*Lil'*DMXter - *Lil'*DMXter2

Display Contrast Adjustment

The Lil'DMXter uses a LC Display. It is lighted by an electro luminescent back light. Over the product life to date we have used two different types' of display.

Production product does not include a contrast adjustment control because we have never found one to be needed. The units are shipped strapped for maximum contrast. In this mode pin 3 of the display is grounded.

We have experimented with the manufacturer's recommended contrast adjustment circuit and to our way of thinking it provides little benefit. If you feel that the display contrast is too HIGH you might wish to experiment with the circuit described below. It is also possible that on some displays this circuit would increase display contrast.

Manufacturer's Recommended Contrast Adjustment Circuit

Place a 10K ohm potentiometer between Pin 1 (GND/Vss) and pin2 (+5VDC/Vcc) the wiper is connected to pin three of the display (Vee). Adjust to taste. The page from the Optrex data sheet showing this circuit is attached to this note

If you wish to install this circuit in your Lil'DMXter you will need to cut the connection of pin 3 to ground. Unfortunately this is not easy to do on the main PCB. On PCB's through R6 the trace in under the display connector. On later four layer PCB's the connection is internal to the board. We would recommend that pin 3 of the male connector on the display be cut off. Note that on all displays the pin numbers for pin 1, 2 are shown on the etch. Pin 3 is the one row into the connector directly above pin 1.

Goddard Design general recommendations

We have seen a few units with poor display contrast. When we haves seen this problem we have usually recommended the replacement of the display. More frequently we have seen units where the back light EL panel is reaching end life. A dim back light can render the display hard to read and is sometimes described as a 'contrast' problem. Again we recommend changing the display. The newer displays are both higher contrast, wider viewing angle and have a brighter back lamp.

Identifying which display your DMXter is fitted with

Optrex displays.

Older units will have displays from Optrex. These displays can be identified by their black text and light green back light color. On the back of the display PCB are three flat pack integrated circuits. The PCB is labeled 'OPTREX JAPAN'.

Micro displays

Newer units will have displays from Micro Electronics. These displays can be identified by their dark blue text and their blue white back light. On the back of the display PCB are two round epoxy dots covering integrated circuits. The PCB is labeled 'MADE IN TAIWAN'.

These displays tend to be of higher contrast with a brighter back light.

Goddard Design Co.
www.goddarddesign.com
718 599 0170

File = L:\word_p\wp6doc\lit\display_con_note.wpd

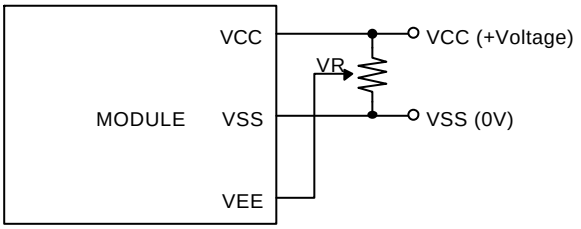
4.I/O Terminal

4.1.Pin Assignment

No.	Symbol	Level	Function
1.	V_{SS}	-	Power Supply (0V, GND)
2.	V_{CC}	-	Power Supply for Logic
3.	V_{EE}	-	Power Supply for LCD Drive
4.	RS	H / L	Register Select Signal
5.	R/W	H / L	Read/Write Select Signal H : Read L : Write
6.	E	H / L	Enable Signal (No pull-up Resister)
7.	DB0	H / L	Data Bus Line / Non-connection at 4-bit operation
8.	DB1	H / L	Data Bus Line / Non-connection at 4-bit operation
9.	DB2	H / L	Data Bus Line / Non-connection at 4-bit operation
10.	DB3	H / L	Data Bus Line / Non-connection at 4-bit operation
11.	DB4	H / L	Data Bus Line
12.	DB5	H / L	Data Bus Line
13.	DB6	H / L	Data Bus Line
14.	DB7	H / L	Data Bus Line
15.	ANODE	-	LED Anode Terminal
16.	CATHODE	-	LED Cathode Terminal

4.2.Example of Power Supply

It is recommended to apply a potentiometer for the contrast adjust due to the tolerance of the driving voltage and its temperature dependence.



VR=10~20KΩ