

## INSTRUCTIONS FOR MIDI INTERFACE

LINNDRUM Mk 1 (early versions - volume control top left)

Your Linndrum 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 chan 16 omni off transmit chan 1 and Stop/start TX/RX enabled  
Clock information is always sent and Start/stop information is sent and received if enabled. (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 back panel toggle switch (MIDI CLOCK) set in the up position the Linndrum will run from its own internal clock and will send out MIDI timing information at a rate determined by the tempo knob. With the rear panel switch set in the down position however, it will run from MIDI sync at the rate set by the MIDI device connected. If no MIDI timing information is present, then the Linndrum will not run.

IMPORTANT NOTE - The Linn 1 was not designed to run faster than 160 bpm - if you send MIDI clock to it faster than this, it will go out of time. (If its only for a brief period the MIDI interface will buffer the extra clocks and the Linn will then catch up when the tempo slows down again).

Some drum machines/sequencers may not send start/stop codes, in this case pressing the start switch on the Linn, will make it wait until MIDI clock/sync is present.

If you insert a jack plug into the EXT CLOCK socket it will override both the internal and MIDI clocks.

RED PUSH BUTTON -

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

1) SET-UP MODE - setting MIDI channel/stop-start etc. (panel or remote) Give the red push button a short press (half a second) - then release. Follow this with a MIDI note (a key on a DX7 D50 etc.) or sequence of notes as detailed on page 3. Note that after selecting a channel or other function, top C will need to be pressed to return the unit to playing mode. (N.B. set-ups are stored in non volatile memory).

2) MAPPING MODE - assigning MIDI notes to sounds (from remote synth only) - 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 (any above 16), 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 also set channels etc on the Linn itself as described below

The top row of nine buttons (bass thru CLAVE) are for selection of Midi channels - the first 8 are numbers 1 to 8, the ninth button (CLAVE) will add 8 to the channel if pressed immediately prior to one of the buttons 1 to 8, allowing selection of channels 9 to 16. >>

On the bottom row, BASS selects Receive chan, SNARE selects Transmit chan, HI-HAT selects [omni-on mode], HI-HAT> selects [omni-off mode], CABASA selects [disable midi stop/start in & out], TAMB selects [enable midi stop/start in & out], LO-TOM and LO-CONG are not used, and COWBELL is the Enter key, to return you to the normal operating state.

So the sequence of events is :- Red push button - (then optionally omni on or off) - then receive or transmit select, then a channel number [1 thru 16] - then press COWBELL to exit.

As an example - to get transmit channel 5 and receive channel 10, but leave it in omni-off mode.

- 1) Press the red button
- 2) Press SNARE [bottom row of buttons] (transmit select)
- 3) Press cabasa [top row of buttons (transmit ch 5 now set)
- 4) Press BASS [bottom row of buttons] (receive select)
- 5) Press CLAVE [top row ] (add 8 to the following channel)
- 6) Press snare [top row ] [receive ch 10 now set]
- 7) Press COWBELL [bottom row ] - Enter key

Note that when the red button has been pressed, the panel buttons will not make sounds when pressed, until the Enter key has been pressed (COWBELL [bottom row]).

#### OPERATION OF DRUM BUTTONS IN SET-UP MODE

Chan 1 (9)	Chan 2 (10)	Chan 3 (11)	Chan 4 (12)	Chan 5 (13)	Chan 6 (14)	Chan 7 (15)	Chan 8 (16)	Add 8 to Chan
RX mode	TX mode	Omni ON	Omni OFF	Dis- able START & STOP	En- able & STOP	Not used	Not used	ENTER

N.B. - Assign mode cannot be used from the front panel buttons

C	Receive channel	1	Bottom C - MIDI note no. 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	not used		
Ab	not used		
A	not used		
Bb	not used		
B	not used		
C	Transmit channel	1 (default)	[ Middle C ] MIDI note number 60
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
E	not used		
F	not used		
Gb	not used		
G	not used		
Ab	not used		
A	not used		
Bb	not used		
B	not used		
C	not used		
Db	not used		
D	not used		
Eb	not used		
E	Disable start and stop through MIDI		
F	Enable start and stop through MIDI (default)		
Gb	not used		
G	not used		
Ab	not used		
A	not used		
Bb	not used		
B	not used		
C	ENTER KEY - Press and release.		Top C - MIDI note no. 96

Selecting a receive channel will automatically put the MIDI into omni off mode. That is, it will receive on the selected channel only.

The transmit channel can be changed independently of the of the receive channel, and can be set even during omni on mode.

Program number use in Assign mode

Program 1 - bass & BASS  
2 - snare & SNARE  
3 - hi-hat & HI-HAT  
4 - HI-HAT >  
5 - CLAPS  
6 - cabasa & CABASA  
7 - tamb & TAMB  
8 - LO-TOM  
9 - HI-TOM  
10 - LO-CONG  
11 - HI-CONG  
12 - COWBELL  
13 - CLAVE

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

2) Any program number above 16 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 two volume levels on some sounds are accessed via MIDI at different velocities.

## 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 = set-up mode

In hexadecimal BX - 5E - 00 = mapping mode

Where X is the current MIDI channel.

[n.b. whilst in set-up/mapping 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 synthesiser (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.

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Kenton Electronics  
Brookfarm House  
Station Road  
South Wimbledon  
London  
SW19 2LP  
UK

Tel +44 (0)20 8544 9200  
Fax +44 (0)20 8544 9300

[www.kenton.co.uk](http://www.kenton.co.uk)

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