

# FB-922 FILTER CAPACITOR BLOCK v3.0 ASSEMBLY & INSTALLATION INSTRUCTIONS

**WARNING: Voltages inside the amplifier CAN & WILL KILL YOU! You MUST know how to work around HIGH VOLTAGE safely. If you do not, get assistance from someone who does. You MUST also be able to read your specific amplifier schematic and understand the design, theory and wiring of your amplifier to properly perform this upgrade.**

## FB-922 FILTER CAPACITOR BLOCK ASSEMBLY

- ( ) **Read, re-read and fully understand these instructions prior to beginning this upgrade.** Make sure to perform the steps in the order they are listed. **Also, be sure to label wires as they are disconnected from various points inside the amplifier.** This will help when the time comes to re-attach the wires that will be disconnected during installation of the kit.
- ( ) Go through the Bill of Materials (BOM) and compare that list with the parts in the kit to make sure all parts are present. If you are missing any parts, please contact Harbach Electronics, LLC.
- ( ) Solder diodes and resistors to the top (silk screened) side of the printed circuit board (PCB) according to parts layout diagram and silk screen on the top of the PCB. **Note: Diodes D1-D8 mount flat to the PCB and resistors R13-R20 must be raised above the PCB, but no more than ¼” above the PCB to allow for proper air circulation and cooling.** Trim the component leads flush on the bottom side of the PCB.

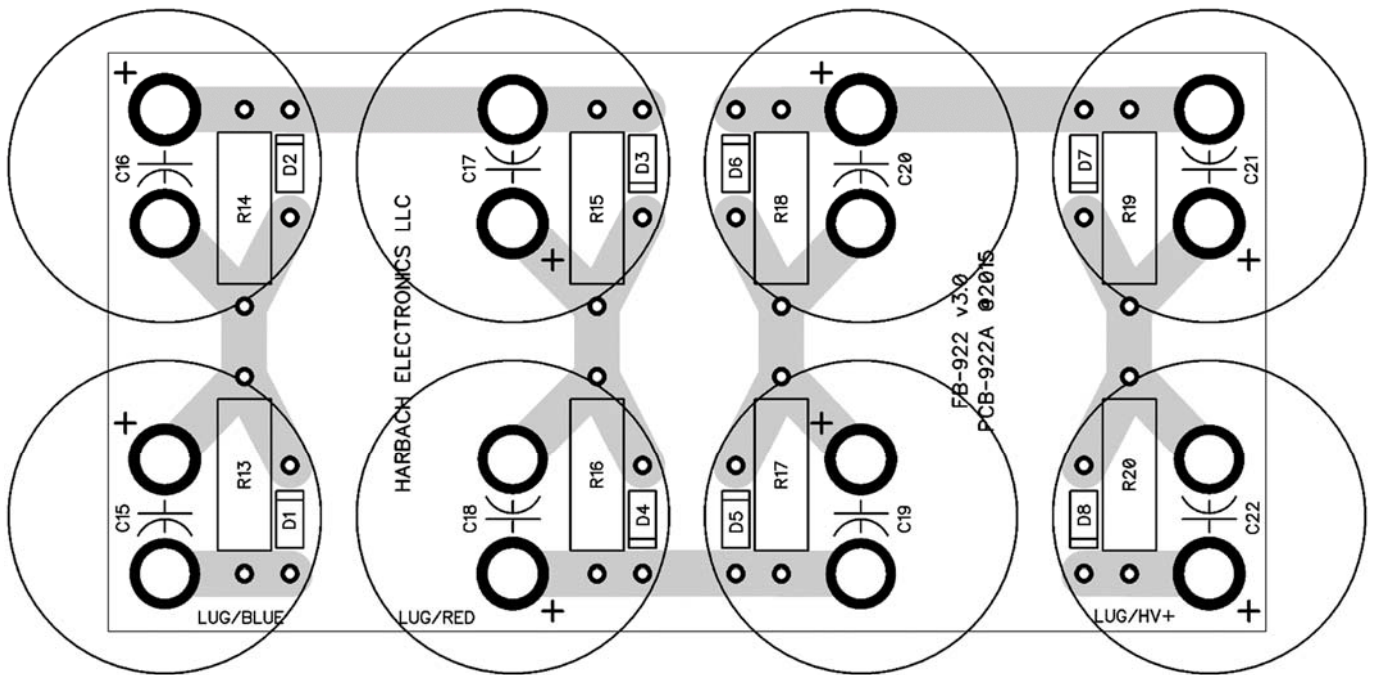
## FB-922 FILTER CAPACITOR BLOCK INSTALLATION

- ( ) Unplug the amplifier power cord from the AC mains and let any high voltage stored in the electrolytic capacitors bleed down. Verify the HV has bled down as shown on the HV meter. Remove any input, output and control cables that may be connected to the back of the amplifier.
- ( ) **Be sure that all high voltage has been properly bled to ground before removing any covers or putting your hands inside the amplifier. You CAN BE KILLED by the high voltages inside this equipment!**
- ( ) Remove the top cover, bottom cover and left side panel to expose the electrolytic filter capacitor box.
- ( ) **Again, be sure that all high voltage has been properly bled to ground.** Use whatever means necessary to insure that all HV has been bled to ground!!!
- ( ) Remove the electrolytic capacitor box from the chassis. During this process you must also unsolder the **CLEAR HV** wire, the **RED** wire and the **BLUE** wire connected to the filter capacitor assembly. **Be sure to verify and label these wires!**
- ( ) Remove the old bleeder resistors and bypass capacitors from the electrolytic capacitors. You can either clip or unsolder them.
- ( ) Remove the cover plate from the filter capacitor box assembly.

- ( ) Remove the old filter capacitors and spacers from the filter capacitor box assembly. Be sure to note and record how the spacers were arranged in the assembly.
- ( ) Repack the filter capacitor box assembly with alternating layers of spacers and eight (8) new 210 $\mu$ F 450VDC electrolytic capacitors. Be sure to rotate the capacitors so that the screw terminals are in the proper polarity orientation for attachment of the PCB assembly.
- ( ) Attach the completed PCB assembly to the top of the capacitors using #10-32x3/8 SEMS screws (screws with the integral washer). NOTE: Use a regular #10-32x3/8" screw and a bent #10-32 solder lug on the holes marked "L". **Make sure that the bent solder lugs are clear of any part of the filter capacitor box assembly to avoid any HV short to ground.**
- ( ) Reattach the cover removed earlier to the filter capacitor box.
- ( ) Reinstall the upgraded filter capacitor box back into the amplifier chassis and secure. During this step you will have to solder the **CLEAR HV**, **RED** and **BLUE** wires to the appropriate solder lugs attached to the PC board assembly.
- ( ) Reinstall the left side panel, top cover and bottom cover.

This completes the installation of the FB-922 filter capacitor block. It will provide you with an updated power supply that provides the necessary B+ filtering and regulation. Your amplifier should not experience any filtering problems in the future.

## FB-922 FILTER CAPACITOR BLOCK PCB PARTS LAYOUT (PCB-922A)



### FB-922 BILL OF MATERIALS (BOM)

Verification	Part Number	Quantity	Description	Designation
[ ]	PCB-922A	1	FB-922 Filter Capacitor PCB v3.0	N/A
[ ]	ERG-3SJ104	8	100KΩ 3W Resistor	R13-R20
[ ]	DCM211T450AC2B	8	210μF 450 VDC Electrolytic Capacitor	C7-C14
[ ]	1N4005	8	1A 400 PIV Diode	D1-D8
[ ]	SCR-101	13	#10-32 x 3/8" SEMS Screw	N/A
[ ]	SCR-109	3	#10-32 x 3/8" Non-SEMS Screw	N/A
[ ]	LUG-101	3	#10 Bent Solder Lug	L1-L3

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