# User instructions for Kenton MIDI retrofit for
# *Linndrum mk 2/3*

*These instructions are for Linndrum mk 2/3 MIDI retrofit kits produced after 2nd March 2015 – Firmware LIN26000 or later. Different instructions apply to earlier MIDI retrofit kits for the Linndrum mk 2/3.*

Your Linndrum is now equipped to send and receive MIDI information. When turned on it will function normally but will also send and receive MIDI note & velocity information on the MIDI channels you have selected. It will also send and receive MIDI clock information.

The factory default settings are:
Receive channel 10
Transmit channel 10
Clock Stop/start receive ON
Continue=Start ON

You can return the MIDI interface to its factory default settings at any time by turning the Linndrum on while holding the red push button pressed.  Hold for a couple of seconds – then release.

The Linndrum will auto-switch between internal clock and MIDI clock. If the Linndrum is already playing from its internal clock, then MIDI START and Timing Clock commands are ignored. If the Linndrum is stopped, then when a MIDI Start command (or SPP = zero + continue – see below) is received, the Linndrum will take its timing information from the MIDI clock source. The Linndrum will then only resume playing from its internal clock once a MIDI stop command has been received.

Some sequencers do not send a MIDI start command and instead send a Song Position Pointer (SPP) zero followed by a Continue message, this is recognised by the Linndrum as a MIDI start. Continue messages received with SPP not zero will be ignored if Continue=Start is OFF. However the default setting for Continue=Start is ON.

You can make the Linndrum ignore start/stop/continue commands by selecting it using the programming mode described in the next paragraph, when set to disable the Linndrum will not respond to start, stop, or continue commands, this is to enable the Linndrum to function as a sound module in systems where MIDI clock is being used to drive other devices.

You can also set the Linndrum to MIDI receive OFF, this will enable the Linndrum to run in time with MIDI clock, but ignore any incoming notes. MIDI transmit can be turned off too. This applies to notes only, not clock.

## *Using the red push button to program the MIDI settings*

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

**1) SETUP MODE** - Changing MIDI channels and other settings
Give the red push button a short firm press (half a second) - then release. Use the drum sound buttons to select MIDI channels, continue=start, stop-start enable/disable as described on the next page. Alternatively follow this with a single note on the remote MIDI keyboard as detailed on page 4. After pressing any key (whether valid or not) you will be automatically returned to playing mode. Set-ups are stored in non volatile memory.

**2) MAPPING MODE** - assigning MIDI notes to sounds
Press the red button firmly, hold for about four seconds (the Snare1drum will sound to indicate) - then release. Follow this with a single press of the drum sound button that you want to map (which will play ), followed by any MIDI note on the remote MIDI keyboard. The drum sound specified by that drum sound button will be mapped to the key you pressed. Press the Snare1 button (bottom row left), to be returned to normal play mode. To map the Snare use only the Snare 2 or Snare 3 buttons. On page 3 is a fuller description of the process.

**Note:** When in *setup* and *mapping* modes the Linndrum will receive on ALL MIDI channels.

**OPERATION OF DRUM BUTTONS IN SET-UP MODE – FULL DESCRIPTION**

```
 ------ ------ ------ ------ ------ ------ ------ ------
| Chan | Chan | Chan | Chan | Chan | Chan | Chan | Chan |
| 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |
| (9)  | (10) | (11) | (12) | (13) | (14) | (15) | (16) |
 ------ ------ ------ ------ ------ ------ ------ ------

 ------ ------ ------ ------ ------ ------ ------ ------
| RX   | TX   | Cont |Start |      |      |Return|Select|
| chan | chan | =    | &    | OFF  | ON   | to   | 1-8  |
| mode | mode |Start | Stop |      |      | play | 9-16 |
 ------ ------ ------ ------ ------ ------ ------ ------
```

Red percussion light OFF = channels 1-8 – Red percussion light ON = channels 9-16

The top row of eight buttons (Hi-Hat1 thru Ride 2) are for selection of MIDI channels. With the 'percussion' LED unlit, these buttons select MIDI channels1 to 8;  if the percussion LED is lit they select MIDI channels 9 to 16. You can also use the OFF button instead of a channel button to turn MIDI receive or transmit  OFF. (The ON button however has no effect following RX or TX chan mode buttons.

On the bottom row, 'Sidestick selects Receive channel mode, 'Snare 1' selects Transmit channel mode , 'Snare 2' selects Continue=Start  mode, 'Snare 3' selects MIDI stop/start receive mode, 'Bass 1' selects OFF, B'Bass2' selects ON, and 'Crash' will just return you to the normal operating state.

So the sequence of events for setting a MIDI channel is :-
Red push button (short press)
then Receive or Transmit mode select
then select channels 1-8 or 9-16 using the 'Percussion' button (LED lit = 9-16)
then one of the 8 buttons on the top row to select a channel.

The selected channel will be stored in memory and you will be returned to normal playing mode.
If you want to make another selection, you will need to press the red push button again.

As an example - to get transmit channel 5 and receive channel 10.

    1) Press the red button firmly (short press)
    2) Press 'Snare 1'  [bottom row of buttons]  for Transmit Channel Mode
    3) Check the 'Percussion' LED is not lit – if it is then press the 'Percussion' button to extinguish it
    4) Press 'Mid Tom' [top row of buttons] for channel 5
Transmit channel 5 is now set and stored.
    5) Press the red button firmly again (short press)
    6) Press 'Sidestick' [bottom row of buttons] for Receive Channel Mode
    7) Press the 'Percussion' button [bottom right button] to select 'Percussion' mode for channels 9-16
    8) Press 'Hi-Hat 2' [top row ] for channel 10
Receive channel 10 is now set and stored.

'Cont=Start' and 'Start & Stop' work in conjunction with the OFF and ON buttons. Press either 'Cont=Start' or 'Start & Stop' followed by OFF or ON. The selected setting will be stored in memory and you will be returned to normal playing mode.

For example to set 'Continue=Start' to OFF:-
    1) Press the red button firmly (short press)
    2) Press 'Snare 2'  [bottom row of buttons]  to select 'Continue=Start' mode
    3) Press 'Bass 1' to select OFF – the setting is now stored and you are returned to playing mode

Note that after the red button has been pressed, all of the drum sound buttons will sound cabasa to confirm when they have been pressed.

All of the features on this page features can be selected instead by using a remote MIDI keyboard. See page 4 for a list of what keys on the remote keyboard do what. Press the red button (short firm press), then press the appropriate key on the remote MIDI keyboard to select the feature you want. The selected channel or feature will be stored in memory and you will be returned to normal playing mode. If you want to make another selection, you will need to press the red push button again. If you press a key which has not been assigned a use, you will still be returned to normal playing mode and will need to press the red button again to make your intended selection.

## OPERATION OF DRUM BUTTONS IN ASSIGN MODE – FULL DESCRIPTION

Press the red button and hold pressed for about four seconds. 'Snare 1' will sound to indicate that Assign Mode has been entered - you can then release the red button.

Next press the drum sound button that you want to map (all buttons will play 'Cabasa' sound to confirm when they've been pressed).

Now play any MIDI note on the remote MIDI keyboard. That drum sound button will be mapped to the key you just pressed. You may keep assigning drum sounds to keys in the same fashion (drum sound button then key).

When you have assigned all the sounds that you want to, press the 'Snare 1' button (bottom row right), to be returned to normal play mode.

When mapping the Snare use only Snare 2 or Snare 3 buttons as the Snare 1 button is used to exit Assign Mode. For drum sounds with more than one volume level the same MIDI note is used for all volumes but they are played with different velocities. If you try to assign more than one MIDI note to the same sound, then only the most recent assignment will be used.

If you assign more than one sound to the same MIDI note, only the one furthest down the list below 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.

For example - if you assign both 'Cowbell' and 'Clap' to the same MIDI note, only the 'Clap' will sound as it is furthest down the list below. However they will both generate the same MIDI note when pressed.

Assignments are stored in non-volatile memory when you exit Assign Mode. (by pressing the 'Snare 1' button)

### MORE INFORMATION

The Linndrum will always transmit the assigned drum notes as follows:-
Normal notes - velocity 64.
Accented notes - velocity 127.
For sounds with 3 levels - Snare 1, Sidestick 1,  – velocity 10

The Linndrum will play received MIDI notes as follows:
For sounds with only one volume level, all velocities (except 0) will play the sound
For sounds with two volume levels, velocities 1-80 will play low volume (e.g. Bass 1), and 81-127 will play the high volume sound (e.g. Bass 2)
For Snare & Sidestick which can be played over MIDI at 3 levels, 1-30 will play level 1, 31-80 will play level 2  and 81-127 will play level 3.

The default assignment of the sounds to MIDI note numbers is as follows:-

MIDI Note        (MIDI note number 36 is bottom C on a standard 61 note keyboard)
number
    36    - Bass 1 & 2
    37    - Snare 1, 2 & 3
    38    - Sidestick 1*,2* &3
    39    - Hi-Hat 1 & 2
    40    - Hi-Hat Open 1* & 2
    41    - Conga Lo
    42    - Conga Hi
    43    - Tom Lo
    44     - Tom Med
    45     - Tom Hi
    46    - Ride 1 & 2
    47     - Crash 1* & 2
    48     - Cabasa 1 & 2
    49     - Tamb 1 & 2
    50    - Cowbell
    51    - Clap

Levels with an asterisk(*) are only available when playing from MIDI IN

## OPERATION OF SET-UP MODE USING REMOTE MIDI KEYBOARD

| Note | Function | Value | Notes |
|------|----------|-------|-------|
| C | Receive channel | 1 | MIDI note number 36  [ Bottom C ] |
| Db | " " | 2 | |
| D | " " | 3 | |
| Eb | " " | 4 | |
| E | " " | 5 | |
| F | " " | 6 | |
| Gb | " " | 7 | |
| G | " " | 8 | |
| Ab | " " | 9 | |
| A | " " | 10 | (default) |
| Bb | " " | 11 | |
| B | " " | 12 | |
| C | " " | 13 | |
| Db | " " | 14 | |
| D | " " | 15 | |
| Eb | " " | 16 | |
| E | " " | OFF | |
| F | Transmit channel | 1 | |
| Gb | " " | 2 | The transmit channel can be |
| G | " " | 3 | changed independently of the |
| Ab | " " | 4 | of the receive channel. |
| A | " " | 5 | |
| Bb | " " | 6 | |
| B | " " | 7 | |
| C | " " | 8 | MIDI note number 60  [ Middle C ] |
| Db | " " | 9 | |
| D | " " | 10 | (default) |
| Eb | " " | 11 | |
| E | " " | 12 | |
| F | " " | 13 | |
| Gb | " " | 14 | |
| G | " " | 15 | |
| Ab | " " | 16 | |
| A | " " | OFF | |
| Bb | Not Used - - - - - | | |
| B | " " | | |
| C | " " | | |
| Db | " " | | |
| D | " " | | |
| Eb | " " | | |
| E | " " | | |
| F | " " | | |
| Gb | " " | | |
| G | " " | | |
| Ab | " " | | |
| A | " " | | |
| Bb | " " | | |
| B | " " | | |
| C | " " | | |
| Db | " " | | |
| D | Continue message treated as start only if Song Position Pointer is zero | | |
| Eb | Continue always treated as Start | (default) | |
| E | Disable start/stop/continue/clock through MIDI (In only) | | |
| F | Enable start/stop/continue/clock through MIDI (default) | | |
| Gb | Not Used - - - - - | | |
| G | " " | | |
| Ab | " " | | |
| A | " " | | |
| Bb | " " | | |
| B | " " | | |
| C | " " | | MIDI note number 96 [ Top C ] |

# 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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