

## MIDI Solutions Beat Converter

### Operating Instructions

The MIDI Solutions Beat Converter can be programmed to generate a Note or Control Change message on the beat in response to MIDI Timing Clock messages. A footswitch can be connected to the Beat Converter to enable the transmission of this programmed message to be toggled on/off. Programmed settings are retained by the Beat Converter even after power is removed.

After receiving any of the following programming commands, the Beat Converter's LED will flash rapidly for about a second to indicate that it has been programmed. Refer to the table below for conversions to hexadecimal values.

The Beat Converter's Echo parameter is in effect regardless of which message below the Beat Converter is programmed to generate. When Echo is ON, all incoming MIDI messages received by the Beat Converter are echoed to its MIDI output. When Echo is OFF, only the messages generated by the Beat Converter are sent to its MIDI output.

- To program the Echo parameter, send the Beat Converter the following System Exclusive message:

**F0 00 00 50 23 00 ee F7** where **ee** = 00 for Echo OFF, **ee** = 01 for Echo ON

- To program the Beat Converter to generate a Note in response to MIDI Timing Clock messages, send it the following System Exclusive message (all values in Hexadecimal):

**F0 00 00 50 23 01 nn vv cc dd (00) F7** where **nn** = Note number

**vv** = Note velocity

**cc** = MIDI channel

**dd** = duration of Note in milliseconds (00 = don't send Note-off)

**(00)** is optional, if included the Beat Converter will not wait for a Start or Continue message to begin sending Notes

**Example:** To program the Beat Converter to send a middle C (Note #60) on MIDI channel 1 of velocity 127 and duration 20 milliseconds on each beat, send the Beat Converter the following:

**F0 00 00 50 23 01 3C 7F 00 14 F7**

- To program the Beat Converter to generate a Control Change message in response to MIDI Timing Clock messages, send it the following System Exclusive message (all values in Hexadecimal):

**F0 00 00 50 23 02 nn vv cc dd (00) F7** where **nn** = Control Change number

**vv** = Control Change value

**cc** = MIDI channel

**dd** = duration in milliseconds (00 = don't reset value to zero)

**(00)** is optional, if included the Beat Converter will not wait for a Start or Continue message to begin sending messages

**Example:** To program the Beat Converter to send Control Change #64 on MIDI channel 1 of value 127 on each beat, and reset the Control Change value to zero after 100 milliseconds, send the Beat Converter the following:

**F0 00 00 50 23 02 40 7F 00 64 F7**

| Dec/Hex | HEXADECIMAL CONVERSION TABLE |       |       |       |       |        |        |  |  |  |  |  |  |  |  |
|---------|------------------------------|-------|-------|-------|-------|--------|--------|--|--|--|--|--|--|--|--|
| 0 00    | 16 10                        | 32 20 | 48 30 | 64 40 | 80 50 | 96 60  | 112 70 |  |  |  |  |  |  |  |  |
| 1 01    | 17 11                        | 33 21 | 49 31 | 65 41 | 81 51 | 97 61  | 113 71 |  |  |  |  |  |  |  |  |
| 2 02    | 18 12                        | 34 22 | 50 32 | 66 42 | 82 52 | 98 62  | 114 72 |  |  |  |  |  |  |  |  |
| 3 03    | 19 13                        | 35 23 | 51 33 | 67 43 | 83 53 | 99 63  | 115 73 |  |  |  |  |  |  |  |  |
| 4 04    | 20 14                        | 36 24 | 52 34 | 68 44 | 84 54 | 100 64 | 116 74 |  |  |  |  |  |  |  |  |
| 5 05    | 21 15                        | 37 25 | 53 35 | 69 45 | 85 55 | 101 65 | 117 75 |  |  |  |  |  |  |  |  |
| 6 06    | 22 16                        | 38 26 | 54 36 | 70 46 | 86 56 | 102 66 | 118 76 |  |  |  |  |  |  |  |  |
| 7 07    | 23 17                        | 39 27 | 55 37 | 71 47 | 87 57 | 103 67 | 119 77 |  |  |  |  |  |  |  |  |
| 8 08    | 24 18                        | 40 28 | 56 38 | 72 48 | 88 58 | 104 68 | 120 78 |  |  |  |  |  |  |  |  |
| 9 09    | 25 19                        | 41 29 | 57 39 | 73 49 | 89 59 | 105 69 | 121 79 |  |  |  |  |  |  |  |  |
| 10 0A   | 26 1A                        | 42 2A | 58 3A | 74 4A | 90 5A | 106 6A | 122 7A |  |  |  |  |  |  |  |  |
| 11 0B   | 27 1B                        | 43 2B | 59 3B | 75 4B | 91 5B | 107 6B | 123 7B |  |  |  |  |  |  |  |  |
| 12 0C   | 28 1C                        | 44 2C | 60 3C | 76 4C | 92 5C | 108 6C | 124 7C |  |  |  |  |  |  |  |  |
| 13 0D   | 29 1D                        | 45 2D | 61 3D | 77 4D | 93 5D | 109 6D | 125 7D |  |  |  |  |  |  |  |  |
| 14 0E   | 30 1E                        | 46 2E | 62 3E | 78 4E | 94 5E | 110 6E | 126 7E |  |  |  |  |  |  |  |  |
| 15 0F   | 31 1F                        | 47 2F | 63 3F | 79 4F | 95 5F | 111 6F | 127 7F |  |  |  |  |  |  |  |  |

### MIDI CHANNEL TABLE

**cc** must be set according to the following table:

| Chan. | cc | Chan. | cc | Chan. | cc |
|-------|----|-------|----|-------|----|
| 1 -   | 00 | 7 -   | 06 | 13 -  | 0C |
| 2 -   | 01 | 8 -   | 07 | 14 -  | 0D |
| 3 -   | 02 | 9 -   | 08 | 15 -  | 0E |
| 4 -   | 03 | 10 -  | 09 | 16 -  | 0F |
| 5 -   | 04 | 11 -  | 0A | ALL - | 7F |
| 6 -   | 05 | 12 -  | 0B |       |    |