



*Advancing The Art Of Lighting*

# Infotrace System

## Installation Manual



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## CONTENTS

Safety Information .....	3
Infotrace System Overview .....	4
How the Infotrace System Works .....	5
Infotrace System Connection Diagram .....	6
Wybron-Supplied Components .....	7
Customer-Supplied Components .....	7
Component Configuration .....	8
Connecting the Components .....	11
Using the Infogate Software .....	12
Connecting to Infostore .....	12
Lightwright Files: Import and Usage .....	13
Firmware Upgrade .....	14
Contact Wybron .....	15

# **Safety Information**

## **SAVE THESE INSTRUCTIONS READ AND FOLLOW ALL INSTRUCTIONS**

This manual gives step-by-step instructions for the preparation and setup of the Infotrace system.

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

The Infotrace system 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 fuses.

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.

# 1. Infotrace System Overview



This diagram outlines the key components of 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 enable communication with the Infogate software.
- Infostore:** An Internet-based application that aggregates the data gathered 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 Shutter, and Eclipse IT Iris, all with updated electronics supporting RDM communication in addition to sensors that detect a variety of conditions.

The heart of the Infotrace system is Infogate — specialized software and hardware that uses the industry-standard feedback 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 Wybron IT products as well as RDM-compatible equipment from other manufacturers.

Any non-RDM device can be upgraded with the installation of an Infochip.

## 2. How the Infotrace System Works

Infotrace is a two-way DMX/RDM (Remote Device Management) feedback system. DMX sends commands to the devices on a lighting rig, and RDM gathers feedback from those devices and sends that feedback to the operator.

Both DMX and RDM operate on the same cable, with RDM packets interleaved with DMX512 data packets. These RDM command/response packets allow configuration, control, interrogation, and response.



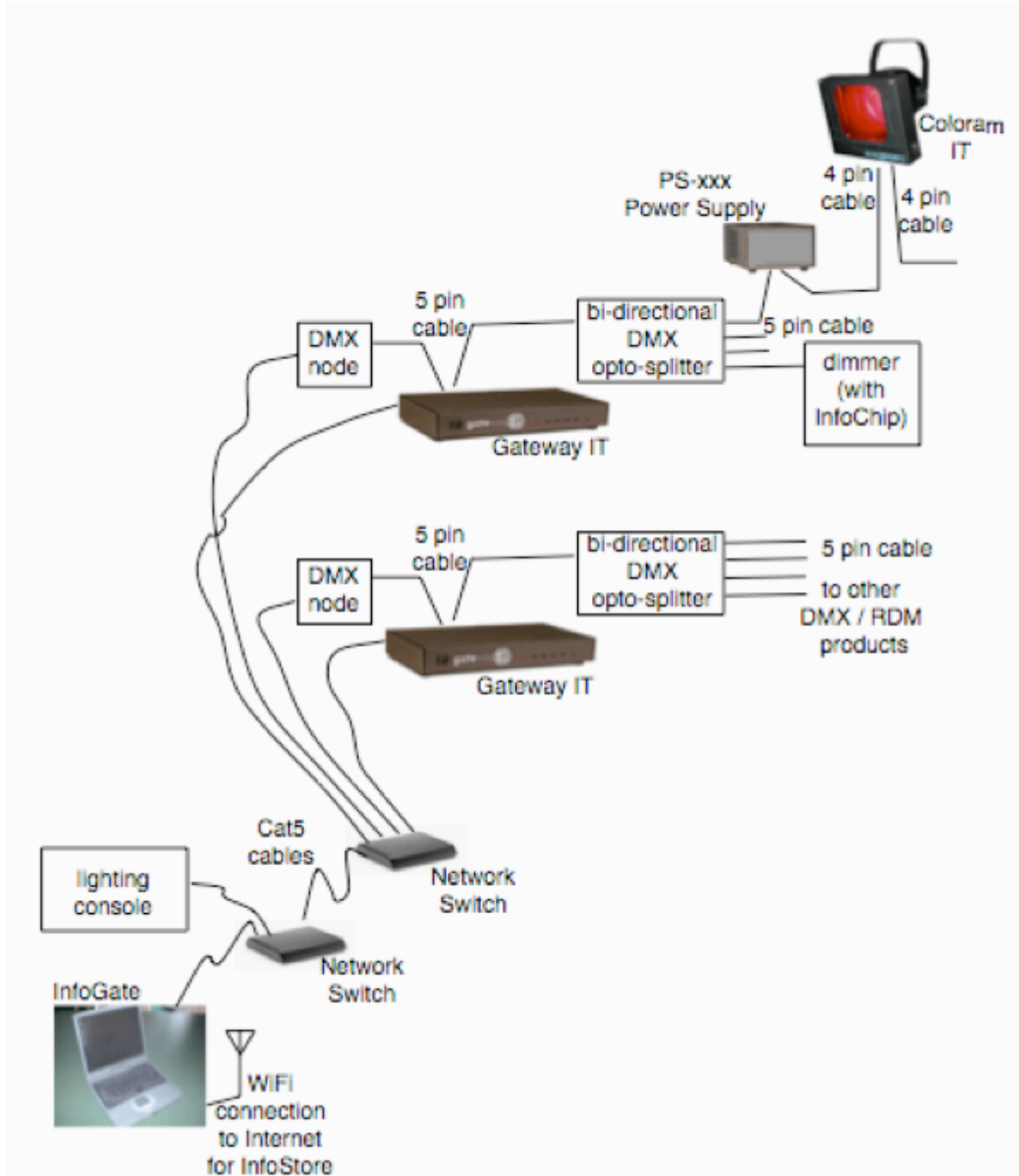
*DMX and RDM Signal Packet Diagram*

The DMX512 packets control the lighting equipment in the usual manner. The RDM commands originate at the Infogate gateway. The RDM responses are returned to Infogate from Wybron IT devices (e.g., Coloram IT) and other RDM devices.

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 computer.

Wybron's IT products (Coloram IT, CXI IT, Eclipse IT, and Eclipse II IT) come 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.

### 3. Infotrace System Connection Diagram



*Infotrace System Connection Diagram*

## 4. Wybron-Supplied Components

The following Infotrace system components are available from Wybron:

1. Infogate gateway box (Model 4210)
2. Infogate software Version 2.2 (Model 4210CD)
3. Infochip
4. IPSetup utility (to inspect/set static IP addresses in Infogate gateway)
5. Ethernet crossover cable
6. PS Power Supplies with mounting brackets
7. Wybron IT products (Coloram IT, CXI IT, Eclipse IT Iris, and Eclipse IT Shutter) with mounting plates
8. 4-pin power/data cable

## 5. User-Supplied Components

The user needs to supply the following components for the Infotrace system:

1. A PC or Mac to configure system components and operate the system
2. Cat5 cables – RJ-45 connectors
3. Network switches (used only for static IP address configured systems) – example is a Netgear 10/100 Fast Ethernet Switch FS605/FS608
4. DMX nodes
5. Bi-directional DMX opto-splitters (if you use them)
6. Lighting console
7. DMX cables
8. WiFi Internet connection for Infostore (with a PC only; Infostore can't be accessed with a Mac – this is explained further later in this manual)
9. Light fixtures
10. Dimmers
11. AC power cables
12. Network router (used ONLY for DHCP dynamic IP address configured systems) – example is a Netgear model WGR614v6, 54Mbps, wireless router (2.4Ghz 802.11g)

PC requirements:

- 1 GHz Pentium
- Windows XP operating system
- CD drive
- WiFi capability needed for Internet/Infostore connection

Mac requirements:

- OSX operating system
- CD drive

## 6. Component Configuration

Before connecting the system components, some electrical and mechanical configurations and settings are required.

### a. Wybron IT Color Changers/Dowsers Configuration

Configure the Wybron IT color changers/dowsers as follows:

1. Adjust/install the mounting plate per its host light fixture and install it on the light fixture.

### b. Wybron PS Power Supply Configuration

Configure the Wybron IT power supply as follows:

1. Attach the mounting bracket and the safety cable and mount the PS Power Supply as needed.

### c. PC or Mac/Infogate Gateway Configuration (for static IP system addresses)

Summary:

The following describes the process of setting static IP addresses for your IT system. You will probably want static IP addresses for a “real” installation – that is, not a short-term demonstration installation.

You will first set a static IP address on your PC/Mac. Then, you will change the static IP address on the Infogate gateway box from the factory default address to one for your system.

Note 1: If you have Infogate software V070210 or later, you may use static IP addresses or dynamic IP addresses (DHCP). If you have an earlier Infogate software version, you must use the dynamic IP addresses (DHCP) means of network communication.

Note 2: For the Infotrace system, Wybron recommends Infogate gateway static IP addresses of 10.102.1.x - where x is 5 thru 255. Wybron recommends PC/Mac static IP addresses of 10.102.1.x - where x is 2 thru 5. Using the IP addresses in this range will minimize the chance of duplicating IP addresses on a network.



**Step 1: Install Infogate software on the PC/Mac as follows:**

1. Insert the CD.
2. Follow the instructions to install the Infogate application software.

**Step 2a: If you are using a PC, set the static IP address as follows:**

Set the static IP address of the PC to 10.102.1.2 as follows:

1. Under START > CONNECT TO > SHOW ALL CONNECTIONS > double-click the icon near “Local area connection.”
2. At the “Local Area Connection status” screen, click on the “Properties” button.
3. At the “Local Area Connection properties” window, click “Internet Protocol (TCP/IP).”
4. Then click the “Properties” button.
5. At the “Internet Protocol (TCP/IP) Properties” window, click the round “Use the following IP Address” button.
6. At “IP Address” enter 10.102.1.2.
7. At “Subnet Mask” enter 255.255.255.0.
8. At “Default Gateway” enter nothing. This should be blank.
9. Click the “OK” button at the bottom.
10. Close the “Local Area Connection Properties” screen.
11. Close the “Local Area Connection Status” screen.

**Step 2b: If you are using a Mac, set the static IP address as follows:**

Set the static IP address to 10.102.1.2 as follows:

1. Select FINDER > APPLICATIONS > SYSTEM PREFERENCES > NETWORK.
2. At “Show:” select “Built-in-Ethernet.”
3. At “Configure Ipv4:” select “Manually.”
4. At “IP Address:” enter 10.102.1.2.
5. At “Subnet Mask:” enter 255.255.255.0.
6. Click on “Apply Now” in the bottom-right corner.
7. Turn AirPort off. The Mac cannot connect through the hardwired Ethernet connection if the AirPort is On – this is why the Mac cannot connect to Infostore while the Infogate application is running.

### **Step 3: Set the static IP address of your Infogate gateway – this is for PC or Mac**

Set the IP address of the Infogate gateway to 10.102.1.x (x is 5 to 255).

1. If using a cross-over cable (usually has a yellow jacket):
  - a. Connect the cross-over Ethernet cable between your computer and the Infogate gateway.
  - b. Using an Internet Web browser, go to <http://10.102.1.99> – this is the default IP address of the gateway when it leaves the Wybron factory.
  - c. Change the gateway box IP address to 10.102.1.x (x is 5 to 255). For example, set the IP address 10.102.1.5. Set/leave the Network Mask at 255.255.255.0 and the Infogate gateway at 0.0.0.0.
  - d. Click the “Submit” button.
  - e. Close the Web browser.
  - f. Turn off the Infogate gateway for 5 seconds, then turn it back on.
  - g. Using the Web browser, go to the IP address that you set in step C in order to confirm the IP address is set as desired.
  - h. If the IP address of the Infogate gateway is unknown, load and use the utility “IPSetup” (runs on a PC only). It will find the Infogate gateway box regardless of its IP address. Set the IP address of the gateway to 10.102.1.x (x is 5 to 255).
  - i. If you have multiple Infogate boxes, set each one to a different IP address where x starts at 5 and goes up (e.g. 10.102.1.5; 10.102.1.6; 10.102.1.7; e.t.c.).
  - j. Write the IP address on the Infogate gateway.
2. If equipment is connected to network switch(es):
  - a. Connect only one Infogate gateway at a time to do this.
  - b. Connect your network switch between the PC/Mac and the Infogate.
  - c. Follow the directions of 1 b thru 1 g (as described above).

You now have an Infotrace network with your PC or Mac set to a static IP address of 10.102.1.2 and your Infogate gateway box set to a static IP address of 10.102.1.x (x is 5 to 255).

#### **d. Network Switch(es)**

There is no configuration required for the network switch(es).

#### **e. DMX node**

Configure the DMX nodes for a DMX universe per the manufacturer instructions.

## **f. Bi-directional DMX Opto-splitter**

There is normally no configuration required for the bi-directional DMX opto-splitters.

# **7. Connecting the Components**

Please refer to the Infotrace System Connection Diagram above.

## **a. Wybron IT Color Changers/Dowsers Connection**

1. Connect the color changers/dowsers to the IT power supplies with 4-pin cable.

## **b. Wybron IT Power Supply Connection**

1. Connect the PS Power Supply to the bi-directional DMX opto-splitter (if used) or the Infogate gateway box using 4-pin cable.
2. Connect the Power Supply to non-dimmed AC power.
3. Connect a DMX cable on to other DMX devices using DMX cable.

## **c. Infogate Gateway Connection**

1. Configure the Infogate gateway as follows: Set DMX universe (at Infogate) compatible with the DMX universe(s) of the DMX node connected to it. Do this at Test, Setup, and Fixtures > Setup.
2. Connect the Infogate gateway to the DMX node, the PS Power Supply, and the rest of the DMX devices.

## **d. PC or Mac/Infogate Gateway/Network Switch/DMX Node Connection**

1. Connect with Cat5 cable.

## 8. Use the Infogate software

Follow these steps:

1. Double-click on the Infogate icon to start the Infogate software application.
2. After about 10 seconds, note the box in the upper-right corner of the window. If it shows the word “Gateway” (or whatever name the Infogate gateway has been given) in green, this means the Infogate software is connected to the Infogate gateway box. If the word isn’t green, recheck your cable connections and IP addresses.
3. Give the Infogate gateway box a name of your choosing – do this at Test, Setup, and Fixtures > Setup, at the box after “Name:” Then type the name you’ve given the Infogate gateway.
4. At the Discovery tab, click on “Perform Discovery.”
5. Click on the Device Parameter Spreadsheet tab.
6. Watch the list of IT equipment list expand as devices are discovered.
7. Set the DMX address of the IT equipment as desired – either numerically at the Device Parameter Spreadsheet or click on the DMX Map tab and drag and drop the devices to the desired DMX address.
8. There are many other things you can do with your Infotrace system. Refer to the Infogate user manual for further explanation.

## 9. Connect to Infostore

Connecting your Infotrace system to the Infostore website will allow automatic, periodic downloading of system information and alerts. With the proper passwords, you can view this Infostore information anywhere in the world.

You will need the following:

1. A PC running Windows XP with WiFi (wireless network capability).
2. Your PC needs to be within range of a WiFi network with Internet connection.
3. A Mac is NOT suitable for the Infostore connection using this method.

Follow these steps:

1. Start the Infogate application on the PC.
2. Enable the wireless network connection in the PC: Go to Start > Connect To > Show All Connections > and double-click the icon next to “Wireless Network Connection” (unless it is already enabled). This will show “connected” when it is working. Test your internet connection to make sure it’s working.

3. Click on the Test, Setup, and Fixtures > Setup tab.
4. At the bottom of the screen, at the “Enter Infostore ID Code” box, type in an unobvious “code word.” This ID code will be the key to your Infostore data.
5. Contact Wybron Technical Support to set up an account.
6. The URL for Infostore is <http://infostore.wybron.com>.
7. In the upper-right side of the Infostore home page, enter your account information (Wybron assigned e-mail address and password) to view your Infostore show data.

## 10. Lightwright File: Import and Usage

You can import your show’s Lightwright file into Infogate for powerful equipment location and identification capability – with no additional data entry. You have the desk channel number and the physical location of a piece of RDM equipment at your fingertips. If Infogate sends you a message about a piece of equipment, you know its desk channel and exact location.

The Lightwright file provides “channel,” “position,” and “unit number” information, which you can easily import directly into the Infogate software. The Lightwright-supplied information is displayed in the Device Parameter Spreadsheet along with the extensive information that Infogate supplies.

This section describes the process of importing a Lightwright file into Infogate and how to use the information.

### a. What you need

You will need the following:

1. Your show’s Lightwright file
2. Infogate software running on a PC or Mac

### b. Lightwright file import process

1. Export a file from Lightwright as follows:
  - a. Include channel, dimmer, position, unit #, and type (“type” is the fifth column of information)
  - b. Be sure the column name for dimmer is dimmer and not DMX
  - c. Be sure the dimmer number format is an integer (e.g. 756) and not universe/dimmer (e.g. 2/244)
  - d. Export the file as a \*.txt document
2. Move the exported Lightwright file to the “LightwrightFiles” folder in Infogate. On a Mac, It is under “Applications” at Infogate > LightwrightFiles. On a PC, it is under Local Disk (C:) > Program Files > Infogate > LightwrightFiles.

3. Open the Infogate software.
4. Load your show (File > Open) or perform a Discovery.
5. Select the Device Parameter Spreadsheet.
6. Import the Lightwright file (File > Import) and select the proper Lightwright file.
7. You now have the Lightwright information in the Infogate columns “channel,” “position,” and “unit number.”

### **c. Lightwright file information usage**

The Lightwright file provides “channel,” “position,” and “unit number” information in the Infogate software at the Device Parameter Spreadsheet. You have this information easily visible when performing various Infogate functions (e.g., identify) as well as if you receive an error message.

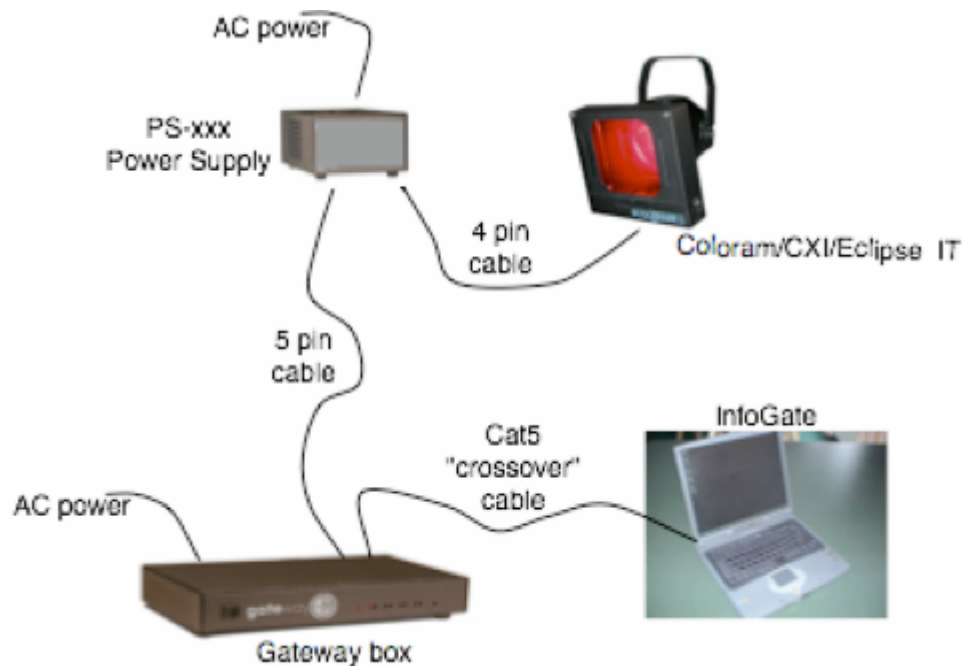
## **10. Firmware Upgrade**

This section describes the process of upgrading software in a Coloram IT, CXI IT, Eclipse IT Iris, or Eclipse IT Shutter.

### **a. Equipment needed**

You will need the following equipment:

1. Infogate software
2. PC or Mac
3. Infogate gateway box
4. Cat5 “crossover” cable (usually a yellow-colored jacket)
5. 5-pin DMX cable
6. PS Power Supply
7. 4-pin cable
8. The item needing a firmware upgrade (e.g. Coloram IT)
9. The upgraded software (firmware) file for the product – a \*.bin file (get this at [www.wybron.com](http://www.wybron.com) or call Wybron Technical Support).



*Firmware Upgrade Connection Diagram*

## **b. Equipment connection**

Connect the equipment as shown in the figure above.

## **c. Equipment configuration**

Set the (static) IP address on the PC and on the Infogate gateway box. Do this by performing step 6c (on page 8 of this manual) "PC or Mac / Infogate Gateway Box Configuration – for static IP system addresses"

## **d. Firmware upgrade process**

1. Move the firmware file (\*.bin) to the "Firmware Updates" folder in Infogate. On a Mac, this folder is located under "Applications" at Infogate > Firmware Updates. On a PC, it is under Local Disk (C:) > Program Files > Infogate > Firmware Updates.
2. Open the Infogate software.

3. "Discover" the product by clicking on the Discovery tab.
4. Click on "Perform Discovery."
5. At the warning box, click "Yes."
6. Click on the tab "Device Parameter Spreadsheet" to confirm that you have discovered the product.
7. You now have a small IT system working. You can explore the Infogate software capabilities and functions.
8. Click on the Test, Setup and Fixtures tab.
9. Click on the Firmware Upgrades tab.
10. Under "Selected Device," select the product needing the firmware upgrade (the product type and DMX address will appear after "Selected Device:")
11. Click the "Browse" box.
12. Select the .bin file to download to the product (the \*.bin file name will appear after "Selected File:").
13. Click the "Start Update" box.
14. The software download is finished when the progress box says "Complete."
15. Confirm the software download was successful by rediscovering the product (as described above in steps 3 through 5).
18. Click on the Device Parameter Spreadsheet tab to confirm that you have discovered the product and it has the desired software version.
19. Disconnect the product from the PS Power Supply.

## 11. Contact Wybron

Please call Wybron Technical Support at 1-800-624-0146 or (719) 548-9774. Hours of operation are Monday through Friday 8 a.m. to 5 p.m. U.S. Mountain Time. Or e-mail [info@wybron.com](mailto:info@wybron.com).