

Troubleshooting Information

Wybron Coloram II Power Supply PC Board Level

Although there are complicated electronics in a Coloram II Power Supply board, possible failure modes are few. To fix the majority of problems you may run across with any of the Coloram II Power Supplies (6-, 12- or 24-Way), you will need only the information on this sheet.

CAUTIONS:

1. **There is line voltage present at the AC input connector of the Coloram II Power Supply cabinet.**
2. **There is also line voltage present at the front of the power supply module at the screw terminals.**
3. **There are high voltages within the power module.**
4. **You are working with a high voltage supply capable of burning off electrical shorts. Wear glasses and keep jewelry away from the 24 volts. Be careful when using tools inside this supply.**

FIRST STEPS:

1. **Check the inductors for signs of overheating.**

The board may continue to work with a damaged inductor, but it should still be replaced. (Inductors: RL1284-1800 or RL1283-470)

2. **Conduct a visual inspection of the board.**

Look at the board, looking for chips in backwards, signs of charring, bare copper traces due to high currents, ICs partially out of sockets, in backwards, or with pins over the side of sockets or bent underneath.

Check for opened traces, lifted pads or poorly made solder joints.

Check for corrosion due to exposure to moisture. A badly corroded board should be replaced if it is used where its proper operation is vital.

3. **Check the 5-volt supply.**

The voltage Regulator: LM2575T-5.0 (That is a dash and not a minus sign on the regulator labels. There are no negative voltages on the board.) The regulators may fail when the COM chips (LTC485) are damaged.

TROUBLESHOOTING

1. Symptom: Color changers show power but won't respond to commands.

- a. Problem: The communication ICs are bad.

Remedy: Try replacing the communications chips: LTC485 in the power supply. Also, try another output connector (each output connector has a dedicated COM IC). They are often damaged when power is applied to the signal lines. Ohm out the traces between the chips and the connector to make sure they are okay. These traces are very small and open easily when power is accidentally connected to the signal lines. Check to make sure that the power supply PC board is properly connected to the front panel connectors.

2. Symptom: No DMX is displayed when you know DMX is present.

- a. Problem: The power supply input communication IC is bad.

Remedy: Try replacing the SN75178 COM chip that receives the DMX signal. Other chips seldom fail unless the PC board has had 24 volts or 110 volts run through it.

Check to make sure that the power supply PC board is properly connected to the front panel connectors.

3. Symptom: The display is showing random characters and behaving erratically.

- a. Problem: The display connector is not seated fully or one or more data or address traces is open or shorted.

Remedy: Check that the display connectors are plugged in properly. If problems continue, you probably have a damaged processor. You can try systematically replacing the remaining ICs on the board, but generally it is suggested that you return a board with this problem to the factory.

4. None of this seems to be working.

- a. Problem: When things aren't going right and nothing makes sense, check your power supply voltages and grounds. It's simple to do and often solves baffling problems. Check power for each chip at the chip, not from the bottom of the board. OHM them out first to either power or ground, then power the board up and check for the proper voltage.