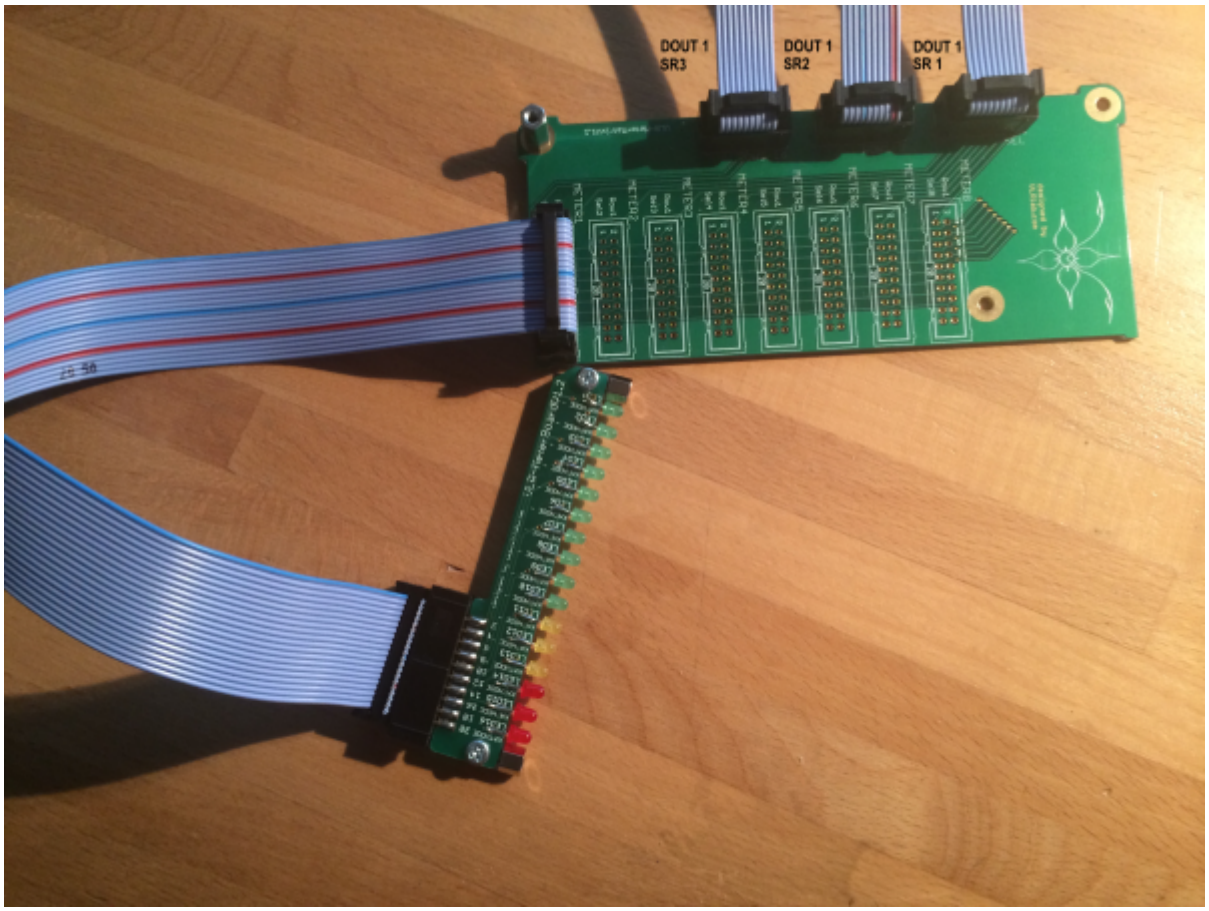
Fadercore

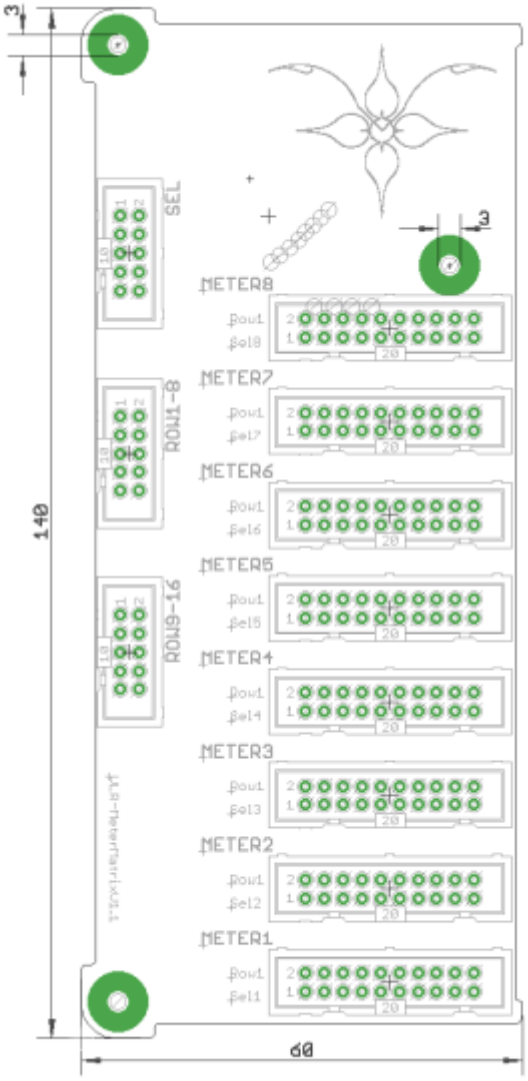
Standard 220mm wide modules

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

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”

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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"
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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???