

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 TAMPANI
 129 TAMPANI 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 † 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 † SHOT | |
| 173 GUT GUITAR NRML | 222 FLUTE 1 | |
| 174 GUT GUITAR VR | 223 FLUTE 2 | |
| 175 GUT GUITAR † 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

CONTENTS

- 1. TRANSMITTED DATA**
- 2. RECOGNIZED RECEIVED DATA**
- 3. EXCLUSIVE DATA FORMAT**
- 4. EXCLUSIVE TRANSMITTED DATA**
- 5. EXCLUSIVE RECOGNIZED RECEIVED DATA**
- 6. SINGLE DATA LIST**
- 7. MULTI DATA LIST**
- 8. DRUM DATA LIST**
- 9. EFFECT DATA LIST**
- 10. EXCLUSIVE FUNCTION TABLE**
- 11. PROGRAM CONVERT TABLE**

1. TRANSMITTED DATA

| 1st | 2nd | 3rd | Description | |
|----------|----------|----------|----------------|---|
| 1000nnnn | 0kkkkkkk | 0vvvvvvv | Note off | kkkkkkk = 24 ~ 108 vvvvv = 0 ~ 127 |
| 1001nnnn | 0kkkkkkk | 0vvvvvvv | Note on | kkkkkkk = 24 ~ 108 vvvvv = 1 ~ 127 |
| 1011nnnn | 00000001 | 0vvvvvvv | Modulation | vvvvv = 0 ~ 127 |
| 1011nnnn | 00000110 | 0vvvvvvv | Data Entry | vvvvv = 0 ~ 127 |
| 1011nnnn | 01000000 | 0vvvvvvv | Hold 1 sw | vvvvv = 0 off vvvvv = 127 on |
| 1011nnnn | 01100100 | 0vvvvvvv | RPC LSB | vvvvv = 0 Bender Range vvvvv = 1 Fine Tuning |
| 1011nnnn | 01100101 | 0vvvvvvv | RPC MSB | vvvvv = 0 |
| 1100nnnn | 0ppppppp | ----- | Program Change | ppppppp = 0 ~ 63 Single I/E A-1 ~ D-16 ppppppp = 64 ~ 127 Multi ppppppp = I/E A-1 ~ D-16 |
| 1101nnnn | 0vvvvvvv | ----- | Ch. Pressure | vvvvv = 0 ~ 127 |
| 1110nnnn | 0b000000 | 0vvvvvvv | 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 | 0vvvvvvv | Note off | kkkkkkk = 0 ~ 120 vvvvv = 0 ~ 127 |
| 1001nnnn | 0kkkkkkk | 0vvvvvvv | Note on/off | kkkkkkk = 0 ~ 120 vvvvv = 1 ~ 127 Note on vvvvv = 0 off |
| 1011nnnn | 00000001 | 0vvvvvvv | Modulation | vvvvv = 0 ~ 127 |
| 1011nnnn | 00000111 | 0vvvvvvv | Main Volume | vvvvv = 0 ~ 127 |
| 1011nnnn | 00000110 | 0vvvvvvv | Data Entry | vvvvv = 0 ~ 127 |
| 1011nnnn | 01000000 | 0vvvvvvv | Hold 1 sw | vvvvv = 0 ~ 63 off vvvvv = 64 ~ 127 on |
| 1011nnnn | 01100100 | 0vvvvvvv | RPC LSB | vvvvv = 0 Bender Range vvvvv = 1 Fine Tuning |
| 1011nnnn | 01100101 | 0vvvvvvv | RPC MSB | vvvvv = 0 |
| 1100nnnn | 0ppppppp | ----- | Program Change | ppppppp = 0 ~ 63 Single I/E A-1 ~ D-16 ppppppp = 64 ~ 127 Multi I/E A-1 ~ D-16 |
| 1101nnnn | 0vvvvvvv | ----- | Ch. Pressure | vvvvv = 0 ~ 127 |
| 1110nnnn | 0b000000 | 0vvvvvvv | Pitch Bender | vvvvvb = 0 ~ 255 |
| 1011nnnn | 01111010 | 0vvvvvvv | 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. | 0000nnnn | 0nH | |
| Function no. | 0ffffff | | |
| 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 | 0xxxx xx | | |
| data | 0xxxxxxx | | |
| data | 0xxxxxxx | | |
| 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 s31 data |
| data | 0xxxxxxx | | EFF-1 s32 data |
| data | 0xxxxxxx | | EFF-1 s33 data |
| data | 0xxxxxxx | | EFF-1 s34 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 goup 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 | |

5-10. 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 | 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 s32 data |
| data | 0xxxxxxx | | EFF-1 s33 data |
| data | 0xxxxxxx | | EFF-1 s34 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 |
| | | 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

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 | | single/multi |
| Sub status 2 | 0x000000 | 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 | | |
| 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 |
|------------------------|----------|---------------|---------------------|------------------------------|
| <COMMON> | | | | |
| 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 | 00000000 | 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 |
| | 00c | 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 |
| | 00ss | 17 | vib shape | 0/TRI,1/SAW,2/SQR,3/RND |
| s15 | pppp | 18 | pitch bend | 0 ~ 12 |
| | 00ww | 19 | wheel assign | 0/VIB,1/LFO,2/DCF |
| s16 | 01111111 | 20 | vib speed | 0 ~ 100 |
| s17 | 0wwwwww | 21 | wheel dep | 0 ~ 100 (+-50) |
| s18 | 01111111 | 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 | 0aaaaaaa | 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 | 0aaaaaaa | 32 | lfo prs>dep | 0 ~ 100 (+-50) |
| s29 | 0ppppppp | 33 | prs>freq | 0 ~ 100 (+-50) |
| <SOURCES> | | | | |
| s30 | 0ddddd | 34 | S1 delay | 0 ~ 100 |
| s31 | — | — | S2 — | — |
| s32 | — | — | S3 — | — |
| s33 | — | — | S4 — | — |
| s34 | 000x | 36 | S1 wave select h | msb xxxxxxxx 0 ~ 255/1 ~ 256 |
| | 0ccc | 35 | S1 ks curve | 0 ~ 7/1 ~ 8 |
| s35 | — | — | S2 — | — |
| s36 | — | — | S6 — | — |
| s37 | — | — | S4 — | — |
| s38 | 0wwwwww | 36 | S1 wave select l | 0 ~ 127 |
| s39 | — | — | S2 — | — |
| s40 | — | — | S3 — | — |
| s41 | — | — | S4 — | — |
| s42 | 0cccc | 37 | S1 coarse | coarse 00 ~ 48/+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 | 01111111 | 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 — | — |
| <DCA> | | | | |
| s58 | 00000000 | 44 | S1 envelope level | 0 ~ 100 |
| s59 | — | — | S2 — | — |
| s60 | — | — | S3 — | — |
| s61 | — | — | S4 — | — |
| s62 | 00000000 | 45 | S1 envelope attack | 0 ~ 100 |
| s63 | — | — | S2 — | — |
| s64 | — | — | S3 — | — |
| s65 | — | — | S4 — | — |
| s66 | 00000000 | 46 | S1 envelope decay | 0 ~ 100 |
| s67 | — | — | S2 — | — |
| s68 | — | — | S3 — | — |
| s69 | — | — | S4 — | — |
| s70 | 00000000 | 47 | S1 envelope sustain | 0 ~ 100 |
| s71 | — | — | S2 — | — |
| s72 | — | — | S3 — | — |
| s73 | — | — | S4 — | — |
| s74 | 00000000 | 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 | 00000000 | 50 | S1 level mod prs | 0 ~ 100 (+-50) |

S1 delay 0=Sub2

2

3

4

5

6

7

8

9

0

1

2

3

4

5

6

7

8

9

0

1

2

3

4

5

6

7

8

9

| | | | | |
|------|----------|----|---------------------|----------------|
| s83 | — | — | S2 | — |
| s84 | — | — | S3 | — |
| s85 | — | — | S4 | — |
| s86 | 00000000 | 51 | S1 level mod ks | 0 ~ 100 (+-50) |
| s87 | — | — | S2 | — |
| s88 | — | — | S3 | — |
| s89 | — | — | S4 | — |
| s90 | 00000000 | 52 | S1 time mod on vel | 0 ~ 100 (+-50) |
| s91 | — | — | S2 | — |
| s92 | — | — | S3 | — |
| s93 | — | — | S4 | — |
| s94 | 00000000 | 53 | S1 time mod off vel | 0 ~ 100 (+-50) |
| s95 | — | — | S2 | — |
| s96 | — | — | S3 | — |
| s97 | — | — | S4 | — |
| s98 | 00000000 | 54 | S1 time mod ks | 0 ~ 100 (+-50) |
| s99 | — | — | S2 | — |
| s100 | — | — | S3 | — |
| s101 | — | — | S4 | — |

| | | | | |
|-------|--------------|----|-------------------------|----------------|
| <DCF> | | | | |
| s102 | 00000000 | 55 | F1 cutoff | 0 ~ 100 |
| s103 | — | — | F2 | — |
| s104 | rrr 0000k | 56 | F1 resonance | 0 ~ 7/1 ~ 8 |
| s105 | — | — | F2 | 0/off, 1/on |
| s106 | 00000000 | 57 | F1 lfo sw | — |
| s107 | — | — | F2 | — |
| s108 | 00000000 | 58 | F1 cutoff mod vel | 0 ~ 100 (+-50) |
| s109 | — | — | F2 | — |
| s110 | 00000000 | 59 | F1 cutoff mod prs | 0 ~ 100 (+-50) |
| s111 | — | — | F2 | — |
| s112 | 00000000 | 60 | F1 cutoff mod ks | 0 ~ 100 (+-50) |
| s113 | — | — | F2 | — |
| s114 | 00000000 | 61 | F1 dcf env dep | 0 ~ 100 (+-50) |
| s115 | — | — | F2 | — |
| s116 | 00000000 | 62 | F1 dcf env vel dep | 0 ~ 100 (+-50) |
| s117 | — | — | F2 | — |
| s118 | 00000000 | 63 | F1 dcf env attack | 0 ~ 100 |
| s119 | — | — | F2 | — |
| s120 | 00000000 | 64 | F1 dcf env decay | 0 ~ 100 |
| s121 | — | — | F2 | — |
| s122 | 00000000 | 65 | F1 dcf env sustain | 0 ~ 100 |
| s123 | — | — | F2 | — |
| s124 | 00000000 | 66 | F1 dcf env release | 0 ~ 100 |
| s125 | — | — | F2 | — |
| s126 | 00000000 | 67 | F1 dcf time mod on vel | 0 ~ 100 (+-50) |
| s127 | — | — | F2 | — |
| s128 | 00000000 | 68 | F1 dcf time mod off vel | 0 ~ 100 (+-50) |
| s129 | — | — | F2 | — |
| s130 | 00000000 | — | 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 ~ 100 |
| 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 vv 0m | rcv ch velo sw section mute | 0 ~ 15/1 ~ 16 0/all, 1/soft, 2/loud |
| M16 | sss 000mm | out select mode | 0 ~ 7/A ~ H 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 vv 0m | rcv ch velo sw section mute | 0 ~ 15/1 ~ 16 0/all, 1/soft, 2/loud |
| M24 | sss 000mm | out select mode | 0 ~ 7/A ~ H 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 vv 0m | rcv ch velo sw section mute | 0 ~ 15/1 ~ 16 0/all, 1/soft, 2/loud |
| M72 | sss 000mm | out select mode | 0 ~ 7/A ~ H 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 | 0vvvvvvvv | 71 | drm vol | 0 ~ 100 |
| d02 | 0vvvvvvvv | 72 | drm vel depth | 0 ~ 100/-50 ~ +50 |
| d03 | 0nnnnnnnn | | dummy | — |
| d04 | 0nnnnnnnn | | dummy | — |
| d05 | 0nnnnnnnn | | dummy | — |
| d06 | 0nnnnnnnn | | dummy | — |
| d07 | 0nnnnnnnn | | dummy | — |
| d08 | 0nnnnnnnn | | dummy | — |
| d09 | 0nnnnnnnn | | dummy | — |
| d10 | 0nnnnnnnn | | common check sum | 0 ~ 127 |

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

| <NOTE C1> | | | | |
|-----------|--------------|----|--------------------|-------------------------|
| D11 | 0sss 000X | 73 | out select | 0 ~ 7/A ~ H |
| d12 | 0000000X | 74 | s1 wave select msb | xwwwwww 0 ~ 255/1 ~ 256 |
| d13 | 0wwwwwww | 74 | s2 wave select msb | xwwwwww 0 ~ 255/1 ~ 256 |
| d14 | 0wwwwwww | 74 | s1 wave select low | 0 ~ 127 |
| d15 | 0ddddd | 75 | s2 wave select low | 0 ~ 127 |
| d16 | 0ddddd | 76 | s1 decay | 0 ~ 100 |
| d17 | 0ddddd | 77 | s2 decay | 0 ~ 100 |
| d18 | 0ttttttt | 78 | s1 tune | 0 ~ 100/0 ~ +-50 |
| d19 | 0ttttttt | 79 | s2 tune | 0 ~ 100/0 ~ +-50 |
| d20 | 0eeeeeee | 80 | s1 level | 0 ~ 100 |
| d21 | 0eeeeeee | 81 | s2 level | 0 ~ 100 |
| 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 000X | 73 | out select | 0 ~ 7/A ~ H |
| d23 | 0000000X | 74 | s1 wave select msb | xwwwwww 0 ~ 255/1 ~ 256 |
| d24 | 0wwwwwww | 74 | s2 wave select msb | xwwwwww 0 ~ 255/1 ~ 256 |
| d25 | 0wwwwwww | 74 | s1 wave select low | 0 ~ 127 |
| d26 | 0ddddd | 75 | s2 wave select low | 0 ~ 127 |
| d27 | 0ddddd | 76 | s1 decay | 0 ~ 100 |
| d28 | 0ddddd | 77 | s2 decay | 0 ~ 100 |
| d29 | 0ttttttt | 78 | s1 tune | 0 ~ 100/0 ~ +-50 |
| d30 | 0ttttttt | 79 | s2 tune | 0 ~ 100/0 ~ +-50 |
| d31 | 0eeeeeee | 80 | s1 level | 0 ~ 100 |
| d32 | 0eeeeeee | 81 | s2 level | 0 ~ 100 |
| 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 000X | 73 | out select | 0 ~ 7/A ~ H |
| d672 | 0000000X | 74 | s1 wave select msb | xwwwwww 0 ~ 255/1 ~ 256 |
| d673 | 0wwwwwww | 74 | s2 wave select msb | xwwwwww 0 ~ 255/1 ~ 256 |
| d674 | 0wwwwwww | 74 | s1 wave select low | 0 ~ 127 |
| d675 | 0ddddd | 75 | s2 wave select low | 0 ~ 127 |
| d676 | 0ddddd | 76 | s1 decay | 0 ~ 100 |
| d677 | 0ddddd | 77 | s2 decay | 0 ~ 100 |
| d678 | 0ttttttt | 78 | s1 tune | 0 ~ 100/0 ~ +-50 |
| d679 | 0ttttttt | 79 | s2 tune | 0 ~ 100/0 ~ +-50 |
| d680 | 0eeeeeee | 80 | s1 level | 0 ~ 100 |
| d681 | 0eeeeeee | 81 | s2 level | 0 ~ 100 |
| 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 | 0000pppp | 83 | para 1 | 0 ~ 7 |
| e02 | 0000aaaa | 84 | para 2 | 0 ~ 7 |
| e03 | 000nnnnn | 85 | para 3 | 0 ~ 31 |
| e04 | 0nnnnnnn | | dummy | — |
| e05 | 0nnnnnnn | | dummy | — |
| e06 | 0nnnnnnn | | dummy | — |
| e07 | 0nnnnnnn | | dummy | — |
| e08 | 0nnnnnnn | | dummy | — |
| e09 | 0nnnnnnn | | dummy | — |
| <A> | | | | |
| e10 | 000ppppp | 86 | pan | 0 ~ 15/0 ~ +-7 (k4) 0 ~ 15/0 ~ +-7, 16 ~ 21/1 ~ I6 (K4r) |
| e11 | 0vvvvvvvv | 87 | send 1 | 0 ~ 100 |
| e12 | 0vvvvvvvv | 88 | send 2 | 0 ~ 100 |
| | | | | |
| e13 | 000ppppp | 86 | pan | 0 ~ 15/0 ~ +-7 (k4) 0 ~ 15/0 ~ +-7, 16 ~ 21/1 ~ I6 (K4r) |
| e14 | 0vvvvvvvv | 87 | send 1 | 0 ~ 100 |
| e15 | 0vvvvvvvv | 88 | send 2 | 0 ~ 100 |
| <C> | | | | |
| e16 ~ e18 | | | | |
| <D> | | | | |
| e19 ~ e21 | | | | |
| <E> | | | | |
| e22 ~ e24 | | | | |
| <F> | | | | |
| e25 ~ e27 | | | | |
| <G> | | | | |
| e28 ~ e30 | | | | |
| <H> | | | | |
| e31 ~ e33 | | | | |
| e34 | 0ddddd | | 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 ppppppp 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 | 60 | 3CH |
| 14 | 13 | 0DH | 29 | 1DH | 45 | 2DH | 61 | 3DH |
| 15 | 14 | 0EH | 30 | 1EH | 46 | 2EH | 62 | 3EH |
| 16 | 15 | 0FH | 31 | 1FH | 47 | 2FH | 63 | 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 |