Solid-state LED Technology

Media Highlighter

HTW1010

RGB Wireless Controller

CYRON, Inc.

USER MANUAL

21029 ITASCA ST., UNIT C, CHATSWORTH, CA 91311 USA www.cyron.com

Media Highlighter® IR Controller HTW1010

Thank you for purchasing CYRON HTW1010 Media Highlighter IR controller. Please follow all the steps to assure proper installation and optimum usage of this device. Read through the instructions before you start your project.

Contents _____

Locate all system components. If any of the components are missing or damaged contact CYRON before proceeding with installation.

Remote

Controller

1 X Controller
1 X Remote control
1 X IR receiver
1 X Audio headphone cord
4 X Mounting screws

Audio Cord

IR Receiver

Possibilities _____

HTW1010 is compatible with all CYRON multicolor/RGB lights. Controller is provided with 12 ports for easy connections to Media Highlighter Lightbars. For the ultimate expandability, the system is also equipped with internal terminal blocks that allow hardwiring the system without the use of ports. By hardwiring, the system will be able to handle much larger lighting systems. See Table for details.

Hardwiring needs ample knowledge of wiring practices and should be done by experienced professionals such as electricians or certified custom electronic installers. Please contact CYRON Technical Support for further details.

Installations _____

CONTROLLER should preferably be installed out of sight, while planning for the IR receiver to be installed in line of sight. REMOTE needs to be pointed at the IR receiver for operation. Cautions and Common practices:

Keep the controller and wires away from extreme heat, liquids, and moving objects.

Low voltage wires can be routed through walls and cabinets as long as proper care is taken to avoid damages.

DO NOT modify internal components. Tampering with components and wiring may cause severe damage to your system and will void factory warranty.

The CONTROLLER operates on 100% regulated 12 or 24VDC power. The size (wattage) of the power supply depends on the number of lights. Table below will help in determining the maximum number of lights and the power supply ratings to be used.

CYRON Series/Size	*Watts per one lightbar*	*Model no. available (Qty)*	*Max Qty with HTW1010*
HTP (Pro) / 9”	1.20	HTPB9 (2x9”)	160
HTP (Pro) / 15”	2.20	HTPB15 (2x15”)	90
HTP (Pro) / 24”	4.00	HTPB24 (2x24”)	50
Ribbon LED / HTPR	2.20 / ft	HTPR-RL	90 feet
Ribbon LED / HTPRX	2.20 / ft	HTPRX-RL	90 feet
HTPRZ-2H24	4.40 / ft	HTPRZ-2H24RL	90 feet

There are two methods of connecting lights to the controller:

1. PLUG-n-PLAY lightbar connection

CYRON Media Highlighter multicolor lights are supplied with pre-installed connectors which can be directly plugged into controller ports. Pay attention to the polarity of the plugs. Do not use excessive force. The order in which they get connected does not matter. You can plug as few as one or as many as twelve. Use wire zip ties or other means of wire management to secure the wires.

CYRON hub extender (part# HTH61) provides 5 more outlets. If your system is using too many hub extenders, then you should be thinking about hardwiring the lights instead.

2. HARDWIRING Connecting more than 12 CYRON lightbars

You may choose this option if :

a) You are connecting far more than 12 lightbars
b) Lightbar wires are too short for your project
c) Using CYRON Ribbon lights
d) You are a contractor and are familiar with wiring practices
e) Intending to utilize more than 100 watts of power

Hardwiring needs ample knowledge of wiring practices. This option should be done by experienced professionals such as electricians or certified custom electronic installers. Please contact CYRON Technical Support for further details. There may be other options available for your project. CYRON experienced Tech Support staff will be happy to help you implement your project.

See Appendix A for detailed hardwiring instructions.

Operations

The HTW1010 remote is designed to be quite intuitive. However, it has many features which may take some time to get familiar with. Please take some time to learn all the features.

ON — Power, Turn on

OFF — Power, Turn off

STEP — Pre-programmed Light show: Sequentially displays seven preset colors (colors cannot be changed).

COLOR — Pre-programmed Light show: Color Transition. Smooth color transition of lights thru a preset color pallet.

FADE — Pre-programmed Light show: aka Breath mode. Sequentially fades in and fades out seven preset colors (colors cannot be changed).

Slow speed (60 seconds)

Medium speed (5 sec)

Fast speed (1 sec)

Dimming buttons do not operate in Light shows

PAUSE — Stops the light show on the color displayed at that instance.

Turn-off timer. There are 5 timers of 1, 2, 3, 4 and 5 hours. Each time the button is pressed the lights will flash according to the number of hours.
>First press; lights flash once; system turns off in 1 hour.
>Second press; lights flash twice; system turns off in 2 hours.
>Third press; lights flash three times; system turns off in 3 hours.
Same applies for up to 5 hours. Press again to go back to 1 hour.

Red, Green and Blue COLOR DIALS allow adjustment of each color from zero brightness to full brightness in 50 steps. The UP arrows increase and down arrows decrease the brightness level of each particular color. By combining different levels of each color more than 117,000 color combinations will be possible. Use COLOR DIALS to match décor colors, create varies tones of white light, or reduce the brightness of colors. See Memory function below to save a custom color.

COLOR DIALS only operate on memorized colors and PAUSED colors.

You cannot press-and-hold to rapidly change thru the 50 steps. Buttons must be pressed once for each step.

MUSIC MODE. The lights will change colors and interact with sound. There are two ways to take advantage of this feature.

a. Built in Microphone: A microphone is placed inside the controller which can pick up ambient sound. If the ambient sound is loud enough the lights will start to interact. Placement of the controller box and the amplitude of sound plays a big role in how well the Music Light will work.
b. Audio Input: Alternatively, you may plug the headphone output of a stereo system or personal music player to the MIC input. A cord has been provided. Depending on your audio system you may need a different type of connection. The built-in microphone is disable once the cord has been plugged into the controller.

DO NOT connect audio input to speaker outputs. Controller will be damaged.

Sound sensitivity can be adjusted by pressing the MUSIC button more than once, up to 5 times. Every time the button is pressed there will be a sequence of light flashes, from one flash to 5 flashes. 5 flashes indicates the sound sensitivity is at its maximum. Depending on the type of sound/music and the audio output level, the sensitivity adjustment may not play a big role in light interaction. Experiment with different types of music and output levels to get the optimum Music Light appearance.

For more audio control look for CYRON inline adjustable attenuator and Y-splitter at www.CYRON.com.

WHITE

White light. Instant cool-white light.

Other tones of white can be achieved using COLOR DIALS. In general, lowering the green and blue will generate "warmer" tones of white.

1 ▪ ▪ ▪ 7

Memory buttons 1 thru 7 can be used to memorize colors. To memorize a color press the MEM and then press the desired memory button 1 thru 7. Lights will flash confirming the process.

100%

Dimming buttons allow you to dim any "memorized" or "paused" light in 4 steps of 100%, 75%, 50% and 25%.

- Dimming does not work for light shows.
- Dimming works best for memory buttons 1-7 or the instant white light.

Dimming levels lower than 25% can be achieved by first memorizing a color at 25% level. Then recalling the color and dimming it again will result in lower levels. Repeating this process can result in dimming levels near 1%.

Auto Turn ON/Off ____

HTW1010 can be set to automatically turn on every time the power has been disconnected and then restored. This is referred to as Auto On

mode. Inversely, it can be set to never turn on automatically when the power is restored, also referred to as Auto Off.

Use Auto On setting and connect the controller to a timer. Every time the timer comes on the lights will turn on automatically. Same is true if controller is plugged into an outlet that is controlled by a wall switch. Lights can be turned on by the wall switch

To set the controller to Auto On:
Turn off the lights using the power off button. On the remote press buttons "7, 7, 1". Lights will flash to confirm. Disconnect power and reconnect to test. Lights should turn on automatically.

To set the controller to Auto Off:
Turn off the lights using the power off button. On the remote press buttons "7, 7, 2". Lights will flash to confirm. Disconnect power and reconnect to test. Lights should remain off.

General Guidance _____

How to make a specific color:
It is best to start from a solid color that is close to the color you are trying to get. For example, if you are trying to produce a specific shade of sea green, it is best to start with solid green. If solid green is not one of the colors in memory, one way would be to first press WHITE button. Then, using COLOR DIALS press blue arrow up until blue LEDs turn off. Press red arrow up until the red goes off. You should be left with solid green. Now you can add blue color by pressing arrow up to make the specific sea green you desire.

How to produce a color when watching a color show:
While watching any of the color shows you can press PAUSE button to freeze the show on the color being displayed. A quick way to get to some of the solid colors maybe to PAUSE the lights in the STEP mode.

Different tones of white light:
White light is presence of all primary colors. Otherwise, red green and blue mixed together will make white light. However, what most traditional lights produce is far from a "white" light. Depending on the type of light, it could have a yellowish tone, bluish tone, or green tone. Most people think of white light as yellowish white aka "warm white". A color similar to "warm white", along with many other shades of white, can be nearly replicated. The WHITE button produces a 100% red/green/blue combination. Depending on the type of CYRON lights you use, this may produce a shade of white that needs further adjustment. Generally, reducing green and blue using COLOR DIALS will produce a warmer shade of white, while reducing red will create a colder white. Play around with COLOR DIALS and keep an open mind in what you may have known as "white".

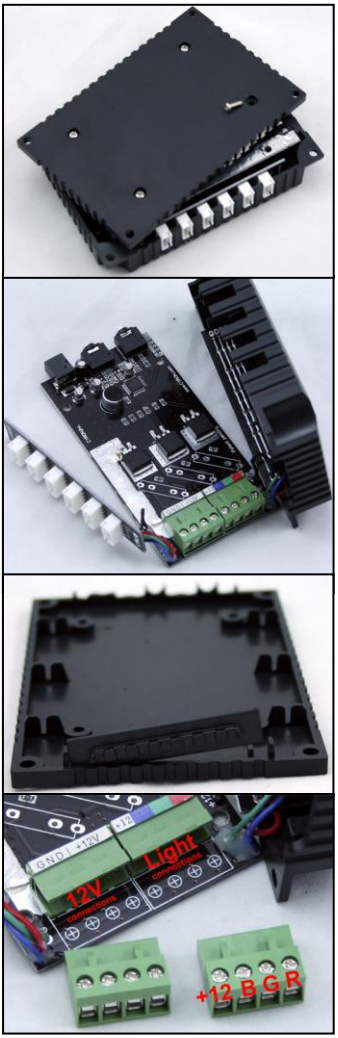
Can I use the ports and the internal terminal block?
Only for the lights. The power supply connection is best to be at terminal blocks.

Specifications _____

Supply voltage range	9-24VDC
Supply current	6A max via DC jack 18A max via terminal block, 14AWG x 4
Continuous output power	200W @ 12VDC, 400W @ 24VDC
Peak output power	400W
Working Temperature	-20 to 60ºC
Common terminal	Anode
Standby power	0.5W
Audio line input	0.5V, 32Ω
Dimensions	5" x 3 3/8" x 1" (128mm x 85mm x 25mm)
Remote, battery	CR2025, 3V

Appendix A

Hardwire Instructions



STEP ONE: Open the HTW1000 controller box by removing four screws on the bottom.

STEP TWO: Gently take out one of the side

circuit boards holding the 6 ports. Lift the main PCB to gain access to the terminal blocks. Be careful not to break any wires connecting the boards.

STEP THREE: Take out the housing wire cap.

STEP FOUR: Connect wires to the hub following the color code shown in Table One.

Use minimum 18AWGx4 (4 conductor 18 gauge) wire for extending lightbar wires up to 100ft. For runs over 100ft you must increase

the wire gauge accordingly.

Do not connect too many wires directly to the terminal block. To minimize wire clutter connect one or two main leads to the terminal block. Then by means of standard electrical connections the main lead can be connected to however many lights may be needed.

Note that 12VDC and lightbars wires can all be connected to the hub. Connecting the 12VDC directly to the hub is required for power supplies over 60watts. Four terminal inlets have been provided for 12V positive and negative. For power sources over 100W it is a good idea to use four wires, two for the

positive, two for the negative. This will eliminate extra current being carried over one wire.

Wire Color Code

HTW1000 Terminal Block	*HTHUB6 Wires*	*CYRON Ribbon lights Marking / Wire*
+12V	White	+12, 24 / Com / Black
B	Black	B / Blue
G	Green	G / Green
R	Red	R / Red

STEP FIVE: Place the PCBs back in their positions and close the back cover. Pay close attention to the wires connecting the side PCBs to the main PCB.

STEP SIX: Manage the wires. Use zip ties or other means to secure the wires together. As stated in the User Manual, the IR receiver will need to be connected to the IR plug. The IR receiver needs to be in the line of sight in order for the remote to work.

Keep the controller and wires away from extreme heat, liquids, and moving objects.

Low voltage wires can be routed through walls and cabinets as long as proper care is taken to avoid damages.

DO NOT modify internal components. Tampering with components and wiring will void factory warranty.

Technical Support _____

CYRON's goal is 100% customer satisfaction. You may call our technical support line or contact us via email 24/7.
techsupport@cyron.com
818-772-1900 x106

In order to continually improve our products we welcome all comments about the product you purchased.

Thank You!

Warranty _____

Cyron warrants this product against any defects in materials or workmanship for a period of ONE (1) year from the date of purchase. The warranty covers normal usage as intended by the factory and does not cover misuse, abuse, accidents, or damages caused due to the acts of God. Proof of purchase is required.

ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY, OTHERWISE THE REPAIR, REPLACEMENT, OR REFUND AS PROVIDED UNDER THIS EXPRESS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER, AND IS PROVIDED IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OF IMPLIED. IN NO EVENT SHALL CYRON, INC. BE LIABLE, WHETHER IN CONTRACT OR TORT (INCLUDING NEGLIGENCE) FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT, ACCESSORY OR FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE ABILITY OR INABILITY TO USE THE PRODUCTS OR ACCESSORIES TO THE FULL EXTENT THESE DAMAGES MAY BE DISCLAIMED BY LAW.

Some states and jurisdictions do not allow the limitation or exclusion of incidental or consequential damages, or limitation on the length of an implied warranty, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state or from one jurisdiction to another.

Please mail all warranty claims to:
CYRON, Inc.
21029 Itasca St., Unit C
Chatsworth, CA 91311 USA

Further warranty inquiries: warranty@cyron.com

CYRON™
LIGHTING REVOLUTIONIZED

LIGHTING REVOLUTIONIZED