

# A-37 MIDI Implementation

## 1 – RECEIVE DATA

All recognized MIDI messages from MIDI-IN are retransmitted on MIDI-OUT-A, with no effect on internal A-37 performance, except for the A-37 Patch SYS-EX messages that are used to modify the A-37 parameter area.

Refer to “System exclusive message” description.

## 2 – TRANSMIT DATA

### Channel voice Message

#### ■ Note off

| Status | Second | Third |
|--------|--------|-------|
| 9nH    | kkH    | 00H   |

n=MIDI channel number: 0H – FH (ch.1 – ch.16)

kk=Note number: 00H – 7FH (0 – 127)

00H = Velocity (0)

#### ■ Note on

| Status | Second | Third |
|--------|--------|-------|
| 9nH    | kkH    | vvH   |

n=MIDI channel number: 0H – FH (ch.1 – ch.16)

kk=Note number: 00H – 7FH (0 – 127)

vv=Velocity 01H – 7FH (1 – 127)

#### ■ Control Change

| Status | Second | Third |
|--------|--------|-------|
| BnH    | ccH    | vvH   |

n=MIDI channel number: 0H – FH (ch.1 – ch.16)

cc=Control change number: 00H – 7FH (0 – 127)

vv= Control change value 00H – 7FH (0 – 127)

#### ■ Program Change

| Status | Second |
|--------|--------|
| CnH    | ppH    |

n=MIDI channel number: 0H – FH (ch.1 – ch.16)

pp=program change number: 00H – 7FH ( prog. 1 – prog.128)

#### ■ Channel After Touch

| Status | Second |
|--------|--------|
| DnH    | vvH    |

n=MIDI channel number: 0H – FH (ch.1 – ch.16)

vv=value: 00H – 7FH (0 – 127)

## ■ Pitch Bend Change

|        |        |       |
|--------|--------|-------|
| Status | Second | Third |
| EnH    | llH    | mmH   |

n=MIDI channel number: 0H – FH (ch.1 – ch.16)  
ll, mm=value: 00H, 00H – 7FH, 7FH ( -8192 ~ +8191)

## ■ System Realtime Message

- Active Sensing

Status  
FEH

\* This will be transmitted constantly at intervals of approximately 250ms

- Timing Clock

Status  
F8H

- Start

Status  
FAH

- Stop

Status  
FCH

## System Exclusive Message

### ■ Data Transfer

A-37 transmit “Data set 1 (DT1)” message when Data Dump Function is activated

### ■ Data set 1 (DT1) (12H)

|        |  |        |
|--------|--|--------|
| Status | Data byte  | Status |
| F0H    | 41H, 10H, 00H, 02H, 12H, aaH, bbH, ccH, ddH, ....eeH, sum, | F7H    |

|      |                   |              |
|------|-------------------|--------------|
| Byte | Description       |              |
| F0H  | Exclusive status  |              |
| 41H  | Manufacturer’s ID | (Roland)     |
| 10H  | Device ID         | (dev => 10H) |
| 00H  | Model ID (MSB)    | (Model A-37) |
| 02H  | Model ID (LSB)    |              |
| 12H  | Command ID        | (DT1)        |

|     |                              |                                   |
|-----|------------------------------|-----------------------------------|
| aaH | 1 <sup>st</sup> Address byte | (01H)                             |
| bbH | 2 <sup>nd</sup> Address byte | (Patch Number 00H – 7FH; 0-127 )  |
| ccH | 3 <sup>rd</sup> Address byte | (00H)                             |
| ddH | Data                         |                                   |
| :   |                              |                                   |
| :   |                              |                                   |
| eeH | Data                         |                                   |
| sum | Checksum                     |                                   |
| F7H | EOX                          | (End of System Exclusive message) |

Each A-37 Patch is composed of 49 bytes. When these bytes are transmitted by SYS EX, they are divided in eight byte groups.

The first data byte of each group contains the status of the BIT7 contained in each one of the next seven bytes.

### 3 – A-37 Patch address

#### ■ Bulk Dump

You can send or receive bulk data which contains a large amount of parameter data by using Bulk Dump communication.

It is used for storing bulk data in a sequencer or a computer.

The address for each A-37 patch is as follows:

| Patch Number    | 1 <sup>st</sup> address byte | 2 <sup>nd</sup> address byte | 3 <sup>rd</sup> address byte |
|-----------------|------------------------------|------------------------------|------------------------------|
| PATCH-001-----> | 01H                          | 00H                          | 00H                          |
| PATCH-002-----> | 01H                          | 01H                          | 00H                          |
| PATCH-003-----> | 01H                          | 02H                          | 00H                          |
| PATCH-004-----> | 01H                          | 03H                          | 00H                          |
| PATCH-005-----> | 01H                          | 04H                          | 00H                          |
| PATCH-006-----> | 01H                          | 05H                          | 00H                          |
| PATCH-007-----> | 01H                          | 06H                          | 00H                          |
| PATCH-008-----> | 01H                          | 07H                          | 00H                          |
| PATCH-009-----> | 01H                          | 08H                          | 00H                          |
| PATCH-010-----> | 01H                          | 09H                          | 00H                          |
| PATCH-011-----> | 01H                          | 0AH                          | 00H                          |
| PATCH-012-----> | 01H                          | 0BH                          | 00H                          |
| :               |                              |                              |                              |
| :               |                              |                              |                              |
| :               |                              |                              |                              |
| PATCH-127-----> | 01H                          | 7EH                          | 00H                          |
| PATCH-128-----> | 01H                          | 7FH                          | 00H                          |

## A-37 Patch Structure

- 01) Upper Data Entry Assign
- 02) Lower Data Entry Assign
- 03) Split\_value
- 04) Upper Midi Channel
- 05) Lower Midi Channel
- 06) Upper Volume
- 07) Lower Volume
- 08) Upper Panpot
- 09) Lower Panpot
- 10) Upper Expr
- 11) Lower Expr
- 12) Upper Reverb
- 13) Lower Reverb
- 14) Upper Chorus
- 15) Lower Chorus
- 16) Upper Delay
- 17) Lower Delay
- 18) Upper Portam
- 19) Lower Portam
- 20) Upper cc00
- 21) Lower cc00
- 22) Upper cc32
- 23) Lower cc32
- 24) Upper PgCh
- 25) Lower PgCh
- 26) Not used in A37
- 27) Not used in A37
- 28) Tempo
- 29) Transpose
- 30)
  - bit0 Upper Hold On/Off
  - bit1 Lower Hold On/Off
  - bit2 Upper Modulation On/Off
  - bit3 Lower Modulation On/Off
  - bit4 Upper After Touch On/Off
  - bit5 Lower After Touch On/Off
  - bit6 Upper Pitch Bend On/Off
  - bit7 Lower Pitch Bend On/Off
- 31)
  - bit0,bit1 Upper velocity 0,0 LL; 0,1 L; 1,0 M; 1,1 H
  - bit2,bit3 Lower velocity 0,0 LL; 0,1 L; 1,0 M; 1,1 H
  - bit4 Upper Mono/Poly 0=MONO; 1=POLY
  - bit5 Lower Mono/Poly 0=MONO; 1=POLY
  - bit6 Transpose On/Off
- 32)
  - bit0,bit1,bit2 Upper Octave 0,0,0 = -2; 0,0,1 = -1; 0,1,0 = 0; 0,1,1 = +1; 1,0,0 = +2
  - bit3,bit4,bit5 Lower Octave 0,0,0 = -2; 0,0,1 = -1; 0,1,0 = 0; 0,1,1 = +1; 1,0,0 = +2
  - bit6,bit7 Keyboard mode 0,0 = Whole upper; 0,1 = Whole lower; 1,0 = Split; 1,1 = Layer
- 33)
  - bit0,bit1 Upper Foot Pedal 0,0 = OFF; 0,1 = ON; 1,0 = INV
  - bit2,bit3 Lower Foot Pedal 0,0 = OFF; 0,1 = ON; 1,0 = INV
  - bit4,bit5 Start/Stop/F8 transmission 0,0 = OUT A; 0,1 = OUT B; 1,0 = OUT A + OUT B
  - bit6 F8 transmission On/Off

\* In the A-37, the successive bytes are all unused