infotrace IT
control & management system

CXI IT
User Manual

WYBRON

Advancing The Art Of Lighting

84560   4-inch CXI IT Color Changer
87200   7.5-inch CXI IT Color Changer
812210   12-inch CXI IT Color Changer

CXI IT software version: V1.2
Manual issue date: October 17, 2006

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DECLARATION OF CONFORMITY

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

Equipment Name: CXI IT Color Changer
Equipment Model Number(s): 84560, 87200, 816050, 812210, 816130, 87220

This product is in conformity with the following standards:

Referenced Safety Standard(s)   **Referenced EMC Standard(s)**

    EN60598-1   EN55022
    EN60598-2-17

 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. 2006_

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Safety Information

SAVE THESE INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS

There is a potential risk of fire, electric shock or injury to persons if the product is not used as instructed.

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

- Read this manual before connecting power.
- Use supervision around children.
- Use in a dry location only.

The PS Power Supply is to be used in an indoor environment only and is not intended for residential use.

For continued protection against risk of fire, replace only with same type and rating of fuse.

Protection against electric shock is assured only if the mains connected power supply cord set is connected to a properly earthed grounding type receptacle.

An all pole disconnect device must be located adjacent to the unit or, if the AC cord is used as the main disconnect device, ensure that the socket-outlet is located/installed near the equipment and is easily accessible.

THE MAINS LEADS ARE COLORED IN ACCORDANCE WITH THE FOLLOWING CODE AND MUST BE CONNECTED IN THE FOLLOWING SCHEME:
- GREEN AND YELLOW: EARTH ⏚
- BLUE: NEUTRAL
- BROWN: LINE
WARNING: THIS EQUIPMENT MUST BE EARTHED.

For questions, contact Wybron at 1-800-624-0146 or visit www.wybron.com.

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.

Notes de Sécurité

EPARGNER CES INSTRUCTIONS
LIRE ET SUIVRE TOUTES INSTRUCTIONS

Il y a un risqué de feu, décharge électrique, ou la blessure aux gens si le produit n'est pas utilize comme instruit.

AVERTISSEMENT: En utilisant des appareils électriques utilise la prudence fondamentale inclut:

- Lire ce manuel avant d'alimenter ou l'installation de l'accessoire.
- Utiliser la prudence près des enfants.
- Sécher l'emplacement seulement.

Le PS provision d'électricité va être utilize à la maison seulement et pas pour l'usage residential.

Pour la protection continuée contre le risque de feu, remplacer seulement avec le même type et le même classement de fusible.

La Protection contre la décharge électrique est seulement assurée si la série de corde connectée principale est connectée à un convenablement terre de type.

Un appareil débranchant doit être localisé à côté de l'unité ou, si la corde de courant alternatif est utilisée comme le principal débranche l'appareil, S'assurer que la douille-sortie localise/installé près de l'équipement et est facilement accessible.

LES AVANCES PRINCIPAUX SONT CONFORMEMENT COLORES AU CODE SUIVANT ET DOIVENT ETRE CONNECTES DANS L'ARRANGEMENT SUIVANT :
   ➢ vert et jaune– terre ⏚
   ➢ bleu – neutre
   ➢ marron – ligne

L'AVERTISSEMENT – CET EQUIPEMENT DOIT ETRE FONDE.

Pour les questions, Wybron de contact à 1-800-624-0146 ou visite www.wybron.com.

L'Avertissement de Modification de Produit
Les produits de Wybron, Inc. sont conçus et a fabriqué pour rencontrer les conditions d'Etats-Unis et de norms de sûreté internationals. Les modifications aux produits pourraient affecter la sûreté et rendent le produit non-conciliant aux normes de sûreté pertinentes.

Aviso Sobre Seguridad

SALVE ESTAS INSTRUCCIONES
LEA Y SIGA TODAS INSTRUCCIONES

Hay un riesgo potencial del fuego, el calambre o la herida a personas si el producto no se utiliza como instruido.

ADVERTENCIA: Cuando se usa electrodomésticos, el uso las precauciones básicas, incluyendo:

- Lea este manual antes de accionar o instalar la instalación fija.
- Supervise a niños cercano.
- Seque ubicación sólo.

La PS fuente del poder deberá ser utilizado en un ambiente interior sólo y no es pensado para el uso residencial.

Para la protección continuada contra el riesgo del fuego, reemplaza sólo con mismo tipo y calificación de fusible.

La Protección contra calambre se asegura sólo si el conjunto conectado principal de cuerda es conectado a un apropiadamente earthed que muele receptáculo de tipo.

Una toda asta desconecta dispositivo se debe localizar adyacente a la unidad o, si la cuerda de C.A. se utiliza como el principal desconecta dispositivo, asegure que la enchufe-salida localiza/instalado cerca del equipo y sea fácilmente accesible

EL PRINCIPAL DIRIGE SON COLORADOS DE ACUERDO CON EL CODIGO SIGUIENTE Y se DEBE CONECTAR EN EL ESQUEMA SIGUIENTE:
- ➢ verde y amarillo – molió/la tierra ⏚
- ➢ azul – neutral
- ➢ brown – línea

La ADVERTENCIA – ESTE EQUIPO DEBE SER EARTHED.

Para preguntas, el contacto Wybron en 1-800-624-0146 o visita www.wybron.com.

Advertencia de Modificación de Producto
Wybron, los productos S.a. se diseñan y son fabricados para encontrar los requisitos de Estados Unidos y estándares Internacionales de seguridad. Las modificaciones a los productos podrían afectar la seguridad y rendir el producto no conformista a estándares pertinentes de seguridad.

Sicherheitshinweise

BEHALTEN SIE DIESEN ANWEISUNGEN
LESEN SIE UND GEHORCHEN SIE ALLEN ANWEISUNGEN

Es gibt ein potenzielles Risiko des Feuers, Elektroschocks oder Verletzung zu Personen, wenn das Produkt nicht benutzt ist, als unterrichtet ist.

WARNUNG: Beim Benutzen elektrischer Geräte, Gebrauch grundlegende Vorsichtsmaßnahmen, einschließlich:

- Lesen Sie dieses Handbuch vor Betreiben oder Installieren des Inventar.
- Benutzen Sie Aufsicht nahe Kinder.
- Trocken Sie Ort nur.

Der PS Quelle der Kraft soll in einer Hallenumwelt nur benutzt werden und ist für Heimumwelt nicht vorgehabt.

Für fortgesetzten Schutz gegen Risiko des Feuers, ersetzt nur mit gleichem Typ und Bewertung der Sicherung.

Schutz gegen Elektroschock ist nur gezusichert, wenn die Hauptleitungen Schnursatz verbunden haben, ist an eine ordentlich earthed Erdung von Behälter angeschlossen.

Eine alle Stange schaltet Vorrichtung muss sich befunden werden neben der Einheit ab oder, Wenn die AC Schnur benutzt ist, während die Hauptleitung Vorrichtung abschaltet, Sichert, dass der Steckdosensteckdose ist befunden/nahe die Ausrüstungen installieren, und ist leicht zugänglich.

DIE HAUPTLEITUNGEN BLEIE SIND GEMÄSS DEM FOLGENDEN CODE GEFÄRBT UND MÜSSEN IM FOLGENDEN SCHEMA VERBUNDEN WERDEN:
- ➢ Grün und Gelb – Erden Sie/Erde ⏚
- ➢ Blau – neutral
- ➢ Braun – linie

WARNUNG – DIESE AUSRÜSTUNGEN MUSS EARTHED WERDEN.

Für Fragen Kontakt Wybron an 1-800-624-0146 oder besucht www.wybron.com.

Produktänderungswarnung
Wybron, Inc. Produkte sind entworfen und sind hergestellt, die Voraussetzungen von Vereinigten Staaten und Internationalen Sicherheitsstandards zu erfüllen. Änderungen zu den Produkten könnten Sicherheit beeinflussen und könnten das Produkt leisten das verordnungswidrig ist zu relevanten Sicherheitsstandards.

Introduction

The Coloram IT System includes a CXI IT color mixing color changer and PS Power Supply, utilizing Remote Device Management (RDM) bi-directional communication protocol, and offers an ease of setup and use. The Coloram IT System is part of the InfoTrace system that represents a new way of managing a lighting installation.

The lightweight color changers slide easily into the gel frame holder of the light fixture. The compact power supplies attach easily to the truss of the lighting rig or mount into a 19-inch rack.

The DMX512 control signal from the lighting console is connected through the InfoGate Gateway and dimmers to the PS Power Supply, and can continue on to additional PS Power Supplies or other DMX-controlled devices. The power supply sends power, DMX control signal and RDM information on a single cable, eliminating the need for a separate power cable for the color changer.

CXI IT color changers are 100% compatible with all members of the Coloram IT family including Coloram IT color changers, PS Power Supplies, the Eclipse IT Dowser and Eclipse II IT Dowser. You can also daisy chain CXI IT color changers with other Coloram IT equipment.

This manual gives step-by-step instructions for preparation, setup and operation of the CXI IT Color Changer as part of an InfoTrace system.

Caution:
The Coloram IT system, including the CXI IT, is not compatible with Coloram II (RAM) system.

Do not connect CXI IT Color Changers to Coloram II (RAM) Power Supplies.

Do not connect Coloram II (RAM) to PS-xxx Power Supplies.

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

InfoTrace System Overview

Figure 1

The diagram above outlines the key components, which include:

InfoTrace	–	The entire system is referred to as the InfoTrace System
InfoGate	–	The software and hardware required to facilitate the transfer and display of information
InfoChip	–	A conversion chip that can be used with non-RDM equipment to allow communication with the InfoGate Software
InfoStore	–	An Internet based application that aggregates data captured by InfoGate and allows for the accumulation of historical information related to the equipment performance in the installation
IT Products	–	Coloram IT, CXI IT, Eclipse IT, and Eclipse II IT all have updated electronics to support RDM communication plus additional product improvements, including sensors to detect a variety of conditions.

The heart of the InfoTrace (IT) system is InfoGate — specialized software that uses the bi-directional communications protocol, Remote Device Management (RDM), to facilitate remote addressing and diagnostics for potentially every piece of equipment mounted on a rig. InfoGate works with all IT products and all RDM-compatible equipment from any manufacturer.

In addition, any non-RDM equipment can be upgraded with the installation of an InfoChip. Because InfoGate can work with any equipment, the setup, unit testing, and troubleshooting for an entire rig can be coordinated from a single laptop.

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Wybron's IT equipment (Coloram IT, CXI IT, Eclipse IT, and Eclipse II IT) is equipped with a series of sensors that can relay a wealth of information to InfoGate. These sensors can detect everything from light, voltage, current, to fan speed and even gelstring frame color information.

So while RDM equipment will allow identification and remote addressing, IT equipment can give more specific status information and warn of potential problems, possibly averting failures in the middle of a show. If the status of a device indicates any problem, InfoGate displays an alert with the nature of the problem and the exact location. Troubleshooting is now done in a fraction of the time.

InfoTrace provides the ability to:

- Automate the setup of DMX addresses – no more manual setting of DIP switches
- Proactively check the condition of equipment before, during and after a show
- Track lamp duty cycles to predict lamp failures before they happen
- Predict maintenance on equipment
- Predict gel replacement prior to degradation

Sensors

Coloram IT, CXI IT, Eclipse IT and Eclipse II IT:

• Aperture Light Sensor: Detects if the fixture's lamp is on.

• Voltage Sensor: Reports the head voltage level.

• Pass Through Current Sensor: Measures the amount of current that passes through the XLR connector wiring harness; assists in automatically setting up the rig in conjunction with InfoGate.

• Unit Current Sensor: Measures the amount of current that a unit is consuming, which can be an indicator of motor health.

• Timers: Keep track of how many hours the unit has been in operation since its last maintenance cycle.

• Fan RPM Sensor: RPM sensor on fan.

• Self Test Mode: Moves the gelstring without a DMX input command.

• Reverse Polarity Protection: Auto shutdown if scroller is plugged into a Coloram II power supply.

Additional Sensors

Coloram IT and CXI IT only:

• Gel Color Reader: Reads digital information off of the gelstring, including gelstring frame color information.

• Gel Wear Counter: Tracks how much the gelstring has moved and alerts the user when a gelstring needs to be replaced.

• Gel Temperature Sensor: Approximates and reports the temperature of the gel.

• "Gelstring is broken" Sensor: Detects if the gelstring is broken after gelstring initialization.

• Motor Shutdown if Gelstring is Broken: Automatically shuts down the motor if the gelstring breaks or comes loose from a roller.

Alert Warnings include:

• Fan Stopped
• High Motor Current
• Fan Off and Lamp On
• Unit Cleaning Period Reached
• Init Fail
• Low Voltage Alert
• Low Voltage Unit Shutdown
• Gelstring out of Postion, Unit Shutdown (Coloram IT and CXI IT only)
• Gelstring Replacement Period Reached (Coloram IT and CXI IT only)
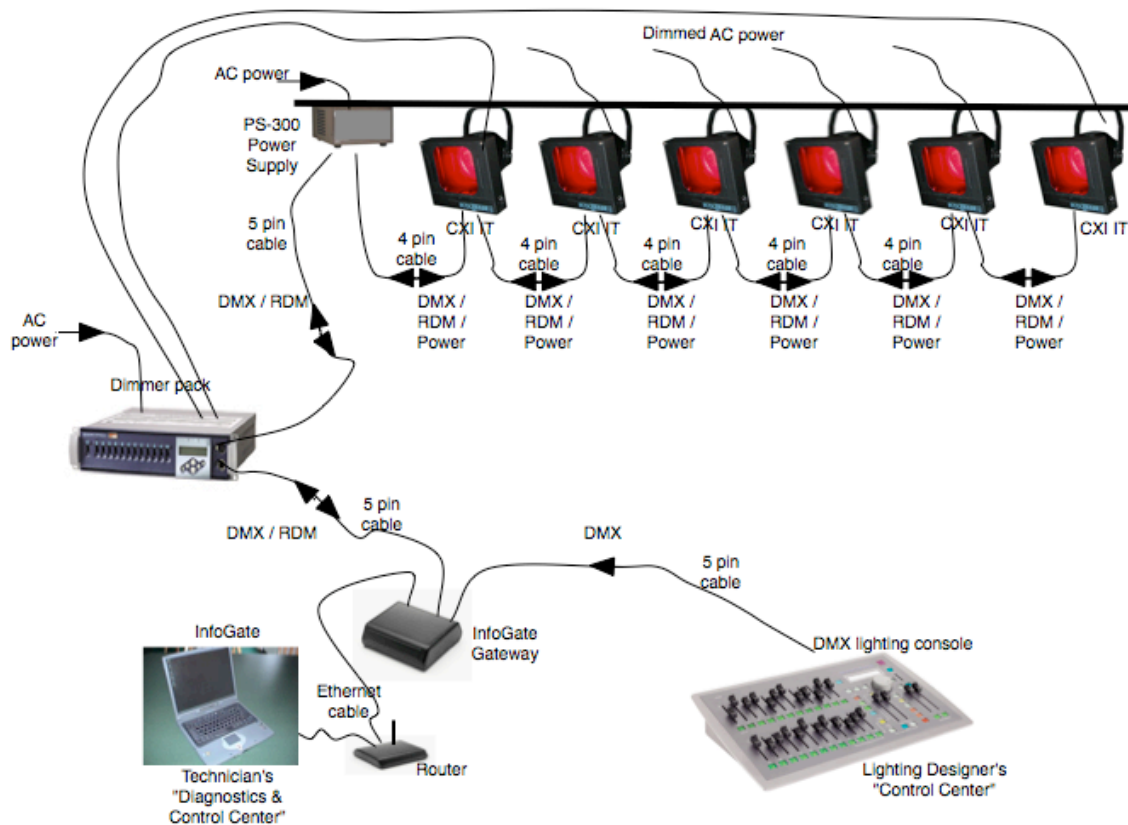
InfoTrace Connection Diagram

Figure 2

Quick Start

1. Connect the equipment

A. Attach the CXI IT Color Changer to a powered light fixture.

B. Connect the CXI IT Color Changer to the PS Power Supply using the 4-pin Wybron Power/Data Cable.

C. Connect the PS Power Supply to non-dimmed 100-240 VAC, 50/60Hz power and to a DMX source.

D. Connect dimmers that have InfoChip installed, to the InfoGate hardware and software. Please refer to the InfoGate and InfoChip manuals for details.

E. Using InfoGate:
   i. Initiate "Perform Discovery"
   ii. In the DMX Map, drag and drop the first DMX address for the color changer to DMX address 1.
      a. The second DMX address of the CXI IT will automatically be assigned to DMX address 2.
   Please refer to the InfoGate manual for details.

2.   Set up the CXI IT Color Changer

Please refer to the Menu Details below for information on how to select the settings described here:
   A.   Set the CXI IT color changer to the MIX mode (to have independent control of each of the two gelstrings).
   B.   Set the Gel Move Speed to LOW.

3.   Send DMX Levels
   A.   In MIX mode, as set above, the CXI IT responds to 2 separate DMX channels.
         i.   The 1st DMX channel positions the gelstring FURTHEST from the mounting plate.
         ii.   The 2nd DMX channel positions the gelstring NEAREST the mounting plate.
   B.   On the lighting console, set the 1st DMX channel to 4%.
   C.   On the lighting console, set the 2nd DMX channel to 4%.

You will see the light color change to a "medium blue". Vary the DMX levels of the 1st and 2nd DMX channels to change colors.

Using CXI IT

Operating Modes

Please refer to the Menu Details below for information on how to select Index or Mix mode.

1.   Index mode
   A.   Controls both gelstrings with ONE DMX channel.
   B.   Channel descriptions:
         i.   Channel 1: Positions both gelstrings
         ii.   Channel 2: Gelstring time-to-destination (ONLY if enabled)

2.   Mix mode
   A.   Controls the two gelstrings with TWO DMX channels — with independent control of each of the two gelstrings.
   B.   Channel descriptions:
         i.   Channel 1: positions the front gelstring (furthest from the mounting plate)
         ii.   Channel 2: positions the back gelstring (nearest the mounting plate)
         iii.   Channel 3: gelstring time-to-destination (ONLY if enabled)

Mix Mode Color Tables

The Mix mode uses TWO DMX channels as follows:
- Channel 1: positions the front gelstring (furthest from the mounting plate)
- Channel 2: positions the back gelstring (nearest the mounting plate)
- Channel 3: gelstring time-to-destination (ONLY if enabled)

Intermediate DMX levels will "split the frames" by placing portions of two different colors in the aperture yielding "custom colors".

The following table lists MIX mode colors sorted by DMX % level. A source temperature of 3200 degrees K. is presumed.

Mix Mode Color Table - Sorted by DMX % Level

Color Number	Color Name	front string Chan 1 DMX %	back string Chan 2 DMX %	front string Chan 1 DMX (dec)	back string Chan 2 DMX (dec)
---	CLEAR	49%	45%	125	115
---	CUSTOMER 2	49%	100%	125	255
---	CUSTOMER 1	100%	45%	255	115
L116	MED BLU GRN	0%	63%	0	161
L139	PRIMARY GREEN	0%	95%	0	242
G905	DARK BLUE	4%	0%	10	0
R83	MEDIUM BLUE	4%	4%	10	10
R80	PRIMARY BLUE	4%	9%	10	23
L132	MEDIUM BLUE	4%	13%	10	33
R69	BRILLIANT BLUE	4%	27%	10	69
G740	OFF BLUE	4%	31%	10	79
L124	DARK GREEN	4%	85%	10	217
R90	DRK YELL GRN	4%	90%	10	230
L181	CONGO BLUE	9%	0%	23	0
R383	SAPPHIRE BLUE	9%	4%	23	10
G835	AZTEC BLUE	9%	13%	23	33
G810	MOON BLUE	9%	18%	23	46
L118	LIGHT BLUE	9%	27%	23	69
G690	BLUEGRASS	9%	54%	23	138
G915	TWILIGHT	13%	4%	33	10
G760	AQUA BLUE	13%	31%	33	79
G725	PRINCESS BLUE	13%	40%	33	102
G685	PISTACHIO	13%	63%	33	161
G650	GRASS GREEN	13%	85%	33	217
G945	ROYAL PURPLE	18%	0%	46	0
G847	CITY BLUE	18%	18%	46	46
G815	MOODY BLUE	18%	22%	46	56
R65	DAYLIGHT BLUE	18%	27%	46	69
G710	BLUE GREEN	18%	36%	46	92
G680	KELLY GREEN	18%	63%	46	161
G660	MED GREEN	18%	81%	46	207

R358	ROSE INDIGO	22%	0%	56	0
L180	DARK LAVENDER	22%	4%	56	10
G950	PURPLE	22%	9%	56	23
R64	LIGHT STEEL BLUE	22%	22%	56	56
R57	LAVENDER	27%	13%	69	33
G940	LIGHT PURPLE	27%	18%	69	46
L201	FULL CT BLUE	27%	27%	69	69
L117	STEEL BLUE	27%	36%	69	92
R86	PEA GREEN	27%	85%	69	217
G960	MEDIUM LAVENDER	31%	18%	79	46
G790	ELECTRIC BLUE	31%	36%	79	92
G995	ORCHID	36%	4%	92	10
G990	DARK LAVENDER	36%	13%	92	33
R52	LIGHT LAVENDER	36%	22%	92	56
R54	SPECIAL LAVENDER	36%	31%	92	79
G540	PALE GREEN	36%	67%	92	171
R48	ROSE PURPLE	40%	9%	102	23
L203	1/4 CT BLUE	40%	40%	102	102
L101	YELLOW	40%	95%	102	242
R344	FOLIES PINK	45%	9%	115	23
R10	MEDIUM YELLOW	49%	90%	125	230
G450	SAFFRON	54%	85%	138	217
R312	CANARY	54%	90%	138	230
L104	DEEP AMBER	54%	95%	138	242
G325	BASTARD AMBER	58%	58%	148	148
R09	PALE AMBER GOLD	58%	72%	148	184
R14	MEDIUM STRAW	58%	90%	148	230
G155	LIGHT PINK	63%	54%	161	138
G330	SEPIA	63%	63%	161	161
L204	FULL CT ORANGE	63%	85%	161	217
R15	DEEP STRAW	63%	90%	161	230
G160	CHORUS PINK	67%	54%	171	138
G343	HONEY	67%	81%	171	207
L179	CHROME ORANGE	67%	90%	171	230
L110	MIDDLE ROSE	72%	58%	184	148
L105	ORANGE	72%	95%	184	242
R36	MEDIUM PINK	76%	63%	194	161
R318	MAYAN SUN	76%	81%	194	207
G335	CORAL	76%	95%	194	242
G130	ROSE	81%	54%	207	138
L111	DARK PINK	81%	63%	207	161
R23	ORANGE	81%	90%	207	230
G315	AUTUMN GLORY	81%	95%	207	242
R44	MIDDLE ROSE	85%	54%	217	138
R32	MEDIUM SALMON PINK	85%	81%	217	207
R22	DEEP AMBER	85%	95%	217	242
G110	DARK ROSE	90%	49%	230	125
G120	BRIGHT PINK	90%	58%	230	148
G180	CHERRY	90%	76%	230	194
R19	FIRE	90%	95%	230	242
L128	BRIGHT PINK	95%	54%	242	138

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Color Number	Color Name	EXOTIC SANGRIA			
R39	EXOTIC SANGRIA	95%	58%	242	148
R46	MAGENTA	95%	76%	242	194
R26	LIGHT RED	95%	95%	242	242

The following table lists MIX mode colors sorted by color number.

Mix Mode Color Table - Sorted by Color Number

Color Number	Color Name	front string Chan 1 DMX %	back string Chan 2 DMX %	front string Chan 1 DMX (dec)	back string Chan 2 DMX (dec)
---	CLEAR	49%	45%	125	115
---	CUSTOMER 2	49%	100%	125	255
---	CUSTOMER 1	100%	45%	255	115
G110	DARK ROSE	90%	49%	230	125
G120	BRIGHT PINK	90%	58%	230	148
G130	ROSE	81%	54%	207	138
G155	LIGHT PINK	63%	54%	161	138
G160	CHORUS PINK	67%	54%	171	138
G180	CHERRY	90%	76%	230	194
G315	AUTUMN GLORY	81%	95%	207	242
G325	BASTARD AMBER	58%	58%	148	148
G330	SEPIA	63%	63%	161	161
G335	CORAL	76%	95%	194	242
G343	HONEY	67%	81%	171	207
G450	SAFFRON	54%	85%	138	217
G540	PALE GREEN	36%	67%	92	171
G650	GRASS GREEN	13%	85%	33	217
G660	MED GREEN	18%	81%	46	207
G680	KELLY GREEN	18%	63%	46	161
G685	PISTACHIO	13%	63%	33	161
G690	BLUEGRASS	9%	54%	23	138
G710	BLUE GREEN	18%	36%	46	92
G725	PRINCESS BLUE	13%	40%	33	102
G740	OFF BLUE	4%	31%	10	79
G760	AQUA BLUE	13%	31%	33	79
G790	ELECTRIC BLUE	31%	36%	79	92
G810	MOON BLUE	9%	18%	23	46
G815	MOODY BLUE	18%	22%	46	56
G835	AZTEC BLUE	9%	13%	23	33
G847	CITY BLUE	18%	18%	46	46
G905	DARK BLUE	4%	0%	10	0
G915	TWILIGHT	13%	4%	33	10
G940	LIGHT PURPLE	27%	18%	69	46
G945	ROYAL PURPLE	18%	0%	46	0
G950	PURPLE	22%	9%	56	23
G960	MEDIUM LAVENDER	31%	18%	79	46
G990	DARK LAVENDER	36%	13%	92	33
G995	ORCHID	36%	4%	92	10
L101	YELLOW	40%	95%	102	242

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L104	DEEP AMBER	54%	95%	138	242
L105	ORANGE	72%	95%	184	242
L110	MIDDLE ROSE	72%	58%	184	148
L111	DARK PINK	81%	63%	207	161
L116	MED BLU GRN	0%	63%	0	161
L117	STEEL BLUE	27%	36%	69	92
L118	LIGHT BLUE	9%	27%	23	69
L124	DARK GREEN	4%	85%	10	217
L128	BRIGHT PINK	95%	54%	242	138
L132	MEDIUM BLUE	4%	13%	10	33
L139	PRIMARY GREEN	0%	95%	0	242
L179	CHROME ORANGE	67%	90%	171	230
L180	DARK LAVENDER	22%	4%	56	10
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L201	FULL CT BLUE	27%	27%	69	69
L203	1/4 CT BLUE	40%	40%	102	102
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R10	MEDIUM YELLOW	49%	90%	125	230
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R15	DEEP STRAW	63%	90%	161	230
R19	FIRE	90%	95%	230	242
R22	DEEP AMBER	85%	95%	217	242
R23	ORANGE	81%	90%	207	230
R26	LIGHT RED	95%	95%	242	242
R312	CANARY	54%	90%	138	230
R318	MAYAN SUN	76%	81%	194	207
R32	MEDIUM SALMON PINK	85%	81%	217	207
R344	FOLIES PINK	45%	9%	115	23
R358	ROSE INDIGO	22%	0%	56	0
R36	MEDIUM PINK	76%	63%	194	161
R383	SAPPHIRE BLUE	9%	4%	23	10
R39	EXOTIC SANGRIA	95%	58%	242	148
R44	MIDDLE ROSE	85%	54%	217	138
R46	MAGENTA	95%	76%	242	194
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R54	SPECIAL LAVENDER	36%	31%	92	79
R57	LAVENDER	27%	13%	69	33
R64	LIGHT STEEL BLUE	22%	22%	56	56
R65	DAYLIGHT BLUE	18%	27%	46	69
R69	BRILLIANT BLUE	4%	27%	10	69
R80	PRIMARY BLUE	4%	9%	10	23
R83	MEDIUM BLUE	4%	4%	10	10
R86	PEA GREEN	27%	85%	69	217
R90	DRK YELL GRN	4%	90%	10	230

Index Mode Color Table

The Index mode uses ONE DMX channel as follows:
- Channel 1: positions the two gelstrings
- Channel 2: gelstring time-to-destination (ONLY if enabled)

The following table lists INDEX mode colors sorted by color number. A source temperature of 3200 degrees K. is presumed.

Index Mode Color Table

Color Number	Color Name	DMX %	DMX decimal	front gelstring Color	back gelstring Color
---	CLEAR	0%	0	CLEAR	CLEAR
---	CUSTOMER 1	99%	252	CUSTOMER 1	CLEAR
---	CUSTOMER 2	100%	255	CLEAR	CUSTOMER 2
G110	DARK ROSE	55%	140	MAGENTA 9	YELLOW 1
G120	BRIGHT PINK	63%	161	MAGENTA 9	YELLOW 3
G130	ROSE	56%	143	MAGENTA 7	YELLOW 2
G155	LIGHT PINK	59%	150	MAGENTA 3	YELLOW 2
G160	CHORUS PINK	61%	156	MAGENTA 4	YELLOW 2
G180	CHERRY	48%	122	MAGENTA 9	YELLOW 7
G220	PINK MAGENTA	57%	145	MAGENTA 10	YELLOW 7
G315	AUTUMN GLORY	41%	105	MAGENTA 7	YELLOW 11
G325	BASTARD AMBER	77%	196	MAGENTA 2	YELLOW 3
G330	SEPIA	76%	194	MAGENTA 3	YELLOW 4
G335	CORAL	85%	217	MAGENTA 6	YELLOW 11
G343	HONEY	80%	204	MAGENTA 4	YELLOW 8
G450	SAFFRON	84%	214	MAGENTA 1	YELLOW 9
G540	PALE GREEN	73%	186	CYAN 3	YELLOW 5
G570	LT GREEN YELLOW	78%	199	CYAN 5	YELLOW 9
G650	GRASS GREEN	67%	171	CYAN 8	YELLOW 9
G655	RICH GREEN	74%	189	CYAN 10	YELLOW 10
G660	MED GREEN	69%	176	CYAN 7	YELLOW 8
G680	KELLY GREEN	71%	181	CYAN 7	YELLOW 4
G685	PISTACHIO	72%	184	CYAN 8	YELLOW 4
G690	BLUEGRASS	36%	92	CYAN 9	YELLOW 2
G710	BLUE GREEN	37%	94	CYAN 7	MAGENTA 2
G725	PRINCESS BLUE	39%	99	CYAN 8	MAGENTA 1
G740	OFF BLUE	21%	54	CYAN 10	MAGENTA 3
G760	AQUA BLUE	30%	77	CYAN 8	MAGENTA 3
G790	ELECTRIC BLUE	26%	66	CYAN 4	MAGENTA 2
G810	MOON BLUE	15%	38	CYAN 9	MAGENTA 6
G815	MOODY BLUE	34%	87	CYAN 7	MAGENTA 5
G835	AZTEC BLUE	12%	31	CYAN 9	MAGENTA 7
G840	STEEL BLUE	33%	84	CYAN 6	MAGENTA 5
G847	CITY BLUE	29%	74	CYAN 7	MAGENTA 6
G848	BONUS BLUE	22%	56	CYAN 7	MAGENTA 6
G850	BLUE	5%	13	CYAN 10	MAGENTA 9

G905	DARK BLUE	1%	3	CYAN 10	MAGENTA 10
G915	TWILIGHT	11%	28	CYAN 8	MAGENTA 9
G940	LIGHT PURPLE	40%	102	CYAN 5	MAGENTA 6
G945	ROYAL PURPLE	8%	20	CYAN 7	MAGENTA 10
G950	PURPLE	31%	79	CYAN 6	MAGENTA 8
G960	MEDIUM LAVENDER	45%	115	CYAN 4	MAGENTA 6
G990	DARK LAVENDER	44%	112	CYAN 3	MAGENTA 7
G995	ORCHID	43%	110	CYAN 3	MAGENTA 9
L101	YELLOW	88%	224	CYAN 2	YELLOW 11
L104	DEEP AMBER	89%	227	MAGENTA 1	YELLOW 11
L105	ORANGE	97%	247	MAGENTA 5	YELLOW 11
L110	MIDDLE ROSE	58%	148	MAGENTA 5	YELLOW 3
L111	DARK PINK	62%	158	MAGENTA 7	YELLOW 4
L116	MED BLU GRN	23%	59	CYAN 11	YELLOW 4
L117	STEEL BLUE	24%	61	CYAN 5	MAGENTA 2
L118	LIGHT BLUE	19%	48	CYAN 9	MAGENTA 4
L124	DARK GREEN	70%	179	CYAN 10	YELLOW 9
L128	BRIGHT PINK	52%	133	MAGENTA 10	YELLOW 2
L132	MEDIUM BLUE	10%	26	CYAN 10	MAGENTA 7
L139	PRIMARY GREEN	65%	166	CYAN 11	YELLOW 11
L141	BRIGHT BLUE	14%	36	CYAN 10	MAGENTA 4
L161	SLATE BLUE	27%	69	CYAN 7	MAGENTA 5
L179	CHROME ORANGE	90%	230	MAGENTA 4	YELLOW 10
L180	DARK LAVENDER	17%	43	CYAN 6	MAGENTA 9
L181	CONGO BLUE	3%	8	CYAN 9	MAGENTA 10
L201	FULL CT BLUE	42%	107	CYAN 5	MAGENTA 4
L203	1/4 CT BLUE	25%	64	CYAN 2	MAGENTA 1
L204	FULL CT ORANGE	81%	207	MAGENTA 3	YELLOW 9
R09	PALE AMBER GOLD	79%	201	MAGENTA 2	YELLOW 6
R10	MEDIUM YELLOW	87%	222	CLEAR	YELLOW 10
R14	MEDIUM STRAW	86%	219	MAGENTA 2	YELLOW 10
R15	DEEP STRAW	96%	245	MAGENTA 3	YELLOW 10
R18	FLAME	83%	212	MAGENTA 4	YELLOW 8
R19	FIRE	98%	250	MAGENTA 9	YELLOW 11
R21	GOLDEN AMBER	94%	240	MAGENTA 5	YELLOW 11
R22	DEEP AMBER	95%	242	MAGENTA 8	YELLOW 11
R23	ORANGE	92%	235	MAGENTA 7	YELLOW 10
R26	LIGHT RED	93%	237	MAGENTA 10	YELLOW 11
R312	CANARY	91%	232	MAGENTA 1	YELLOW 10
R318	MAYAN SUN	82%	209	MAGENTA 6	YELLOW 8
R32	MEDIUM SALMON PINK	53%	135	MAGENTA 8	YELLOW 8
R3202	C.T. FULL BLUE	18%	46	CYAN 5	MAGENTA 4
R344	FOLIES PINK	51%	130	CYAN 1	MAGENTA 8
R358	ROSE INDIGO	20%	51	CYAN 6	MAGENTA 10
R36	MEDIUM PINK	64%	163	MAGENTA 6	YELLOW 4
R383	SAPPHIRE BLUE	6%	15	CYAN 9	MAGENTA 9
R385	ROYAL BLUE	2%	5	CYAN 9	MAGENTA 10
R39	EXOTIC SANGRIA	60%	143	MAGENTA 10	YELLOW 3
R44	MIDDLE ROSE	54%	138	MAGENTA 8	YELLOW 2
R46	MAGENTA	49%	125	MAGENTA 10	YELLOW 7
R48	ROSE PURPLE	47%	120	CYAN 2	MAGENTA 8

R52	LIGHT LAVENDER	46%	117	CYAN 3	MAGENTA 5
R54	SPECIAL LAVENDER	50%	128	CYAN 3	MAGENTA 3
R57	LAVENDER	38%	97	CYAN 5	MAGENTA 7
R58	DEEP LAVENDER	28%	71	CYAN 6	MAGENTA 9
R59	INDIGO	7%	18	CYAN 7	MAGENTA 10
R64	LIGHT STEEL BLUE	32%	82	CYAN 6	MAGENTA 5
R65	DAYLIGHT BLUE	35%	89	CYAN 7	MAGENTA 4
R68	SKY BLUE	13%	33	CYAN 9	MAGENTA 7
R69	BRILLIANT BLUE	16%	41	CYAN 10	MAGENTA 4
R80	PRIMARY BLUE	9%	23	CYAN 10	MAGENTA 8
R83	MEDIUM BLUE	4%	10	CYAN 10	MAGENTA 9
R86	PEA GREEN	66%	168	CYAN 5	YELLOW 9
R89	MOSS GREEN	68%	173	CYAN 7	YELLOW 8
R90	DRK YELL GRN	75%	191	CYAN 10	YELLOW 10

CXI IT System Components

Color Changer

The CXI IT Color Changer uses two predetermined gelstrings, each 23 frames in length. The color changer sets the position of the gelstring as determined by the DMX signal level. The color changer is powered by 24 volts DC which also comes from the power supply. The DMX signal, RDM data and DC power are all supplied in one cable connecting the color changers to the power supply.

Gelstrings

The two CXI gelstrings are a predetermined series of precisely cut, colored gel frames joined together, side by side, to create a sequence of colors. Gelstring #1 (front) includes colors in the magenta-cyan range while gelstring #2 (back) covers the yellow-magenta color range,
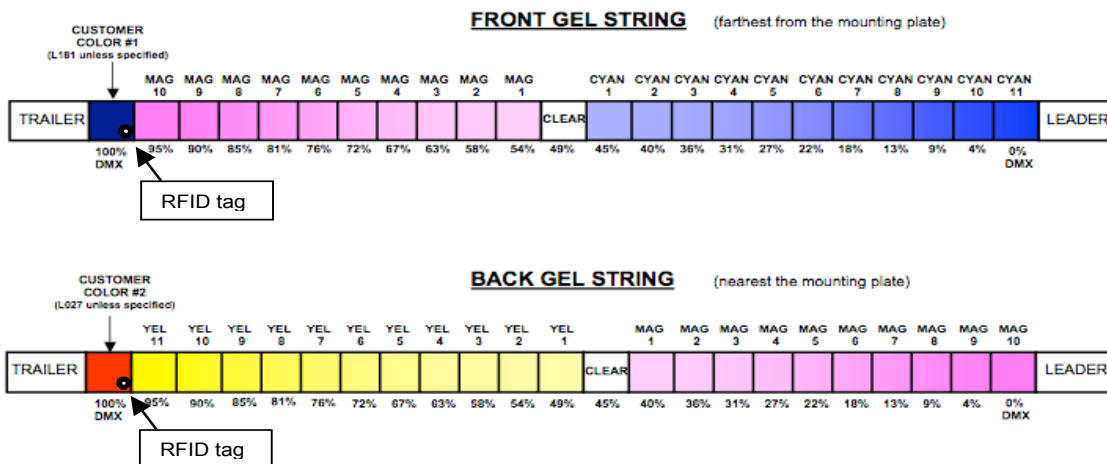
Wybron, Inc.
CXI Color Fusion
Gel String Diagram

FRONT GEL STRING (farthest from the mounting plate)

BACK GEL STRING (nearest the mounting plate)

Figure 3

The RFID tags are located on each of the "customer color" frames on each gel string.

Two additional gels at each end of the gelstring are called the leader and the trailer. The leader and the trailer allow for proper attachment to the rollers. The gelstring has foil tags near each end which are necessary for the color changer's automatic calibration to the length of that particular gelstring.

The CXI IT gelstrings also have a radio frequency identification (RFID) tag which identifies the sequence of gels on the gelstring (as part of the InfoTrace setup process), and also assists in ordering additional gelstrings. Please refer to the ColorExpress IT section of this manual for information on how to order CXI IT gelstrings online.

Power Supply

The PS Power Supply sends the DMX512 signal level from the lighting console to each color changer, along with 24 volts DC. RDM information is sent from the CXI IT Color Changer to the InfoGate software installed on a Mac or PC.

Cables

Power/Data cable

The 4-pin Power/Data Cable connects the PS Power Supply outputs to the CXI 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 -- this prevents 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. This is the standard Wybron Power/Data Cable.

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 cable used in the Coloram IT System is the same cable which is used in the Coloram II and Forerunner Systems and may be referred to as Coloram IT, Coloram II or Forerunner cable.

DMX512 control cable

The DMX control cable from the lighting board to the InfoGate Gateway, dimmers and power supply 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 CXI IT

1.   Attach the color changer to the fixture

Slide the color changer's mounting bracket into the gel frame holder of your fixture and lock the gel frame retention clip (if available). If the mounting plate installed on your color changer does not fit the fixture, you may 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, CXI 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.

Safety cable

Figure 5

3.   Mount the power supply

The PS Power Supply is designed to be free standing, truss mounted, or rack mounted. You decide which mounting method best suits your application.
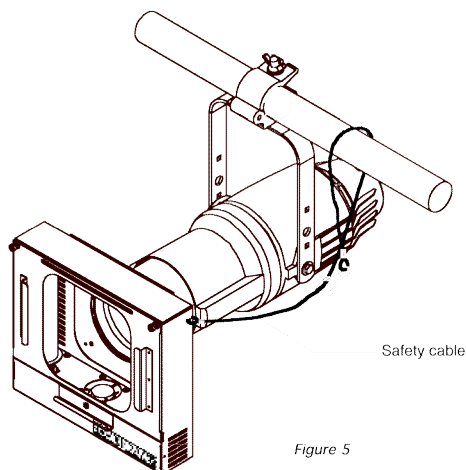
The power supply comes with a mounting bracket which hooks over the pipe or truss of your lighting rig and is then locked into place with a thumb screw. If you have selected this mounting method, connect the safety cable by running it around the pipe or truss to which the power supply is attached.

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 Power Supplies side by side.

4.   Connect the color changers to the power supply

Connect the color changers to the power supply using 4-pin Coloram IT cable.

Refer to the HEAD-FEET 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 the gelstring installed by doing the following actions:

  a.   Moving the gelstring toward the last frame, stalling on the end of the gel string
  b.   Changing direction, moving toward the first frame and then stalling on the end of the gel string
  c.   Stopping at the first frame and staying there if no DMX signal is present or going to its commanded position if DMX

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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 flashing 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 CXI IT color changers can be automatically paired together and remotely assigned DMX addresses using InfoGate.

CXI (IT)
Graphical Menu Tree

Main LCD Menu

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

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
GEL STRING OUT OF
POSITION - UNIT
SHUT DOWN

Reset this Alert? No/Yes

DMX Status
Displays status of incoming DMX signal. i.e. "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   >
Gel DMX Mode   >

DMX Addresses

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

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.

Fan Speed

FAN   high
SPEED

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

Gel Move Speed

GEL   high
MOVE   TTD info   >
SPEED

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

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

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

TTD info

Time/Dest Addr   3
Information   >

Gel DMX Mode

GEL   index
MODE

Gel DMX Mode:
Index – 1 address, preprogrammed color mixs
Mix – 2 address, mix color

Continued next page…
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Main LCD Menu

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

Sensor Info

Gel 1 String Info   >
Gel 2 String Info   >
Voltage   >
Fan RPM   >

Gel 1 String Info

Gel 1 Wear Gauge   >
Frame # vs. Color   >
String 1 Description   >

Gel 2 String Info

Gel 2 Wear Gauge   >
Frame # vs. Color   >
String 2 Description   >

Voltage

VOLTAGE
Now = 23.6V(15V min)
High = 23.7V(24V max)
Low = 23.5V(15V min)
Reset Hi & Low? No/Yes

Fan RPM

Fan RPM OK? Yes

Gel Wear Gauge

GEL 1   New
WEAR
GAUGE
            Replace

Note: This gauge is maintained in the RFID Gel String Tag. Not on the device.

Frame # vs. Color

              #1 WC11
GEL 1   #2 WC10
FRAME   #3 WC9
COLOR   #4 WC8
              #5 WC7
              #6 L181

String Description

            CXI Standard
GEL 1   Front
STR.   Gelstring
DESC.
            10/2006

Gel Wear Gauge

GEL 2   New
WEAR
GAUGE
            Replace

Frame # vs. Color

              #1 WM10
GEL 2   #2 WM9
FRAME   #3 WM8
COLOR   #4 WM7
              #5 WM6
              #6 L27

String Description

            CXI Standard
GEL 2   Back
STR.   Gelstring
DESC.
            10/2006

Continued next page…

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Main LCD Menu

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

History

Gel 1 String History   >
Gel 2 String History   >
Operating Hours   >
Host Light Lamp   >

Gel 1 String History

Tot Time: 12hr
Tot Moves: 549843
Tot Dist: 2813 met
Avg Move: 0 cm
Avg Vel: 21 cm/sec
Max at frame: 3400

Gel 2 String History

Tot Time: 12hr
Tot Moves: 378241
Tot Dist: 2554 met
Avg Move: 0 cm
Avg Vel: 25 cm/sec
Max at frame: 12700

Cleaning Info

SINCE   Like
CLEAN   New
RESET:
287 HR
                 Needs
Reset >   Cleaning

Operating Hours

Cleaning Info   >
Maintenance Info   >
Lifetime Hours is 287

Reset

RESET   No/Yes
CLEANING
HOURS
GAUGE?

Host Light Lamp

HOST   0 hrs
LAMP
HOURS:
16 HR
                500 hrs
Reset >

Maintenance Info

SINCE   Like
MAINT   New
RESET:
287 HR
                 Needs
Reset >   Maint.

Reset

RESET   No/Yes
HOST LIGHT
LAMP HOURS
GAUGE?

Reset Defaults

RESET   No/Yes
FACTORY
DEFAULT
SETTINGS?

Reset

RESET   No/Yes
MAINTEANCE
HOURS
GAUGE?

MENU DETAILS

1.　　　Use the π and θ buttons to scroll through selections on Coloram IT display.
2.　　　Press **SELECT** to activate that selection or progress to the next level of displays.

Figure 5

The π and θ buttons are also used to navigate to further levels within the display. For example, to select "Scroller Address":

1.　　　Use the π and θ buttons to move to the selection box to "Settings".
2.　　　Press **SELECT** to select "Settings".
3.　　　Use the π and θ buttons to move to the selection box to "DMX Addresses".
4.　　　Press **SELECT** to select "DMX Addresses".
5.　　　Use the π and θ buttons to move to the selection box to "Scroller Address".
6.　　　Press **SELECT** to select "Scroller Address".

Alerts / Error Messages

The following is an explanation of alerts and error messages that are displayed locally on the color changer.

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 CXI 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 to solve this problem.

GEL ALERTS

1.   "GELSTRING OUT
OF POSITION — UNIT
SHUTDOWN"
>Scroller motor automatically shuts down if gelstring is not in its programmed frame position or a roller is stuck.

2.   "GELSTRING DID
NOT INIT PROPERLY"
>Gelstring did not initialize properly. Please 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 ususually 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 when you press **SELECT**, unless 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 if there 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 π and θ buttons to select the desired DMX address.
2.   Press **SELECT** to activate the displayed DMX address.

Settings

DMX ADDRESSES
    Scroller Addr (Scroller Address)

A.   Use the π and θ buttons to select the desired DMX address.
B.   Press **SELECT** to activate the desired 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 π and θ 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 π and θ buttons to select the desired DMX address.
B.   Press **SELECT** to activate the desired DMX address.

FAN SPEED
1.   Use the π and θ buttons to select High (normal setting), Low or Remote.
2.   Press **SELECT** to activate the desired setting.
   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 π and θ 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.   <u>Gel Time to Destination DMX Address</u> — use the π and θ 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.   <u>Information Only</u>
          Displays DMX levels to be used at the lighting console to program specific timings using Gel Time to Destination.

CXI IT Gelstring Time Table

DMX Level	Time to Destination
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

MODES
1. Use the π and θ buttons to select Mix or Index mode.
2. Press **SELECT** to activate the desired setting.

Sensor Info

GELSTRING INFO

Gel Wear Gauge
Press **SELECT** to display the gauge that indicates how gelstring currently rates between "New" and "Replace".

COLORAM IT

NEW

GEL
WEAR
GAUGE

REPLACE

WYBRON   V1.1
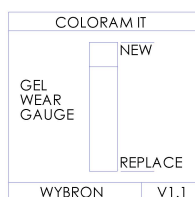
Figure 6

Frame # vs. Color
Lists each frame number and associated gel color. Use the π and θ buttons to scroll through list. For example:

    Frame 3   Mag 8
    Frame 4   Mag 7
    Frame 5   Mag 6
    Frame 6   Mag 5

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:

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

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

      Reset Hi & Low:
      A.   Use the π and θ buttons to select Yes.
      B.   Press **SELECT** to activate Reset Hi & Low.

SCROLLER CURRENT
1. Displays present current, 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 π and θ 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 π and θ 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 π and θ 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 π and θ 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 t 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 InfoTrace system and the RFID tag on the gelstring.

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

Example — The color changer has been to 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 color changer 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".

```
          COLORAM IT
                  LIKE
                  NEW
  SINCE
  CLEAN
  RESET:
  373 HR.
  [ Reset  > ]    NEEDS
                  CLEANING
      WYBRON       V1.1
```

Figure 7

Cleaning means cleaning dust out of the vent slots, off the printed circuit board, 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 π and θ 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 color changer 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".

```
          COLORAM IT
                  LIKE
                  NEW
  SINCE
  MAINT.
  RESET:
  373 HR.
  [ Reset  > ]    NEEDS
                  MAINT.
      WYBRON       V1.1
```
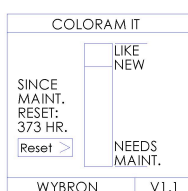
Figure 8

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 π and θ buttons to select Yes on the "Reset Maintenance Hours Gauge?"

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      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 lamp has been on since its lamp was installed. Reset the Hours function after each relamping.


```
           COLORAM IT
                    0
                    hrs.
    HOST
    LAMP
    HOURS
    69 HR.
    Reset  >        500
                    hrs.
           WYBRON     V1.1
```
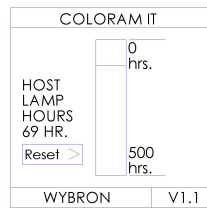
Figure 9

Reset Hours
i.   Press **SELECT** to select the Reset function.
ii.   Use the π and θ 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 π and θ 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

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

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.

The maximum HEAD-FEET for the ...
    - Model 84560, 4" CXI IT color changer is 1500 head-feet.
    - Model 87200, 7.5" CXI IT color changer is 1500 head-feet.

- Model 812210, 12" CXI IT color changer is 500 head-feet.

If a daisy chain consists of different models, use the model with the smallest amount of "head feet" for the calculation.

"Head-Feet" Example:

There are three CXI IT Color Changers connected to a power supply. The Wybron Power/Data Cable between the power supply and the first CXI IT is 100 feet long. The cables between each of the other two CXI IT's is 20 feet long.

The amount of cable from the power supply to:

1st CXI IT	100 ft
2nd CXI IT	120 ft
3rd CXI IT	<u>140 ft</u>
Total:	360 "head-feet"

Loading a Gelstring

The CXI IT Color Changer has two gelstrings each with 23 frames. The front (#1) gelstring is the one furthest from the light fixture and mounting plate.

The CXI IT gelstring installation is performed with no power to the color changer.

Note: The CXI IT relies on the gelstring being taped securely to the rollers. Be sure the roller is clean and use good quality gaffers tape. ***Do not use duct tape or masking tape.*** *The tape length should be 2/3 of the roller length and apply the tape "lengthwise" on the roller.*

1.   Put the color changer on table, mounting plate down with the 4 pushbuttons toward you, remove the front cover.
2.   The back gelstring is yellow-magenta.
    a.   Tape the "yellow end" of gelstring to the lower left roller, roll the gelstring onto the lower left roller.
    b.   Holding the gelstring, wind up the lower right roller 6 turns and tape the gelstring on.
3.   The front gelstring is magenta-cyan.
    a.   Tape the "magenta end" of gelstring to the upper left roller, roll the gelstring onto the upper left roller.
    b.   Holding the gelstring, wind up the upper right roller 6 turns and tape the gelstring on.
4.   Replace the front cover.

⚠️

Caution: Operating the CXI 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. CXI IT gelstrings may be ordered online from Color Express IT at www.wybron.com.

Equipment 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:

Description	Model	Max. Head-Feet	PS-150	PS-300	PS-600
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 – 1K, 2K, 5K vane	89001 811010 817000	1500	8	16	32
Eclipse II IT – 1K, 2K iris	87230 812010	1500	6	12	24

Non-RDM Equipment and InfoTrace

A lighting rig can use any combination of non-IT, non RDM, non-InfoChip equipment, along with 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 the DMX devices that do not recognize the RDM protocol.

Coloram IT and Standard (non-IT) Environments

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

Specifications

End to end speed: 3 seconds
Fan Speed: High, Low, Remote
Fuse: 3 Amp Slo Blo for 4" and 7.5" models, 5 amp Slo Blo for 12" model
Gelstring: Qty 2, 23 frames each
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:
       87200 - 7.5-inch CXI IT Color Changer – 6.52 lbs./2.95 kg
Dimensions:
       87200 - 7.5-inch CXI IT Color Changer:
              13"/330.2mm wide x 11.84"/301mm high x 4.58"/116mm deep

Parts List

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

87200 .... 7.5-inch CXI IT Color Changer
820150 .... PS-150 Power Supply, 150 watts
820300 .... PS-300 Power Supply, 300 watts
820600 .... PS-600 Power Supply, 600 watts

CXI IT mounting and installation accessories

704-01-03P .... 7.5"/190.5mm mounting plate for 7.5-inch
.... CXI IT
711-01-03P .... 10"/254mm mounting plate for 7.5-inch
.... Color Changer
8711-03-01 .... Universal mounting plate for 7.5-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

The Coloram IT System 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.

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Email: info@wybron.com - Visit us on the World Wide Web at **http://www.wybron.com**

ColorExpress IT Gelstrings

ColorExpress IT gelstrings have InfoTrace capability. Every gelstring is embedded with an RFID (radio frequency identification) tag, which relays information to the sensors on Coloram IT and CXI IT. The tag contains individual frame information as well as a unique job number, which allows for easy reordering.

Log into Wybron's website (www.wybron.com), using your email address as your login, and all of your information is immediately available. Every gelstring ordered in the past can be viewed, as well as gelstrings grouped by project.

There are four sections in the ColorExpress IT web page:

Gels

This section gives you in depth information about all gel colors available from any manufacturer. Beyond just name, manufacturer and number, you can get chromaticity and transmission graphs.
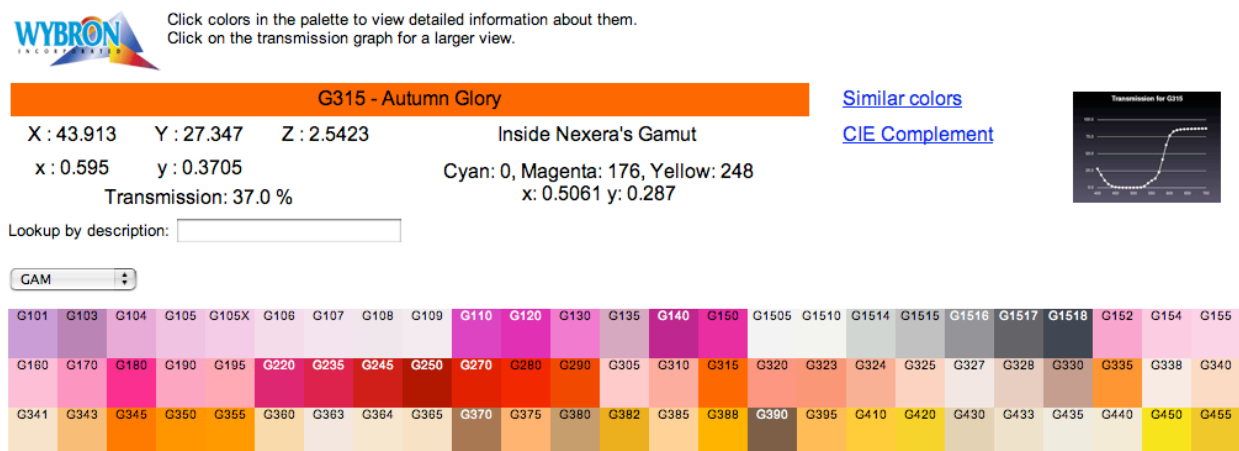
Figure 10

If the gel is within the range reproducible by Wybron's NexeraLX dichroic color mixing fixture, the DMX values (0 – 255) are displayed for the Cyan, Magenta and Yellow dichroics. If Nexera cannot exactly match a gel color, a suggested combination of DMX values will be displayed.

Figure 11

Click on the transmission graph to enlarge the graph.
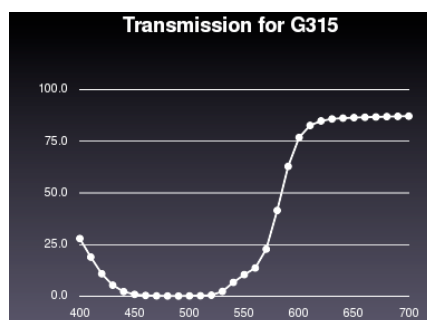
Figure 12

Clicking on "Similar Colors" displays gels similar to the selected G315.
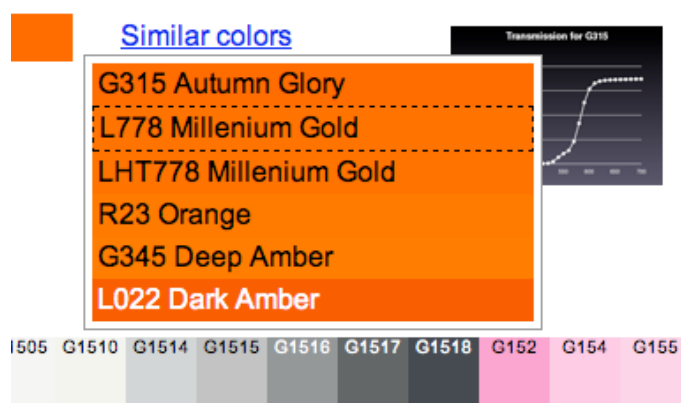
Figure 13

Clicking on "CIE Complement" displays gels that are the complement or opposite of G315.

Figure 14

To release the display of "Similar Colors" or "CIE Complement", click on any gel color

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displayed on the screen.

Colors can also be searched by name ("purple" or "congo"), gel number, and brand.
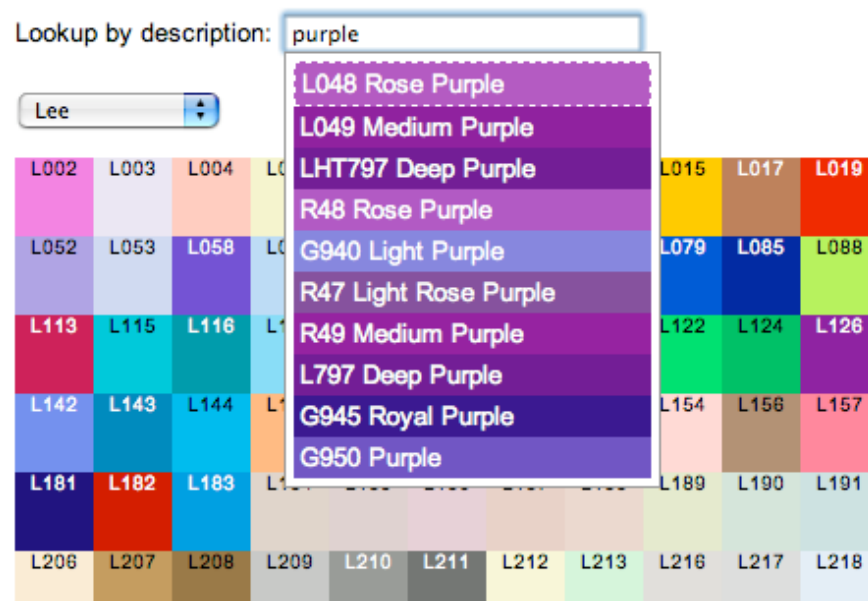
Figure 15

Gelstrings

This is where you build new gelstrings, as well as view all the past gelstrings that you have created on ColorExpress IT. When new gelstrings are created, you assign them a name ("Finale" for example). This makes it easy to locate favorite gelstrings from past shows.

A simple double-click on any gel color in the palette makes it easy to create new gelstrings. Rearrange gels in your gelstring by dragging and dropping them in any order desired (Safari and Firefox only).

Figure 16

To delete a gel from the gelstring, double click on the selected color in the gelstring.

Previous gelstrings that you have created are also stored on the Gelstring page.

Figure 17

By clicking on "Cheat Sheet" on the far right hand side of the screen, you can also print out color coded cheat sheets showing frame number, gel name, gel number, and DMX value.

Gelstring name: Finale

Percent	Color	Frame
0 %	R04 - Medium Bastard Amber	1
14 %	R127 - Amber Cyc Silk	2
28 %	R19 - Fire	3
42 %	R332 - Cherry Rose	4
56 %	R339 - Broadway Pink	5
70 %	R349 - Fisher Fuchsia	6
84 %	R46 - Magenta	7
98 %	R49 - Medium Purple	8

Figure 18

The selections on the Gelstring screen allow you to do the following:

Cheat Sheet	Prints out a color coded cheat sheet of the selected gelstring
Delete	Deletes the selected gelstring
Clone	Copies the selected gelstring as a new gelstring, ready for edits
Modify	Allows the user to edit the selected gelstring
Return to Main	Return to the Main Page of ColorExpress IT
New Gelstring	Create a new gelstring

Sets of CXI gelstrings (Gelstrings 1 and 2) may also be ordered online at ColorExpress IT. Please see the "Order" section below for details.

Projects

Create a Project

Projects are an easy way to associate certain gelstrings with their use. Click on "Create New Project" to start a new project file.

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Project Name	Contact	Contact's Phone
Create New Project		

Figure 19

This opens a new screen ready to accept project and gelstring information.

Untitled Project Name: Untitled Project
Contact: unknown
Notes: Project notes...

Figure 20

Double click on "Untitled Project" to the right of colon to edit the Project Name field. Enter the project name in the dialogue box provided and click "OK".

Untitled Project Name:
Opera in Mali   (ok) cancel

Figure 21

Under Contact, double click on "Unknown" to fill in that field, and similarly for the Notes line, double click on "Project Notes" to add any additional information.

Multiple gelstrings on Project

A project can involve multiple gelstrings. When a new project is created, add existing gelstrings or build new ones to associate with that project. Then choose a scroller size. For example, the "Back Diagonals" gelstring will be used on 7 inch Coloram II's. All of this information is saved in the "Opera in Mali" project.

Untitled Project Name: Opera in Mali
Contact: Jane Q. Smith
Notes:

Load in October 12

Name: Back Diagonals   Device: Coloram II 7"   Price: $0.00 ea.   Qty: 24   Amount: $0.00

| R00 | L052 | L048 | L049 | L148 | L128 | L332 | G245 | G995 | G948 | G925 | G890 | G845 | G841 | L724 | L118 | L141 | L219 | L738 | L735 |

Download Cheat Sheet
Email Cheat Sheet
Modify
Delete

| L736 | R18 | R21 | R23 | R15 |

Name: Pipe Ends   Device: Coloram II 10"   Price: $0.00 ea.   Qty: 12   Amount: $0.00

| L020 | L022 | L135 | L164 |

Download Cheat Sheet
Email Cheat Sheet
Modify
Delete

Grand Total: $0.00

Line added successfully.

Add existing gelstring to project   Add new gelstring to project   Back to Project list

Figure 22

The functions on this show specific ("Opera in Mali") Projects page include:

Download Cheat Sheet
Creates a PDF file of the selected gelstring cheat sheet (see the color coded Cheat Sheet example earlier in this section).

Email Cheat Sheet
E-mail a cheat sheet version of the selected gelstring to one or more e-mail addresses.

Modify
Modify the selected gelstring in terms of:

Gelstring   Replace the selected gelstring with another existing gelstring
Device   Change the type of scroller associated with the selected gelstring
Quantity   Change the number of gelstrings to order

Add existing gelstring to project
Using the Gelstring pull down menu, allows the user to select from any existing gelstrings.

Add new gelstring to project
Takes the user back to the Gelstrings page, where once a new gelstring is created and saved, it is automatically added to the open Projects page.

Back to project list
Returns to the list of all projects.

Ordering

Returning to the project list displays all projects created by the user.

Figure 23

The functions available on this page include:
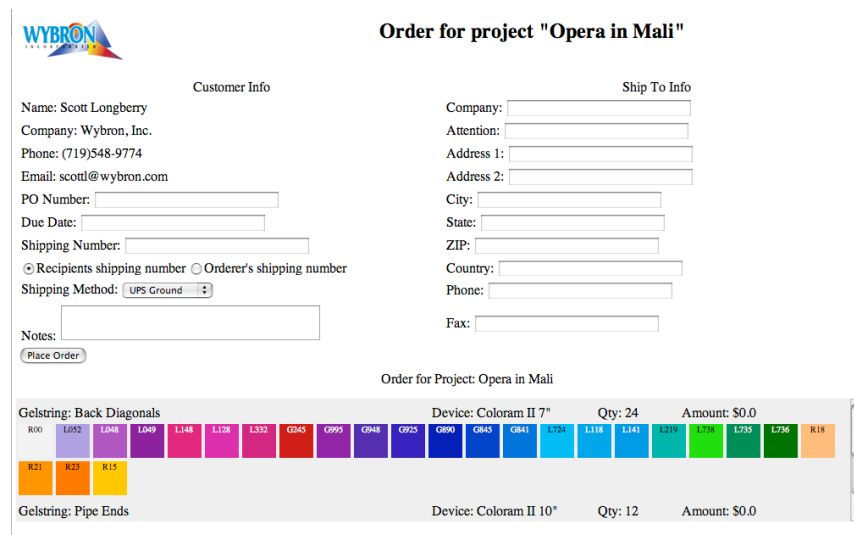
Detail
Returns user to Projects page for the specific show selected (see *Figure 22*).

Delete
Deletes the selected project.

Order Project
Displays the order page, along with the gelstring details at the bottom of the screen. Additional gelstrings that are part of the project can be viewed by using the scroll bar at the bottom right corner of the screen.

Figure 24

Fill in the requisite information and click "Place Order" to complete the transaction.

E-Mail Project for Ordering
For users who need to get approval to place a gelstring order, click on "Email project for ordering" to display the window below.

Figure 25

Fill in the requisite e-mail address and click "Send Email" to send the following message. In the example below, the user is signed in as "Guest".

Figure 26

Orders

This is where you can view all your past gelstring orders.

Modify Your Account

Click on "Modify Your Account", which appears at the top right corner of each screen once you have sign in. Edit information as needed.

Figure 27