



# LD-3

pedal input to MIDI

LOOPBACK TO SWITH    PEDAL INPUT    MIDI + POWER TO LD-2    MIDI OUT2    MIDI OUT1    MIDI IN    DC IN 9V



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

**LD-3 pedal input to MIDI**  
 with loopback and phantom power for LD2

**EXIT PARAMETERS - SHOW ON LD2 DISPLAY**

CONTROLLER #  
 MIDI CHANNEL  
 PEDAL TYPE SELECT  
 VOLTAGE INT / EXIT SELECT  
 MANUAL CALIBRATION

STEADY = ON RUNNING  
 SLOW FLASH = SETUP MODE  
 FAST FLASH = AUTO CALIBRATION



PARAM VALUE TOGGLE    DEC    INC

SETUP MODE / EXIT TOGGLE  
 LONG PRESS = AUTO CALIBRATION

START WITH PEDAL AT 2/4. WHEN LED FLASHES FAST, PUSH PEDAL TO MARK. PRESS BUTTON AGAIN TO EXIT

Manufactured in the UK by Kenton Electronics Ltd



# Operating manual

including instructions for use with LD-2

# INTRODUCTION

Congratulations on your purchase of the **LD-3** (& **LD-2**) level display units. The **LD-3** & **LD-2** are very easy to use, but please take a few moments to read through the manual to avoid any operational difficulties.

## CONNECTIONS **LD-3**

### **MIDI In**

Plug your MIDI synth, controller or sequencer into here..

### **MIDI Out1 & MIDI out2**

These provide a copy of the data received by the MIDI In socket merged with the data generated by the **LD-3** itself.

### **Pedal Input**

Plug your analogue controller pedal into here. This input is a ¼" stereo jack (TRS) where the sleeve is ground. You can plug FC-7 (Yamaha) type or EV-5 (Roland) type or switch pedals of either polarity into here. If you are using the **LD-3** between your pedal and your synth, please see loopback below. The **LD-3** can also be used to generate MIDI from an analogue controller pedal without having to be connected to a synth. In this case, nothing should be connected to the loopback socket. If you are working in this mode, select the voltage select parameter "Ult" (volt) and select "INT" as a data value.

### **Loopback to Synth**

If you are using the **LD-3** between your pedal and your synth, connect a stereo (TRS) jumper cable from here to the input on your synth where you would have plugged your analogue controller pedal. The pedal and synth jacks are connected in parallel. If you are working in this mode, select the voltage select parameter "Ult" (volt) and select "EXT" as a data value. Note that the pedal and synth sockets will not load down the circuit to the synth. The load imposed by the **LD-3** is around 1 megohm, even with the unit unpowered.

### **MIDI & Power to LD-2**

Plug the 5 pin Din cable from the **LD-2** into here. This will supply power and data to the **LD-2**. Because this socket supplies power to the **LD-2**, it should not normally be connected to any other MIDI device, or should be used with caution. The pins used for the power connection are not normally used by MIDI devices, but some units do use these pins for remote power themselves. Obviously the **LD-3** should not be connected to one of these devices. Note that the power connection is current limited.

### **DC IN 9V**

This requires a 2.1mm centre positive plug from a 9 volt unregulated plug top type power supply. Power requirements are around 30mA for the **LD-3** alone and up to 100mA if powering the **LD-2**

## CONNECTIONS **LD-2**

### **MIDI In**

Plug the cable from the "MIDI & Power to LD-2" output of the **LD-3** into here. Use a 5 pin Din cable with all pins wired (some MIDI cables don't have all pins wired as MIDI doesn't normally use all of them).

## DISPLAY

The display on the **LD-2** has two types of readout. Firstly numbers are displayed in numeric format 0-127 as used by MIDI. Secondly, there is a 20 segment bar readout where a value of zero will show no bars, and a value of 127 will show all bars, with intermediate values showing a proportionate number of bars. When you enter setup mode on the **LD-3** (see below) the parameter and data values will show on the **LD-2** display. When you exit setup mode on the **LD-3**, the MIDI channel and controller number information is passed to the **LD-2** and stored in its memory also so that you do not have to “learn” new values when they are changed on the **LD-3**

## USING THE **LD-3**

First connect the supplied power adaptor to the “DC IN 9V” power input socket on the back of the unit, then connect either your MIDI signal cable to the MIDI In socket and/or an analogue controller pedal to the pedal input. When power is applied to the **LD-3**, the LED will light with a steady glow.

## EDITING THE **LD-3**

In order to edit the **LD-3**, you will first have to enter setup mode. To do this, use a small screwdriver or matchstick (or similar) to press the setup button. If no more buttons are pressed, the buttons will remain active for about 7 seconds. Pressing any of the SEL DEC or INC buttons will reset the timeout, so you should not have any difficulty editing the unit. When you exit setup mode either by pressing the setup button again, or by timeout, the edited values are saved in a non-volatile storage device, so the unit will “remember” its assignments for the next time it is used. Whilst the **LD-3** is in setup mode, the LED will flash slowly. It will return to a steady glow when normal running mode is resumed.

Each parameter is accessed using the **INC** or **DEC** buttons whilst parameter mode is active. There are five parameters in the menu listed in the next section ‘Parameters’. Parameter mode is indicated on the **LD-2** by a dot at the top of the leftmost digit. You will also see the “**con**” parameter represented on the three digit readout. Whenever setup mode is entered, the parameter always resets to “**con**”.

Press the **INC** or **DEC** button to get to the parameter you require, then press the **PARA/VALUE** button to select Value mode. Value mode is indicated on the **LD-2** by a dot at the top of the middle digit. Use the **DEC**rement (-) and **INC**rement (+) buttons to edit the value. The **DEC & INC** buttons will auto-repeat if held down. To select another parameter press the **PARA/VALUE** button again to return to Parameter mode. On the next page is a list of parameters and what they do.

When the MIDI channel or Controller number parameters are edited on the **LD-3** these are also passed to the **LD-2** and stored in the memory there. You consequently do not have to put the **LD-2** into learn mode in order to use the new parameters.

## PARAMETERS

<i>Parameter name:</i>	<i>Displays as:</i>	<i>Range:</i>	<i>Default:</i>
<b>MIDI controller number</b>	<b>Con</b>	0-119	7
Select the controller number (cc) the <b>LD-3</b> will transmit			
<b>MIDI transmit/receive channel</b>	<b>Chn</b>	1-16	1
Selects the MIDI channel the <b>LD-3</b> will transmit MIDI data on			
<b>Pedal type select</b>	<b>PEd</b>	roL, YAh, SP1,SP2	roL
Selects what type of pedal the pedal input is configured for. RoL selects a Roland type pedal such as the EV-5, with power to ring and output from tip. YAh selects a Yamaha type pedal such as the FC-7, with power to tip and output from ring. SP1 selects a switch type pedal (mono jack) where make = data 127, break = data 0. SP2 selects a switch type pedal (mono jack) where break = data 127, make = data 0.			
<b>Voltage int/ext select</b>	<b>ULt</b>	int, ext	int
Selects whether power is supplied by an external source (ext) such as a synth when used with loopback, or internally (int) when used without loopback.			
<b>Manual calibration</b>	<b>cAL</b>	0-127	0
Allows you to set a manual calibration value for the pedal you are using. Increasing this value will increase the data value output for any given pedal position. If your pedal does not give 127 at its maximum position, increase this value until it does. Alternatively use auto-calibration described below. Note that the actual number shown is meaningless except that a higher value will give a greater data output from any given pedal position			
<b>Soft Thru on/off select</b>	<b>thr</b>	on, off	on
Selects whether MIDI messages received at the MIDI In socket are echoed to the MIDI Outs.			
<b>Resend controller on prog change</b>	<b>roP</b>	on, off	off
Selects whether the MIDI data read from the pedal is re-sent whenever a valid program change is received. A program change is valid if it is on the MIDI channel selected above ( <b>chn</b> ).			

## AUTO-CALIBRATION

To use auto calibration, start with your pedal at the  $\frac{3}{4}$  position, then press and hold the setup button until the LED starts to flash quickly. It will flash slowly for the first 3 to 4 seconds and then begin to flash fast. At this point you can release the setup button and then push the pedal gently to its full-on position. At this point you can either wait for the mode to time-out, or press the setup/exit button to return to normal running mode.

## FACTORY DEFAULTS

If you want to reset your **LD-3** to its factory default settings, you can do so by applying power to the unit whilst holding the setup button pressed.

`dEF` (factory defaults) will be displayed when this has been done. The default settings are given in the last column above.

## LIST OF MIDI CONTROLLER NUMBERS (CCs)

Controller Number	Control Function
0	Bank select MSB
1	Modulation wheel or lever
2	Breath controller
3	Undefined
4	Foot controller
5	Portamento time
6	Data entry MSB
7	Main volume
8	Balance
9	Undefined
10	Pan
11	Expression controller
12	Effect control 1
13	Effect control 2
14-15	Undefined
16-19	General purpose controllers (1-4)
20-31	Undefined
32-63	LSB for controllers 0-31
64	Damper pedal (sustain) (Hold 1)
65	Portamento on/off
66	Sostenuto
67	Soft pedal
68	Legato footswitch (val 0-63=normal 64-127=legato)
69	Hold 2
70	Sound controller 1 (default=sound variation)
71	Sound controller 2 (default=timbre/harmonic content)
72	Sound controller 3 (default=release time)
73	Sound controller 4 (default=attack time)
74	Sound controller 5 (default=brightness)
75-79	Sound controllers 6-10 (no defaults)
80-83	General purpose controllers (5-8)
84	Portamento control
85-90	Undefined
91	Effects 1 depth (formerly external effects depth)
92	Effects 2 depth (formerly tremolo depth)
93	Effects 3 depth (formerly chorus depth)
94	Effects 4 depth (formerly celeste (detune) depth)
95	Effects 5 depth (formerly phaser depth)
96	Data increment
97	Data decrement
98	Non-registered parameter number LSB
99	Non-registered parameter number MSB
100	Registered parameter number LSB
101	Registered parameter number MSB
102-119	Undefined
120-127	Reserved for channel mode messages

## SPECIFICATIONS *LD-3*

Power Input	2.1mm DC power jack
Power	9V DC unregulated 100mA (when powering <b>LD-2</b> )
MIDI	In, Out1, Out2, LD-2
Pedal & Synth inputs	¼" stereo jack (TRS) – 1 megohm input impedance
Display	none – uses LD-2 display
Weight	400 grams
Dimensions	183 x 110 x 40 mm
Non-volatile memory	EEPROM (no back-up battery required)

## SPECIFICATIONS *LD-2*

Power	Supplied from the <b>LD-3</b> via the Din lead – pin 1=ground / pin 3 = +5V
MIDI	In only - 5 pin Din socket (also supplies power from the <b>LD-3</b> )
Display	3 x 7 segment display and 2 x 10 segment bargraph
Weight	285 gms
Dimensions	119 x 54 x 40 mm
Non-volatile memory	EEPROM (no back-up battery required)

## WARRANTY

The **LD-3** & **LD-2** 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).

# KENTON

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

Kenton Electronics Limited  
Brookfarm House, Station Road, South Wimbledon, London, SW19 2LP, UK  
Tel: +44 (0)20 8544 9200 Fax: +44 (0)20 8544 9300

rev# LD-3=1130 LD-2=1120 e. & o. e. © 27th August 2006