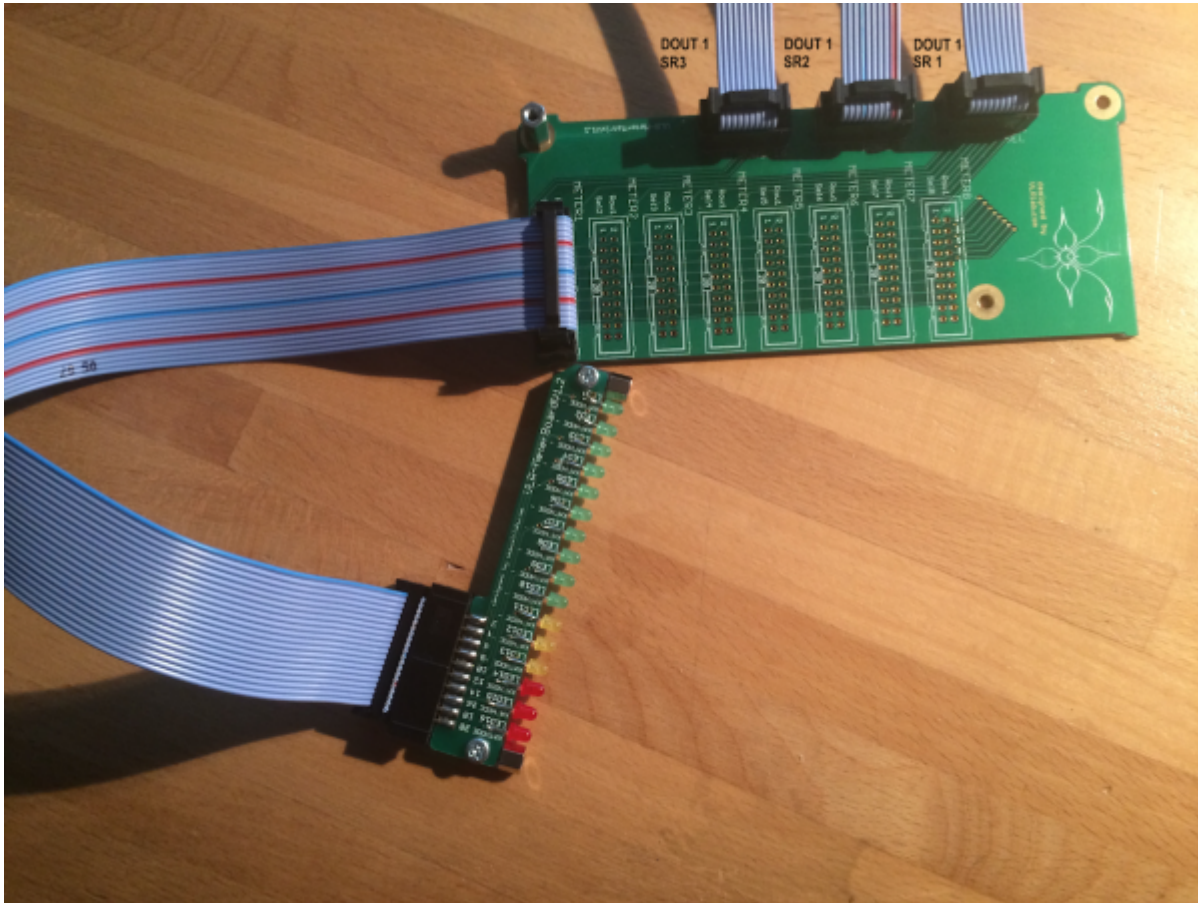


Fadercore

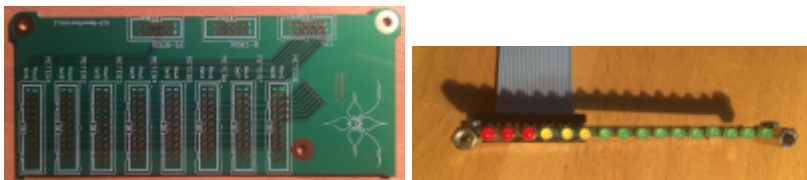
Standard 220mm wide modules

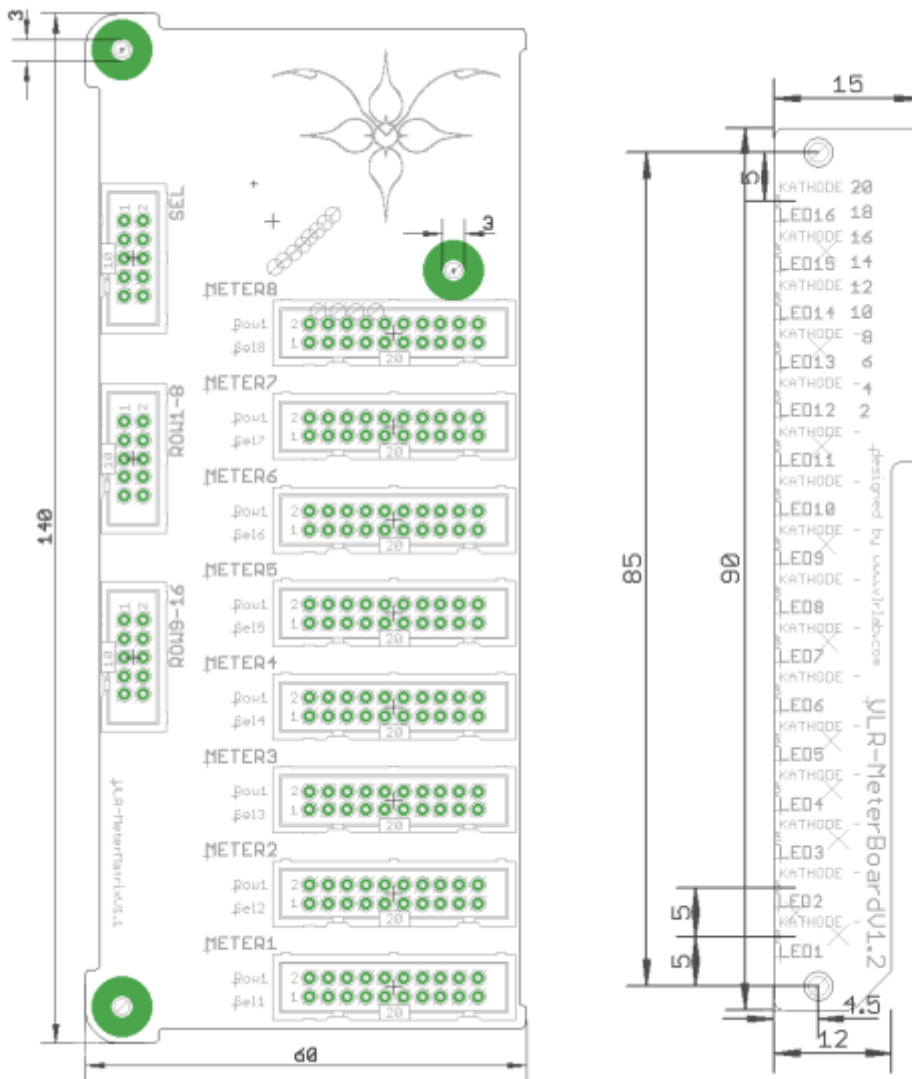
## VLR-8x16LEDmeter

A solution to add 8 Meters with 16 LEDs for each Meter. It contains 2 different Types of PCBs one is the LEDmatrix and the other a slim PCB to mount 16LEDs



Eagle Files: <https://github.com/novski/Midibox/tree/master/VLR-8x16LEDmeter>





## BOM

### Bill of Material

Allways look for the cheapest seller, the Price may vary heavy!!! And look for Local dealers preferred.  
[http://www.midibox.org/dokuwiki/doku.php?id=where\\_to\\_order\\_components](http://www.midibox.org/dokuwiki/doku.php?id=where_to_order_components)

To make a small and easy to connect matrix over a hole Frontplatte is no fun. Thats why i made myself a better solution. Based on the common DOUT modules it can be connected to 3 SRs.

### The Materials: Mouser

- 3x10pin Header, 517-30310-6002
- 6x10pin Sockets, 517-D89110-0131HK
- 16x20pin Header, 517-30320-6002
- 16x20pin Sockets, 517-D89120-0131HK
- 20 Wire Ribbon Cable, 523-135-2801-020FT
- about 80 Green LEDs, 604-WP3A8GD

- about 80 Yellow LEDs, 604-WP3A8YD
- about 80 Red LEDs, 604-WP3A8HD

Project Order Basket on Mouser:

<http://www.mouser.com/ProjectManager/ProjectDetail.aspx?AccessID=5ecf7b4949>

The PCB is available under: <https://www.vlrlab.com/home/18-ledmatrix.html>  
<https://www.vlrlab.com/home/19-meterboard.html>

## How to get Started

The LEDs are mounted to the Edge of the Meterboard to get a very slim form. That makes it a bit harder to solder them but i guess that no one wont be able to do it. To solder the Header to the Edge there is a wite triangle printed to the PCB on one side. This Triange has to match with the Triangle on the Header.

## Prepare the PCB

Well you should now by now how to solder Headers...



## Prepare the Connection

Connect the SEL, Row1-8 & Row9-16 with each a DOUT Header.

## Test it in MIOS

To make it work with MIOS .NGC File we need to know how the shift-registers are connected.

### Inputs:

1# Switch Columns 1-8

### Outputs:

1# ROW Outputs 1-6

2# RED LEDs 1-8

3# GREEN LEDs 1-8

4# BLUE LEDs 1-8

Assuming that the VLR-3x8But is the first device on the chain of J8/9 we need to configure it like this:

```
RESET_HW
```

```
LCD "%C"
```

```
LCD "@(1:1:1)OLED1"
```

```
LCD "@(2:1:1)OLED2"
```

LCD "@(3:1:1)OLED3"  
LCD "@(4:1:1)OLED4"  
LCD "@(5:1:1)OLED5"  
LCD "@(6:1:1)OLED6"  
LCD "@(7:1:1)OLED7"  
LCD "@(8:1:1)OLED8"

# In this demo we configure individual brightness levels for the LEDs from EVENT\_BUTTON events

LCD "@(1:10:1)RGB Demo #2"

DIN\_MATRIX n=1 rows=4 sr\_dout\_sel1=1 sr\_din1=1 button\_emu\_id\_offset=1001  
DOUT\_MATRIX n=1 rows=4 sr\_dout\_r1=2 sr\_dout\_g1=3 sr\_dout\_b1=4 led\_emu\_id\_offset=1025

# These button functions forward their value also to LEDs  
# it's possible to set the rgb levels in the button event, it will be forwarded as well!

EVENT\_BUTTON id=1001 fwd\_id=LED:1025 type=NoteOn key=36 chn=1 rgb=15:0:0 lcd\_pos=1:1:2  
label="^std\_btn"  
EVENT\_BUTTON id=1002 fwd\_id=LED:1026 type=NoteOn key=37 chn=1 rgb=15:0:0 lcd\_pos=2:1:2  
label="^std\_btn"  
EVENT\_BUTTON id=1003 fwd\_id=LED:1027 type=NoteOn key=38 chn=1 rgb=15:0:0 lcd\_pos=3:1:2  
label="^std\_btn"  
EVENT\_BUTTON id=1004 fwd\_id=LED:1028 type=NoteOn key=39 chn=1 rgb=15:0:0 lcd\_pos=4:1:2  
label="^std\_btn"  
EVENT\_BUTTON id=1005 fwd\_id=LED:1029 type=NoteOn key=40 chn=1 rgb=15:0:0 lcd\_pos=5:1:2  
label="^std\_btn"  
EVENT\_BUTTON id=1006 fwd\_id=LED:1030 type=NoteOn key=41 chn=1 rgb=15:0:0 lcd\_pos=6:1:2  
label="^std\_btn"  
EVENT\_BUTTON id=1007 fwd\_id=LED:1031 type=NoteOn key=42 chn=1 rgb=15:0:0 lcd\_pos=7:1:2  
label="^std\_btn"  
EVENT\_BUTTON id=1008 fwd\_id=LED:1032 type=NoteOn key=43 chn=1 rgb=15:0:0 lcd\_pos=8:1:2  
label="^std\_btn"

EVENT\_BUTTON id=1009 fwd\_id=LED:1033 type=NoteOn key=52 chn=1 rgb=0:15:0 lcd\_pos=1:1:3  
label="^std\_btn"  
EVENT\_BUTTON id=1010 fwd\_id=LED:1034 type=NoteOn key=53 chn=1 rgb=0:15:0 lcd\_pos=2:1:3  
label="^std\_btn"  
EVENT\_BUTTON id=1011 fwd\_id=LED:1035 type=NoteOn key=54 chn=1 rgb=0:15:0 lcd\_pos=3:1:3  
label="^std\_btn"  
EVENT\_BUTTON id=1012 fwd\_id=LED:1036 type=NoteOn key=55 chn=1 rgb=0:15:0 lcd\_pos=4:1:3  
label="^std\_btn"  
EVENT\_BUTTON id=1013 fwd\_id=LED:1037 type=NoteOn key=56 chn=1 rgb=0:15:0 lcd\_pos=5:1:3  
label="^std\_btn"  
EVENT\_BUTTON id=1014 fwd\_id=LED:1038 type=NoteOn key=57 chn=1 rgb=0:15:0 lcd\_pos=6:1:3  
label="^std\_btn"  
EVENT\_BUTTON id=1015 fwd\_id=LED:1039 type=NoteOn key=58 chn=1 rgb=0:15:0 lcd\_pos=7:1:3  
label="^std\_btn"  
EVENT\_BUTTON id=1016 fwd\_id=LED:1040 type=NoteOn key=59 chn=1 rgb=0:15:0 lcd\_pos=8:1:3  
label="^std\_btn"

```
EVENT_BUTTON id=1017 fwd_id=LED:1041 type=NoteOn key=68 chn=1 rgb=0:0:15 lcd_pos=1:1:4
label="^std_btn"
EVENT_BUTTON id=1018 fwd_id=LED:1042 type=NoteOn key=69 chn=1 rgb=0:0:15 lcd_pos=2:1:4
label="^std_btn"
EVENT_BUTTON id=1019 fwd_id=LED:1043 type=NoteOn key=70 chn=1 rgb=0:0:15 lcd_pos=3:1:4
label="^std_btn"
EVENT_BUTTON id=1020 fwd_id=LED:1044 type=NoteOn key=71 chn=1 rgb=0:0:15 lcd_pos=4:1:4
label="^std_btn"
EVENT_BUTTON id=1021 fwd_id=LED:1045 type=NoteOn key=72 chn=1 rgb=0:0:15 lcd_pos=5:1:4
label="^std_btn"
EVENT_BUTTON id=1022 fwd_id=LED:1046 type=NoteOn key=73 chn=1 rgb=0:0:15 lcd_pos=6:1:4
label="^std_btn"
EVENT_BUTTON id=1023 fwd_id=LED:1047 type=NoteOn key=74 chn=1 rgb=0:0:15 lcd_pos=7:1:4
label="^std_btn"
EVENT_BUTTON id=1024 fwd_id=LED:1048 type=NoteOn key=75 chn=1 rgb=0:0:15 lcd_pos=8:1:4
label="^std_btn"
```

Im using my VLR-8oDisp board to show the Values of every item. You can change it to any other type of Display-setting... lcd\_pos=6:1:5 {6=Display number : 1= X-axis : 5= Y-Axis (row)}

For any Comment or Question: Forum Thread???

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Last update: **2014/07/28 16:37**

