MIDI Solutions

Router

OPERATING INSTRUCTIONS

MIDI Solutions Router Operating Instructions M401-100

INTRODUCTION

Thank you for purchasing the MIDI Solutions Router.

The MIDI Solutions Router has the capability of routing selected MIDI messages to either of its two MIDI outputs. Routed messages can be rechannelized, and it is also possible to filter MIDI messages by routing them to neither output. The MIDI Solutions Router is MIDI-powered and requires no batteries or power supply to operate.
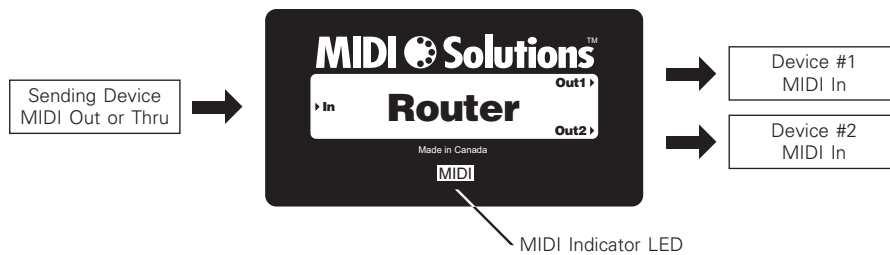
CONNECTIONS

To program the Router connect the MIDI Out from your MIDI interface to the MIDI **In** of the Router. MIDI **Out1** and **Out2** can be left disconnected during programming.

Once the Router is programmed, it can be inserted wherever it is required in your MIDI setup. Connect the MIDI Out or Thru of the sending device to the MIDI In of the Router, MIDI **Out1** of the Router to the MIDI In of the first receiving MIDI device, and MIDI **Out2** of the Router to the MIDI In of the second receiving MIDI device. It is recommended that the number of MIDI Solutions products powered by a single MIDI Out or Thru be limited to four.

PROGRAMMING

The Router is programmed by sending it MIDI System Exclusive programming commands from a computer with a MIDI interface. These commands are described in detail on the following pages, however **the Programming Tools software creates these commands automatically** (see www.midisolutions.com/support.htm).

Upon receipt of a programming command, the Router's MIDI indicator LED flashes rapidly for about one second to indicate that the setting has been stored. Settings are retained after power is removed, and the unit can then be inserted wherever it is required in your MIDI setup.

OPERATION

The Router's MIDI Indicator LED will light as soon as the sending device is turned on, and flashes whenever MIDI data passes through the unit. MIDI messages are routed according to the Router's programmed settings, all other MIDI messages are sent unchanged to both MIDI Outs.

PROGRAMMING COMMANDS

CLEAR SETTINGS

To clear all of the Router's settings, send it the following System Exclusive programming command:

▶ **F0 00 00 50 01 00 F7**

It is recommended to send the Clear Settings command to the Router prior to programming the unit to ensure that all previous settings are cleared.

DUMP SETTINGS

To dump all of the Router's current settings, send it the following System Exclusive message:

▶ **F0 00 00 50 01 10 F7**

Upon receipt of this command the Router will dump its current settings to the MIDI Out.

ROUTER SETTING PRIORITY

The Router will accept up to 10 settings. If more than 10 settings are sent to the Router, the oldest setting is discarded to make room for the most recent setting. The Router gives the most recent setting priority over all previous settings. For example, if the Router is first programmed to route all note messages on all channels to Out2, and then programmed to route all note messages on channel 1 to Out1, then incoming note messages on channels 2 through 16 are sent to Out2, and incoming note messages on channel 1 are sent to Out1. It is also possible for the Router to ignore priority. To set up the Router to process all of its settings, regardless of their priority, send it the following command in place of the above Clear Settings command:

▶ **F0 00 00 50 01 00 01 F7**

ROUTE SETTING

To program the Router to route an incoming MIDI message to a selected output, send it the following System Exclusive programming command:

▶ **F0 00 00 50 01 02 aa bb xx yy cc dd F7**

All bytes must be in Hexadecimal format (see hexadecimal conversion table at end)

aa = input data type:

00: Note range (**xx yy** selected from 00 to 7F)

01: Key Pressure range (**xx yy** selected from 00 to 7F)

02: Control Change range (**xx yy** selected from 00 to 7F)

03: Program Change range (**xx yy** selected from 00 to 7F)

04: Channel Pressure range (**xx yy** selected from 00 to 7F)

05: Pitch Bend MSB range (**xx yy** selected from 00 to 7F)

06: Channel Message range (**xx yy** selected from 00 to 05 of above message types)

07: System Message range (**xx yy** selected from 00 to 07 of following message types, **bb** and **cc** ignored)

00: System Exclusive

01: Song Position Pointer

02: Song Select

03: MIDI Time Code

04: Timing Clock

05: Start

06: Continue

07: Stop

08: Keyboard range (**xx yy** selected from 00 to 7F. When a keyboard range is selected, channel messages are sent to both the selected and original outputs. This allows messages such as Sustain and Pitch Bend to affect notes in each range.)

bb = input MIDI channel (see MIDI channel table at end)

xx yy = range of incoming values to route

cc = output MIDI channel (see MIDI channel table at end)

dd = output select: 00: Neither output

01: Out1

02: Out2

03: Both outputs

Example

To program the Router to route all System Realtime messages to Out2, set **aa** = 07 for System Message range, set **xx** = 04 and **yy** = 07 to select the range of messages from Timing Clock to Stop, set **bb** = **cc** = 00 (channels ignored for System messages), and set **dd** = 02 for Out2. This results in the following programming command:

F0 00 00 50 01 02 **07 00 04 07 00 02** F7

MIDI CHANNEL TABLE

The value **cc** in the programming commands is assigned according to the following table:

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

MIDI CONTROL CHANGE TABLE

Decimal	Hexadecimal	Control Function
0	00	Bank Select
1	01	Modulation wheel or lever
2	02	Breath Controller
3	03	Undefined
4	04	Foot controller
5	05	Portamento time
6	06	Data entry MSB
7	07	Channel Volume
8	08	Balance
9	09	Undefined
10	0A	Pan
11	0B	Expression Controller
12-13	0C-0D	Effect Controls 1-2
14-15	0E-0F	Undefined
16-19	10-13	General Purpose Controllers (#'s 1-4)
20-31	14-1F	Undefined
32-63	20-3F	LSB values for 0-31
64	40	Damper pedal (sustain)
65	41	Portamento On/Off
66	42	Sostenuto
67	43	Soft pedal
68	44	Legato Fsw (vv=00-3F: Normal, 40-7F: Legato)
69	45	Hold 2
70	46	Sound Controller 1 (default: Sound Variation)
71	47	Sound Controller 2 (default: Timbre/Harmonic Content)
72	48	Sound Controller 3 (default: Release Time)
73	49	Sound Controller 4 (default: Attack Time)
74	4A	Sound Controller 5 (default: Brightness)
75-79	4B-4F	Sound Controllers 6-10 (no defaults)
80-83	50-53	General Purpose Controllers (#'s 5-8)
84	54	Portamento Control
85-90	55-5A	Undefined
91	5B	Effects 1 Depth (formerly External Effects Depth)
92	5C	Effects 2 Depth (formerly Tremolo Depth)
93	5D	Effects 3 Depth (formerly Chorus Depth)
94	5E	Effects 4 Depth (formerly Celeste (Detune) Depth)
95	5F	Effects 5 Depth (formerly Phaser Depth)
96,97	60,61	Data increment, Data decrement
98,99	62,63	Non-Registered Parameter Number LSB, MSB
100,101	64,65	Registered Parameter Number LSB, MSB
102-119	66-77	Undefined
120-127	78-7F	Reserved for Channel Mode Messages

HEXADECIMAL CONVERSION TABLE

Dec/Hex															
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

WARRANTY

MIDI Solutions Inc. warrants this product to be free from defects in material and workmanship for a period of one (1) year from date of purchase. This warranty is void if the product has been damaged by accident, misuse, alteration, unauthorized repairs or other causes not arising out of defects in material or workmanship. Under no circumstances will MIDI Solutions be liable for any loss of profits, benefits, time, interrupted operation, commercial loss, or consequential damages arising out of the use or inability to use the product. MIDI Solutions specifically disclaims any implied warranties of merchantability and fitness for a particular purpose. If the product requires service, a Return Merchandise Authorization (RMA) number must be obtained from MIDI Solutions and the product must be shipped prepaid to a specified Service Center. MIDI Solutions will repair or replace the product at our discretion and will pay return shipping fees. The customer is responsible for any damage or loss sustained during shipment in any direction.