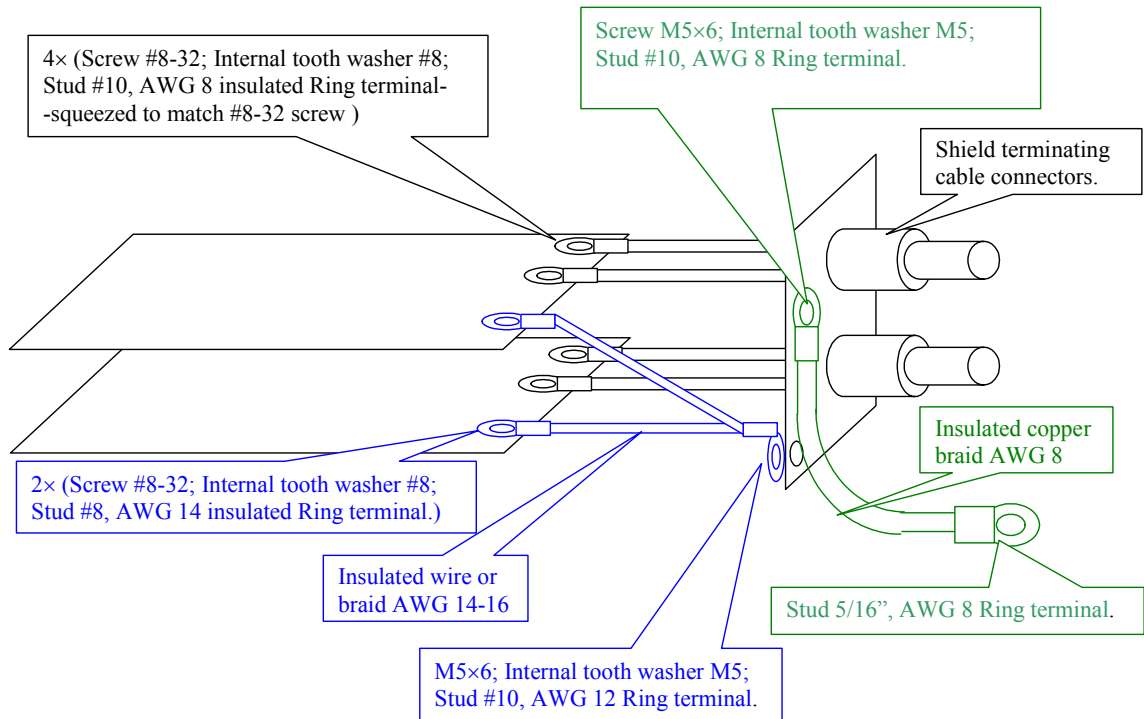


HB, HE, HO Low Voltage Module Ground Connections.

NOTE: The picture below is only a representation of the actual wiring scheme. Differences will occur on each style (HB, HE and HO) of LV module!



	Part description	McMaster-Carr Part#	# per 1 LV Module	# per 150 Modules
1	Screw M5×6, socket head, SS 18-8	91292A189	2	300
2	Internal tooth washer M5, SS 18-8	93925A260	2	300
3	Internal tooth washer #8, SS 410	98449A525	6	900
4	Ring terminal; stud #8, AWG 14, ins.	7113K862	2	300
5	Ring terminal; stud #10, AWG 12	7113K824	1	150
6	Ring terminal; stud #10, AWG 8, ins	7113K449	4	600
7	Ring terminal; stud #10, AWG 8	7113K241	1	150
8	Ring terminal; stud 5/16", AWG 8	7113K243	1	150

Assembly Instructions:

0) The transorb on the 6.5V board in the LV module must be changed. It is rated too low for the job. Please replace the diode “1.5KE7V5A” with a “1.5KE8V2A”. ONLY the 6.5V board needs to be done. See the pictures on the following pages to identify the board/diode.

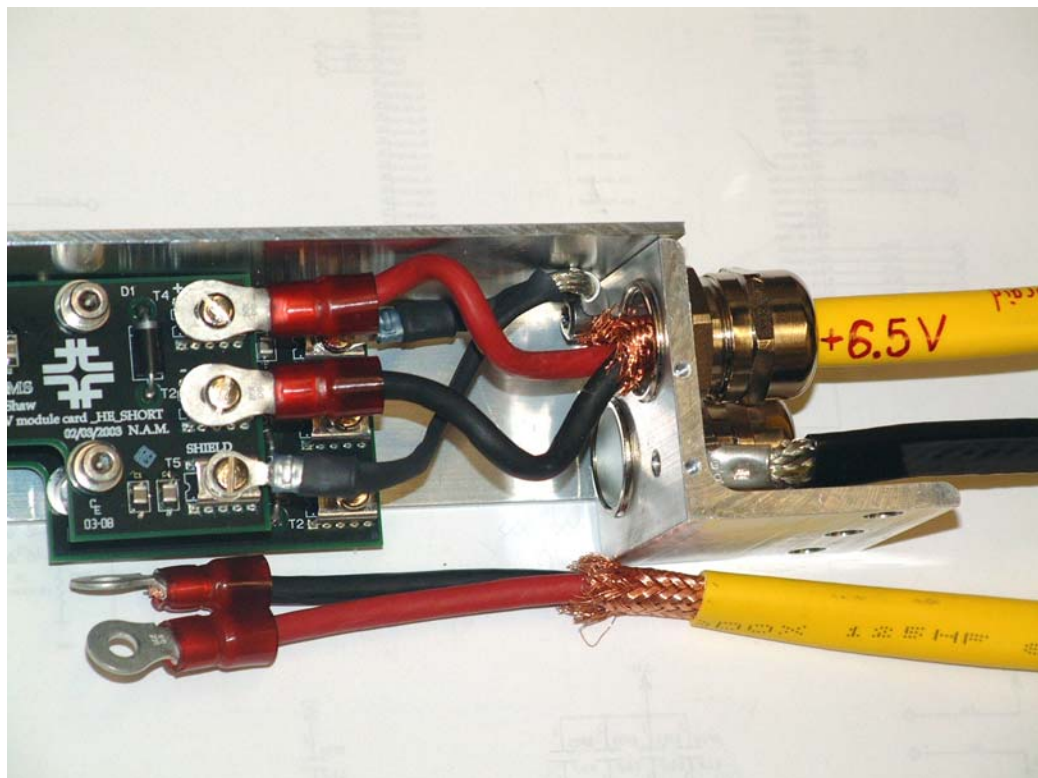
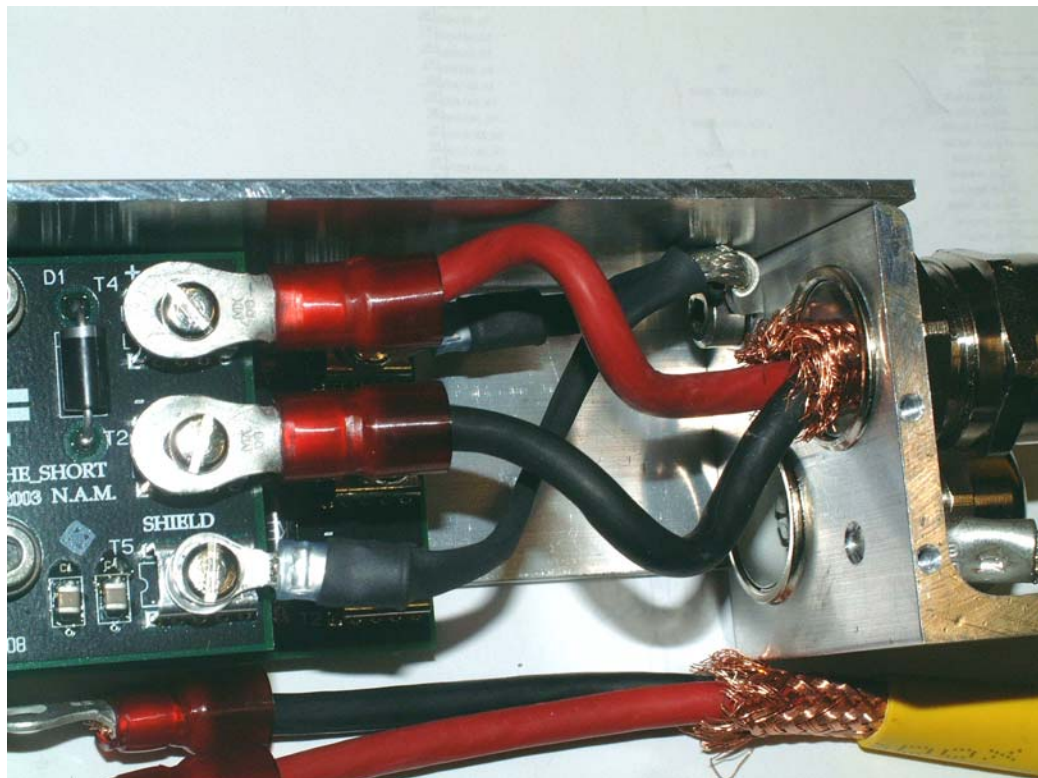
This diode is Polarized – make sure it is inserted in the correct direction!

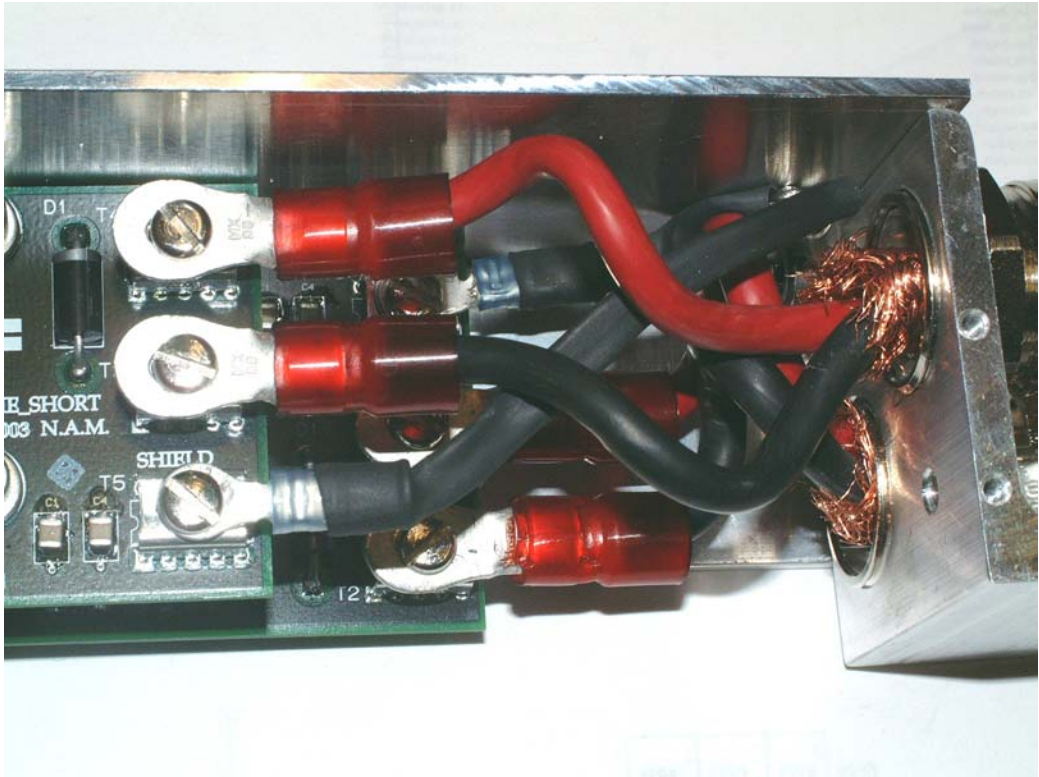
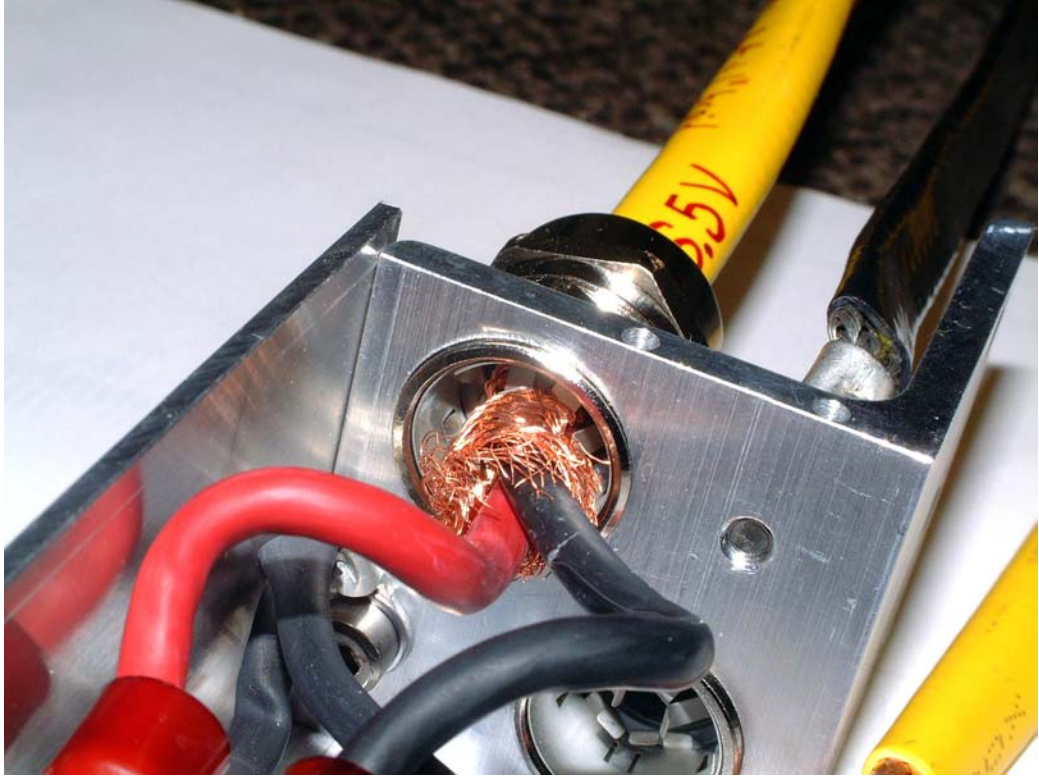
- 1) Assemble the shield braid as indicated on the first page (color coded blue) and attach it to the LV module. For HE, one can follow the example. Make sure to use insulated wiring or to insulate any ground braid used.
- 2) Next prepare to terminate the LV cable to the unit.
 - a. Strip the overall insulation of the LV cable to 4”
 - b. Cut the copper braid back to 3” from the end. This leaves 1” of exposed copper braid. Be careful to do this in a way which does not cause the braid to “shed”.
 - c. Push the cable through the strain relief connectors. The braid should be grabbed to a good electrical connection.
 - d. Terminate the ends of the LV cable. Sergey suggests using a pair of pliers to then slightly bend the sides of the ring terminal to slightly reduce its overall width and give better clearance to the adjacent terminals.
 - e. Attach the “red” cable end to the positive voltage terminal. Bend/twist the cable so that not too much pressure is put on the LV card. (see appendix A if you are not sure)
 - f. Attach the “black” cable end to the negative terminal.
 - g. Label the cable ends (both of them) with 6.5 volts or 5.0 volts depending on which cable it is. (Again, see appendix A to determine this)
 - h. Tighten the strain relief.
 - i. Repeat step 2 for the other LV cable.
- 3) Prepare the RBX ground pigtail (shown in green on page 1). Attach it to the LV unit. For HE, it should be 2.5” long. It can be AWG 8 or 10 and does not have to be insulated.

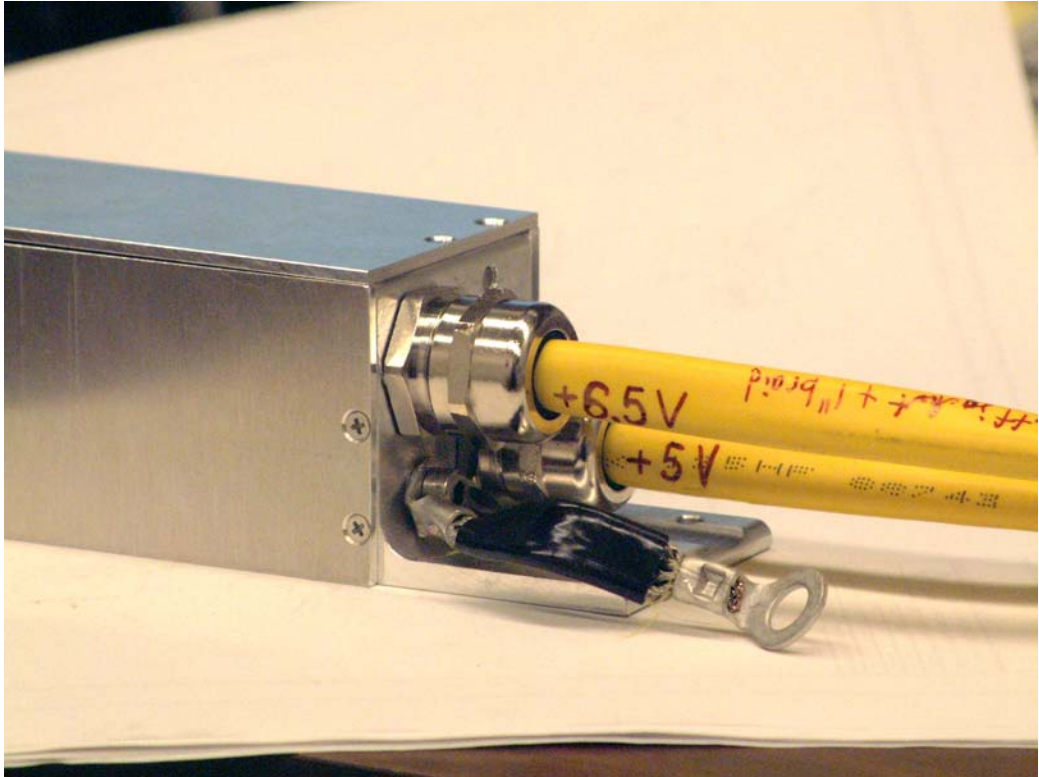
TESTING – Do not use this unit in an RBX until it has been tested!

Testing

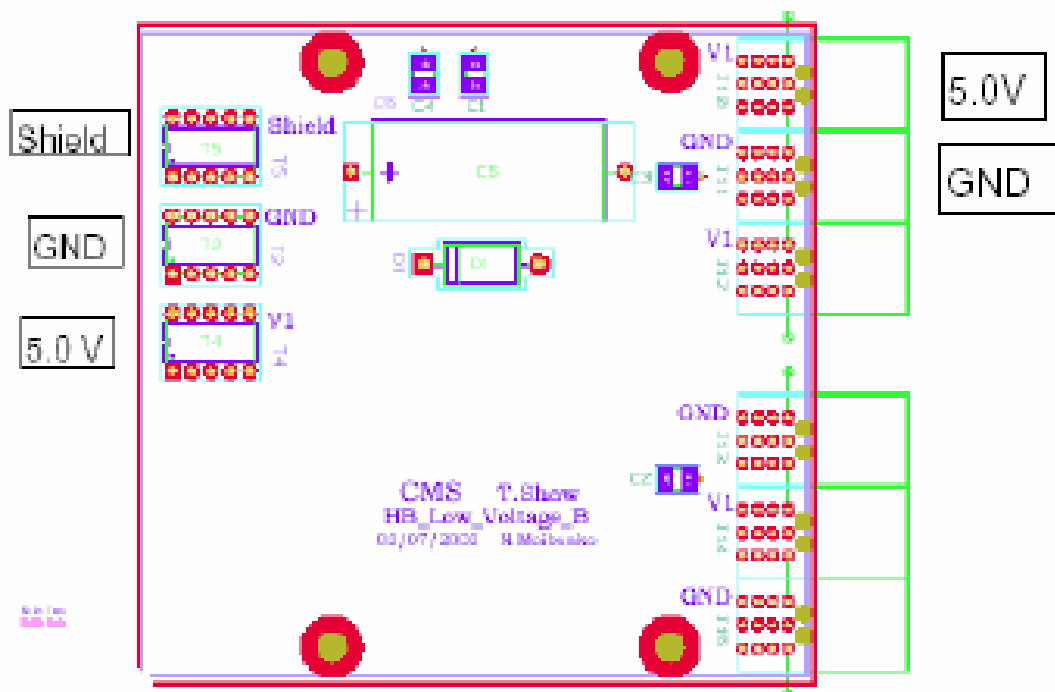
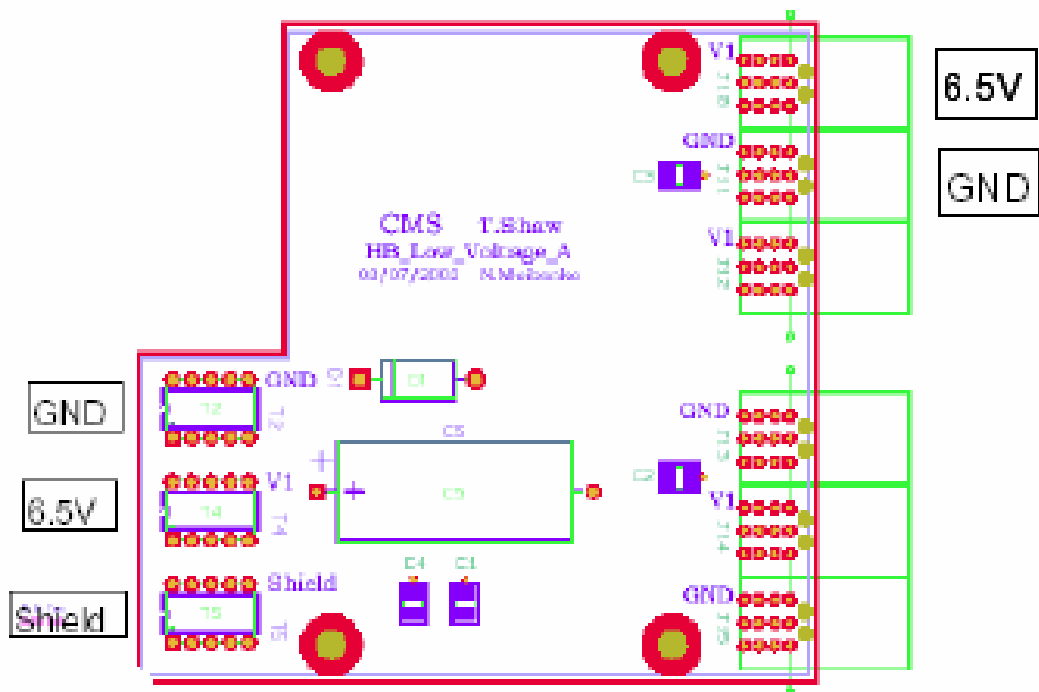
- 1) Terminate the far end of the LV cable, so that it can be attached to a power supply.
- 2) Apply power to the unit.
- 3) Check for appropriate power levels at the backplane connectors (see appendix A)



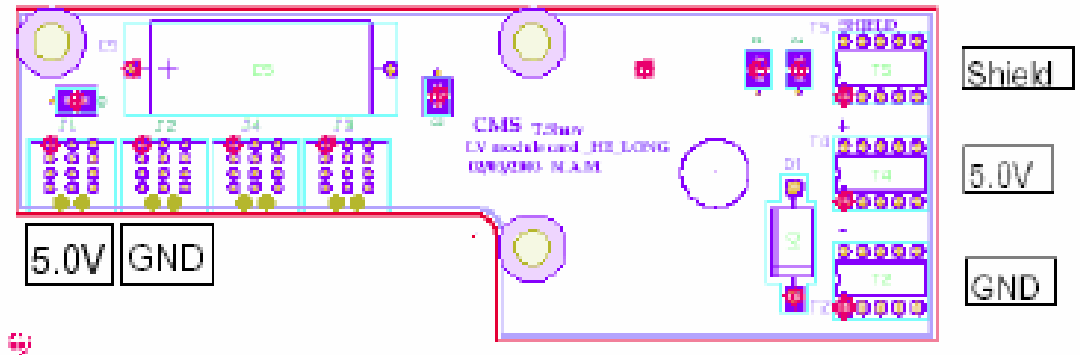
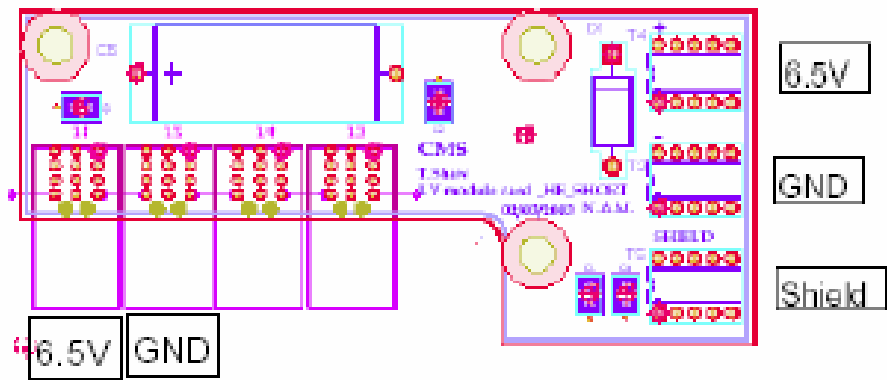




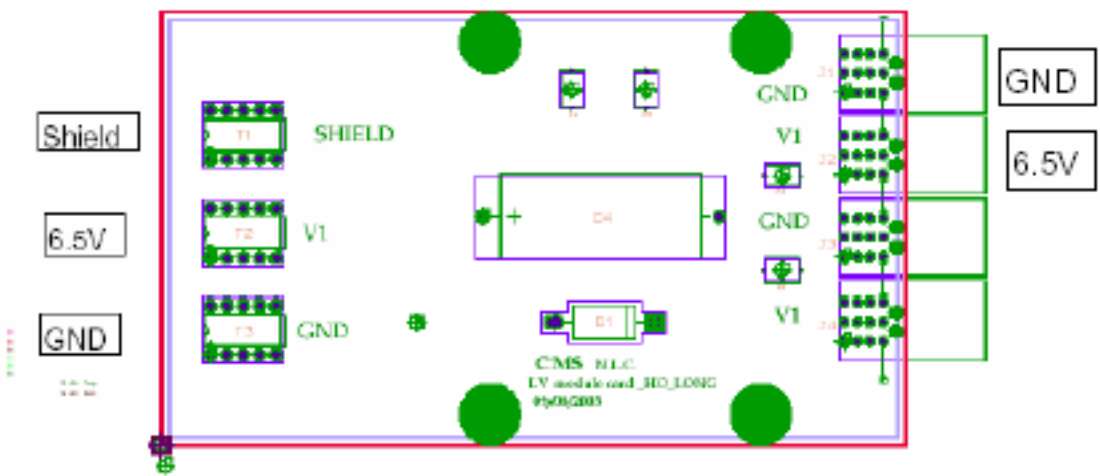
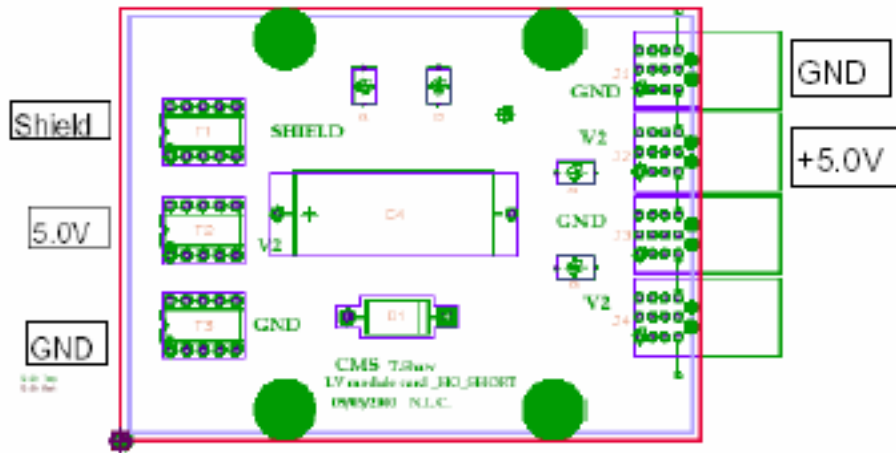
APPENDIX A
Voltage Locations on each type of LV card



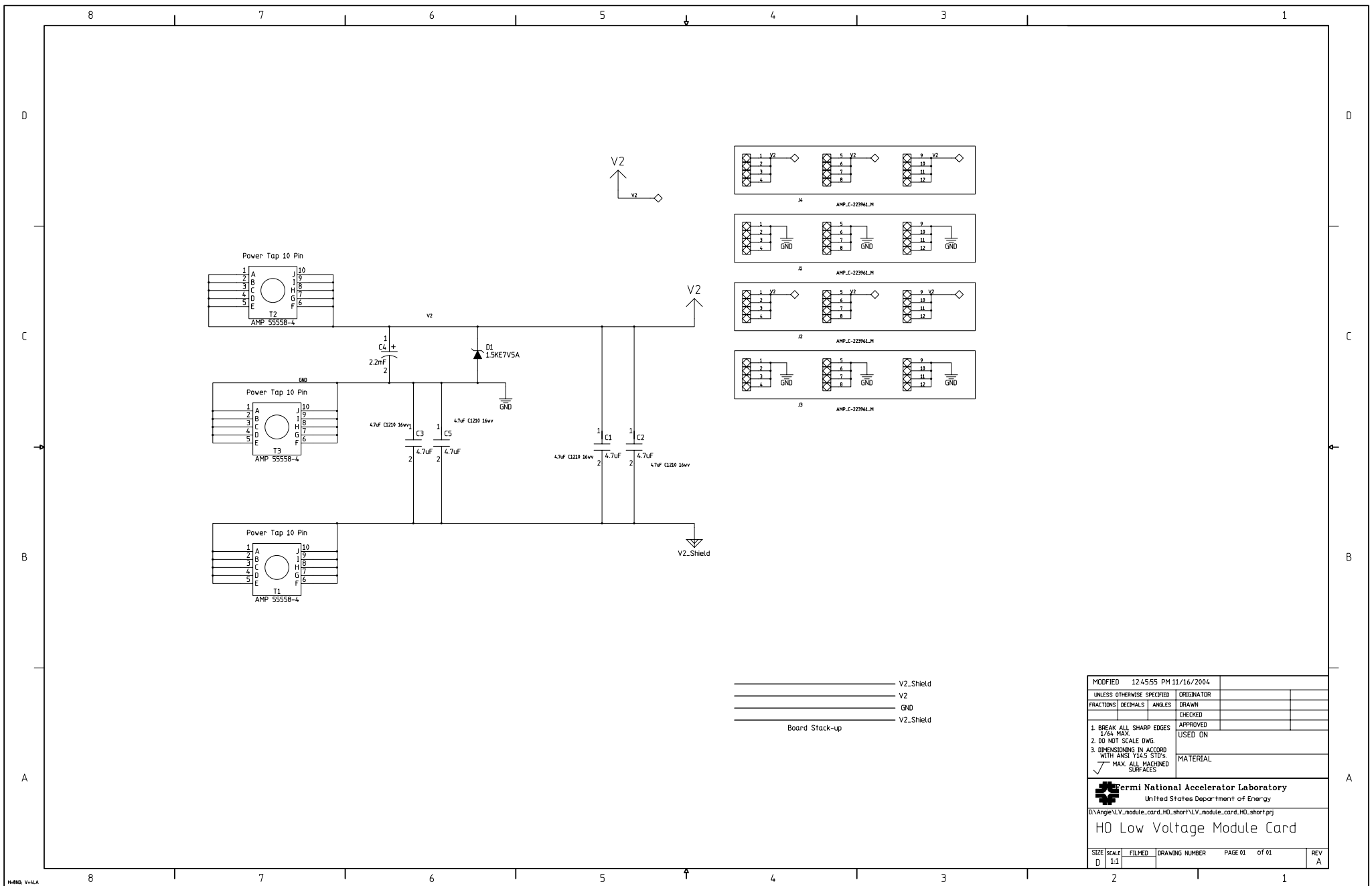
HB LV Modules Top/Bottom



HE LV Modules Top/Bottom



HO LV Modules Top/Bottom



MODIFIED	12:45:55 PM 11/16/2004		
UNLESS OTHERWISE SPECIFIED	ORIGINATOR		
FRACTIONS	DECIMALS	ANGLES	DRAWN
	CHECKED		
1. BREAK ALL SHARP EDGES 1/64 MAX.	APPROVED		
2. DO NOT SCALE DWG.	USED ON		
3. DIMENSIONING IN ACCORD WITH ANSI Y14.5 STD'S.	MATERIAL		
<input checked="" type="checkbox"/> MAX. ALL MACHINED SURFACES			
 Fermi National Accelerator Laboratory United States Department of Energy G:\Angle\LV_module_card.HO.short\LV_module_card.HO.short.prj HO Low Voltage Module Card			
SIZE	SCALE	FILMED	DRAWING NUMBER
D	1:1		PAGE 01 of 01
			REV
			A