Users Manual

Apollo Wireless DMX Bridge

Powered By Lighticians

EN

Part No. 900-4014

www.litepanels.com

Contents

Safety

Intended Use

This product is intended to transmit and receive lighting control data in a dry environment. Always follow the safety guidelines.

Not for use as a router or access point for life saving applications or for medical equipment

Health and Safety

⚠️ **WARNING! Risk of personal injury or injury to others**. All personnel must be fully trained and adhere to correct manual handling techniques and Health and Safety regulations. It is the responsibility of the local organisation to enforce safe working practices at all times.

Humidity and Condensation! Risk of electric shock and fire.

⚠️ **CAUTION!** Never expose the product to rain or moisture as condensed moisture may damage the product electrically when switched on

⚠️ **CAUTION!** Never cover the Apollo Wireless DMX Bridge during operation. Keep a minimum clearance of 4 inches around the housing for ventilation and air circulation

⚠️ **CAUTION!** Avoid direct illumination by other luminaries or other heat sources. Check the mains cable and connector cable prior to every operation for damage.

⚠️ **WARNING!** In case of visible damage to the mains cable or the housing, the device must not be operated any longer. Damaged components must be replaced by a Litepanels service center.

Maintenance

⚠️ **WARNING!** The fitting of non-approved parts and or accessories or servicing by non-approved personnel could effect the safety of the product. It may also invalidate the terms and conditions of the product warranty.

There are no user serviceable parts inside the enclosure. Only a Litepanels qualified service center may open the Apollo Bridge.

The Apollo system is intended for professional use and may only be operated by qualified persons.

Please read these instructions carefully before using the product for the first time. The following text contains important information for safe handling.

NOTE! To check for updates to the Operators Manual, visit:

www.litepanels.com

Maximum spread:
190mm
7.5″

42mm
1.7″

104mm
5.7″

144mm
5.7″

Features
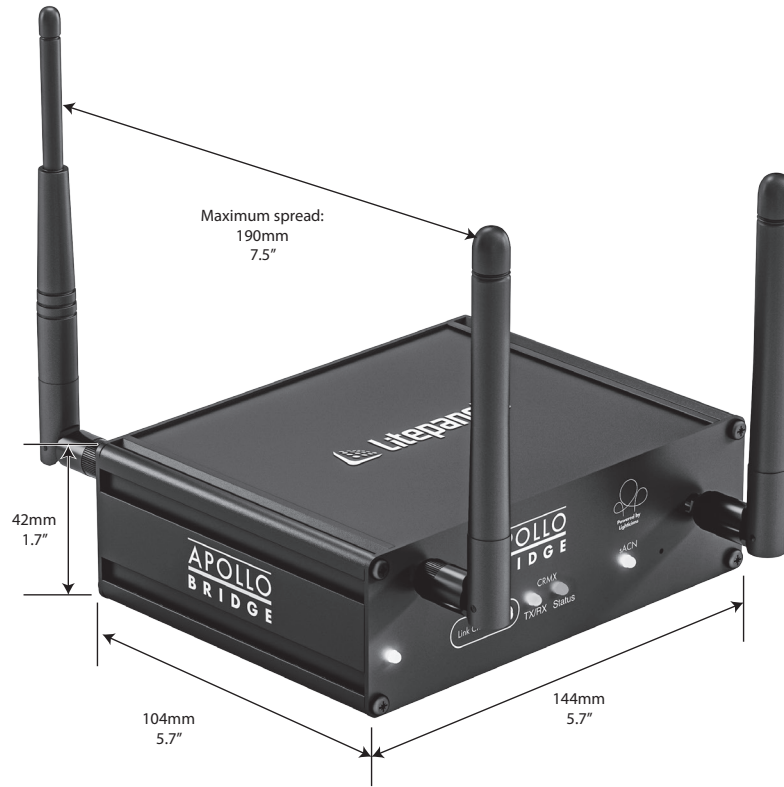
- Modern Quad Core ARM CPU and custom Router SoC with Enterprise Grade WiFi and Ethernet to support low latency high performance networking.

- WiFi 5 (802.11ac Wave2 with MIMO) with full support for all related security and encryption standards.

- Simultaneous Dual Band 2.4/5 GHz WiFi.

- Dual 1Gbps Ethernet Ports supporting two separate networks, WAN/LAN routing functionality, or bridged as a switch.

- LumenRadio TimoTwo CRMX transceiver.

- Web based configuration and advanced provisioning features.

- Multiple physical and virtual ports for DMX distribution:

    - E1.11 DMX on 5-Pin XLR.

    - LumenRadio CRMX.

    - E1.31 sACN over Ethernet and WiFi.

    - USB 3.0 on USB-A connector for external expansion.

- Firmware updates over Ethernet and WiFi using the Web GUI.

- USB-C Power Input.

- Rugged design.

- 1/4"-20 threaded mount for rigging hardware.

- Highly visible indicator LEDs for power, mode, LumenRadio, and device status.

- Compatible with any E1.31 sACN control application or lighting console.

- Compatible with any LumenRadio CRMX wireless receiver.

Introduction

Thank you for choosing the Apollo Wireless Lighting ecosystem from Litepanels: Powered by Lighticians. The Apollo Wireless Lighting Bridge is the ultimate "Swiss Army Knife" of wireless lighting control. This universally compatible bridge connects to any DMX fixture via wireless DMX, Ethernet, 5-pin XLR, or WiFi. It connects to any LumenRadio CRMX receiver and integrates the state-of-the-art TimoTwo module for robust wireless DMX transmission even in the most crowded radio frequency environments.

The Apollo Bridge also is an enterprise grade network router that can be configured for sophisticated data networking. Configuration and provisioning is performed using an intuitive web based interface from any web browser including on mobile devices and tablets. WiFi is supported simultaneously on both 2.4 GHz and 5 GHz bands, giving the user enhanced and automatic interference avoidance with other on-set wireless equipment.

Apollo is a two-part system that enables wireless DMX communication to Litepanels fixtures, such as the Astra and Gemini, along with most other DMX controllable lighting devices. The Apollo Bridge uses LumenRadio CRMX for wireless DMX communication to fixtures and E1.31 sACN over WiFi or Ethernet for direct control from a mobile device, computer or lighting console.

Operators finally have a device that can be trusted on any location and implemented into existing data workflows, regardless of what equipment or protocols are being used. Meanwhile, first time wireless customers have an intuitive and reliable solution that enables more powerful control without needing to be a DMX or networking expert.

When used in concert, along with Litepanels fixtures, these two products complete a lighting ecosystem that seamlessly and without interruption empowers lighting creatives with fast fluid control that maximizes their craft.

Antennae

The Apollo Wireless DMX Bridge includes 2× RP-SMA antennae for dual band WiFi, and 1× RP-TNC antenna for CRMX transmission.

Power Supply

The Apollo Wireless DMX Bridge uses the included 9V/2A USB-C universal power supply. 5V USB power is insufficient for this device. Only USB Type-C PD compliant power supplies will boot the device. Insufficient power will be indicated by a rapidly flashing red power LED.

Control

The Apollo can receive and route sACN from any mobile device, tablet, computer or console with that supports the E1.31 sACN standard. Control signals can be mapped to any or all available outputs including physical XLR and LumenRadio ports.

Configuration Options

The Apollo Wireless DMX Bridge can be configured using an intuitive web GUI by entering the device's IP address into a web browser while connected to the Apollo network. The default IP address is 10.1.0.1. CRMX Link/Unlink actions can be done both remotely in the LumenRadio CRMX Toolbox App or locally using the physical Link button.

Printed Label (Bottom of the Device)

The printed label on the bottom of the device contains all of the information pertaining to initial access including the default password. Please take a photo, record, and safely preserve this information. When at some future time you reset the device to factory defaults (for example after wrapping a show or upon checking out a new location rigging package) you will need this information to re-provision your Apollo Bridge.

Download the "free Lighticians Apollo Control App"

To control all of your Litepanels lights and other lighting fixtures in your kit, scan the QR code with your iPhone or iPad to install the app.
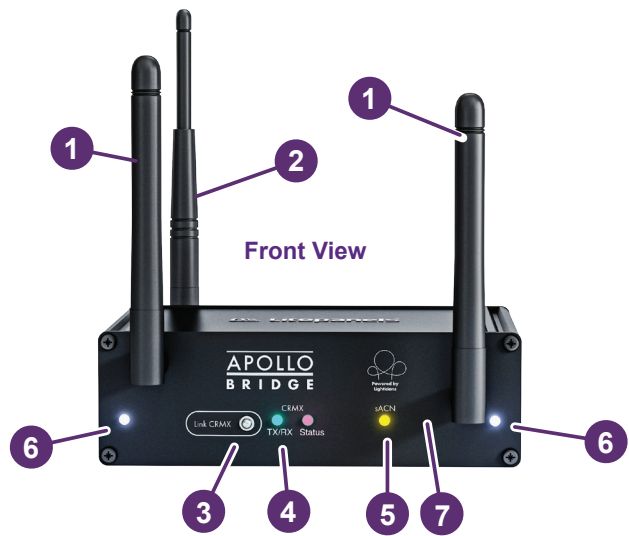

Download the free CRMX Toolbox app

For additional CRMX transmitter settings, download the free CRMX Toolbox app from the app store, scan the QR code with your iPhone or iPad to install the app.

Note! *This product contains software licensed under various free software licenses, please refer to the "License Notices" section in Apollo's integrated web based control portal for more information."*

Operating Elements

Front View

Rear View

1	**Dual-band 2.4GHz and 5GHz Antennas** sends and receives sACN Wi-Fi transmission	7	**Reset Pinhole Button** press to reboot or hold for 3 seconds to reset to factory default settings
2	**Long LumenRadio CRMX Antenna** transmits wireless DMX to CRMX receivers	8	**LAN RJ45 Port** connect to sACN Local Area Network devices such as a lighting console
3	**Link/Unlink CRMX** press to link CRMX to receivers. Hold 3+ secs to unlink all receivers	9	**WAN RJ45 Port** connect to Wide Area Networks, such as the internet
4	**CRMX Indicator LEDs** display CRMX mode, status and data	10	**USB 3 Port** for use with future features and accessories
5	**sACN Indicator LED** displays status of sACN network and network ports	11	**5-Pin DMX In/Out** connect to hard-wired DMX controlled fixtures or to a DMX lighting board. Defaults to output
6	**Corner System Indicator LEDs** displays device system status	12	**USB-C Power Port** connect from 9V+ USB-C power supply or battery

Four corner "Status LED"		
	LED Behaviour	LED Meaning
	White constant on	System finished booting, no error
	White slow flashing	System booting
	White fast flashing	Press "RESET" button to enter failsafe
	Pink fast flashing	Contact Litepanels Support
	Yellow very fast flashing	System is in failsafe mode
	Orange very fast flashing	Contact Litepanels Support
	Red very fast flashing	USB-C supply has insufficient power, try switching to a different known to be reliable power source or switch power cables
	Green constant on	Contact Litepanels Support
	Blue constant on	Contact Litepanels Support
	Red constant on	Contact Litepanels Support
	Cyan constant on	Contact Litepanels Support
	Extremely fast flashing, alternating blue and red	Contact Litepanels Support
LumenRadio Timo LED		
	Purple, constant on	Port is in TX mode
	Off	Port is disabled
sACN LED		
	Yellow, constant on:	Port is in RX mode
	Off	Port is disabled

Initial Setup and Connections

Plug in the Apollo Bridge

Attach the appropriate AC power connector to the included 9V USB-C power supply and then plug the USB-C connector into the female input on the rear of the Apollo Bridge. Then connect to an AC power receptacle. The unit will power on and be ready within 90 seconds.

Simply plug any LumenRadio CRMX Receiver into the DMX IN port on a DMX capable fixture.

You can now connect to the Apollo network via WiFi or Ethernet (using the LAN port).

General Operation

Operating Range

The Apollo Bridge has a range of up to 300m via CRMX transmission and up to 100m via WiFi. External factors, such as other radio interference and walls, vegetation, or even people between the Bridge and Receivers can impact the range. Best practice is to have an uninterrupted line-of-sight (LOS) between the Apollo Bridge, the receivers as well was the control device.

Connecting to the Apollo WiFi Network

To log in to the Apollo Wireless DMX Bridge, first connect to the Apollo network on your mobile device or computer by finding the "Apollo Bridge" network in your list of WiFi networks and then joining it as you would your home router or office access point. Enter the password when requested.

Note! *The Apollo Wireless DMX Bridge default password is found on the label on the bottom of the bridge's enclosure. The default Network SSID is "Apollo Bridge".*

Please note that all passwords are case sensitive.

Linking CRMX Receivers

After ensuring your wireless DMX Receivers are powered and unlinked, briefly press the CRMX Link Button on the front of your Apollo Wireless Bridge. The Status Light on your Apollo Bridge will blink for several seconds in unison with the CRMX Status Light on linking CRMX receivers. Linking is complete when flashing stops.

Receivers will stay linked to their transmitter indefinitely until unlinked and/or linked to another transmitter.

Unlinking

Unlink One Receiver

On a third party CRMX Receiver, press and hold its Unlink button for more than 3 seconds to unlink it from a transmitter. The CRMX indicator will extinguish.

To unlink the CRMX receiver in a Litepanels Gemini or Astra in the menu select:

SETTINGS > DMX SETTINGS > WIRELESS DMX > UNLINK

Unlink All Receivers

On the Apollo Bridge, press and hold the Link button for more than 3 seconds to unlink all receivers currently paired with the Apollo Wireless DMX Bridge.

Think carefully before taking this action as there is no "undo" in this case. Unlinking all connected receivers will require you to relink each one to regain control.

Download the Apollo Control App

Optionally, if you do not have a suitable sACN lighting controller, download the free Lighticians' Apollo Control app first before moving forward.

Scan the QR code with your iPhone or iPad to install the app

Controlling Your Lights

Now that your tablet or device is connected and your receivers are linked, open the Lighticians' Apollo Control app or another sACN compatible lighting control application of your choice. The Apollo Lighting Control App supports E1.31 sACN as a default. Some other apps, software, or consoles (especially from ETC) require sACN to be enabled. In those cases, the following settings are recommended:

IP Address: .. .. .DHCP/Auto

Protocol: E1.31/sACN

sACN Universe: 1

The Apollo Wireless Lighting Bridge is capable of outputting a single universe of 512 DMX addresses mapped to any number of its interfaces.

Configuring The Gemini For Apollo App Control When Using Litepanels CRMX Dongle.

1. Power on Gemini and insert in designated slot on top of the fixture. Green light on dongle will turn on when inserted correctly.

2. On your Gemini select SETTINGS > IN/OUT SELECT > WIRELESS DMX IN.

3. On your Gemini Select DMX VERSION > DMX SETTINGS > DMX VERSION > VER 1 (ORIGINAL).

4. On your Gemini Select DMX RESOLUTION > 8 BIT (If you want smoother dimming select 16 BIT but make sure you patch a 16 BIT profile when setting the light up in your control app or on your console).

5. On your Gemini Select DMX ADDRESS > select the starting DMX address that will correspond with starting DMX you use when patching the light in the app.

6. On your Gemini Select DMX MODE CONTROL > ENABLE

7. On your Gemini Select WIRELESS DMX > UNLINK (this resets the dongle and unlinks from any transmitter it may have previously connected to).

8. On your Gemini Select WIRELESS DMX > LINK. Immediately press the CRMX link button on your APOLLO BRIDGE.

9. If the link is successful the 5 wireless bars at the top of the Gemini menu will turn green.

Note! If using a Gemini 1×1 or a Gemini 2×1 with older software these two additional steps are required when setting up the fixture.

8.Select DMX VERSION > DMX SETTINGS > DMX VERSION > VER 1 (ORIGINAL).

9.Select DMX MODE CONTROL > ENABLE.

Configuring The Astra When Using Litepanels CRMX Dongle.

1. Insert the Wireless DMX module into your Astra and power on.

2. On your Astra select SETTINGS > DMX SETTINGS > DMX ADDRESS > select the starting DMX address that will correspond with starting DMX you use when patching the light in the app.

3. On your Astra select SETTINGS > DMX SETTINGS > WIRELESS DMX > SET RADIO ON.

4. On your Astra select WIRELESS DMX > UNLINK RADIO (this resets the dongle and unlinks from any transmitter it may have previously connected to).

5. On your Astra select WIRELESS DMX > LINK RADIO

6. Immediately press the CRMX link button on your APOLLO BRIDGE.

7. If the link is successful the 5 wireless bars at the top of the Gemini menu will turn green.

9

Hardware Reboot

It is sometimes necessary to reboot the bridge using the external button. To reboot the Apollo Wireless Bridge, briefly press the recessed button inside the small pinhole labelled "RESET" on the front of the bridge. Do not hold the reset button for longer than a few moments or a factory default reset will initiate.

The device status LEDs will blink in white indicating that it is rebooting.

Upon completion of the reboot the device will return to normal operation without any further user intervention.

Factory Reset

When performing a factory reset the bridge will erase all customized settings including any settings adjusted on the advanced control pages back to the original state of device as delivered from the factory. It will be necessary to reconfigure your Apollo Wireless Bridge as if it were new. Please carefully consider this prior to initiating this procedure as there is no undo once it begins.
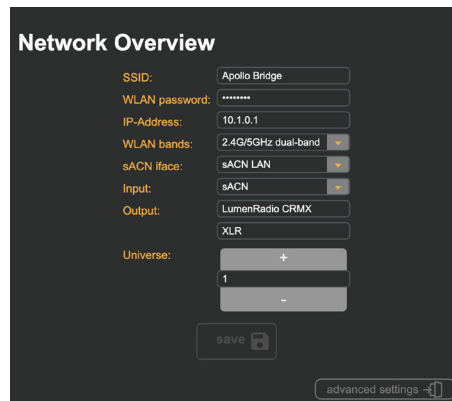
To restore the Apollo Wireless DMX Bridge to factory default settings:

1. Connect power to the Apollo Wireless DMX Bridge.

2. Press and hold the recessed reset button inside the small pinhole labelled "RESET" on the front of the bridge with a pen, paperclip or other object for at least 5 seconds.

The device status LEDs will blink in yellow indicating that it is restoring to factory defaults.

Upon successfully resetting the device status LEDs will return to solid white. At this time you can connect to the device's web GUI and follow the initial configuration steps.

Device Configuration

All configuration of the Apollo Wireless DMX Bridge can be performed using its integrated web based control panel. To access this:

1. Connect your iPhone, iPad, Mac or PC to the Apollo Wireless DMX Bridge WiFi using the SSID and password displayed on the bottom of the Apollo Bridge; or connect your PC to the LAN Ethernet port.

2. Open a web browser on the connected computer or mobile device.

3. Enter the IP address of the Apollo Wireless Bridge into the URL box of the web browser. The default IP address is 10.1.0.1.

4. When prompted enter in the same network password as printed on the bottom of the Apollo Bridge.

Updating Firmware

Before proceeding with a firmware update insure that the Apollo is powered by a reliable source and all physical connectors are firmly attached. Performing a firmware update with the device powered by a battery source is not recommended.

1. Select **advanced settings** at the bottom of the Web Portal.

2. Select **System** on the left side menu.

3. Select **Backup/Flash Firmware.**

Upload a firmware image here to replace the running firmware.

Image Flash image...

4. Select **Flash Image.**

5. Choose **Browse.**

6. Select the latest firmware zip files downloaded from:

www.lighticians.com/firmware   **or**   www.litepanels.com/support/apollo/firmware

7. Select **Upload.**

Uploading file…

- Name: ApolloOS-10.10-2020.08.26-lighticians (1).sysupgrade
- Size: 11.35 MB

Browse…   Cancel   Upload

8. Once the upload is complete you will be asked if you would like to **Flash Image?** Select **Continue** to proceed.

Flash image?

The flash image was uploaded. Below is the checksum and file size listed, compare them with the original file to ensure data integrity.
Click "Proceed" below to start the flash procedure.
- Size: 10.47 MB
- MD5: 7c3ac2c0e79f6cc51078906f0cd12400
- SHA256: c281b3158585da2b7c42b54c6f278138ea4e864f9fc7deb589689edffd78f2

☑ Keep settings and retain the current configuration

Cancel   Continue

9. While updating the below prompt will appear. You will be disconnected from the network while the Apollo Bridge automatically performs a normal reboot.

Flashing…

The system is flashing now.
DO NOT POWER OFF THE DEVICE!
Wait a few minutes before you try to reconnect. It might be necessary to renew the address of your computer to reach the device again, depending on your settings.

10. Once the LED indicators finish breathing and become solid, you will be able to reconnect to the Apollo wireless network and operate the device.

11. Settings are preserved through firmware updates so it is likely that your WiFi connected devices will automatically reconnect. Occasionally mobile devices will switch to a different WiFi network. Check your device/computer WiFi settings to confirm that you again are connected to your Apollo Bridge before proceeding with normal operation or making additional configuration adjustments.

Advanced Capabilities

In addition to acting as a self contained WiFi network, the Apollo Wireless Bridge has several other ways of controlling and connecting lighting devices.

Ethernet

The Ethernet port on the Base Station provides another connection option. Other devices can connect to the sACN LAN and the use of downstream bridges is completely supported. Using a large Ethernet bridge, it is possible to connect many devices. The integrated WiFi access point can be used in conjunction with wired Ethernet for multi-node systems. As a default, the LAN network will always route to/from all WiFi connected devices and share the same IP address pool and subnet.

5-Pin XLR Input

Apollo can optionally receive and route DMX through the 5-pin XLR DMX port. An XLR 5 pin Male-Male adaptor (not included) will be required for this in addition to adjustments with the web GUI.

5-Pin XLR Out

The 5-pin XLR port will transmit the same active DMX universe as the LumenRadio CRMX signal. This enables a wired network of fixtures using standard 5-pin DMX cables to be used simultaneously with a LumenRadio CRMX network.

Multi-Universe Networks

If more than one universe is required, several Apollo Wireless DMX Bridges can be set to different universe numbers and connected together using an Ethernet switch. Each Apollo Wireless Bridge can control its own set of paired LumenRadio CRMX Receivers and/or XLR connected chains of DMX devices.

Apollo Receivers will need to be Linked to the individual Apollo Wireless Bridges at different times. To Link the first DMX Universe, power on only the Apollo Receivers you wish to be associated with that Universe. Then press the Link button on the back of the first DMX Universe Base Station. Repeat this process for the other DMX Universes.

The DMX universe can be configured using the Apollo Wireless Bridge web controls.

Advanced Routing and Networking

In addition to the lighting control features, many more advanced routing and access point configurations are possible using the "Advanced Settings" section of the web control panel. While Litepanels cannot offer specific support for those installations advanced users working with IT Departments or who have knowledge of TCP/IP networking themselves will find many more options available by looking through the advanced pages.

Radio Frequency and Interference Management

Antennae Placement

For the best performance, the WiFi and CRMX antennae should be articulated on different planes at 90° angles perpendicular to each other.

For maximum range, the Apollo Wireless DMX Bridge CRMX Antenna and CRMX Receiver antennae should be oriented in the same direction, and all devices should have an uninterrupted line-of-sight between them.

If WiFi signal or latency problems such as lag or choppy DMX performance persist, it may be necessary to adjust the position of the two antennae on the Apollo Wireless Bridge. Tilting the antennae perpendicular to each other can enhance the distance of the WiFi signal.

If using other wireless transmission devices, such as other wireless DMX devices or WiFi routers, it is suggested to maintain a minimum of 15 feet between devices for optimum performance of both systems.

Selecting a WiFi Channel

The 2.4 GHz WiFi band is divided into 11 channels. Because WiFi channels overlap, the number of WiFi channels allocated by default on the Apollo Bridge is restricted to minimize interference from surrounding WiFi networks. Using channels 1, 6 or 11 whenever possible will help provide the most reliable WiFi signal strength while minimizing interference.

This can be configured within the Advanced Settings pages within the web controls.

Dense WiFi Environments

5GHz WiFi is built into the Apollo Bridge and enabled by default. Any device supporting 5GHz WiFi will automatically connect using those frequencies instead of the typically more crowded 2.4GHz band. In environments with extremely high device counts or with numerous other 2.4GHz/5GHz networks — be they WiFi or other networks on the same bands; a Spectrum Analyzer can be used to determine the least used frequency ranges making channel selection much more accurate.

Typical use cases that may require a Spectral Analysis as part of a site survey would include stadiums, arenas, houses of worship, facilities within or adjacent to emergency services, university and other scientific research facilities, etc.

High Gain and Other 3rd Party Antennae

Higher gain antennae increase range only in low noise environments with clear line-of-sight. This always will increase noise along with the desired signal as they are not a filter. Careful network planning and layouts are stronger solutions than high gain antennae.

Additionally always obey all local laws and regulations pertaining to radio use.

Check that the Apollo Bridge is receiving reliable power and that all physical connections are firmly seated. When troubleshooting "mysterious" failures, reduced range, or sudden signal issues the solution often can be switching the power source.

If the network does not appear on your device then reset the Bridge by power cycling it. **Note** the bridge takes approximately 90 seconds to fully boot.

Confirm CRMX receivers are linked to the Base Station and not another transmitter. Also confirm that the receivers are properly connected to the lighting fixture

Confirm that only the lights selected are the ones you want to control before entering the Color Wheel screen in the App.

Confirm the lighting fixture is set to the correct DMX address, correct mode and bitrate for the patched profile.

Confirm hardwired lighting fixtures are connected to receivers or DMX cables via the DMX IN connector on the on the light.

Confirm your control software is set to transmit E1.31 sACN.

Confirm that the control device or console is connected to Apollo Bridge WiFi network or LAN Ethernet port.

If the CRMX receiver shows a strong connection but the fixture is not responding to commands, cycle the power on the fixture.

If none of these fix the problem, insert a pin into the hole '**Reset**' and hold for 10 seconds to factory reset the bridge. You will have to re-provision the bridge as a new device after it reboots.

Tips

When Connecting with an iOS/iPadOS Device

* Turn off auto join for any networks this device has connected to by going to SETTINGS > WI-FI >MY NETWORKS > (i) > AUTO JOIN. iOS devices may jump from a local network in an attempt to connect to the internet.

* Turn off Cellular Data by going to SETTINGS > CELLULAR > CELLULAR DATA. Cellular data can sometimes interfere with DMX stream, especially when using an iPad.

When using LumenRadio devices confirm that the receivers are linked to the Base Station and not with another transmitter.

A clear line-of-sight between bridge and receivers increases performance and range.

Use the antenna extension kit for better line-of-sight and separation from WiFi antennae on the bridge.

Position antennae parallel on the same plane.

Reduce interference by placing Bridge away from other wireless transmitters and routers, large groups of people, glass windows, WiFI based video systems, 2.4GHz focus/iris transmitters and metal bars, screens, or fences.

Change WiFi frequency or channel to avoid interference.

Test and get to know hardware before you use it on set.

Unlink receivers before pairing with bridge for first time.

Contact your local Litepanels dealer to order Apollo kits and spare parts.

For a list of dealers visit www.Litepanels.com

Kits

900-4019 - Apollo Kit Case

900-4014 - Apollo Bridge, w/ Power Supply, w/ Antennas

900-4015 - Apollo Bridge, w/ Power Supply, w/ Antennas, w/ case

900-4016 - Apollo Bridge, w/ Power Supply, w/ Antennas, w/ case, w/ Six (6) GEMINI Comms Wireless DMX Dongles

900-4017 - Apollo Bridge, w/ Power Supply, w/ Antennas, w/ case, w/ Six (6) ASTRA Wireless DMX Modules

900-4018 - Apollo Bridge, w/ P/S, w/ Antennas, w/ case, w/ Three (3) GEMINI Comms Wireless DMX Dongles, w/ Three (3) ASTRA Wireless DMX Modules

Spare Parts

421-0002 - Antenna, Wi-Fi

421-0003 - Antenna, CRMX

710-0040 - Universal Power Supply AC Adapter

800-4001 - Top Assembly, Apollo Bridge

Specifications

Features	Description
Architecture	Quad Core Router SoC
Operating System	Linux Based Custom Router OS based on OpenWRT
Wireless Networking	Enterprise Grade WiFi 5 (802.11ac Wave2) Access Point
Wired Networking	Dual Gigabit Ethernet with Routing Features
Wireless DMX Module	Integrated LumenRadio TimoTwo CRMX
WiFi Frequency Bands	Simultaneous Dual Band 2.4 GHz and 5 GHz
WiFi Standard	802.11ac Wave2 with MIMO
Range (line-of-sight)	CRMX up to 500 m / 1,640 ft WiFi up to 100 m / 263 ft
Lighting Control Protocols	E1.11-2008 DMX-512 (on XLR-5) E1.31 sACN (supported on all E thernet and WiFi interfaces)
DMX Connector	XLR 5-Pin Female
DMX Universe Support	One Universe with 512 Addresses

Features	Description
Ethernet	2× RJ45 (1Gbps LAN and WAN)
Expansion	USB Type A (3.0 speed)
Control	Web based device provisioning/ configuration interface "Link" button for linking to CRMX devices Tx/Rx Advanced Configuration via CRMX Bluetooth App
Power Supply	USB Type C (9V/2A)
Platform Compatibility	Apollo App, Luminair App, ETC (including Nomad), GrandMA, Strand DMX, sACN consoles and controllers Cinetenna, SKT, Skynode and any other LumenRadio/CRMX receivers
Weight	620 grams (1.3 lbs)
Rated Temperature Operation	-40° to +85°C (-40° to +185°f)
Certifications	CE, FCC

We reserve the right to make changes to the product based on technical advances.

FCC statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe [A] est conforme à la norme NMB-003 du Canada. CAN ICES-3 (A)/NMB-3(A)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

EU Declaration of Conformity

This product complies with the following EU Directives:

2014/30/EU (EMC)
2014/53/EU (RED)
2014/45/EU (LVD)
2015/863/EU (RoHS3)

Conforms to the Following Standards:

EN 55032:2015/AC:2016-07 (EMC)
EN 55035:2017 (ESD and Immunity)
EN 301 489-1 V2.2.3, EN 301 489-3 V2.1.1, EN 301 489-17 V3.1.1 (RED)
EN 62368-1:2014+A11:2017 (LVD)
EN 63000:2018 (RoHS)

A copy of the Declaration of Conformity is available on request.