Troubleshooting Information

Wybron Coloram II Color Changer / Power Supply System Level

I. TROUBLESHOOTING

1. Symptom: Color changer fuse blows.

a. Problem: Tag sensor not "seeing" gel string tags -- the motor stalls trying to pull the gel string off the roller.

Remedy: Be sure the gel string is in the tag sensor. Inspect gel string for tears which could be why the gel string is out of the tag sensor.

b. Problem: The tag sensor has dirt/dust on it. A dirty tag sensor will "detect" a "continuous" tag and the motor stalls trying to pull the gel string off the roller

Remedy: Clean the tag sensor -- a water-moistened cloth run back and forth between the two sensor "posts" works well.

c. Problem: A short in the 4-pin cable put 24VDC on a data wire which caused color changer PC board component damage (at least the LTC485 IC) causing it to draw excessive current. It also caused the power supply output port to stop controlling the color changer because it damaged the data output IC (an LTC485).

Remedy: Repair the wiring short in the cable, replace the damaged ICs as necessary.

d. Problem: The motor is bad and drawing excessive current (based on a current draw test). Motor may have stalled and "cooked" while trying to pull the gel string off the rollers because gel string is not in the tag sensor.

Remedy: Replace the motor.

2. Symptom: Color changer fuse blows. Replacing the fuse "fixes" the color changer for a few hours/days then the fuse blows again. The sensor and gel string are OK.

a. Problem: Motor is drawing excessive current. See "current draw" chart below.

Remedy: Replace motor. If fuses are simply replaced, or larger values substituted, the motor will eventually draw enough current to damage the pc board's motor driver circuit.

b. Problem: AC power has large voltage spikes. This weakens the fuse in the color changer so it blows at a lower current level.

Remedy: Connect the Coloram II Power Supply into a quality AC surge suppressor (such as a "Tripp Lite ISOBAR 4" model) to eliminate the AC voltage spikes. Then, replace the fuses in all the color changers as they have been "weakened". These fuses will have small "balls" visible on the spiral fuse element.

3. Symptom: Color changers will not track one another properly

a. Problem: Worn or dirty gel string causing tag "misreads" during initialization.

Remedy: Clean sensor, dirt and smudges from bottom edge of gel string. Replace gel string if excessively worn.

4. Symptom: Gel string does not move smoothly, sensor and gel string are OK.

a. Problem: Roller flange glue joint has broken causing friction at the roller.

Remedy: Have roller repaired or replaced.

5. Symptom: Color changer will not initialize the gel string.

a. Problem: There is no communication between the color changer and power supply. The communication IC (LTC485) in the color changer or the power supply output (or both) is bad.

Remedy: Try a different power supply output connector to determine if the problem is in the color changer or the power supply output. Replace the bad ICs.

b. Problem: Color changer in 24 channel mode, power supply in 12-channel mode.

Remedy: Set all components to either 12 or 24 channel mode.

6. Symptom: Color changer will not initialize or respond after init, equipment is configured properly.

a. Problem: Damaged circuit card, either power supply or color changer.

Remedy: Use alternate power supply port or replace/repair color changer card. Possible causes: Bad earth ground, PSU powered from dimmer rack, defective cable (internal shorts), severe voltage fluctuations.

7. Symptom: Color changers don't respond to position commands - fan is running. All four LEDs on color changer are flashing in unison.

a. Problem: Low voltage at color changers (< 15VDC). The color changers have shut down due to low voltage.

Remedy: Re-configure the cabling to bring the cable "head-feet" within spec.

8. Symptom: All 4 color changer LEDs are lit steady or flashing erratically.

a. Problem: The microprocessor is not running.

Remedy: Check that the EPROM is fully seated in its socket. Replace the EPROM. Replace the microprocessor. Replace the entire PC board.

II. COLORAM II FAQ

1. How many frames are there in the Coloram II gel string?

The gel string can be any number of frames between 2 and 32 (up to 24 in the larger color changers). The length of the string is automatically detected during gel string initialization.

2. What is cable "head-feet?"

Cable head-feet is "the sum of cable lengths from each color changer to a single power supply output". Head-feet is **not** the total amount of cable used per power supply output. See Coloram II User Manual for picture and example.

3. How much Coloram II cable can I use?

The "head-feet" for the 4" and 7.5" Coloram II models is 1500, and 1000 head-feet for most other Coloram II Color Changers. See Coloram II User Manual for more info.

4. How many Coloram IIs can I run off of a Coloram II Power Supply? Off one output?

The capacity of the power supplies is per the chart below. You can have the maximum number of Coloram IIs allotted per power supply output as long as cabling "head-feet" remains within limits.

Coloram II Power Supply Compatibility

Power Supply Description	Model Number	Output Power	Max # of Channels Available	Max # of CXI (2)	Max # of Coloram (3)	Max # of Eclipse (4)
6 way	19060	150 watts	12	3	6	6
12 way	19012	300 watts	24	6	12	12
24 way	19000	600 watts	48	12	24 (1)	24 (1)

Notes:
(1) Can only use the first 24 channels
(2) CXIs use 1, 2 or 3 channels
(3) Coloram IIs use 1 channel
(4) Eclipses use 1 channel

5. Do the power supplies or color changers need data termination plugs?

No.

6. Can I use Coloram I and Coloram II units together?

Coloram II units can function as Coloram I. Coloram Is can also function as Coloram IIs if the software has been upgraded. (Note: with the exception of remote fan control). In either situation, all units connected to a power supply, and the power supply itself, must be in the same mode.

7. What tape should I use to attach the gel string?

We recommend Permacel Gaffers tape. It performs outstandingly in both hot and cold conditions, and leaves little if any residue on the rollers, making gel string changes easier.

8. How can I get longer life from my gel strings?

A high quality IR shield will minimize heat damage. Keeping the gel string cleaned when effects oils are present will prevent the string sticking to itself and tearing.

9. Can I power the Coloram II Power Supply from a dimmer*?*

No. Power fluctuations and varying ground potentials can seriously damage the Coloram II Family.

10. What fuses are used in the Coloram II Family?

4", 7.5" and 10" models = 1.5 amp slo blo
Aquaram, 5K, 9-lite, 8-lite and LF Aquaram = 2 amp slo blo
19000 Power supply = 7 amp slo blo @ 115V; 4 amp slo blo @ 230V

See the Coloram II User Manual for more fuse information.

11. How many Coloram II Color Changers can I run on a 24-Way Power Supply?

24 - regardless of the model of Coloram II Color Changer. Note that with CXI model color changers, you can only run ½ as many color changers on a power supply.

III. COLORAM II CURRENT DRAW CHART

Test conditions:

1. DMX source is not connected to the power supply.
2. Current meter is in series with Coloram II cable white wire – XLR pin 1.
3. Plug in Coloram II cable to begin gel initialization.
4. Current should not exceed the typical values by more than 0.2A.

Coloram II Description	Coloram II Model Number	Typical Gel String Initialization Current (*)	@ Frame #1 Typical Stationary Current
4-inch	4520	0.2 - 0.4 A	0.25 A
7.5-inch	7110	0.2 - 0.5 A	0.3 A
10-inch	10100	0.5 - 0.7 A	0.3 A

Notes:
(*) The current varies depending on gel string position.

IV. COLORAM II PREVENTIVE MAINTENANCE

1. Inspect gel strings routinely for tears, dirt, and excessive heat wear. In addition to causing initialization problems, worn gels can bind against the roller flanges, causing excessive drag on the motor and/or damage the spring roller.

2. Clean the gel string tag sensor periodically with a damp cloth, especially when effects oils are used in a production. Occasionally, blow any accumulated dust and dirt from the unit with compressed air.

3. Replace any damaged cables immediately.

4. Periodically verify that all outer screws on the power supply are tight. After several tours, they can work loose, even though installed with Loctite.