KENTON electronics

INSTRUCTIONS FOR MIDI INTERFACE
ROLAND CR78 DRUM MACHINE

USING THE MIDI INTERFACE

Your CR78 drum machine is now equipped to receive MIDI information. When turned on the machine will function normally, and receive MIDI note information on the channel set in memory. The factory settings are: receive chan 16, omni off and Stop/start RX enabled. Clock information is always received. Start/stop information is received if enabled. (Clock information is not channel sensitive).

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)

With the rear panel switch set to normal (up) the CR78 drum will run from its own internal clock at a rate determined by its tempo control. With the rear panel switch in the down position however, it will run from external MIDI clock only at the rate set by the MIDI device connected. If no MIDI timing information is present then the CR78 drum will not run.

The switch labelled MET/TAMB should be switched DOWN if you are playing the CR78 using MIDI notes directly - but should be UP if you want to use the machine on its own, or if you are running from MIDI sync. (Metallic and Tambourine are normally interconnected - setting the switch in the down position removes this link and enables them to be played independently via MIDI)

The switch labelled FADE must be switched DOWN if you are going to use the CR78 with MIDI - The fade circuit (even when switched off from the front panel) makes the CR78 too lithargic to respond to MIDI properly. - This switch can be left permanently in the down position if you don't need to use fade.

MIDI start/stop messages can be ignored. Go into set-up mode and select with the appropriate MIDI note as described in the next paragraph.

RED PUSH BUTTON

Two modes are available by pushing the red push button. Before you do press the red button however, make sure the CR78 drum is not playing, otherwise the results may be unpredictable.

1) SET-UP MODE - Setting MIDI channels and assignments (start-stop etc)

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 2. 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 (15 and above), you will then be automatically returned to normal play mode. On page 3 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.

C	Receive channel	1 [Bottom C] MIDI note number 36	
Db	" "	2	
D	" "	3	
Eb	" "	4	
E	" "	5	
F	" "	6	
Gb	" "	7	
G	" "	8	
Ab	" "	9	
A	" "	10	
Bb	" "	11	
B	" "	12	
C	" "	13	
Db	" "	14	
D	" "	15	
Eb	" "	16	default
E	Not used		
F	Omni on mode		
Gb	Not used - - -		
G	" "		
Ab	" "		
A	Ignore received master reset		
Bb	Not used - - -		
B	" "		
C	" "		
Db	" "		
D	" "		
Eb	" "		
E	" "		
F	" "		
Gb	" "		
G	" "		
Ab	" "		
A	" "		
Bb	" "		
B	" "		
C	" "		
Db	" "		
D	" "		
Eb	" "		
E	" "		
F	" "		
Gb	Triplet clock	Select after the clock speed.	
G	Normal clock speed	Clock settings are not stored.	
Ab	Half speed clock	On power up, the CR78 will	
A	Quarter speed clock	always return to Normal	
Bb	Eight speed clock	clock speed - (no triplets).	
B	Not used - - -		
C	" "		
Db	" "		
D	Continue message ignored	(default)	
Eb	Continue treated as Start	(not true continue)	
E	Ignore start and stop through MIDI		
F	Respond to start and stop through MIDI (default)		
Gb	Not Used - - -		
G	" "		
Ab	" "		
A	" "		
Bb	" "		
B	" "		
C	ENTER key	Press and release. [Top C] MIDI note no. 96	

ASSIGNING SOUNDS TO MIDI NOTE NUMBERS IN MAPPING MODE

Program	1	Bass Drum
	2	Snare Drum
	3	Rim Shot
	4	Hi Hat
	5	Cymbal
	6	Maracca
	7	Clave
	8	Hi Bongo
	9	Lo Bongo
	10	Lo Conga
	11	Cowbell
	12	Guiro
	13	Tambourine
	14	Metallic Beat

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

2) Any program number above 14 will terminate Mapping 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.

4) Assignments are stored in non volatile memory.

5) MIDI notes below a velocity of 80 decimal (50 hex) will be treated as unaccented - notes with a velocity of 80d (50h) and above will be accented (and thus affected by the setting of the accent control).

6) "MIDI CONTINUE" is ignored as a factory default but it can be enabled (see table on previous page) - when enabled "CONTINUE" is treated as a "START" command.

7) To select TRIPLET, do so after selecting the clock speed, as selecting clock speeds will cancel Triplet. Triplet will turn quavers (8s) into crotchet triplets (6s) and crotchets (4s) into minim triplets (3s) etc.

8) In order to use CR78 with MIDI, the FADE switch must be in the down position.

9) The CR78 MIDI allows you to play drum notes at the same time as you are running from MIDI clock (or internal clock)

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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