

MIDI Solutions Beat Indicator

Operating Instructions

The MIDI Solutions Beat Indicator contains an ultra bright LED that can be programmed to flash on the beat in response to MIDI Timing Clock messages. The flash can be advanced or delayed by up to 128 ms from the actual beat, and the brightness of the flash is programmable. The Beat Indicator can also be programmed to flash in response to a Note or Control Change message. Settings are retained by the unit even after power is removed.

After receiving any of the following programming commands, the Beat Indicator'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.

- ▶ To clear the Beat Indicator's settings, send it the following System Exclusive message (all values in Hexadecimal):
F0 00 00 50 22 00 F7

- ▶ To program the Beat Indicator to flash in response to MIDI Timing Clock messages, send it the following System Exclusive message (all values in Hexadecimal):
F0 00 00 50 22 01 aa dd F7 where **aa** = advancement in ms. (00 - 7F)
dd = delay in ms. (00 - 7F)

Example: To program the Beat Indicator to flash 20 ms in advance of each beat, send the Beat Indicator the following:
F0 00 00 50 22 01 14 00 F7

- ▶ To program the Beat Indicator to flash in response to a Note-on message, send it the following System Exclusive message (all values in Hexadecimal):
F0 00 00 50 22 02 nn cc dd F7 where **nn** = Note number (00 - 7F)
cc = MIDI channel (see table below)
dd = delay in ms (00 - 7F)

Example: To program the Beat Indicator to flash 10 ms after receiving middle C on MIDI channel 1, send it the following:
F0 00 00 50 22 02 3C 00 0A F7

- ▶ To program the Beat Indicator to flash in response to a Control Change message, send it the following System Exclusive message (all values in Hexadecimal):
F0 00 00 50 22 03 nn cc dd F7 where **nn** = Control Change number (00 - 7F)
cc = MIDI channel (see table below)
dd = delay in ms (00 - 7F)

Example: To program the Beat Indicator to flash exactly on receiving CC#64 on MIDI channel 10, send it the following:
F0 00 00 50 22 03 40 09 00 F7

- ▶ To program the brightness of the Beat Indicator's flash, send it the following System Exclusive message (all values in Hexadecimal):
F0 00 00 50 22 0A bb F7 where **bb** = brightness of flash from 00 (dim) - 7F (bright)
- Example:** To program the Beat Indicator to flash at the highest possible brightness, send it the following:
F0 00 00 50 22 0A 7F F7

HEXADECIMAL CONVERSION TABLE														
Dec/Hex	16	10	32	20	48	30	64	40	80	50	96	60	112	70
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		