

WYBRON

Advancing The Art Of Lighting

Coloram IT User Manual

84520 4-inch Coloram IT Color Changer
87110 7.5-inch Coloram IT Color Changer
810100 10-inch Coloram IT Color Changer

Coloram IT software version: V1.2
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DECLARATION OF CONFORMITY

Manufacturers Name: Wybron, Inc.

Manufacturers Address: 4830 List Dr., Colorado Springs, Colorado 80919 USA

Equipment Name: Coloram IT Color Changer

Equipment Model Number(s): 84520, 87110, 810100, 816090, 815010, 816080

This product is in conformity with the following standards:

Referenced Safety Standard(s)

Referenced EMC Standard(s)

EN60598-1
EN60598-2-17

EN55022

following the provisions of the EU LV Directive 73/23/EEC and the EU EMC Directive 89/336/EEC.

I declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Signature: *Kenneth Fasen*

Printed Name: KEN FASEN

Title: VP of ENG.

Date: 14 Sept, 2004

Safety Notice

SAVE THESE INSTRUCTIONS READ AND FOLLOW ALL INSTRUCTIONS

This manual gives step-by-step instructions for the preparation, setup, and operation of the Coloram IT color changer.

There is a potential risk of injury to persons if the product is not used as instructed.

The Coloram IT is not intended for residential use.

WARNING: When using electrical appliances, use basic precautions, including:

- Read this manual before connecting power.
- Use supervision around children.
- Do not touch moving parts.
- Only use attachments recommended or sold by Wybron.
- Use in a dry location only.

Replace only with same type and rating of fuse.

For questions, contact Wybron at 1-800-624-0146.

Product Modification Warning

Wybron, Inc. products are designed and manufactured to meet the requirements of United States and International safety standards. Modifications to the products could affect safety and render the product non-compliant to relevant safety standards.

Introduction

The Coloram IT color changer uses scrolling gelstrings (up to 32 frames) and attaches to almost any light fixture available, providing vibrant color options for any production. It's also the quietest color changer ever built by Wybron, the company that invented the scroller nearly three decades ago.

The latest version of the Coloram IT color changer uses Remote Device Management, an industry-standard feedback protocol. This allows the color changer to send valuable information back to its operators on the ground, including maintenance cycle info, alert and error messages, gelstring wear, and more. RDM also allows the Coloram IT to be addressed remotely from the ground.

It's all possible with Wybron's Infotrace Control and Management System, which uses RDM to gather information from the Coloram IT (and other RDM-compatible devices) and send it to a computer on the ground – no ladders necessary.

With or without Infotrace, the Coloram IT uses Wybron's PS Power Supplies.



CAUTION:

Coloram IT color changers MUST be used with PS Power Supplies.

Do NOT connect Coloram IT color changers to Coloram II (RAM) Power Supplies.

Do NOT connect Coloram II (RAM) color changers to PS Power Supplies.

Damage from such action will not be covered by product warranties.

Quick Start

1. Connect the Equipment

- A. Attach the Coloram IT color changer to a powered light fixture.
- B. Connect the Coloram IT color changer to the PS Power Supply using Wybron's 4-pin power/data cable.
- C. Connect the PS Power Supply to a DMX source and non-dimmed 100-240 VAC 50/60Hz power.

2. Assign DMX Address

- A. On the unit's LCD screen, use the ▲ and ▼ buttons to choose an address.
- B. Press **SELECT** to activate the displayed Coloram IT DMX address.

3. Send DMX Levels

- A. From the lighting console, vary the level of the Coloram IT on the assigned DMX address to move the gelstring back and forth.

NOTE: This procedure will vary if you're using the Infogate gateway and software as part of Wybron's RDM-based Infotrace feedback system. Consult the Infogate manual for further information, or contact Wybron tech support.

Using the Coloram IT

The Coloram IT color changer sets its gelstring position according to the DMX512 level it receives from the control console. Because Coloram IT color changers can use different lengths of gelstrings, the level settings that correspond with each frame position will vary depending on the number of frames in the gelstring.

The following chart shows the level settings that correspond with each frame position of a 24-frame gelstring installed on a 7.5-inch color changer. The color of each frame position will be determined by your custom gelstring specification.

Channel Level	Frame Position	Channel Level	Frame Position
00	Frame 1	51	Frame 13
04	Frame 2	55	Frame 14
09	Frame 3	59	Frame 15
12	Frame 4	64	Frame 16
17	Frame 5	69	Frame 17
21	Frame 6	73	Frame 18
25	Frame 7	78	Frame 19
29	Frame 8	82	Frame 20
34	Frame 9	87	Frame 21
38	Frame 10	91	Frame 22
42	Frame 11	96	Frame 23
47	Frame 12	FL	Frame 24

If you send a channel level that is between the values shown, you can create split-frame effects. For example, if you send a level of 49, the color changer will position the gelstring halfway between frame 12 and frame 13, creating a blend of the two colors.

Coloram IT Components

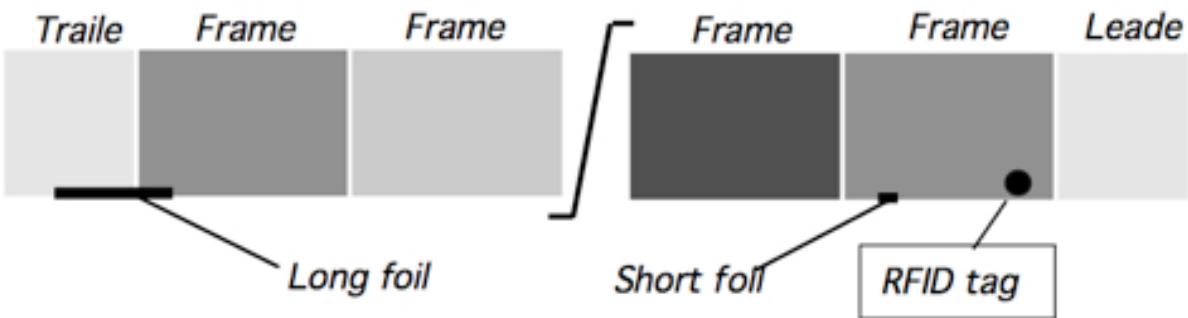
Color Changer

The Coloram IT color changer can use gelstrings of different lengths. The position of each gelstring is determined by the unit's DMX level. Each color changer is powered by 24 volts DC, which comes from the Power Supply. The Power Supply, connected to the color changer with 4-pin power/data cable, also transmits the DMX control signal and RDM feedback data.

Note: Please refer to the Specifications section of this manual for the maximum number of gelstring frames that each color changer can hold.

Gelstring

The gelstring is a series of precisely cut colored gel frames joined together, side-by-side, to create a sequence of colors. Two additional gel frames at each end of the gelstring are called the **leader** and the **trailer**. The leader and the trailer allow the gelstring to be properly attached to the Coloram IT's two rollers. The gelstring features foil tags near each end; these are necessary for the color changer's automatic calibration to the length of that particular gelstring.



The Coloram IT gelstring also features a radio frequency identification (RFID) tag that identifies the sequence of gels on the gelstring and also assists in ordering additional gelstrings.

Power Supply

The PS Power Supply sends the DMX512 signal level from the lighting console to each color changer along with 24 volts DC. With the Infotrace feedback system, RDM information is sent from the Coloram IT to the Infogate software installed on a computer.

Cables

Power/Data Cable

The 4-pin power/data cable connects the PS Power Supply outputs to the Coloram IT color changers and provides them with power and control signal.

The power/data cable uses 4-pin XLR connectors on either end and consists of two 14 AWG conductors and a 22 AWG twisted, shielded pair. The shells of the two XLR connectors are not electrically connected, preventing high power currents from flowing from chassis to chassis of the Coloram IT equipment. The twisted pair shield is connected only at the male XLR connector end.

XLR Pin #	Wire Color	Function	Size
1	White	Ground	14 AWG
2	Green	Data -	22 AWG
3	Red	Data +	22 AWG
4	Black	24 Volts DC	14 AWG

Note: The 4-pin cable used with the Coloram IT is the same cable used by the Coloram II and Forerunner systems.

DMX512 Control Cable

The DMX control cable from the lighting board to the dimmers and Power Supply (and Infogate gateway, if used) is a five-conductor cable with 5-pin XLR connectors on each end. The wiring pin-out is specified by the USITT DMX512/1990 standard.

XLR Pin #	Function
1	Common
2	Data -
3	Data +
4	Talkback -
5	Talkback +

Installing the Coloram IT

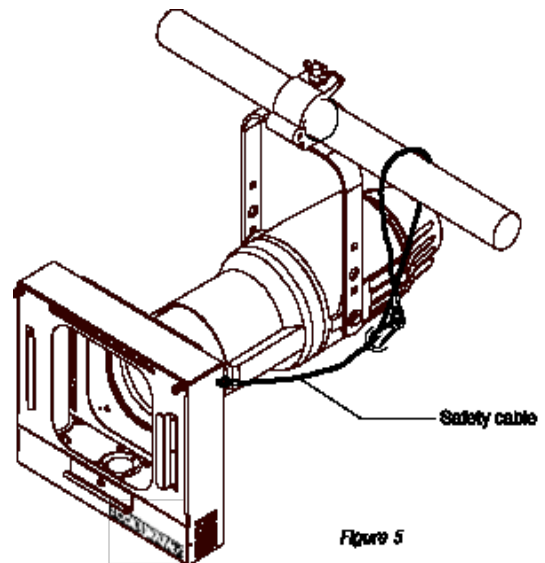
1. Attach the color changer to the fixture

Slide the color changer's mounting bracket into the gel frame holder of the fixture and lock the gel frame retention clip (if available). If the mounting plate installed on the color changer does not fit the fixture, you may be able to replace it with the Wybron Universal Mounting Plate.

The mounting plate allows you to position the color changer with the gelstring rolling either horizontally or vertically. However, Coloram IT operates most effectively with the fan, which is located in the top of the center panel, blowing air vertically (as hot air naturally rises).

2. Attach the safety cable

A safety cable is attached to the color changer. Run this cable around the pipe or truss from which you hang the light fixture and clip it to itself.



3. Mount the power supply

The PS Power Supply is designed to be freestanding, truss-mounted, or rack-mounted. The Power Supply comes with a mounting bracket that hooks over the pipe or truss of your lighting rig and is then locked into place with a thumb screw. With this mounting method, connect the safety cable by running it around the pipe or truss to which the power supply is attached.

The power supply can also be mounted into a 19" rack using the optional PS Power Supply rack mount kit. The rack mount kit will accommodate two PS units side-by-side.

4. Connect the color changers to the power supply

Connect the color changers to the power supply using 4-pin cable. Refer to the Head-Foot Restrictions section of this manual for details regarding the length of cable runs.

5. Connect the power supply to AC power

Plug the AC cord into a non-dimmed power circuit. The power supply automatically accommodates 100 - 240 VAC (50/60 Hz). Power at the PS Power Supply is indicated by a red LED indicator.

The connected color changers will automatically “calibrate” themselves to their installed gelstrings with the following actions:

- a. Moving the gelstring toward the last frame while searching for the long foil tag.
- b. Turning around at the long foil tag and then searching for the short foil tag at the beginning of the gelstring.
- c. Stopping at the short foil tag and staying there if no DMX signal is present, or going to the commanded position if DMX signal is present.

Note: It may take up to 30 seconds before all color changers start to initialize.



Caution: Do not power the PS Power Supply from a dimmer. Severe damage will result and is not covered by product warranty.

6. Connect the DMX512 source

Connect the DMX512 signal source to the DMX input connector on the front of the Power Supply using standard DMX cable. Valid DMX signal will be indicated by a green LED. The color changers will now position their gelstrings according to their respective DMX signal levels.

Please refer to the Infogate manual for further details about how lighting fixtures and Coloram IT color changers can be automatically paired together and remotely assigned DMX addresses using Infogate.

Main LCD Menu

[Alerts Menu] >
 [DMX Status] >
 DMX Address: 512
 Settings >
 Sensor Info >
 History >
 Reset Defaults >

COLORAM IT

Graphical Menu Tree

Alerts Menu

This menu only displays when there is an active alert on the unit.

Multiple Alerts

GEL ALERT >
 FAN ALERT >

Reset all Alerts? No/Yes

Single Alert

GEL ALERT
 GELSTRING OUT OF
 POSITION - UNIT
 SHUT DOWN

Reset this Alert? No/Yes

DMX Status

Displays status of incoming DMX signal. Examples: "No DMX Data" or "DMX Signal OK"

DMX Address

Displays current DMX Address that can be selected and modified, using unit buttons.

Note: The unit will remember its DMX Address when unplugged.

Settings

DMX Addresses >
 Fan Speed >
 Gel Move Speed >

Note: The unit only supports one secondary address at a time. You can have Fan Speed on a remote channel or Time To Destination (Time/Dest) on a remote channel but not both remotely controlled at the same time.

DMX Addresses

Device addresses can be modified from this screen.

Scroller Address 1
 Fan Speed Addr 2
 Time/Dest Addr 3

Information

Chart of information regarding time to destination remote settings. No changes can be made from this screen.

Fan Speed

FAN SPEED high

Fan Speed Options:
High - default
Low
Remote - control remotely via assigned DMX channel

Gel Move Speed

GEL MOVE SPEED high TTD info >

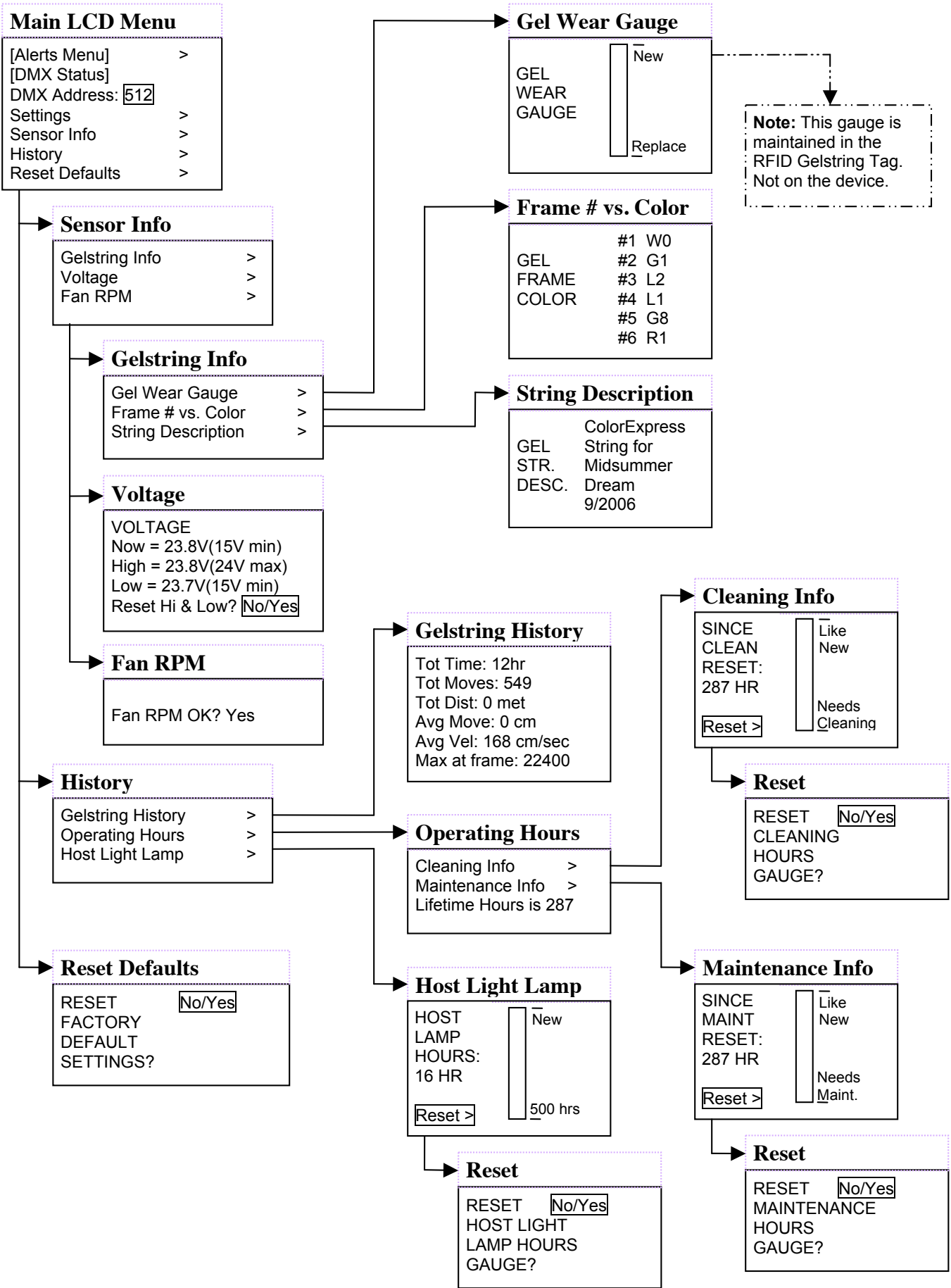
Gel Move Speed Options:
High - default
Low
Time/Dest - control remotely via assigned

TTD info

Time/Dest Addr 3
 Information >

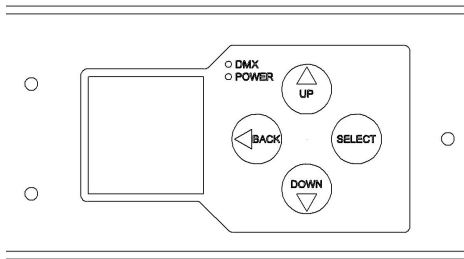
TIME	95-100%: Hi
TO	90-94%: Low
DEST	85-89%: 80 sec
INFO	80-84%: 70 sec
ONLY	75-79%: 60 sec
	70-74%: 50 sec
	65-69%: 40 sec
	60-64%: 35 sec
	55-59%: 30 sec
	50-54%: 25 sec
	45-49%: 20 sec
	40-44%: 15 sec
	35-39%: 10 sec
	30-34%: 9 sec
	25-29%: 8 sec
	20-24%: 7 sec
	15-19%: 6 sec
	10-14%: 5 sec
	5-9%: 4 sec
	0-4%: ASAP

Continued next page



Menu Details

1. Use the ▲ and ▼ buttons to scroll through selections on Coloram IT display.
2. Press **SELECT** to activate that selection.



Key Pad with LCD Readout

The ▲ and ▼ buttons are also used to navigate to further levels within the display. For example, to select “Scroller Address”:

1. Use the ▲ and ▼ buttons to move to the selection box to “Settings.”
2. Press **SELECT** to select “Settings.”
3. Use the ▲ and ▼ buttons to move to the selection box to “DMX Addresses.”
4. Press **SELECT** to select “DMX Addresses.”
5. Use the ▲ and ▼ buttons to move to the selection box to “Scroller Address.”
6. Press **SELECT** to select “Scroller Address.”

Alerts / Error Messages

The following explains the alert and error messages displayed on the unit’s LCD screen.

To read alert messages:

1. When “SENSOR ALERT” is displayed, press **SELECT**.
2. As an example: “VOLTAGE ALERT” indicates a voltage problem.
3. Press **SELECT** to access more information on the Voltage Alert.
4. For example: “WARNING – VOLTAGE
DROPPED BELOW 15V”

VOLTAGE ALERTS

- “WARNING – VOLTAGE
DROPPED BELOW 15V”
Operating voltage has dropped below the minimum operating requirement of 15 volts. The cable between the Coloram IT and the PS Power Supply may be too long.

- “VOLTAGE DROPPED
BELOW 13V
UNIT SHUTDOWN”

Unit has automatically shut down because operating voltage has dropped below 13 volts for more than one second. The voltage typically drops this low if the Coloram IT cable is too long – the Head-Feet limit has been exceeded. The Coloram IT cable must be shortened or the number of Coloram IT scrollers must be reduced to solve this problem.

GEL ALERTS

1. “GELSTRING OUT
OF POSITION — UNIT
SHUTDOWN”

Scroller motor automatically shuts down if gelstring is not at its programmed frame position or if a roller is stuck.

2. “GELSTRING DID
NOT INIT PROPERLY”

Gelstring did not initialize properly. Check that gelstring is properly installed.

3. “GELSTRING IS
BROKEN —
UNIT SHUTDOWN”

Scroller motor automatically shuts down if gelstring has broken or come loose from a roller. Gelstring needs to be replaced or reinstalled.

MOTOR ALERT

1. “MOTOR IS
OPERATING AT A HI
CURRENT LEVEL”

High current level at the scroller motor may indicate an unusually high level of friction at the motor. Please check scroller motor for possible maintenance or replacement.

FAN ALERT

1. “FAN IS OFF WHILE
THE LAMP IS ON”

The color changer may overheat or premature fading of the gelstring colors may occur when the scroller fan is off while the fixture lamp is on.

2. “FAN IS NOT
OPERATING
PROPERLY”

Check fan for possible maintenance.

RFID ALERTS

1. “RFID TAG —
COMMUNICATION FAILURE”
 - A. Communication could not be established with the RFID tag.
 - B. Press **SELECT** for more detailed information:
 - i. “COULD NOT WAKE
THE RFID TAG”
RFID wake command did not finish.
 - ii. “COULD NOT READ
THE RFID TAG”
Coloram IT had a communication failure when trying to read
the RFID tag.
 - iii. “COULD NOT WRITE
THE RFID TAG”
Coloram IT had a communication failure when trying to write
to the RFID tag.

RESET ALERT

Clears existing alert from display screen after pressing **SELECT** (unless the problem still currently exists).

MULTIPLE ALERTS

1. Press **SELECT** to read the first alert.
2. Press **SELECT** to read the details of the first alert.
3. Press **BACK** to view the second alert.
4. Press **SELECT** to view details of the second alert.
5. Press **BACK** to check for any additional alerts. Repeat steps 4 and 5 until all alerts have been read.
6. Once all alerts have been read, use the d key to move the selection box to the “RESET ALL ALERTS” command.
7. Press **SELECT** to clear all alerts, except for those that currently exist as problems.

DMX Address

1. Use the ▲ and ▼ buttons to select the desired Coloram IT DMX address.
2. Press **SELECT** to activate the displayed Coloram IT DMX address.

Settings

DMX ADDRESSES

Scroller Addr (Scroller Address)

- A. Use the ▲ and ▼ buttons to select the desired Coloram IT DMX address.
- B. Press **SELECT** to activate the desired Coloram IT DMX address.

Fan Speed Addr (Fan Speed Address)

- A. Selecting a DMX address for Fan Speed Address also automatically sets Fan Speed to “REMOTE” (see “Fan Speed” below).
- B. Use the ▲ and ▼ buttons to select the desired DMX address.
- C. Press **SELECT** to activate the desired DMX address.

Time/Dest Addr (Time to Destination Address)

If this function is enabled, this feature controls the time it takes to arrive at the destination gelstring position after the new destination command is sent.

- A. Use the ▲ and ▼ buttons to select the desired DMX address.
- B. Press **SELECT** to activate the desired DMX address.

FAN SPEED

1. Use the ▲ and ▼ buttons to select High (normal setting), Low or Remote.
 - A. REMOTE assigns Fan Speed control to the lighting console where:
 - 51% to 100% = Fan at High (normal) setting.
 - 0% to 50% (except 8%) = Fan at Low setting.
 - 8% = Off.

GEL MOVE SPEED

1. Use the ▲ and ▼ buttons to select High, Low or Time/Dest (Time to Destination).
2. Press **SELECT** to activate the desired setting.

TTD Info (Time to Destination information)

- A. Gel Time to Destination DMX Address — use the ▲ and ▼ buttons to select the desired DMX address.
 - i. If this function is enabled, this feature controls the time it takes to arrive at the destination gelstring position after the new destination command is sent.
 - ii. The DMX address for this feature can also be set at the alternate display “DMX Address: DMX Addresses: Time/Dest Addr”.

- iii. For quietest gelstring movement, select the longest time possible.
- iv. Information Only
Displays DMX levels to be used at the lighting console to program specific timings using Gel Time to Destination.

Coloram IT Gelstring Time Table

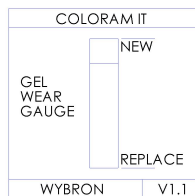
<u>DMX Level</u>	<u>Time to Destination</u>
0-4%	As Soon As Possible
5-9%	greater of: 1 sec or ASAP
10-14%	greater of: 2 sec or ASAP
15-19%	greater of: 3 sec or ASAP
20-24%	4 sec
25-29%	5 sec
30-34%	6 sec
35-39%	7 sec
40-44%	8 sec
45-49%	9 sec
50-54%	10 sec
55-59%	11 sec
60-64%	12 sec
65-69%	13 sec
70-74%	14 sec
75-79%	15 sec
80-84%	16 sec
85-89%	17 sec
90-94%	18 sec
95-100%	19 sec

Sensor Info

GELSTRING INFO

Gel Wear Gauge

Press **SELECT** to display the gauge that indicates how gelstring currently rates between “New” and “Replace.”



Gel Wear Gauge

Frame Number vs. Color

Lists each frame number and associated gel color. Use the ▲ and ▼ buttons to scroll through the list. For example:

Frame 3	L110
Frame 4	R02
Frame 5	R33
Frame 6	R01

String Description

Press **SELECT** to display the gelstring description created by the user when the gelstring was ordered. The order information is also imbedded on the gelstring RFID tag:

ABC Co.
Order 53968
Woman in Black
22 Jan. 2005

GELSTRING INTACT?

Press **SELECT** to display answer to this question (Yes or No).

VOLTAGE

1. Displays present voltage and highest and lowest voltages measured, along with normal minimum and maximum acceptable voltages.

Reset Hi & Low:

- A. Use the ▲ and ▼ buttons to select Yes.
- B. Press **SELECT** to activate Reset Hi & Low.

SCROLLER CURRENT

1. Displays present voltage and highest and lowest current measured, along with normal minimum and maximum acceptable current.
 - A. The amount of current used by a scroller is a measure of scroller friction and an indicator of the general health of the unit.
 - B. An increase in the amount of current needed for a scroller to operate may signal that is motor is going bad.

Reset Hi & Low:

- A. Use the ▲ and ▼ buttons to select Yes.
- B. Press **SELECT** to activate Reset Hi & Low.

PASS THRU CURRENT

1. Displays present pass through current, highest and lowest current measured, along with normal minimum and maximum acceptable pass through current.
 - A. Used in automatically sequencing through RDM enabled units on the lighting rig during Infogate setup procedures.

Reset Hi & Low:

- A. Use the ▲ and ▼ buttons to select Yes.

- B. Press **SELECT** to activate Reset Hi & Low.

FAN RPM

Press **SELECT** to display answer to the question "IS FAN RPM OK?" (Yes or No).

Self Test (Demo)

MOVE / STOP

1. Use the ▲ and ▼ buttons to select "Move" or "Stop" gelstring commands.
2. Press **SELECT** to activate selected command.
3. Present current and voltage information is also displayed, along with maximum acceptable current and minimum acceptable voltage.

History

GELSTRING HISTORY

1. Use the ▲ and ▼ buttons to scroll through the data.

All gelstring history reflects lifetime use of that gelstring, whether the gelstring has been moved from one scroller to another or remained with the same scroller throughout its lifetime.

Total Time (in hours)

The total number of hours that the gelstring has been in use over its entire lifetime.

Total Moves

The total number of times that the gelstring has scrolled from one gel frame to another.

Total Distance (in meters)

The total distance that the gelstring has scrolled.

Average Move (in centimeters)

The average distance that the gelstring moves per command.

Average Velocity (in centimeters per second)

The average velocity at which the gelstring moves.

Max at Frame:

The frame count is the number of times that each frame of the gelstring has been in the aperture of the Coloram IT. This information is stored in the RFID tag on the gelstring and the Infotrace system.

The “Max at Frame” number is the largest number of all the frame counts.

Example: The color changer has been to the following frames:

Frame 1	15 times
Frame 2	11 times
Frame 3	37 times

The Max at Frame number displayed is 37.

OPERATING HOURS

Cleaning Info

- A. Lifetime operating hours is shown at the bottom of the first display, which is the total number of hours the scroller has been in use over its lifetime. This counter is never reset.
- B. Press **SELECT** to display the gauge that indicates how the color changer currently rates between “Like New” and “Needs Cleaning”.



Like New vs. Needs Cleaning Gauge

Cleaning means cleaning dust out of the vent slots, off the printed circuit board, and off the internal components; and cleaning the inside surfaces of the tag sensor.

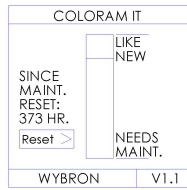
- C. The display also shows the number of hours since the last cleaning of the color changer. Reset the Hours function after each cleaning:

Reset Hours

- i. Press **SELECT** to select the Reset Hours function.
- ii. Use the ▲ and ▼ buttons to select Yes on the “Reset Cleaning Hours Gauge?”
- iii. Press **SELECT** to activate Reset Cleaning Hours Gauge.

Maintenance Info

- A. Lifetime operating hours is shown at the bottom of the first display, which is the total number of hours the scroller has been in use over its lifetime. This counter is never reset.
- B. Press **SELECT** to display the gauge that indicates how the color changer rates between “Like New” and “Needs Maintenance.”



Like New vs. Needs Cleaning Gauge

Maintenance means replacing a failed part on the color changer.

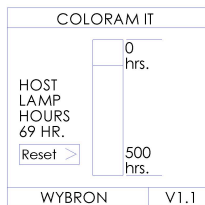
- C. The display also shows the number of hours since the last maintenance on the color changer. Reset the Hours function after each maintenance cycle:

Reset Hours

- i. Press **SELECT** to select the Reset Hours function.
- ii. Use the ▲ and ▼ buttons to select Yes on the “Reset Maintenance Hours Gauge?”
- iii. Press **SELECT** to activate Reset Maintenance Hours Gauge.

Host Light Lamp

- A. Press **SELECT** to display the gauge that indicates the number of hours that the lighting fixture has been on since its lamp was installed. Reset the Hours function after each re-lamping.



Lamp Hours

Reset Hours

- i. Press **SELECT** to select the Reset function.
- ii. Use the ▲ and ▼ buttons to select Yes on the “Reset Host Light Lamp Hours Gauge?”
- iii. Press **SELECT** to activate Reset Host Light Lamp Hours Gauge.

Reset Defaults

1. Press **SELECT** to select “Reset Defaults”.
2. Use the ▲ and ▼ buttons to select Yes to Reset Defaults.
3. Press **SELECT** to activate Reset Defaults:

Scroller address is 1
Fan address is 2
Time to Destination address is 3
Fan speed is High
Gel speed is High

Head-Feet Restrictions

The HEAD-FEET parameter is a method of accounting for the voltage drop in the power/signal cable caused by the current drawn by each color changer.

To help understand this issue, think of it as water pressure (voltage) in a hose (cable) where you have multiple water sprinkler heads (color changers). If the hose (cable) is too long or you have too many sprinkler heads (color changers), the water pressure (voltage) will be too low.

HEAD-FEET is defined as "the sum of cable lengths from each color changer to a single power supply output".

Head-Feet Example:

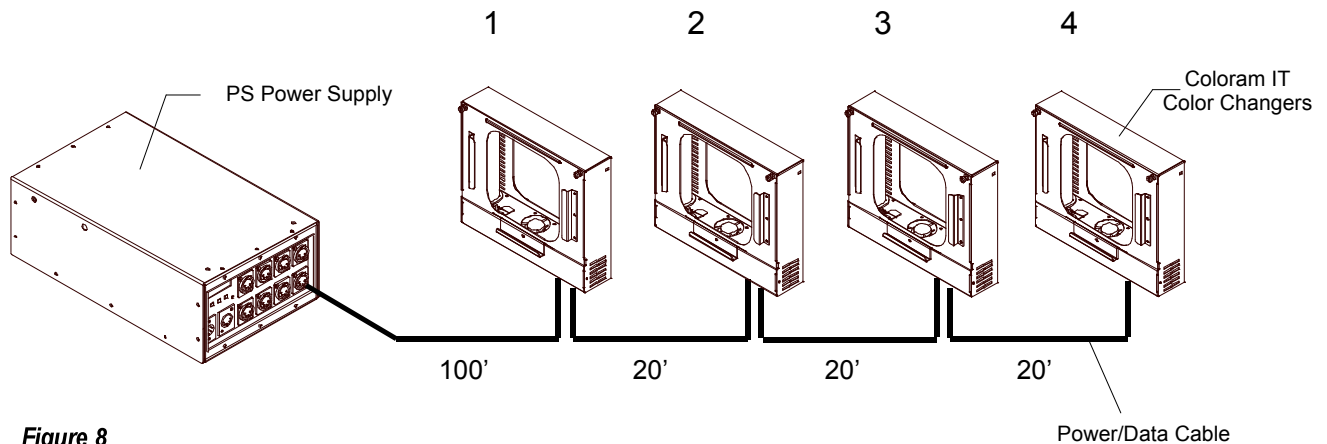


Figure 8

The length of cable from the Power Supply to:

1st Coloram:	100'
2nd Coloram:	120'
3rd Coloram:	140'
4th Coloram:	<u>160'</u>
	520 Head-Feet

The maximum HEAD-FEET for each of the Coloram IT color changers is as follows:

84520	4-inch Coloram IT	1500 head feet
87110	7.5-inch Coloram IT	1500 head feet
810100	10-inch Coloram IT	1000 head feet

If a daisy chain consists of different models, use the model with the smallest amount of Head-Feet for the calculation.

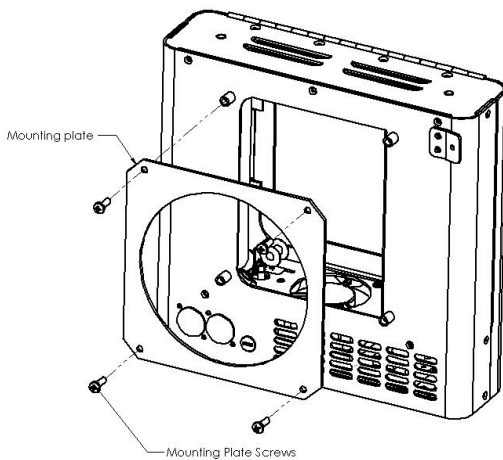
Mounting and Installation Accessories

The components of your Coloram IT system may require the installation of additional mounting accessories or the replacement of others. Some of these accessories are supplied by Wybron, such as the power supply hanger brackets and your choice of one color changer mounting plate. Other accessories, such as the power supply rack mount kit and additional mounting plates, may need to be purchased separately.

The following sections describe the procedures for installation and replacement of some of these accessories.

Color Changer Mounting Plate

The Coloram IT color changer ships with your choice of available mounting plates installed. It may be necessary, when mounting the color changer on different light fixtures, to replace the mounting plate.



Mounting Plate

1. Place the color changer on a flat surface, with the Coloram IT logo face down.
2. Unscrew the four screws holding on the current mounting plate.
3. Place the replacement mounting plate on the color changer, aligning the screw holes properly.
4. Fasten the four corners of the mounting plate to the color changer using the same screws you removed in step 2.

Note: Always use the supplied screws, as they are treated with an anti-vibration compound to keep them from loosening

Replacing a Gelstring

At some point in time you may find that you need to replace the gelstring in your color changer, either because the old one wears out or because you want a different selection of colors. With all the Coloram IT Color Changers this is quick and easy.

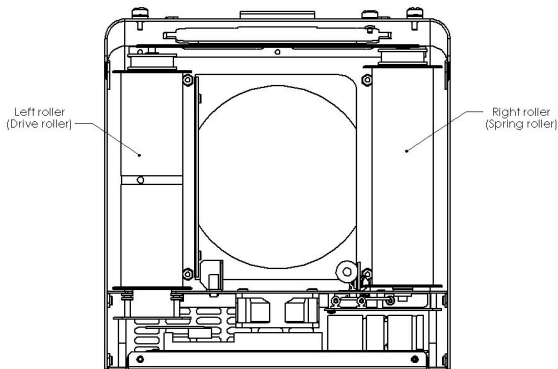
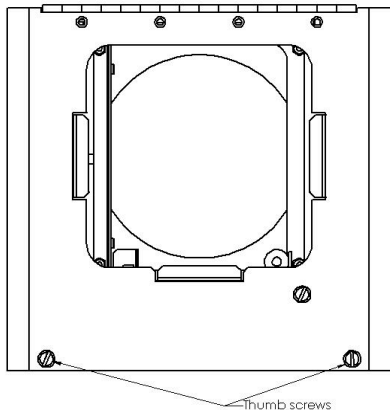


Caution: Operating the Coloram IT color changers with damaged gelstrings will damage the color changers. Replace the gelstrings before damage occurs.

Note: If a frame in the gelstring becomes damaged, do not remove the frame and splice the gelstring. Replace the gelstring. Gelstrings may be ordered online from ColorExpress IT at www.wybron.com. See the ColorExpress IT section at the end of this manual for further details.

Remove the Old Gelstring

This procedure is performed with no power to the color changer.



Opening the Coloram IT

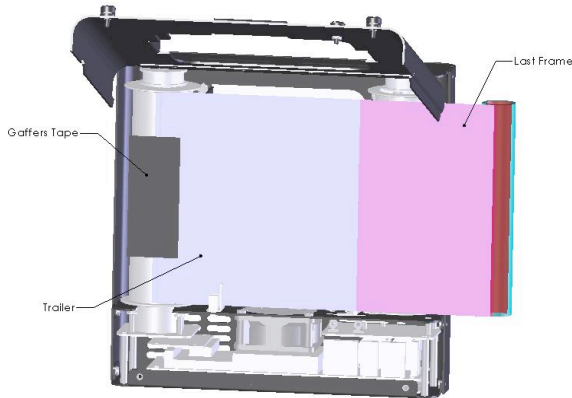
1. Place the color changer on a flat surface with the Coloram IT logo facing toward you.
2. Lift the front panel by unscrewing the two thumb screws at the bottom right and left corners of the front door as shown in the first picture on the left.
3. Gently roll the gelstring onto the left roller, exposing the clear leader taped on the right roller.
4. Untape the leader from the right roller. Remove the tape from the leader.
5. Roll the gelstring onto a cardboard tube as you slowly remove it from the left roller.
6. When you reach the clear trailer, untape it from the roller.

Hint: To save time, move all gelstrings to the first frame via the DMX source before disconnecting power.

Install the New Gelstring

*Note: Use good quality gaffer's tape to attach the gelstrings to the rollers. **Do not use duct tape or masking tape.** The tape should be two-thirds of the roller length. Apply the tape "lengthwise" on the roller. Be sure the roller is clean.*

Installing New Gelstring



1. Put a strip of gaffer's tape on the edge of the gelstring trailer. Holding the trailer, let the rest of the roll hang off the right side of the color changer.
2. Center the edge of the trailer between the two flanges of the left roller as shown to the left. Tape the trailer along the top of the roller as shown.
3. Roll the gelstring onto the left roller until the end of the leader is directly above the right roller.
4. Put a strip of gaffer's tape on the gelstring leader.
5. While holding the end of the gelstring, turn the right roller toward the left roller. The sticker at the bottom end of the roller has a black line on it to help you judge the number of turns.
6. Tape the gelstring to the right (spring) roller.

Note: Use the maximum number of spring roller turns for gelstrings with the maximum number of frames. Use fewer turns for shorter gelstrings. Refer to the gelstring tension chart below for the exact number of turns for your color changer/gelstring combination.

Models: 84520, 87110

2 - 10 frames
11 - 18 frames
19 - 26 frames
27 - 32 frames

Number of Turns

5
6
7
8

Model: 810100

2 - 5 frames
6 - 10 frames
11 - 17 frames
18 - 24 frames

Number of Turns

5
6
7
8

Power Supply Compatibility

The following is a chart of compatibility and capacity of the various models of PS Power Supply and their companion IT devices.

Power Supply:			PS-150	PS -300	PS -600
Model Number:			820150	820300	820600
Output Power:			150 watts	300 watts	600 watts
Quantity per Power Supply:			↓	↓	↓
<i>Description</i>	<i>Model</i>	<i>Max. Head-Feet</i>	<i>PS-150</i>	<i>PS-300</i>	<i>PS-600</i>
Coloram IT – 4 & 7.5 inch	84520, 87110	1500	6	12	24
Coloram IT – 10 inch	810100	1000	4	8	16
CXI IT – 7.5 inch	87200	1500	6	12	24
Eclipse IT Shutter – 1K, 2K, 5K vane	89001 811010 817000	1500	8	16	32
Eclipse IT Iris – 1K, 2K	87230 812010	1500	6	12	24

Non-RDM Equipment and Infotrace

A lighting rig can use any combination of non-IT, non-RDM along with Wybron's RDM-compatible IT equipment. The non-IT equipment will work the old-fashioned way (hand addressing, no status reporting or other features). The RDM protocol allows configuration, status monitoring, and management of RDM devices in such a way that does not disturb the normal operation of DMX devices that don't recognize RDM.

Coloram IT and Standard (non-IT) Environments

The Coloram IT family of products (Coloram IT, CXI IT, Eclipse IT Shutter, and Eclipse IT Iris, which all must be connected to PS Power Supplies) will work in any standard environment that does not use RDM or IT products.

Specifications

End to end speed:

Models: 84520 and 87110 — 3.2 seconds

Models: 810100 — 5 seconds

Fan Speed: High, Low, Remote

Fuse: 1.5 Amp Slo Blo (84520 & 87110)

Max Gelstring:

Models: 84520 and 87110: 2 – 32 frames

Models: 810100: 2 – 24 frames

LED Indicators:

Red: Power

Green: DMX signal

Status Display: Backlit display

Power supply compatibility:

PS 150 Power Supply, 150 watts

PS 300 Power Supply, 300 watts

PS 600 Power Supply, 600 watts

Signal termination: None required

Weight:

84520 - 4-inch Coloram IT Color Changer: 4.06 lbs./1.85 kg

87110 - 7.5-inch Coloram IT Color Changer: 4.86 lbs./2.2 kg

810100 -10-inch (2K) Coloram IT Color Changer: 5.96 lbs./2.7 kg

Dimensions:

84520 - 4-inch:

9.80"/249mm wide x 9.35"/237mm high x 3.46"/88mm deep

87110 - 7.5-inch:

12.87"/326.89mm wide x 11.39"/289mm high x 3.60"/92mm deep

810100 -10-inch:

15.37"/390.39mm wide x 13.61"/346mm high x 3.56"/90mm deep

Parts List

To order any of the following items, contact your authorized WYBRON dealer.

Coloram IT Color Changers and Power Supplies

84520	4-inch Coloram IT
87110	7.5-inch Coloram IT
810100	10-inch Coloram IT
820150	PS-150 Power Supply, 150 watts
820300	PS-300 Power Supply, 300 watts
820600	PS-600 Power Supply, 600 watts

Coloram IT Mounting and Installation Accessories

452-01-03P	6.25"/158.75mm mounting plate for 4-inch Color Changer
452-03-04	6.25"/158.75mm mounting plate for 7.5-inch Color Changer
704-01-03P	7.5"/190.5mm mounting plate for 7.5-inch Color Changer
711-01-03P	10"/254mm mounting plate for 7.5-inch Color Changer
1009-01-20P	12.125"/307.98mm mounting plate for 10- inch Color Changer
1009-01-21P	14.25"/361.95mm mounting plate for 10- inch Color Changer
8711-03-01	Universal mounting plate for 7.5-inch Color Changer
81010-03-01	Universal mounting plate for 10-inch Color Changer
SCRPH832037P	3/8" pan head screws for mounting plate to Color Changer
SCRPH832050	1/2" pan head screws for mounting plate to Color Changer
715-01-03P	PS 150-300-600 Power Supply hanger bracket
SCRWC252075	Wing screw for Power Supply hanger bracket to pipe
SCRSC2520037	Socket cap screw for hanger bracket to Power Supply

Coloram IT Cable

7042-3.....	3' power/signal cable
7042-5.....	5' power/signal cable
7042-10.....	10' power/signal cable
7042-15.....	15' power/signal cable
7042-25.....	25' power/signal cable
7042-50.....	50' power/signal cable
7042-75.....	75' power/signal cable
7042-100.....	100' power/signal cable

Warranty Information

WYBRON, INC. warrants to the original owner or retail customer that for a period of one year from date of delivery of a portable system or energization of a permanently installed system (up to a maximum of 18 months from delivery) its products will be free from defects in materials and workmanship under normal use and service.

Warranty does not cover any product or part of a product subject to accident, negligence, alteration, abuse, misuse or any accessories or parts not supplied by WYBRON, INC. Warranty does not cover "consumable" parts such as fuses, lamps, or color media. WYBRON, INC.'s warranty does not extend to items not manufactured by us. Freight terms on warranty repairs are FOB WYBRON, INC. factory or designated repair facility. Collect shipments or freight allowances will not be accepted.

WYBRON, INC.'s sole responsibility under this warranty shall be to repair or replace at WYBRON, INC.'s option such parts as shall be determined to be defected on WYBRON, INC.'s inspection. WYBRON, INC. will not assume any responsibility for any labor expended or materials used to repair any equipment without WYBRON, INC.'s prior written authorization. WYBRON, INC. shall not be responsible for any incidental, general or consequential damages to property, damages for loss of use, time, profits or income, or any other charges.

The owner's obligations during the warranty period under this warranty are to notify WYBRON, INC. at WYBRON, INC.'s address within one week of any suspected defect, and return the goods prepaid to WYBRON, INC. at their factory or authorized service center.

This warranty is contingent on the customer's full and timely compliance with the terms of payment set forth in said purchase order. This warranty is expressly in lieu of any and all other warranties expressed or implied including the warranties of merchantability and fitness for a particular purpose and of other obligations and liabilities on our part. The owner acknowledges that no other representations were made to him or relied upon him with respect to the quality and function of the goods sold.

This written warranty is intended as a complete and exclusive statement of the terms thereof. Prior dealings or trade usage shall not be relevant to modify, explain or vary this warranty. Acceptance of, or acquiescing in, a course of performance under this warranty shall not modify the meaning of this agreement even though either party has knowledge of the performance and a chance to object.