Instructions for Troubleshooting MSB Platinum DAC 3 or CD 3 Power Problems.

With the cover and front panel disconnected from the Platinum use a digital voltmeter to measure the power entering connector J20 at the front of the main board. There is a 5 conductor multicolored cable attached to J20. Put the negative probe of you voltmeter into the hole in regulator U19 at the right front of the unit for a ground connection.

J20 should Measure:
Yellow Wire = 0V
Orange Wire = 14 V (+-4V is acceptable)
Red Wire = -23V (+-4V is acceptable)
Brown Wire = 0V
Black Wire = 23V (+-4V is acceptable)

If any voltage is significantly different go to the section "Troubleshooting the P1000."

If all the voltages are acceptable check the three small yellow circular disks near J20 labeled F1, F2 and F3. Feel each in turn with you finger, some may be slightly warm but none should be too hot to touch.

F1, F3 and F3 are thermal automatic fuses:
F1 = 23V analog supply
F2 = -23V analog supply
F3 = 14V Digital supply

If any are hot go to "Troubleshooting the Digital Supply" or "Troubleshooting the Analog Supply."

Next check the voltage on pin 1 of the voltage regulator U19. If it is not 9V – 16V go to the section "Troubleshooting the Digital Supply."

Next power down the unit and remove the two volume control modules if present. Power up the unit and check pins 4 and 8 of U15, which is an LT1126, located near the right rear of the main board. If the pins do not measure –23V and 23V, within a +- 4V margin, go to "Troubleshooting the Analog Supply."

Troubleshooting the Digital Supply

Remove transient suppression diode D4 with a multi-meter and check to see if it is shorted, if it is shorted replace D4 with a 30V transient suppression diode.

Next look for any bulging electrolytic capacitors and replace any that are bulging.

Next power up the unit and retest pin one of U19, if it is still not between 9V – 16V replace Transistor Q8 with a Panasonic 2SD2375. If pin one of U19 is still out of spec contact MSB Technology.

Next measure pin 3 of regulators U8, U19, U18, U11, U9, U10 and U7. If any do not read 5V (+-200mV) replace that regulator with an LM7805 or equivalent. If you still have trouble contact MSB Technology.

Troubleshooting the Analog Supply

Power down the unit and remove all 4 DAC modules. Do not reinstall these DAC Modules until they have been checked for shorts on them using the instructions at the end of this section. If you reinstall them without checking for shorts you will re-damage the analog power supplies.

Power up the unit as before but use the hole in regulator U22 for the meter ground. Without the DAC modules in place the analog and digital grounds are completely separate. Re-measure pins 4 and 8 of U15 they should be –23V and 23V (+- 4V) respectively. If these voltages are not correct check for bulging electrolytic capacitors and replace them. If the voltages are still not correct replace transient suppression diodes D1 and D2 with 30V transient suppression diodes. If the voltages are still not correct contact MSB Technology.

Next measure the voltages on the right side of both resistors R34 and R40. Both should read –13V (+- 500mV). If one voltage is not correct replace transistors Q2 or Q5 with a Panasonic 2SA2057.

Next Measure the voltages on the left side of both resistors R38 and R32. Both should read 13V (+- 500mV). If one voltage is not correct replace transistors Q1 or Q4 with a Panasonic 2SD2375.

Next re-measure resistors R34, R40, R38 and R32 if the voltages are still not correct contact MSB Technology.

Next test all 4 DAC modules for shorts. Place all 4 DAC modules upside down with C20 nearest you. With a digital multi-meter set for Ohms test the 6 pin connector near the left front of the board. Place the negative probe of the tester on the metallic strip running along the left side of the DAC module and test all 6 pins starting with the leftmost pin. Replace any shorted Tantalum Capacitors with 16V (or greater) 15uF or 20uF Tantalum Electrolytic Capacitors.

The Pins should read:
Pin 1 0 Ohms
Pin 2 greater than 1000 Ohms, if not replace Capacitor C21 and retest
Pin 3 greater than 1000 Ohms, if not replace Capacitor C20 and retest
Pin 4 0 Ohms
Pin 5 greater than 1000 Ohms, if not replace Capacitor C19 and retest
Pin 6 0 Ohms

Once all 4 DAC modules are short free reinstall them and re-measure resistors R34, R40, R38 and R32. If there are still problems contact MSB Technology. If everything is OK you may reassemble and test the Platinum.

Troubleshooting the P1000

Remove the entire top DAC metal tray by removing the side panels and screws connecting the top metal tray to the bottom metal tray near the back panel (in the two small notches in the PCB.

Look for any bulged electrolytic capacitors and Replace any that are suspect. Replace with a 3A fuse, or check the continuity of fuse F1. If the labeled connector to the right of the P1000 board still does not yield the correct voltages contact MSB Technology for a replacement base metal tray.