 ~ n=15 ; ch16)

0vvvvvvv Pitch bender value LS byte (ignored)

0vvvvvvv Pitch bender value MS byte (0 ~ 64 ~ 127)

2-2. System exclusive information

2-2-1. MIDI active clock

This message usually requests reception regardless of MIDI channel number. When this clock is suspended longer than 666 msec (except for receiving the bulk data), the on-going sound turned OFF.

2-2-2. Bulk data of 1 voice

This message requests reception with the same format as transmission when MIDI channel numbers are corresponded, system information is available, and Memory protect is off.

2-2-3. Bulk data of 32 voices

This message requests reception with the same format as transmission when MIDI channel numbers are corresponded, system information is available, and Memory protect is off.

2-2-4. Parameter change

Voice parameter and function parameter request reception with the same format as transmission when MIDI channel numbers are corresponded, system information is available, and Memory protect is off.

2-2-5.

This message requests the performance data of the DX1 A-side.

11110000 Status byte

0iiiiiii Identification number (i=67:YAMAHA)

0ssnnnn Sub status (s=0) & Channel number
(n=0:ch1 ~ n=15:ch16)

0ffffff Format number (f=2:1 performance)

0bbbbbbb Byte count MS byte

0bbbbbbb Byte count LS byte (b=94:1 performance)

0ddddd Data 1st byte

{ }

0ddddd Data 94th byte

0eeeeeee Check sum (add 94th byte and make the complement on 2)

11110111 EOX

	Op 6	Op 5	Op 4	Op 3	Op 2	Op 1
EG Rate 1	0	21	42	63	84	105
EG Rate 2	1	22	43	64	85	106
EG Rate 3	2	23	44	65	86	107
EG Rate 4	3	24	45	66	87	108
EG Level 1	4	25	46	67	88	109
EG Level 2	5	26	47	68	89	110
EG Level 3	6	27	48	69	90	111
EG Level 4	7	28	49	70	91	112
KB Level Scale Break	8	29	50	71	92	113
KB Level Scale L Depth	9	30	51	72	93	114
KB Level Scale R Depth	10	31	52	73	94	115
KB Level Scale L Curve	11	32	53	74	95	116
KB Level Scale R Curve	12	33	54	75	96	117
KB Rate Scaling	13	34	55	76	97	118
Mod Sens Amplitude	14	35	56	77	98	119
Key Velocity Sens	15	36	57	78	99	120
Output Level	16	37	58	79	100	121
Oscillator Mode	17	38	59	80	101	122
Osc Freq Coarse	18	39	60	81	102	123
Osc Freq Fine	19	40	61	82	103	124
Detune	20	41	62	83	104	125

VOICE DATA LIST

DATE/PRESET No.: / /

BCR Setup

Royce Craven

[illegible]

Op 1 is Group 1 & 2 Buttons and encoders
Op 2 is Group 3 & 4 Buttons and encoders
Preset 2 is for Op 3 & 4 and Preset 3 is for Op 5 & 6.
The settings for non-Op parameters are duplicated in each preset.

Lots of buttons
not used