KENTON electronics

INSTRUCTIONS FOR MIDI INTERFACE
OBERHEIM DMX DRUM MACHINE

USING THE MIDI INTERFACE

Your DMX drum is now equipped to send and receive MIDI information. When turned on the machine will function normally, sending out and receiving MIDI note & velocity information on the channels set in memory. The factory channel settings are: receive channel 10, omni off, transmit channel 10, and clock stop/start messages enabled for both receive and transmit. (Clock and start/ stop information is on a sort of global MIDI channel).

YOU CAN RETURN TO THE FACTORY MIDI SETTINGS BY SWITCHING THE MACHINE ON WHILST HOLDING THE RED BUTTON PRESSED (hold for a couple of seconds then release).

If enabled, the DMX will normally send MIDI clock and stop/start information derived from its own internal clock - you can however set the MIDI to read information coming from the Tape sync / External clock inputs instead [clock mode #2]. The DMX will normally use its own internal clock for timing, unless it receives a MIDI start command - (assuming that MIDI clock is enabled). On receipt of the MIDI start, it will then use MIDI clock information instead of its own internal clock. It will continue to do this until a MIDI stop command is received. If it has received a MIDI start but no MIDI clock is forthcoming, the DMX will appear to be "locked up".

There are several commands for controlling MIDI clock:-

Clock mode 0 = enable MIDI clock for input & disable Tape sync read
Clock mode 1 = disable MIDI clock for input & disable Tape sync read
Clock mode 2 = disable MIDI clock for input & enable Tape sync read
Clock mode 3 = enable MIDI clock for output
Clock mode 4 = disable MIDI clock for output

In addition to the above, MIDI continue messages can be treated as a MIDI start command, or ignored.

RED PUSH BUTTON

Two modes are available by pushing the red push button. Before you do press the red button however, make sure the DMX drum is not playing, otherwise the results may be unpredictable.

1) SET-UP MODE - Setting MIDI channels and assignments (start-stop etc). (panel or remote).

Give the red push button a short press (half a second) - then release. Follow this with a note or sequence of notes (on the remote keyboard) as detailed on page 3. After selecting a channel you will be automatically returned to playing mode but after making assignments you will need to press the ENTER key (Top C) to return to playing mode. (N.B. set-ups are stored in non volatile memory).

2) MAPPING MODE - assigning MIDI notes to sounds

Press the red button hold for about six seconds - then release. Follow this (on the remote keyboard) with a program change number, then any MIDI note. The drum sound specified by that program change number will be mapped to the key you pressed. You may keep assigning drum sounds to keys in the same fashion (program then key). When you have assigned all the sounds that you want to, press any invalid program change number (24 and above), you will then be automatically returned to normal play mode. On page 4 is a list of which program numbers correspond to what drum sounds.

N.B. The red button can be pressed via MIDI - see last page.

You can set channels etc on the DMX itself as described below;

The top row of eight buttons [left to right] = numbers 1 to 8
the middle row of buttons [left to right] = numbers 9 to 16.
the bottom row of buttons [left to right] are as follows:-

1. [Bass 3] = set RX Channel	2. [Snare 3] = set TX Channel
3. [Open Hihat] = Omni mode set	4. [Tom 3] = Continue mode set
5. [Tom 6] = Clock mode set	6. [Crash] = not used
7. [Rimshot] = not used	8. [Claps] = ENTER key - exit set-up mode & return to play mode.

So the sequence of events is :-

1. Press the red push button - a quick press then let go - (don't hold it pressed for more than a second or you might enter mapping mode).
2.Press one of the bottom row of buttons to indicate what it is you want to change. [Receive channel / Transmit channel etc.]
3. Press one of the buttons on the top or middle rows to indicate the channel number or mode you want to set.
4. Optional step - repeat steps 2 & 3 to change another parameter.
5. Press the CLAPS key on the bottom row to store the changes in the non-volatile memory and return to playing mode.

Note that when the red button has been pressed, the panel buttons will not make sounds when pressed, until normal playing mode is resumed by pressing ENTER (Claps).

As an example - to get transmit channel 5 and receive channel 9, but leave it in omni-off mode.

1) Press the red button
2) Press Snare 3 (transmit select)
3) Press Tom 4 [transmit ch 5 now set]
4) Press Bass 3 (receive select)
5) Press Bass 2 [receive ch 9 now set]
6) Press Claps - return to playing mode & store changes to memory

You can also set channels etc. from a remote MIDI keyboard, using the table on the next page. [Press the red push button first]

Note that selecting a receive channel from the remote keyboard will automatically set the DMX to omni-off, otherwise the effect of the setting up procedure is the same.

C	Receive channel	1 [Bottom C] MIDI note number 36	
Db	" "	2	
D	" "	3	
Eb	" "	4	
E	" "	5	
F	" "	6	
Gb	" "	7	
G	" "	8	Selecting a receive channel
Ab	" "	9	will automatically put the
A	" "	10	MIDI into omni off mode.
Bb	" "	11	That is, it will receive on
B	" "	12	the selected channel only.
C	" "	13	
Db	" "	14	
D	" "	15	
Eb	" "	16	
E	Omni on mode		
F	Transmit channel	1	(default).
Gb	" "	2	The transmit channel can be
G	" "	3	changed independently of the
Ab	" "	4	of the receive channel, and
A	" "	5	can be set even during omni
Bb	" "	6	on mode.
B	" "	7	
C	" "	8	
Db	" "	9	
D	" "	10	
Eb	" "	11	
E	" "	12	
F	" "	13	
Gb	" "	14	
G	" "	15	
Ab	" "	16	
A	Not Used - - -		
Bb	" "		
B	" "		
C	" "		
Db	" "		
D	" "		
Eb	" "		
E	" "		
F	" "		
Gb	" "		
G	" "		
Ab	" "		
A	" "		
Bb	" "		
B	" "		
C	" "		
Db	" "		
D	Continue message ignored		
Eb	Continue = Start		
E	Clock mode 0 = MIDI and DMX internal clock (auto switching)		
F	Clock mode 1 = DMX internal clock only		
Gb	Clock mode 2 = DMX internal, external, and tape sync to MIDI clock		
G	Clock mode 3 = disable MIDI clock out		
Ab	Clock mode 4 = enable MIDI clock out		
A	Not Used - - -		
Bb	" "		
B	" "		
C	ENTER key	Press and release. [Top C] MIDI note no. 96	

Program number use in MAPPING MODE

1 - Bass 1
2 - Bass 2
3 - Bass 3
4 - Snare 1
5 - Snare 2
6 - Snare 3
7 - Hi-hat closed
8 - Hi-hat accent
9 - Hi-hat open
10 - Tom 1
11 - Tom 2
12 - Tom 3
13 - Tom 4
14 - Tom 5
15 - Tom 6
16 - Ride 1
17 - Ride 2
18 - Crash
19 - Tamb 1
20 - Tamb 2
21 - Rimshot
22 - Shaker 1
23 - Shaker 2
24 - Claps

1. No matter how the sounds are assigned, these program numbers always belong to the same sound.

2. Any program number above 24 will terminate Assign mode and return you to normal play mode.

3. If you assign more than one sound to the same MIDI note, only the most recent one will sound - the original sound on that note will then be "unassigned" until it has been given a new assignment. When sounds are unassigned, they will not be transmitted over MIDI

4. Assignments are stored in non volatile memory.

5. The factory default note map for MIDI in & out is for the sounds to appear in the above order, starting from the bottom C on a standard 61 note keyboard [DX7 / D50 etc.] i.e. starting from MIDI note #36

OTHER INFORMATION - - -

6. If the DMX is already playing a pattern or song using its own internal clock - then any MIDI timing messages [clock/stop/start] will be ignored. To read MIDI timing information the DMX must be not playing.

7. The clock mode settings are not stored in the non-volatile memory. The DMX will always power up in clock modes #0 & #4

8. The DMX will only respond to MIDI timing (clock) messages when set to clock mode #0. Clock modes #1 & #2 ignore MIDI clock entirely. Clock modes #3 & #4 concern MIDI out and have no effect on MIDI in.

9. When clock mode #2 is selected, tape / external sync can be read and converted to MIDI clock/stop/start messages for MIDI out.

MIDI CONTROL OF RED PUSH BUTTON

The red push button can be "pressed" via MIDI as MIDI switch number 95 (5Fh) for regular program mode or 94 (5Eh) for transpose mode. The selection of the push button is enough, it doesn't matter if it is being turned on or off.

In hexadecimal BX - 5F - 00 = program mode
In hexadecimal BX - 5E - 00 = transpose mode

Where X is the current MIDI channel.

[N.B. whilst in program/transpose modes the MIDI is in omni on mode]

MIDI CONNECTORS

MIDI IN should be connected to a MIDI OUT or a MIDI THRU similarly MIDI OUT should be connected only to a MIDI IN and a MIDI THRU should also be connected only to a MIDI IN.

MIDI OUT is the signal from the synthesizer (or drum machine etc.) that is to be sent to another instrument. MIDI IN is a received signal that contains MIDI information from another synth, and MIDI THRU is an exact copy of information arriving at the MIDI IN socket. This allows several instruments to be connected together.

If you want to wire your own MIDI cables the following information may be useful.
1) Although a 5 pin connector is used, only two connections plus an
earth connection are required.
2) If you look at the din plug from the wiring side you will see that the pins are numbered. From left to right (or clockwise) these are 1 - 4 - 2 - 5 - 3.
3) The pins numbered 1 & 3 are not used.
4) The screen (earth) is connected to pin 2 (centre pin)
5) Pin 4 of one plug should be connected to pin 4 of the other
6) Pin 5 of one plug should be connected to pin 5 of the other
7) You should now have a working MIDI lead
8) It is preferable to label one end of the cable MIDI IN & the other end MIDI OUT, to avoid confusion.

WARRANTY

All Kenton MIDI Kits come with a 12 month (from purchase date) back to base warranty, (i.e. customer must arrange and pay for carriage to and from Kenton Electronics).

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