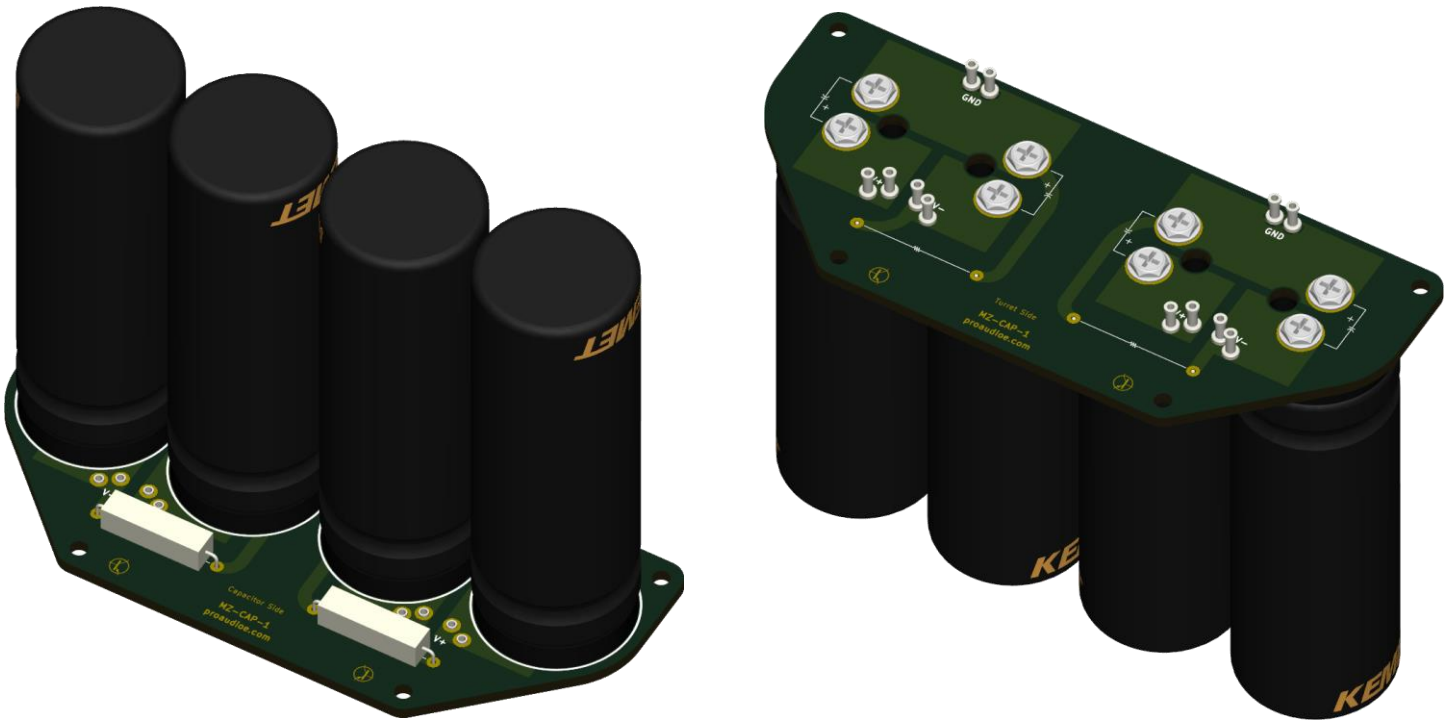


Marantz 2385/2500 Capacitor Replacement PCB (MZ-CAP-1)

www.proaudioe.com



Thank you for your order! This kit is designed to replace both dual electrolytic capacitors used in the power amplifier section of the Marantz 2385 and 2500. A custom mounting board fits four Kemet screw-in capacitors (sold separately) and attaches to the Marantz where the original caps were located. Robust wiring turrets on the bottom of the board facilitate wiring the capacitors into the unit.

The mounting board is made from a 2.4 mm thick FR-4 laminate to reduce board flex, and the combination of 2-ounce copper and large copper pours on both sides ensure very low impedance connections between the capacitors and wiring turrets. Grounds for each dual capacitor bank are kept separate so that they can be joined at the star ground bus bar in the Marantz.

This kit was designed with Kemet part number ALS80A822DF100 (8200 uF/100V) in mind, but other screw-in capacitors can be used so long as the dimensions are a good match. More information about capacitor selection is given on the next page.

If you have any questions, concerns, or feedback, please feel free to send us a message:

www.proaudioe.com/contact

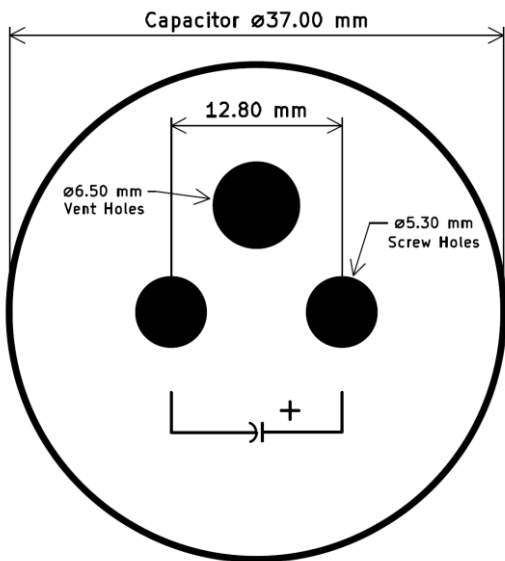
parts@proaudioe.com

www.ebay.com/usr/usart009

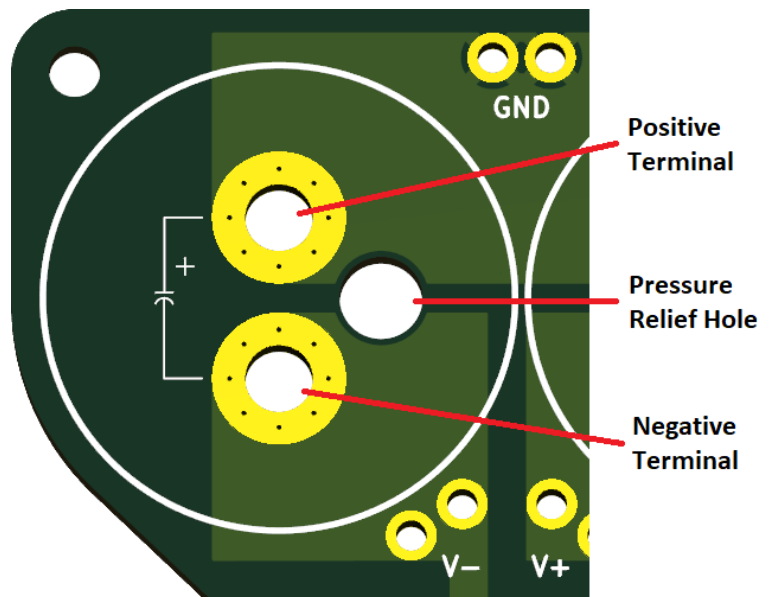
Capacitor Selection

This kit was designed to fit four Kemet ALS80-A-DF family screw-in capacitors. Kemet part number ALS80A822DF100 (8200uF/100V) is recommended. These capacitors are 36mm in diameter, 107mm in height, have 12.8mm center-to-center mounting stud spacing, and use M5-0.8 threads. If you are using these parts, 12mm long M5-0.8 machine screws are ideal (e.g. Prime-Line 9131367). We recommend using M5 internal tooth lock washers under each screw to ensure solid electrical connections. **If you plan on using different capacitors, please read the notes below:**

- The new capacitors should not exceed 36mm in diameter or 107mm in height, otherwise they may not fit on the board or inside the Marantz
- The center-to-center spacing of the threaded mounting studs should be 12.8mm, and the threads should be no larger than M5, otherwise the screws may not fit through the mounting holes on the board
- The capacitor's pressure relief vent should align with the non-plated holes on the mounting board. Ensure that the diameter of the hole is slightly larger than the diameter of the capacitor's vent
- This kit includes a set of spacer boards designed for the Kemet ALS80-A-DF family in order to reduce mechanical stress on the board due to the length of the threaded mounting studs. These spacers may not fit other types of capacitors



Bottom view of capacitor,
looking at mounting studs



Capacitor side of board

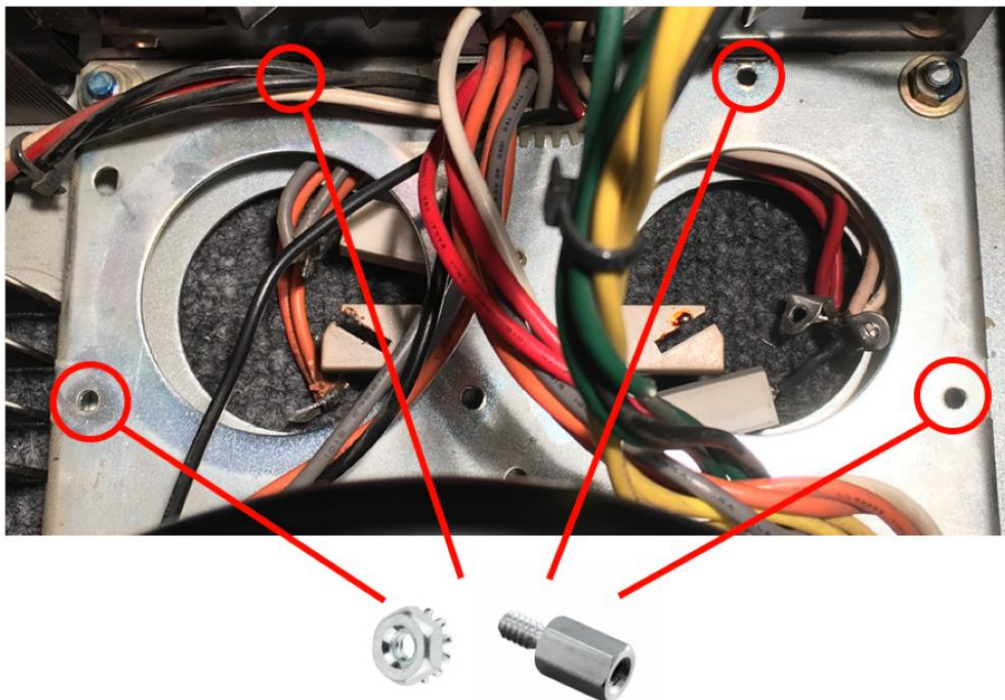
Increase in Capacitance

The Marantz 2385 originally used a set of two dual 6800uF/85V capacitors, while the 2500 used a set of two dual 7200uF/100V capacitors. The higher capacitance of the included Kemet 8200uF/100V caps may result in slightly higher peak currents through the bridge rectifiers during power-on and when the amplifiers are operating at high power. If you wish to replace both original bridge rectifiers, we recommend selecting parts rated for higher continuous and peak surge currents.

For reference, the 2385 schematic indicates that it uses two S5VB20 bridge rectifiers, which are rated for 6A continuous current (when bolted to a heatsink, i.e. the chassis), 200A peak surge forward current, and 200V peak reverse voltage. The Marantz 2500 uses two S5VB40 bridges, which have the same current ratings and 600V peak reverse voltage. A bridge rectifier similar to Vishay GBPC1508-E4/51 (15A continuous, 300A max surge current, 800V peak reverse voltage) would be a good choice. Be sure to apply thermal grease to the bottom of each bridge before bolting it to the chassis.

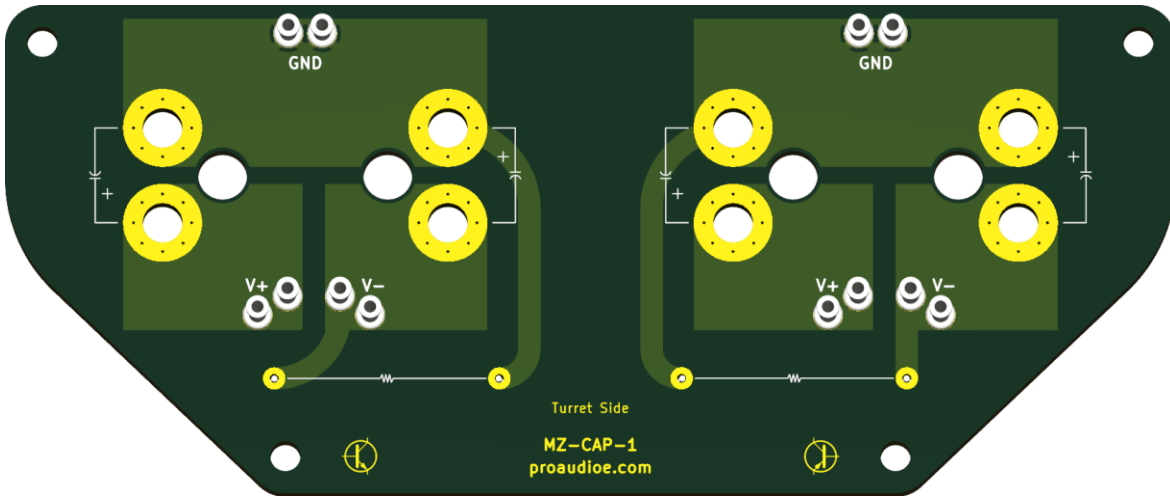
Installation

1. Take pictures or make a clear diagram of the original capacitor wiring scheme, including all color codes
2. Desolder and remove the original capacitors and their mounting brackets. Try to save as much wire length as possible
3. Mount the four included #6-32 x 3/8" threaded hex standoffs to the Marantz chassis using #6-32 hex nuts on the bottom of the sub-chassis. The board will sit on these standoffs and mount with screws

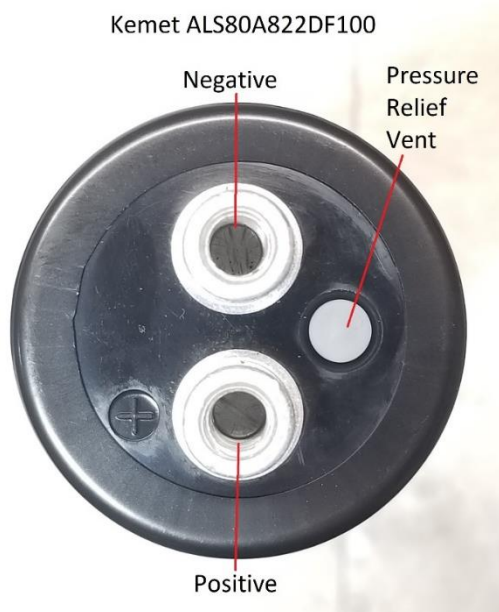


4. Assemble the capacitor mounting board:

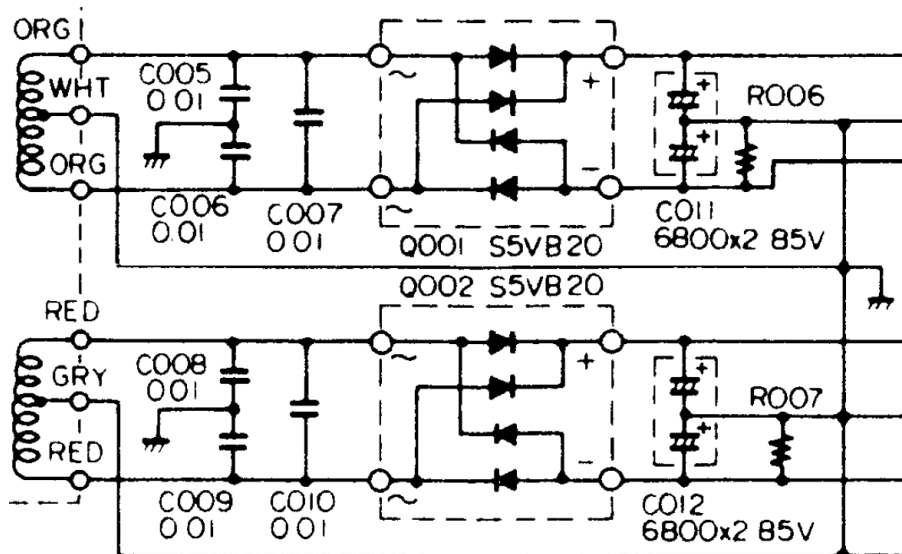
- Place the long end of each wiring turret on the side of the board labeled **Turret Side**. A total of 12 turrets will be used



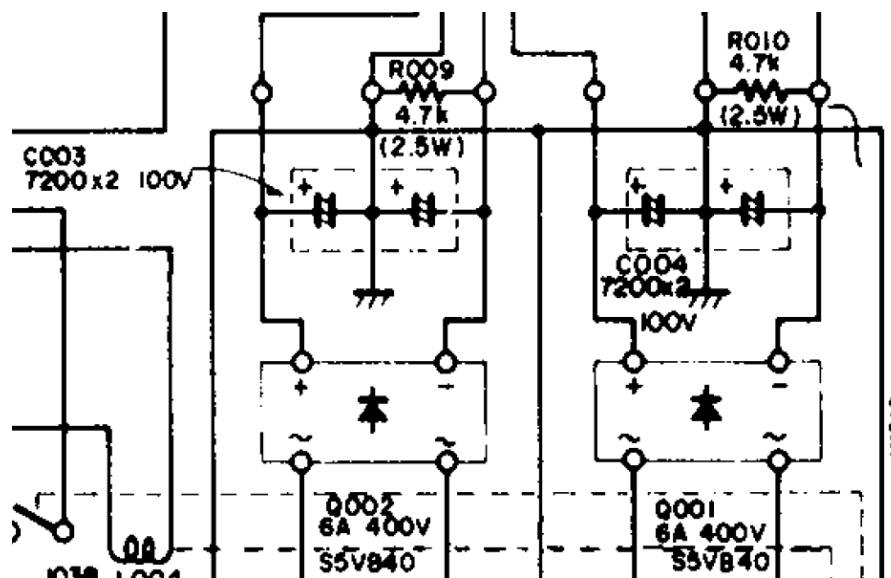
- Flip the board over and crimp the short end of the turrets with snub nose pliers until they are mechanically secure, then solder them in place
- The capacitor board has footprints for installing both ceramic bleeder resistors. Moving these resistors onto the board is optional, but if you want to move them, place them on the **Capacitor Side** of the board
- If you are using the specified Kemet capacitors, place 5 of the included capacitor spacers over the mounting studs of each cap. **Make sure to align the third hole on each spacer with the pressure relief vent of each capacitor**
- Mount each capacitor on the **Capacitor Side** of the board, again aligning each pressure relief vent with the holes in the board. **Triple check that each capacitor is installed with the correct polarity**



5. Place the board on the threaded hex standoffs and mount it in place with the four included #6-32 machine screws
6. Flip the unit upside down and solder each wire to its designated wiring turret. The positive rail corresponds to the **V+** turrets, the negative rail corresponds to the **V-** turrets
7. Use the included lengths of green 16 AWG stranded wire to connect the ground of each dual capacitor bank to the star ground bus bar in the Marantz. The grounds are kept separate on the capacitor board, so you will need one ground jumper per side
8. If you did not move the bleeder resistors onto the capacitor board, connect the free end of each resistor to one of the **V-** turrets on each side
9. Triple check your wiring against the pictures or diagram you made at the beginning. If you are replacing the bridge rectifiers with parts capable of handling higher continuous and peak currents, do so now
10. We recommend powering the unit up slowly with a dim bulb tester (*i.e. a common incandescent lightbulb wired in series with the AC line input*) and variac while monitoring the supply voltages to confirm that everything is working as expected



Marantz 2385
Schematic



Marantz 2500
Schematic