

**16 bit DIGITAL SYNTHESIZER**

# **K4 WAVE LIST**

## **CONTENTS**

- 1 ~ 96 DC WAVE**
- 97 ~ 139 PCM WAVE ~ DRUM & PERCUS**
- 140 ~ 192 PCM WAVE ~ MULTI**
- 193 ~ 233 PCM WAVE ~ BLOCK**
- 234 ~ 256 PCM WAVE ~ REVERSE & LOOP**

**1-96 CYCLIC WAVE LIST**

1 SIN 1ST  
2 SIN 2ND  
3 SIN 3RD  
4 SIN 4TH  
5 SIN 5TH  
6 SIN 6TH  
7 SIN 7TH  
8 SIN 8TH  
9 SIN 9TH  
10 SAW 1  
11 SAW 2  
12 SAW 3  
13 SAW 4  
14 SAW 5  
15 SAW 6  
16 SAW 7  
17 SAW 8  
18 PLUSE  
19 TRIANGLE  
20 SQUARE  
21 RECTANGLAR 1  
22 RECTANGLAR 2  
23 RECTANGLAR 3  
24 RECTANGLAR 4  
25 RECTANGLAR 5  
26 RECTANGLAR 6  
27 PURE HORN L  
28 PUNCH BRASS 1  
29 OBOE 1  
30 OBOE 2  
31 CLASSIC GRAND  
32 EP 1  
33 EP 2  
34 EP 3  
35 E.ORGAN 1  
36 E.ORGAN 2  
37 POSITIF  
38 E.ORGAN 3  
39 E.ORGAN 4  
40 E.ORGAN 5  
41 E.ORGAN 6  
42 E.ORGAN 7  
43 E.ORGAN 8  
44 E.ORGAN 9  
45 CLASSIC GUITAR  
46 STEEL STRINGS  
47 HARP  
48 WOOD BASS  
49 SYN BASS 3  
50 DIGI BASS  
51 FINGER BASS  
52 MARIMBA  
53 SYN VOICE  
54 GLASS HARP 1  
55 CELLO  
56 XYLO  
57 EP 4  
58 SYN CLAVI 1  
59 EP 5  
60 E.ORGAN 10  
61 E.ORGAN 11  
62 E.ORGAN 12  
63 BIG PIPE  
64 GLASS HARP 2  
65 RANDOM  
66 EP 6  
67 SYN BASS 4  
68 SYN BASS 1  
69 SYN BASS 2  
70 QUENA  
71 OBOE 3  
72 PURE HORN H  
73 FAT BRASS  
74 PUNCH BRASS 2  
75 EP 7  
76 EP 8  
77 SYN CLAVI 2  
78 HARPSICHORD M  
79 HARPSICHORD L  
80 HARPSICHORD H  
81 E.ORGAN 13  
82 KOTO  
83 SITAR L  
84 SITAR H  
85 PICK BASS  
86 SYN BASS 5  
87 SYN BASS 6  
88 VIBRAPHONE ATTACK  
89 VIBRAPHONE 1  
90 HORN VIBE  
91 STEEL DRUM 1  
92 STEEL DRUM 2  
93 VIBRAPHONE 2  
94 MARIMBA ATTACK  
95 HARMONICA  
96 SYNTH

**97-256 PCM WAVE LIST****— DRUM & PERCUS GROUP —**

97 KICK  
98 GATED KICK  
99 SNARE TITE  
100 SNARE DEEP  
101 SNARE HI  
102 RIM SNARE  
103 RIM SHOT  
104 TOM  
105 TOM VR  
106 E.TOM  
107 HH CLOSED  
108 HH OPEN  
109 HH OPEN VR  
110 HH FOOT  
111 CRASH  
112 CRASH VR  
113 CRASH VR 2  
114 RIDE EDGE  
115 RIDE EDGE VR  
116 RIDE CUP  
117 RIDE CUP VR  
118 CLAPS  
119 COWBELL  
120 CONGA  
121 CONGA SLAP  
122 TAMBOURINE  
123 TAMBOURINE VR  
124 CLAVES  
125 TIMBALE  
126 SHAKER  
127 SHAKER VR  
128 TIMPANI  
129 TIMPANI VR  
130 SLEIBELL  
131 BELL  
132 METAL HIT  
133 CLICK  
134 POLE  
135 GLOCKEN  
136 MARIMBA  
137 PIANO ATTACK  
138 WATER DROP  
139 CHAR

**— MULTI GROUP —**

140 PIANO NRML  
141 PIANO VR  
142 CELLO NRML

143 CELLO VR1	— BLOCK GROUP —	240 REVERSE 7
144 CELLO VR2	193 PIANO 1	241 REVERSE 8
145 CELLO 1 SHOT	194 PIANO 2	242 REVERSE 9
146 STRINGS NRML	195 PIANO 3	243 REVERSE 10
147 STRINGS VR	196 PIANO 4	244 REVERSE 11
148 SLAP BASS L NRML	197 PIANO 5	245 LOOP 1
149 SLAP BASS L VR	198 CELLO 1	246 LOOP 2
150 SLAP BASS L 1 SHOT	199 CELLO 2	247 LOOP 3
151 SLAP BASS H NRML	200 CELLO 3	248 LOOP 4
152 SLAP BASS H VR	201 CELLO 4 1 SHOT	249 LOOP 5
153 SLAP BASS H 1 SHOT	202 CELLO 5 1 SHOT	250 LOOP 6
154 PICK BASS NRML	203 CELLO 6 1 SHOT	251 LOOP 7
155 PICK BASS VR	204 STRINGS 1	252 LOOP 8
156 PICK BASS 1 SHOT	205 STRINGS 2	253 LOOP 9
157 WOOD BASS ATTACK	206 SLAP BASS L	254 LOOP 10
158 WOOD BASS NRML	207 SLAP BASS L 1 SHOT	255 LOOP 11
159 WOOD BASS VR	208 SLAP BASS H	256 LOOP 12
160 FRETLESS NRML	209 SLAP BASS H 1 SHOT	
161 FRETLESS VR	210 PICK BASS 1	
162 SYN.BASS NRML	211 PICK BASS 2 1 SHOT	
163 SYN.BASS VR	212 PICK BASS 3 1 SHOT	
164 E.G MUTE NRML	213 E.G MUTE	
165 E.G MUTE VR	214 E.G MUTE 1 SHOT	
166 E.G MUTE 1 SHOT	215 DIST LEAD 1	
167 DIST MUTE NRML	216 DIST LEAD 2	
168 DIST MUTE VR	217 DIST LEAD 3	
169 DIST MUTE 1 SHOT	218 GUT GUITAR 1	
170 DIST LEAD NRML	219 GUT GUITAR 2	
171 DIST LEAD VR	220 GUT GUITAR 3 1 SHOT	
172 E.GUITAR NRML	221 GUT GUITAR 4 1 SHOT	
173 GUT GUITAR NRML	222 FLUTE 1	
174 GUT GUITAR VR	223 FLUTE 2	
175 GUT GUITAR 1 SHOT	224 SAX 1	
176 FLUTE NRML	225 SAX 2	
177 FLUTE 1 SHOT	226 SAX 3	
178 BOTTLE BLOW NRML	227 SAX 4 1 SHOT	
179 BOTTLE BLOW VR	228 SAX 5 1 SHOT	
180 SAX NRML	229 SAX 6 1 SHOT	
181 SAX VR 1	230 TRUMPET	
182 SAX VR 2	231 TRUMPET 1 SHOT	
183 SAX 1 SHOT	232 VOICE 1	
184 TRUMPET NRML	233 VOICE 2	
185 TRUMPET VR 1		
186 TRUMPET VR 2	— REVERSE & LOOP —	
187 TRUMPET 1 SHOT	234 REVERSE 1	
188 TROMBONE NRML	235 REVERSE 2	
189 TROMBONE VR	236 REVERSE 3	
190 TROMBONE 1 SHOT	237 REVERSE 4	
191 VOICE	238 REVERSE 5	
192 NOISE	239 REVERSE 6	

**16 bit DIGITAL SYNTHESIZER**

# **K4 MIDI IMPLEMENTATION**

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## 1. TRANSMITTED DATA

1st	2nd	3rd	Description	
1000nnnn	0kkkkkkk	01vvvvvv	Note off	kkkkkk = 24 ~ 108 vvvvv = 0 ~ 127
1001nnnn	0kkkkkkk	0vvvvvv	Note on	kkkkkk = 24 ~ 108 vvvvv = 1 ~ 127
1011nnnn	00000001	0vvvvvv	Modulation	vvvvv = 0 ~ 127
1011nnnn	00000110	0vvvvvv	Data Entry	vvvvv = 0 ~ 127
1011nnnn	01000000	0vvvvvv	Hold 1 sw	vvvvv = 0 off vvvvv = 127 on
1011nnnn	01100100	0vvvvvv	RPC LSB	vvvvv = 0 Bender Range vvvvv = 1 Fine Tuning
1011nnnn	01100101	0vvvvvv	RPC MSB	vvvvv = 0
1100nnnn	0ppppppp	-----	Program Change	pppppp = 0 ~ 63 Single I/E A-1 ~ D-16 pppppp = 64 ~ 127 Multi pppppp = I/E A-1 ~ D-16
1101nnnn	0vvvvvv	-----	Ch. Pressure	vvvvv = 0 ~ 127
1110nnnn	0b000000	0vvvvvv	Pitch Bender	vvvvvb = 0 ~ 255
1011nnnn	01111011	00000000	All Notes off	
11111110	-----	-----	Active Sensing	

nnnn = Channel no.  
RPC Registered Parameter Control

## 2. RECOGNIZED RECEIVED DATA

1st	2nd	3rd	Description	
1000nnnn	0kkkkkkk	0vvvvvv	Note off	kkkkkk = 0 ~ 120 vvvvv = 0 ~ 127
1001nnnn	0kkkkkkk	0vvvvvv	Note on/off	kkkkkk = 0 ~ 120 vvvvv = 1 ~ 127 Note on vvvvv = 0 off
1011nnnn	00000001	0vvvvvv	Modulation	vvvvv = 0 ~ 127
1011nnnn	00000111	0vvvvvv	Main Volume	vvvvv = 0 ~ 127
1011nnnn	00000110	0vvvvvv	Data Entry	vvvvv = 0 ~ 127
1011nnnn	01000000	0vvvvvv	Hold 1 sw	vvvvv = 0 ~ 63 off vvvvv = 64 ~ 127 on
1011nnnn	01100100	0vvvvvv	RPC LSB	vvvvv = 0 Bender Range vvvvv = 1 Fine Tuning
1011nnnn	01100101	0vvvvvv	RPC MSB	vvvvv = 0
1100nnnn	0ppppppp	-----	Program Change	pppppp = 0 ~ 63 Single I/E A-1 ~ D-16 pppppp = 64 ~ 127 Multi I/E A-1 ~ D-16
1101nnnn	0vvvvvv	-----	Ch. Pressure	vvvvv = 0 ~ 127
1110nnnn	0b000000	0vvvvvv	Pitch Bender	vvvvvb = 0 ~ 255
1011nnnn	01111010	0vvvvvv	Local on/off	vvvvv = 0 ~ 63 off 64 ~ 127 on
1011nnnn	01111011	00000000	All Notes off	
1011nnnn	01111100	00000000	Omni off	
1011nnnn	01111101	00000000	Omni on	
11111110	-----	-----	Active Sensing	

nnnn = Channel no.  
RPC Registered Parameter Control

## 3. EXCLUSIVE DATA FORMAT

### 3-1. KAWAI FORMAT

Followings is the exclusive data format of the K4/K4r, and is based on the "KAWAI MIDI EXCLUSIVE FORMAT".

#### K4/K4r MIDI EXCLUSIVE FORMAT

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	000nnnnn	0nH	
Function no.	0fffffff		
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub1	0sssssss		Sub command1
Sub2	0sssssss		Sub command2
data	0xxxxxxx		
data	0xxxxxxx		
EOX	11110111	F7H	

The Exclusive data is received only when The system RCv EXCL = ON; except ID request and program change (int/ext).  
Function no., Sub1 and Sub2 are listed in FUNCTION TABLE.

### 3-2. UNIVERSAL SYSTEM EXCLUSIVE FORMAT

K4/K4r uses non-real time format for ID request. The following is the standard of the non-real time system exclusive messages.

Status	11110000	F0H	System exclusive
id no.	01111110	7EH	Non-real time
Channel no.	0nnnnnnn		
Sub id #1	0xxxxxxx		
Sub id #2	0xxxxxxx		
data	0xxxxxxx		
data	0xxxxxxx		
EOX	11110111	F7H	

#### 4. EXCLUSIVE TRANSMITTED DATA

##### 4-1. ONE SINGLE/MULTI DATA DUMP

This message is transmitted by the next 2 ways.  
 First, transmits the patch data which is selected on the panel, according to the MIDI DUMP SELECT parameter (TONE).  
 Second, after receiving the ONE BLOCK DATA REQ, the k4/k4r transmits the one block data which is decided by it.  
 See SINGLE DATA LIST regarding the data.

```
Status      11110000    F0H    System exclusive
Kawai ID no. 01000000    40H
Channel no.  0000nnnn    0nH
Function no. 00100000    20H    One patch data dump
Group no.    00000000    00H    Synthesizer group
Machine ID no. 00000100    04H    K4/K4r ID no.
Sub status 1 0000000x    00H    Internal
              02H    External
Sub status 2 0xxxxxxx    0 ~ 63 SINGLE A-1 ~ D-16
              64 ~ 127 MULTI A-1 ~ D-16
data         0xxxxxxx    patch data s0/m0
data         0xxxxxxx    patch data s1/m1
data         0xxxxxxx    patch data s2/m2
              *
              *
data         0xxxxxxx    patch data s128/m74
data         0xxxxxxx    patch data s129/m75
data         0xxxxxxx    patch data s130/m76
EOX         11110111    F7H
```

##### 4-2. ONE DRUM/EFFECT DATA DUMP

This message is transmitted by the next 2 ways.  
 First, transmits the patch data which is selected on the panel, according to the MIDI DUMP SELECT parameter (= DRUM/EFFECT).  
 Second, after receiving the ONE PATCH DATA REQ, the k4/k4r transmits the one drum/effect data which is decided by it.  
 See DRUM, EFFECT DATA LIST regarding the data.

```
Status      11110000    F0H    System exclusive
Kawai ID no. 01000000    40H
Channel no.  0000nnnn    0nH
Function no. 00100000    20H    One patch data dump
Group no.    00000000    00H    Synthesizer group
Machine ID no. 00000100    04H    K4/K4r ID no.
Sub status 1 000000x1    01H    Internal
              03H    External
Sub status 2 00xxxxxx    0 ~ 31 effect 1 ~ 32
              32 drum
data         0xxxxxxx    patch data e0/d0
data         0xxxxxxx    patch data e1/d1
data         0xxxxxxx    patch data e2/d2
              *
              *
data         0xxxxxxx    patch data e32/d679
data         0xxxxxxx    patch data e33/d680
data         0xxxxxxx    patch data e34/d681
EOX         11110111    F7H
```

#### 4-3. BLOCK SINGLE/MULTI DATA DUMP

This message is transmitted when MIDI DUMP SELECT="SGL" or "MLT", or when "BLOCK PATCH REQUEST" is received.  
 If there is the check sum error patch, K4/K4r aborts the data dump.

See SINGLE/MULTI DATA LIST regarding the data.

```
Status      11110000    F0H    System exclusive
Kawai ID no. 01000000    40H
Channel no.  0000nnnn    0nH
Function no. 00100001    21H    block data dump
Group no.    00000000    00H    Synthesizer group
Machine ID no. 00000100    04H    K4/K4r ID no.
Sub status 1 000000x0    00H    int
              02H    ext
Sub status 2 00x00000    00H    all singles
              40H    all multis
```

```
data         0xxxxxxx    A-1 s0/m0 data
data         0xxxxxxx    A-1 s1/m1 data
data         0xxxxxxx    A-1 s2/m2 data
data         0xxxxxxx    A-1 s3/m3 data
              *
              *
data         0xxxxxxx    A-1 s127/m73 data
data         0xxxxxxx    A-1 s128/m74 data
data         0xxxxxxx    A-1 s129/m75 data
data         0xxxxxxx    A-1 s130/m76 data
```

```
data         0xxxxxxx    A-2 s0/m0 data
data         0xxxxxxx    A-2 s1/m1 data
data         0xxxxxxx    A-2 s2/m2 data
data         0xxxxxxx    A-2 s3/m3 data
              *
              *
data         0xxxxxxx    A-2 s1/m127/m73 data
data         0xxxxxxx    A-2 s1/m128/m74 data
data         0xxxxxxx    A-2 s1/m129/m75 data
data         0xxxxxxx    A-2 s1/m130/m76 data
```

```
A-3 patch data
A-4 patch data
A-5 patch data
              *
```

```
D-13 patch data
D-14 patch data
D-15 patch data
```

```
data         0xxxxxxx    D-16 s0/m0 data
data         0xxxxxxx    D-16 s1/m1 data
data         0xxxxxxx    D-16 s2/m2 data
data         0xxxxxxx    D-16 s3/m3 data
              *
              *
data         0xxxxxxx    D-16 S127/m73 data
data         0xxxxxxx    D-16 s128/m74 data
data         0xxxxxxx    D-16 s129/m75 data
data         0xxxxxxx    D-16 s130/m76 data
```

```
EOX         11110111    F7H
```

#### 4-4. BLOCK EFFECT DATA DUMP

This message is transmitted when MIDI DUMP SELECT=\*EFF, or when "BLOCK PATCH REQUEST" is received.  
If there is the check sum error patch, K4/K4r aborts the data dump.

See EFFECT DATA LIST regarding the data.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100001	21H	block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000x1	01H	int
		03H	ext
Sub status 2	00000000	00H	all effect
data	0xxxxxxx		EFF-1 e0 data
data	0xxxxxxx		EFF-1 e1 data
data	0xxxxxxx		EFF-1 e2 data
data	0xxxxxxx		EFF-1 e3 data
.	.		.
data	0xxxxxxx		EFF-1 e31 data
data	0xxxxxxx		EFF-1 e32 data
data	0xxxxxxx		EFF-1 e33 data
data	0xxxxxxx		EFF-1 e34 data
data	0xxxxxxx		EFF-2 e0 data
data	0xxxxxxx		EFF-2 e1 data
data	0xxxxxxx		EFF-2 e2 data
data	0xxxxxxx		EFF-2 e3 data
.	.		.
data	0xxxxxxx		EFF-2 e31 data
data	0xxxxxxx		EFF-2 e32 data
data	0xxxxxxx		EFF-2 e33 data
data	0xxxxxxx		EFF-2 e34 data
			EFF-3 patch data
			EFF-4 patch data
			EFF-5 patch data
.	.		.
			EFF-13 patch data
			EFF-14 patch data
			EFF-15 patch data
data	0xxxxxxx		EFF-16 e0 data
data	0xxxxxxx		EFF-16 e1 data
data	0xxxxxxx		EFF-16 e2 data
data	0xxxxxxx		EFF-16 e3 data
.	.		.
data	0xxxxxxx		EFF-16 e31 data
data	0xxxxxxx		EFF-16 e32 data
data	0xxxxxxx		EFF-16 e33 data
data	0xxxxxxx		EFF-16 e34 data
EOX	11110111	F7H	

#### 4-5. ALL PATCH DATA DUMP

This message is transmitted when MIDI DUMP SELECT=ALL, or when "ALL PATCH DATA REQUEST" is received.

K4/K4r transmits all singles at first and all multi, drum and all effects.

The K4/K4r aborts the data dump.

See MULTI DATA LIST regarding the data.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100010	22H	All block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000a0	00H	int
		02H	ext
Sub status 2	00000000	00H	
data	0xxxxxxx		A-1 s0 data
data	0xxxxxxx		A-1 s1 data
data	0xxxxxxx		A-1 s2 data
data	0xxxxxxx		A-1 s3 data
.	.		.
data	0xxxxxxx		D-16 s127 data
data	0xxxxxxx		D-16 s128 data
data	0xxxxxxx		D-16 s129 data
data	0xxxxxxx		D-16 s130 data
data	0xxxxxxx		A-1 M0 data
data	0xxxxxxx		A-1 M1 data
data	0xxxxxxx		A-1 M2 data
data	0xxxxxxx		A-1 M3 data
.	.		.
data	0xxxxxxx		D-16 M83 data
data	0xxxxxxx		D-16 M84 data
data	0xxxxxxx		D-16 M85 data
data	0xxxxxxx		D-16 M86 data
data	0xxxxxxx		DRUM d0 data
data	0xxxxxxx		DRUM d1 data
data	0xxxxxxx		DRUM d2 data
data	0xxxxxxx		DRUM d3 data
.	.		.
data	0xxxxxxx		DRUM d678 data
data	0xxxxxxx		DRUM d679 data
data	0xxxxxxx		DRUM d680 data
data	0xxxxxxx		DRUM d681 data
data	0xxxxxxx		EFF-1 e0 data
data	0xxxxxxx		EFF-1 e1 data
data	0xxxxxxx		EFF-1 e2 data
data	0xxxxxxx		EFF-1 e3 data
.	.		.
data	0xxxxxxx		EFF-32 e31 data
data	0xxxxxxx		EFF-32 e32 data
data	0xxxxxxx		EFF-32 e33 data
data	0xxxxxxx		EFF-32 e34 data
EOX	11110111	F7H	

#### 4-6. PROGRAM CHANGE (INT/EXT)

This is for changing internal or external patches.

K4/K4r transmits this message when changed internal to external or ext to int.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00110000	30H	Program change (int/ext)
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000a0	00H	int
		02H	ext
EOX	11110111	F7H	

#### 4-7. WRITE COMPLETE

When the received dump data has been completely written, the K4/K4r transmits this message.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	01000000	40H	Write complete
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
EOX	11110111	F7H	

#### 4-8. WRITE ERROR

If illegal data is found in the received dump data, the K4/K4r transmits this message.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	010000xx	41H	write error
		42H	write error (protect)
		43H	write error (no card)
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
EOX	11110111	F7H	

#### 4-9. IDENTITY REPLY

Receiving the ID request, the K4/K4r transmits this message.

Status	11110000	F0H	System exclusive
id no.	01111110	7EH	Non-real time
Channel no.	0nnnnnnn		
Sub id #1	00000110	06H	General informaion
Sub id #2	00000010	02H	Device identity reply
Kawai id	01000000	40H	Manufacturers id
device family	00000000	00H	synth group lsb
device family	00000000	00H	synth group msb
device no.	00000100	04H	k4/k4r id lsb
device no.	00000000	00H	k4/k4r id msb
format spec.	00000000	00H	format no.00
format spec.	00000000	00H	format no.00
format spec.	00000000	00H	format no.00
format spec.	00000000	00H	format no.00
EOX	11110111	F7H	

#### 5. EXCLUSIVE RECOGNIZED RECEIVED DATA

##### 5-1. ONE SINGLE/MULTI DATA REQUEST

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00000000	00H	One patch data request
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000a0	00H	int
		02H	ext
Sub status 2	0bbbbbbb		single or multi patch no.
EOX	11110111	F7H	

##### 5-2. ONE DRUM/EFFECT DATA REQUEST

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00000000	00H	One patch data request
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000a1	01H	int
		03H	ext
Sub status 2	00bbbbbb	0~1FH	effect patch no.
		20H	drum
EOX	11110111	F7H	

##### 5-3. BLOCK SINGLE/MULTI DATA REQUEST

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00000001	01H	block patch data request
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000a0	00H	int
		02H	ext
Sub status 2	0x000000	00H	single
		40H	multi
EOX	11110111	F7H	

##### 5-4. BLOCK EFFECT DATA REQUEST

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00000001	01H	block patch data request
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000a1	01H	int
		03H	ext
Sub status 2	00000000	00H	
EOX	11110111	F7H	

##### 5-5. ALL DATA REQUEST

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00000010	02H	all patch data request
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000a0	00H	int
		02H	ext
Sub status 2	0x000000	00H	
EOX	11110111	F7H	



### 5-6. PARAMETER SEND

#### (SINGLE)

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00010000	10H	Parameter send
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	0ppppppp		0-69 parameter no.
Sub status 2	00000ssd		ss 0/S1, 1/S2, 2/S3, 3/S4, d=Value's MSB
data	0xxxxxxx		Value dxxxxxxx
EOX	11110111	F7H	

#### (DRUM)

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00010000	10H	Parameter send
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	0ppppppp		70-81 parameter no.
Sub status 2	0ssssssd		sssss 0-60 key no., d=Value's MSB
data	0xxxxxxx		Value dxxxxxxx
EOX	11110111	F7H	

#### (EFFECT)

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00010000	10H	Parameter send
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	0ppppppp		82-88 parameter no.
Sub status 2	00000ssd		sss 0-7 submix/output ch, d=Value's MSB
data	0xxxxxxx		Value dxxxxxxx
EOX	11110111	F7H	

### 5-7. ONE SINGLE/MULTI DATA DUMP

After receiving this message, the K4/K4r transmits "WRITE COMPLETE" if it is okay, or "WRITE ERROR" if it is not.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100000	20H	One block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000a0	00H	int
Sub status 2	0bbbbbbb	02H	ext
data	0xxxxxxx		0-63 single
data	0xxxxxxx		64-127 multi
data	0xxxxxxx		patch data s0/m0
data	0xxxxxxx		patch data s1/m1
data	0xxxxxxx		patch data s2/m2
data	0xxxxxxx		patch data s1/m128/m74
data	0xxxxxxx		patch data s1/m129/m75
data	0xxxxxxx		patch data s1/m130/m76
EOX	11110111	F7H	

### 5-8. ONE DRUM/EFFECT DATA DUMP

After receiving this message, the K4/K4r transmits "WRITE COMPLETE" if it is okay, or "WRITE ERROR" if it is not.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100000	20H	One patch data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000x1	01H	Internal
Sub status 2	00xxxxxx	03H	External
data	0xxxxxxx		0-31 effect 1-32
data	0xxxxxxx		32 drum
data	0xxxxxxx		patch data e0/d0
data	0xxxxxxx		patch data e1/d1
data	0xxxxxxx		patch data e2/d2
data	0xxxxxxx		patch data e32/d679
data	0xxxxxxx		patch data e33/d680
data	0xxxxxxx		patch data e34/d681
EOX	11110111	F7H	

### 5-9. BLOCK SINGLE/MULTI DATA DUMP

After receiving this message, the K4/K4r transmits "WRITE COMPLETE" if it is okay, or "WRITE ERROR" if it is not.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100001	21H	block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000x0	00H	int
Sub status 2	00x00000	02H	ext
data	00000000	00H	all singles
data	00000000	40H	all multis
data	0xxxxxxx		A-1 s0/m0 data
data	0xxxxxxx		A-1 s1/m1 data
data	0xxxxxxx		A-1 s2/m2 data
data	0xxxxxxx		A-1 s3/m3 data
data	0xxxxxxx		A-1 s127/m73 data
data	0xxxxxxx		A-1 s128/m74 data
data	0xxxxxxx		A-1 s129/m75 data
data	0xxxxxxx		A-1 s130/m76 data
data	0xxxxxxx		A-2 s0/m0 data
data	0xxxxxxx		A-2 s1/m1 data
data	0xxxxxxx		A-2 s2/m2 data
data	0xxxxxxx		A-2 s3/m3 data
data	0xxxxxxx		A-2 s1/m127/m73 data
data	0xxxxxxx		A-2 s1/m128/m74 data
data	0xxxxxxx		A-2 s1/m129/m75 data
data	0xxxxxxx		A-2 s1/m130/m76 data
data			A-3 patch data
data			A-4 patch data
data			A-5 patch data
data			D-13 patch data
data			D-14 patch data
data			D-15 patch data
data	0xxxxxxx		D-16 s0/m0 data
data	0xxxxxxx		D-16 s1/m1 data
data	0xxxxxxx		D-16 s2/m2 data
data	0xxxxxxx		D-16 s3/m3 data
data	0xxxxxxx		D-16 S127/m73 data
data	0xxxxxxx		D-16 s128/m74 data
data	0xxxxxxx		D-16 s129/m75 data
data	0xxxxxxx		D-16 s130/m76 data
EOX	11110111	F7H	

### 5-10. BLOCK EFFECT DATA DUMP

After receiving this message, the K4/K4r transmits "WRITE COMPLETE" if it is okay, or "WRITE ERROR" if it is not.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100001	21H	block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000x1	01H	int
		03H	ext
Sub status 2	00100000	40H	all effect
data	0xxxxxxx		EFF-1 e0 data
data	0xxxxxxx		EFF-1 e1 data
data	0xxxxxxx		EFF-1 e2 data
data	0xxxxxxx		EFF-1 e3 data
.	.		.
data	0xxxxxxx		EFF-1 e31 data
data	0xxxxxxx		EFF-1 e32 data
data	0xxxxxxx		EFF-1 e33 data
data	0xxxxxxx		EFF-1 e34 data
.	.		.
data	0xxxxxxx		EFF-2 e0 data
data	0xxxxxxx		EFF-2 e1 data
data	0xxxxxxx		EFF-2 e2 data
data	0xxxxxxx		EFF-2 e3 data
.	.		.
data	0xxxxxxx		EFF-2 e31 data
data	0xxxxxxx		EFF-2 e32 data
data	0xxxxxxx		EFF-2 e33 data
data	0xxxxxxx		EFF-2 e34 data
.	.		.
EFF-3 patch data			
EFF-4 patch data			
EFF-5 patch data			
.			
EFF-13 patch data			
EFF-14 patch data			
EFF-15 patch data			
.			
data	0xxxxxxx		EFF-16 e0 data
data	0xxxxxxx		EFF-16 e1 data
data	0xxxxxxx		EFF-16 e2 data
data	0xxxxxxx		EFF-16 e3 data
.	.		.
data	0xxxxxxx		EFF-16 e31 data
data	0xxxxxxx		EFF-16 e32 data
data	0xxxxxxx		EFF-16 e33 data
data	0xxxxxxx		EFF-16 e34 data
EOX	11110111	F7H	

### 5-11. ALL PATCH DATA DUMP

After receiving this message, the K4/K4r transmits "WRITE COMPLETE" if it is okay, or "WRITE ERROR" if it is not.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100010	22H	All block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000a0	00H	int
		20H	ext
Sub status 2	00000000	00H	
data	0xxxxxxx		A-1 s0 data
data	0xxxxxxx		A-1 s1 data
data	0xxxxxxx		A-1 s2 data
data	0xxxxxxx		A-1 s3 data
.	.		.
data	0xxxxxxx		D-16 s127 data
data	0xxxxxxx		D-16 s128 data
data	0xxxxxxx		D-16 s129 data
data	0xxxxxxx		D-16 s130 data
.	.		.
data	0xxxxxxx		A-1 M0 data
data	0xxxxxxx		A-1 M1 data
data	0xxxxxxx		A-1 M2 data
data	0xxxxxxx		A-1 M3 data
.	.		.
data	0xxxxxxx		D-16 M83 data
data	0xxxxxxx		D-16 M84 data
data	0xxxxxxx		D-16 M85 data
data	0xxxxxxx		D-16 M86 data
.	.		.
data	0xxxxxxx		DRUM d0 data
data	0xxxxxxx		DRUM d1 data
data	0xxxxxxx		DRUM d2 data
data	0xxxxxxx		DRUM d3 data
.	.		.
data	0xxxxxxx		DRUM d678 data
data	0xxxxxxx		DRUM d679 data
data	0xxxxxxx		DRUM d680 data
data	0xxxxxxx		DRUM d681 data
.	.		.
data	0xxxxxxx		EFF-1 e0 data
data	0xxxxxxx		EFF-1 e1 data
data	0xxxxxxx		EFF-1 e2 data
data	0xxxxxxx		EFF-1 e3 data
.	.		.
data	0xxxxxxx		EFF-32 e31 data
data	0xxxxxxx		EFF-32 e32 data
data	0xxxxxxx		EFF-32 e33 data
data	0xxxxxxx		EFF-32 e34 data
EOX	11110111	F7H	

### 5-12. EDIT BUFFER DUMP

Receiving this dump data, K4/K4r does not store to int/ext memory but only treats as the temporary patch data.

#### (SINGLE/MULTI)

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100011	23H	edit buffer dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	00000000	00H	single/multi
Sub status 2	000x0000	00H	single
		40H	multi

data	0xxxxxxx	s0/m0 data
data	0xxxxxxx	s1/m1 data
data	0xxxxxxx	s2/m2 data
data	0xxxxxxx	s3/m3 data

data	0xxxxxxx	s127/m73 data
data	0xxxxxxx	s128/m74 data
data	0xxxxxxx	s129/m75 data
data	0xxxxxxx	s130/m76 data
EOX	11110111	F7H

#### (DRUM/EFFECT)

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100011	23H	Edit buffer dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	00000001	01H	drum/efect
Sub status 2	00x00000	00H	effect
		20H	drum

data	0xxxxxxx	data e0/d0
data	0xxxxxxx	data e1/d1
data	0xxxxxxx	data e2/d2

data	0xxxxxxx	data e32/d679
data	0xxxxxxx	data e33/d680
data	0xxxxxxx	data e34/d681
EOX	11110111	F7H

### 5-13. PROGRAM CHANGE (int/ext)

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00110000	30H	Program change (int/ext)
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000a0	00H	int
		02H	ext
EOX	11110111	F7H	

### 5-14. WRITE COMPLETE

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	01000000	40H	Write complete
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
EOX	11110111	F7H	

### 5-15. WRITE ERROR

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	010000xx	41H	write error
		42H	write error(protect)
		43H	write error(no card)
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
EOX	11110111	F7H	

### 5-16. IDENTITY REQUEST

Receiving this message, the K4/K4r transmits identity reply.

Status	11110000	F0H	System exclusive
id no.	01111110	7EH	Non-real time
Channel no.	0nnnnnnn	0nH	
Sub id #1	00000110	06H	General informaion
Sub id #2	00000001	01H	identity request
EOX	11110111	F7H	

### 6. SINGLE DATA LIST

NO.	BYTE	PARAMETER NO.	NAME	DESCRIPTION
<b>&lt;COMMON&gt;</b>				
s00	0nnnnnnn	00	name1	ascii
s01	0nnnnnnn	01	name2	---
s02	0nnnnnnn	02	name3	---
s03	0nnnnnnn	03	name4	---
s04	0nnnnnnn	04	name5	---
s05	0nnnnnnn	05	name6	---
s06	0nnnnnnn	06	name7	---
s07	0nnnnnnn	07	name8	---
s08	0nnnnnnn	08	name9	---
s09	0nnnnnnn	09	name10	---
s10	0vvvvvvv	10	volume	0~100
s11	000eeee	11	effect	0~31/1~32
s12	00000sss	12	out select	0~7/A~H
s13	ss	13	source mode	0/NORM,1/TWIN,2/DBL
	pp	14	poly mode	0/PL1,1/PL2,2/SOLO1,3/SOLO2
	c	15	am S1>S2	0/off, 1/on
	c	16	am S3>S4	0/off, 1/on
s14	a		S1 mute	0/mute, 1/not mute
	b		S2 mute	0/mute, 1/not mute
	c		S3 mute	0/mute, 1/not mute
	d		S4 mute	0/mute, 1/not mute
s15	00ss	17	vib shape	0/TRI,1/SAW,2/SQR,3/RND
	pppp	18	pitch bend	0~12
	00ww	19	wheel assign	0/VIB,1/LFO,2/DCF
s16	01111111	20	vib speed	0~100
s17	0wwwwwww	21	wheel dep	0~100 (+-50)
s18	0ttttttt	22	auto bend time	0~100
s19	0aaaaaaa	23	auto bend depth	0~100 (+-50)
s20	0kkkkkkk	24	auto bend ks>time	0~100 (+-50)
s21	0vvvvvvv	25	auto bend vel>dep	0~100 (+-50)
s22	0aaaaaaaa	26	vib prs>vib	0~100 (+-50)
s23	0ddddd	27	vibrato dep	0~100 (+-50)
s24	000000ss	28	lfo shape	0/TRI,1/SAW,2/SQR,3/RND
s25	01111111	29	lfo speed	0~100
s26	0ddddd	30	lfo delay	0~100
s27	0ddddd	31	lfo dep	0~100 (+-50)
s28	0aaaaaaaa	32	lfo prs>dep	0~100 (+-50)
s29	0ppppppp	33	prs>freq	0~100 (+-50)
<b>&lt;SOURCES&gt;</b>				
s30	0ddddd	34	S1 delay	0~100
s31	---	---	S2	---
s32	---	---	S3	---
s33	---	---	S4	---
s34	000x	36	S1 wave select h	msb xwwwww 0~255/1~256
	0ccc	35	S1 ks curve	0~7/1~8
s35	---	---	S2	---
s36	---	---	S6	---
s37	---	---	S4	---
s38	0wwwwwww	36	S1 wave select l	0~127
s39	---	---	S2	---
s40	---	---	S3	---
s41	---	---	S4	---
s42	0cccccc	37	S1 coarse	coarse 00~48/1~24
	0t	38	S1 key track	0/off, 1/on
s43	---	---	S2	---
s44	---	---	S3	---
s45	---	---	S4	---
s46	0ccccccc	39	S1 fix	fix 0~115/C-1~G8
s47	---	---	S2	---
s48	---	---	S3	---
s49	---	---	S4	---
s50	0ffffff	40	S1 fine	0~100 (+-50)
s51	---	---	S2	---
s52	---	---	S3	---
s53	---	---	S4	---
s54	p	41	S1 prs>frq sw	0/off, 1/on
	v	42	S1 vib/a.bend sw	0/off, 1/on
	000vvv	43	S1 vel curve	0~7/1~8
s55	---	---	S2	---
s56	---	---	S3	---
s57	---	---	S4	---
<b>&lt;DCA&gt;</b>				
s58	0eeeeeee	44	S1 envelope level	0~100
s59	---	---	S2	---
s60	---	---	S3	---
s61	---	---	S4	---
s62	0eeeeeee	45	S1 envelope attack	0~100
s63	---	---	S2	---
s64	---	---	S3	---
s65	---	---	S4	---
s66	0eeeeeee	46	S1 envelope decay	0~100
s67	---	---	S2	---
s68	---	---	S3	---
s69	---	---	S4	---
s70	0eeeeeee	47	S1 envelope sustain	0~100
s71	---	---	S2	---
s72	---	---	S3	---
s73	---	---	S4	---
s74	0eeeeeee	48	S1 envelope release	0~100
s75	---	---	S4	---
s76	---	---	S3	---
s77	---	---	S4	---
s78	0ddddd	49	S1 level mod vel	0~100 (+-50)
s79	---	---	S2	---
s80	---	---	S3	---
s81	---	---	S4	---
s82	0eeeeeee	50	S1 level mod prs	0~100 (+-50)

s83	—	—	S2	—
s84	—	—	S3	—
s85	—	—	S4	—
s86	0000000	51	S1 level mod ks	0 ~ 100 (+-50)
s87	—	—	S2	—
s88	—	—	S3	—
s89	—	—	S4	—
s90	0000000	52	S1 time mod on vel	0 ~ 100 (+-50)
s91	—	—	S2	—
s92	—	—	S3	—
s93	—	—	S4	—
s94	0000000	53	S1 time mod off vel	0 ~ 100 (+-50)
s95	—	—	S2	—
s96	—	—	S3	—
s97	—	—	S4	—
s98	0000000	54	S1 time mod ks	0 ~ 100 (+-50)
s99	—	—	S2	—
s100	—	—	S3	—
s101	—	—	S4	—

<DCF>				
s102	0000000	55	F1 cutoff	0 ~ 100
s103	—	—	F2	—
s104	rrr	56	F1 resonance	0 ~ 7/1 ~ 8
s105	0000k	57	F1 lfo sw	0/off, 1/on
s106	—	—	F2	—
s107	0000000	58	F1 cutoff mod vel	0 ~ 100 (+-50)
s108	—	—	F2	—
s109	0000000	59	F1 cutoff mod prs	0 ~ 100 (+-50)
s110	—	—	F2	—
s111	0000000	60	F1 cutoff mod ks	0 ~ 100 (+-50)
s112	—	—	F2	—
s113	0000000	61	F1 dcf env dep	0 ~ 100 (+-50)
s114	—	—	F2	—
s115	0000000	62	F1 dcf env vel dep	0 ~ 100 (+-50)
s116	—	—	F2	—
s117	0000000	63	F1 dcf env attack	0 ~ 100
s118	—	—	F2	—
s119	0000000	64	F1 dcf env decay	0 ~ 100
s120	—	—	F2	—
s121	0000000	65	F1 dcf env sustain	0 ~ 100
s122	—	—	F2	—
s123	0000000	66	F1 dcf env release	0 ~ 100
s124	—	—	F2	—
s125	0000000	67	F1 dcf time mod on vel	0 ~ 100 (+-50)
s126	—	—	F2	—
s127	0000000	68	F1 dcf time mod off vel	0 ~ 100 (+-50)
s128	—	—	F2	—
s129	0000000	69	F1 dcf time mod ks	0 ~ 100 (+-50)
s130	—	—	F2	—
s130	0000000	—	check sum	0 ~ 127

Notes  
Check sum value (s130) is the sum of the A5H and s0 ~ s129.

## 7. MULTI DATA LIST

NO.	BYTE	PARAMETER	DESCRIPTION
<MULTI COMMON>			
M0	nnnnnnnn	name1	ascii
M1	nnnnnnnn	name2	—
M2	nnnnnnnn	name3	—
M3	nnnnnnnn	name4	—
M4	nnnnnnnn	name5	—
M5	nnnnnnnn	name6	—
M6	nnnnnnnn	name7	—
M7	nnnnnnnn	name8	—
M8	nnnnnnnn	name9	—
M9	nnnnnnnn	name10	—
M10	0vvvvvvv	volume	0 ~ 99
M11	00000000	effect	0 ~ 31/1 ~ 32
<SECTION 1>			
M12	00aaaaaa	Single no.	0 ~ 63/A-1 ~ D-16
M13	0zzzzzzz	zone low	0 ~ 127/C-2 ~ G8
M14	0hhhhhhh	zone high	0 ~ 127/C-2 ~ G8
M15	rrrr	rcv ch	0 ~ 15/1 ~ 16
	vv	velo sw	0/all, 1/soft, 2/loud
	0m	section mute	—
M16	sss	out select	0 ~ 7/A ~ H
	000mm	mode	0/kybd, 1/midi, 2/mix (K4)
M17	00000000	level	0 ~ 100
M18	00tttttt	transpose	0 ~ 48/0 ~ +-24
M19	0uuuuuuu	tune	0 ~ 100(0 ~ +-50)
<SECTION 2>			
M20	00aaaaaa	Single no.	0 ~ 63/A-1 ~ D-16
M21	0zzzzzzz	zone low	0 ~ 127/C-2 ~ G8
M22	0hhhhhhh	zone high	0 ~ 127/C-2 ~ G8
M23	rrrr	rcv ch	0 ~ 15/1 ~ 16
	vv	velo sw	0/all, 1/soft, 2/loud
	0m	section mute	—
M24	sss	out select	0 ~ 7/A ~ H
	000mm	mode	0/kybd, 1/midi, 2/mix (K4)
M25	00000000	level	0 ~ 100
M26	00tttttt	transpose	0 ~ 48/0 ~ +-24
M27	0uuuuuuu	tune	0 ~ 100(0 ~ +-50)
<SECTION 3>			
M28 ~ M35			
<SECTION 4>			
M36 ~ M43			
<SECTION 5>			
M44 ~ M51			
<SECTION 6>			
M52 ~ M59			
<SECTION 7>			
M60 ~ M67			
<SECTION 8>			
M68	00aaaaaa	Single no.	0 ~ 63/A-1 ~ D-16
M69	0zzzzzzz	zone low	0 ~ 127/C-2 ~ G8
M70	0hhhhhhh	zone high	0 ~ 127/C-2 ~ G8
M71	rrrr	rcv ch	0 ~ 15/1 ~ 16
	vv	velo sw	0/all, 1/soft, 2/loud
	0m	section mute	—
M72	sss	out select	0 ~ 7/A ~ H
	000mm	mode	0/kybd, 1/midi, 2/mix (K4)
M73	00000000	level	0 ~ 100
M74	00tttttt	transpose	0 ~ 48/0 ~ +-24
M75	0uuuuuuu	tune	0 ~ 100(0 ~ +-50)
M76	00000000	check sum	0 ~ 127

Notes  
The check sum value (M76) is the sum of A5H and M00 ~ M75.

## 8. DRUM DATA LIST

NO.	BYTE	PARAMETER NO.	NAME	DESCRIPTION
<COMMON>				
d00	0000cccc	70	drm rcv ch.	0 ~ 15/1 ~ 16
d01	0vvvvvvv	71	drm vol	0 ~ 100
d02	0vvvvvvv	72	drm vel depth	0 ~ 100
d03	0nnnnnnn		dummy	—
d04	0nnnnnnn		dummy	—
d05	0nnnnnnn		dummy	—
d06	0nnnnnnn		dummy	—
d07	0nnnnnnn		dummy	—
d08	0nnnnnnn		dummy	—
d09	0nnnnnnn		dummy	—
d10	0nnnnnnn		common check sum	0 ~ 127

Note

Check sum value (d10) is the sum of the A5H and d0 ~ d09.

<NOTE C1>				
D11	0sss	73	out select	0 ~ 7/A ~ H
	000X	74	s1 wave select msb	xwwwwwww 0 ~ 255/1 ~ 256
d12	000000X	75	s2 wave select msb	xwwwwwww 0 ~ 255/1 ~ 256
d13	0wwwwwww	74	s1 wave select low	0 ~ 127
d14	0wwwwwww	75	s2 wave select low	0 ~ 127
d15	0ddddddd	76	s1 decay	0 ~ 100
d16	0ddddddd	77	s2 decay	0 ~ 100
d17	0ttttttt	78	s1 tune	0 ~ 100/0 ~ +-50
d18	0ttttttt	79	s2 tune	0 ~ 100/0 ~ +-50
d19	0eeeeeee	80	s1 level	0 ~ 99
d20	0eeeeeee	81	s2 level	0 ~ 99
d21	0ccccccc		check sum	0 ~ 127

Note

Check sum value (d21) is the sum of the A5H and d11 ~ d20.

<NOTE C#1>				
D22	0sss	73	out select	0 ~ 7/A ~ H
	000X	74	s1 wave select msb	xwwwwwww 0 ~ 255/1 ~ 256
d23	000000X	75	s2 wave select msb	xwwwwwww 0 ~ 255/1 ~ 256
d24	0wwwwwww	74	s1 wave select low	0 ~ 127
d25	0wwwwwww	75	s2 wave select low	0 ~ 127
d26	0ddddddd	76	s1 decay	0 ~ 100
d27	0ddddddd	77	s2 decay	0 ~ 100
d28	0ttttttt	78	s1 tune	0 ~ 100/0 ~ +-50
d29	0ttttttt	79	s2 tune	0 ~ 100/0 ~ +-50
d30	0eeeeeee	80	s1 level	0 ~ 99
d31	0eeeeeee	81	s2 level	0 ~ 99
d32	0ccccccc		check sum	0 ~ 127

Note

Check sum value (d32) is the sum of the A5H and d22 ~ d31.

<D1 ~ B5>  
d33 ~ d670

<C5>				
D671	0sss	73	out select	0 ~ 7/A ~ H
	000X	74	s1 wave select msb	xwwwwwww 0 ~ 255/1 ~ 256
d672	000000X	75	s2 wave select msb	xwwwwwww 0 ~ 255/1 ~ 256
d673	0wwwwwww	74	s1 wave select low	0 ~ 127
d674	0wwwwwww	75	s2 wave select low	0 ~ 127
d675	0ddddddd	76	s1 decay	0 ~ 100
d676	0ddddddd	77	s2 decay	0 ~ 100
d677	0ttttttt	78	s1 tune	0 ~ 100/0 ~ +-50
d678	0ttttttt	79	s2 tune	0 ~ 100/0 ~ +-50
d679	0eeeeeee	80	s1 level	0 ~ 99
d680	0eeeeeee	81	s2 level	0 ~ 99
d681	0ccccccc		check sum	0 ~ 127

Note

Check sum value (d681) is the sum of the A5H and d671 ~ d680.

## 9. EFFECT DATA LIST

NO.	BYTE	PARAMETER NO.	NAME	DESCRIPTION
<COMMON>				
e00	0000tttt	82	effect type	0 ~ 15/1 ~ 16
e01	0000ppp	83	para 1	0 ~ 7
e02	0000aaa	84	para 2	0 ~ 7
e03	000nnnn	85	para 3	0 ~ 31
e04	0nnnnnn		dummy	—
e05	0nnnnnn		dummy	—
e06	0nnnnnn		dummy	—
e07	0nnnnnn		dummy	—
e08	0nnnnnn		dummy	—
e09	0nnnnnn		dummy	—
<A>				
e10	000ppppp	86	pan	0 ~ 15/0 ~ +-7 (k4) 0 ~ 15/0 ~ +-7, 16 ~ 21/1 ~ I6 (K4r)
e11	0vvvvvvv	87	send 1	0 ~ 99
e12	0vvvvvvv	88	send 2	0 ~ 99
<B>				
e13	000ppppp	86	pan	0 ~ 15/0 ~ +-7 (k4) 0 ~ 15/0 ~ +-7, 16 ~ 21/1 ~ I6 (K4r)
e14	0vvvvvvv	87	send 1	0 ~ 99
e15	0vvvvvvv	88	send 2	0 ~ 99
<C>				
e16 ~ e18				
<D>				
e19 ~ e21				
<E>				
e22 ~ e24				
<F>				
e25 ~ e27				
<G>				
e28 ~ e30				
<H>				
e31 ~ e33				
e34	0ddddddd		check sum	0 ~ 127

Note

Check sum value (e34) is the sum of the A5H and e0 ~ e33.

10. EXCLUSIVE FUNCTION TABLE

FUNCTION	FUNCTION NO.	SUB CMND 1	SUB CMND 2	DESCRIPTION	TRS	RCV
One Patch Dump Request	0 (00H)	0	0 ~ 63	ONE INT SINGLE DATA REQUEST	X	○
		0	64 ~ 127	ONE INT MULTI DATA REQUEST	X	○
		1	0 ~ 31	ONE INT EFFECT DATA REQUEST	X	○
		1	32	ONE INT DRUM DATA REQUEST	X	○
		2	0 ~ 63	ONE EXT SINGLE DATA REQUEST	X	○
		2	64 ~ 127	ONE EXT MULTI DATA REQUEST	X	○
		3	0 ~ 31	ONE EXT EFFECT DATA REQUEST	X	○
		3	32	ONE EXT DRUM DATA REQUEST	X	○
Block Patch Dump Request	1 (01H)	0	0	ALL INT SINGLE DATA REQUEST	X	○
		0	64	ALL INT MULTI DATA REQUEST	X	○
		1	0	ALL INT EFFECT DATA REQUEST	X	○
		2	0	ALL EXT SINGLE DATA REQUEST	X	○
		2	64	ALL EXT MULTI DATA REQUEST	X	○
3	0	ALL EXT EFFECT DATA REQUEST	X	○		
All Patch Dump Request	2 (02H)	0	0	ALL INT DATA REQUEST	X	○
		2	0	ALL EXT DATA REQUEST	X	○
Parameter send	16 (10H)	0ppppppp	0ssssssd	SINGLE PARAMETER pppppp 0 ~ 88 parameter no. ssssss 0 ~ 60 d MSB of data	X	○
One Patch Data Dump	32 (20H)	0	0 ~ 63	ONE INT SINGLE DATA DUMP	○	○
		0	64 ~ 127	ONE INT MULTI DATA DUMP	○	○
		1	0 ~ 31	ONE INT EFFECT DATA DUMP	○	○
		1	32	ONE INT DRUM DATA DUMP	○	○
		2	0 ~ 63	ONE EXT SINGLE DATA DUMP	○	○
		2	64 ~ 127	ONE EXT MULTI DATA DUMP	○	○
		3	0 ~ 31	ONE EXT EFFECT DATA DUMP	○	○
		3	32	ONE EXT DRUM DATA DUMP	○	○
Block Patch Data Dump	33 (21H)	0	0	ALL INT SINGLE DATA DUMP	○	○
		0	64	ALL INT MULTI DATA DUMP	○	○
		1	0	ALL INT EFFECT DATA DUMP	○	○
		2	0	ALL EXT SINGLE DATA DUMP	○	○
		2	64	ALL EXT MULTI DATA DUMP	○	○
3	0	ALL EXT EFFECT DATA DUMP	○	○		
All Patch Data Dump	34 (22H)	0	0	ALL INT DATA DUMP	○	○
		2	0	ALL EXT DATA DUMP	○	○
Edit Buffer Dump	35 (23H)	0	0	SINGLE	X	○
		0	64	MULTI	X	○
		1	0	EFFECT	X	○
		1	32	DRUM	X	○
Program Change	48 (30H)	0	—	INT	○	○
		2	—	EXT	○	○
Write Complete	64 (40H)	—	—		○	○
Write Error	65 (41H)	—	—		○	○
Write Error (Protect)	66 (42H)	—	—		○	○
Write Error (No Card)	67 (43H)	—	—		○	○

# 11. PROGRAM NO. CONVERT TABLE

SINGLE

INT/EXT				
	A	B	C	D
1	0 00H	16 10H	32 20H	48 30H
2	1 01H	17 11H	33 21H	49 31H
3	2 02H	18 12H	34 22H	50 32H
4	3 03H	19 13H	35 23H	51 33H
5	4 04H	20 14H	36 24H	52 34H
6	5 05H	21 15H	37 25H	53 35H
7	6 06H	22 16H	38 26H	54 36H
8	7 07H	23 17H	39 27H	55 37H
9	8 08H	24 18H	40 28H	56 38H
10	9 09H	25 19H	41 29H	57 39H
11	10 0AH	26 1AH	42 2AH	58 3AH
12	11 0BH	27 1BH	43 2BH	59 3BH
13	12 0CH	28 1CH	44 2CH	50 3CH
14	13 0DH	29 1DH	45 2DH	51 3DH
15	14 0EH	30 1EH	46 2EH	52 3EH
16	15 0FH	31 1FH	47 2FH	53 3FH

MULTI

INT/EXT				
	A	B	C	D
1	64 40H	80 50H	96 60H	112 70H
2	65 41H	81 51H	97 61H	113 71H
3	66 42H	82 52H	98 62H	114 72H
4	67 43H	83 53H	99 63H	115 73H
5	68 44H	84 54H	100 64H	116 74H
6	69 45H	85 55H	101 65H	117 75H
7	70 46H	86 56H	102 66H	118 76H
8	71 47H	87 57H	103 67H	119 77H
9	72 48H	88 58H	104 68H	120 78H
10	73 49H	89 59H	105 69H	121 79H
11	74 4AH	90 5AH	106 6AH	122 7AH
12	75 4BH	91 5BH	107 6BH	123 7BH
13	76 4CH	92 5CH	108 6CH	124 7CH
14	77 4DH	93 5DH	109 6DH	125 7DH
15	78 4EH	94 5EH	110 6EH	126 7EH
16	79 4FH	95 5FH	111 6FH	127 7FH

# CORRECTION SHEET FOR K4 MIDI IMPLEMENTATION

Title	Error	Correction
1. TRANSMITTED DATA	3rd Description / 0 <u>1</u> vvvvvvv Note off / vvvvvvv = 0~127	3rd Description / 0 <u>v</u> vvvvvvv Note off / vvvvvvv = 0~127
4-1 ONE SINGLE/MULTI DATA DUMP	Sub status 1 0000000 <u>x</u> 00H	Sub status 1 0000000 <u>0</u> 00H
4-3. BLOCK SINGLE/MULTI DATA DUMP	Sub status 2 00 <u>x</u> 00000 00H	Sub status 2 0 <u>x</u> 000000 00H
5-9. BLOCK SINGLE/MULTI DATA DUMP	Sub status 2 00 <u>x</u> 00000 00H	Sub status 2 0 <u>x</u> 000000 00H
5-10. BLOCK EFFECT DATA DUMP	Sub status 2 00 <u>1</u> 00000 <u>4</u> 0H	Sub status 2 00 <u>0</u> 00000 <u>0</u> 0H
5-11. ALL PATCH DATA DUMP	Sub status 1 000000a0 <u>0</u> 0H <u>2</u> 0H	Sub status 1 000000a0 <u>0</u> 0H <u>0</u> 2H
5-12. ONE SINGLE/MULTI DATA DUMP	Sub status 2 00 <u>0</u> x0000 00H	Sub status 2 0 <u>x</u> 000000 00H
7. MULTI DATA LIST	<MULTI COMMON> M10 0vvvvvvvv volume <u>0~99</u>	M10 0vvvvvvvv volume <u>0~100</u>
8. DRUM DATA LIST	<COMMON> drm vel depth <u>0-100</u> <NOTE C1~5> out select s1 level <u>0-99</u> s2 level <u>0-99</u>	<COMMON> drm vel depth <u>0-100/</u> <u>-50~0~+50</u> <NOTE C1~5> submix ch s1 level <u>0-100</u> s2 level <u>0-100</u>
9. EFFECT DATA LIST	<A~H> send 1 <u>0-99</u> send 2 <u>0-99</u>	<A~H> send 1 <u>0-100</u> send 2 <u>0-100</u>
11. PROGRAM NO. CONVERT TABLE	<0-13~16> <u>50,51,52,53</u>	<0-13~16> <u>60,61,62,63</u>