RAT PAC

CINTENNA

CRMX inside

AKS+

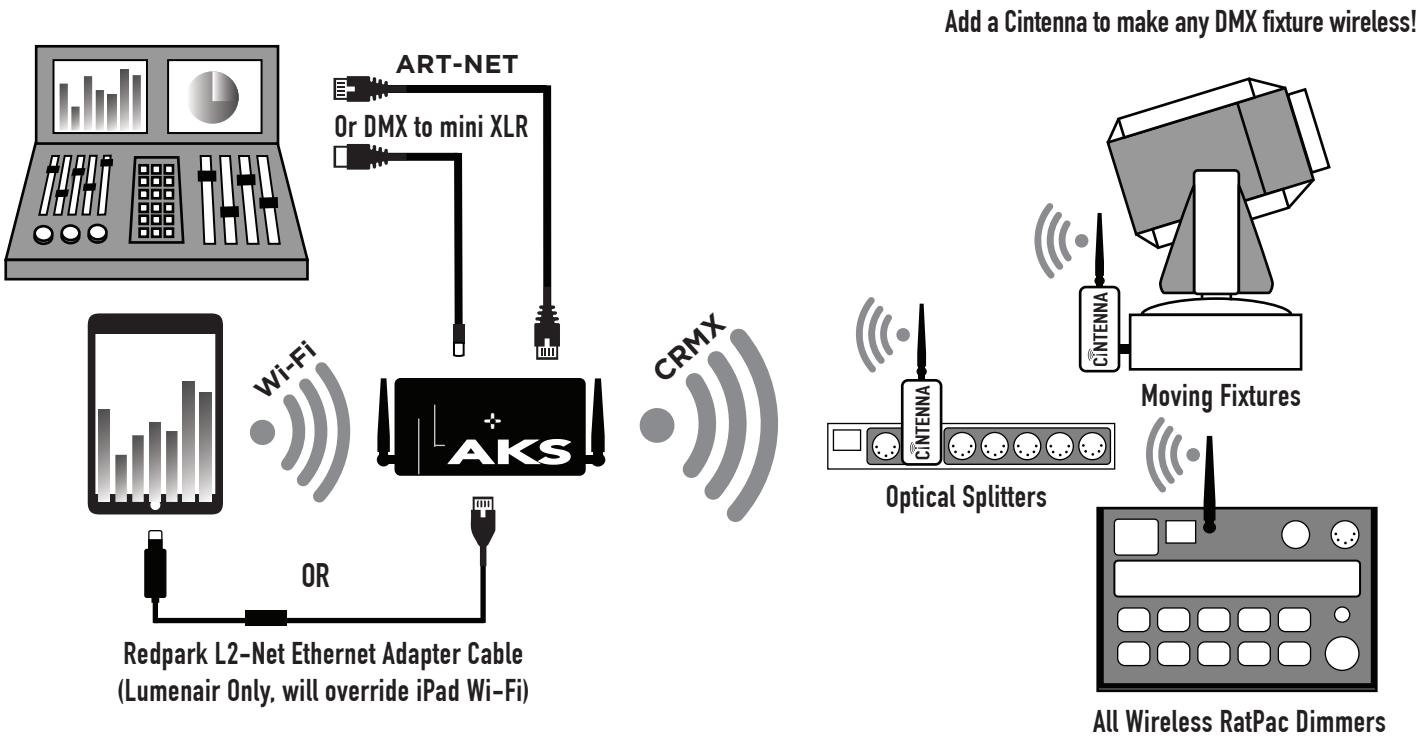
DMX WIRELESS SYSTEM

Featuring the
Cintenna RX Battery Receiver, Cintenna RX Receiver, Cintenna TX Transmitter and the Cintenna AKS+

Wireless CRMX DMX 2.4GHz • Quarter mile line of sight connection • Easy installation and setup

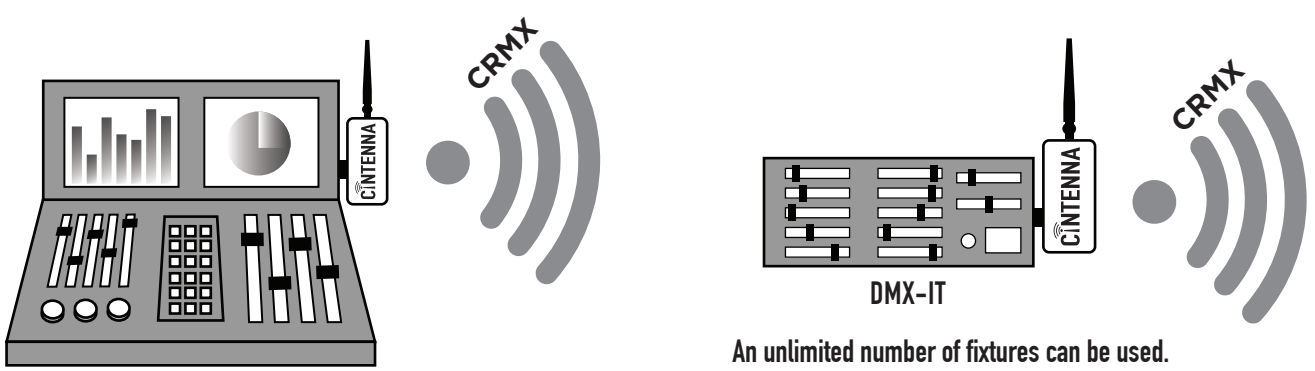
USING THE AKS

RECOMMENDED CONFIGURATION



USING THE CINTENNA TX

RECOMMENDED CONFIGURATION



An unlimited number of fixtures can be used.
Recievers must be unlinked before being linked to another Cintenna TX or AKS. Non-Battery Cintenna RX must be provided with 5-30DC power to function.

CONFIGURATION INSTRUCTIONS

POWER UP:

- Cintenna RX Battery: Press and release the POWER button to turn on
- Cintenna RX & TX: Connect to USB power via Barrel adapter
- Power Input Barrel also accepts any 5-30VDC source including LiteGear Battery Packs (with optional 2.1mm to 2.5mm adapter)
- For mobile Cintenna TX usage, a minimum USB Battery capacity of 6000 mah is recommended
- AKS: Long Press and hold the POWER button until the green power indicator light comes on.

TO LINK:

- Press and release the LINK button on your AKS, Cintenna TX or compatible transmitter.
- While linking all STATUS and LINK indicators will flash rapidly for 5 seconds.
- STATUS will illuminate if DMX is present, otherwise it will blink every 1 second.
- Once linked your RXs will remain linked until you unlink them, even after you power down.
- The Cintenna RX links with CRMX, ARRI SkyLink, and WDMX G2-G4 Transmitters.
- The Cintenna RX is RDM capable when used with ARRI SkyLink or LumenRadio FX.
- The AKS and Cintenna TX will link with all CRMX wireless devices, including:
  - The Cintenna RX series
  - All wireless RatPac dimmers and PDBs
  - ARRI SkyLink Receivers
  - All CRMX enabled Wireless lighting fixtures and devices from manufacturers such as ARRI, Astera, Cineo, DMG, Digital Sputnik, KinoFlo, LiteGear, Mole Richardson, Quasar, RC4, and Swisson

TO UNLINK:

- To unlink an individual Cintenna RX from a TX or an AKS, long press and hold the Cintenna RXs LINK button for 5 seconds until the Cintenna yellow STATUS light goes out.
- To unlink ALL Cintenna RXs and other receivers simultaneously, long press and hold the LINK button on your CRMX TX for 5 seconds until the yellow STATUS light starts flashing.
- All receivers can be easily re-linked by pressing and releasing the transmitter's LINK button again.

CONNECTING THE AKS TO A WiFi ENABLED DEVICE:

- In 'Settings' on your Wi-Fi device turn your Wi-Fi 'on'
- Sign on to 'RatPac AKS'
- Enter default password 'quietonset' (all lower case, no spaces)
- Your AKS is now paired to your device via a closed Wi-Fi network
- Open your lighting app. Many apps will auto-configure, and steady blinking from the DMX light indicates that settings are correct and DMX is being transmitted.
- The AKS is configured to work by default with Luminair, but these settings can be accessed by clicking Luminair's green circle in the top right corner. If the circle is RED, go back to your WiFi settings and ensure you are connected.
  - If the DMX light isn't blinking, ensure your app has the correct settings:
  - Art-Net - Output: "Enabled"
  - Node: "Broadcast" (Optional: Uni-Cast to 10.10.100.254)
  - Sub-Net: 0
  - Universe: 0
- Be sure to close all other open apps for best performance
- If errors occur, restart your device WiFi, or move the AKS closer to the paired WiFi device

The AKS can also be connected via Ethernet hard-line to your Art-Net control device.

-For Ethernet hard-line use with a console, simply configure your console for Art-Net output and use the EtherCon port on the side of the device.

-For Ethernet hard-line use with an iPad (in sub-optimal WiFi scenarios), an optional "L2-NET" Lightning to Ethernet cable can be purchased. The Apple iPad Camera Connection kit with a USB-Ethernet adapter may also be used.

For AKS PLUS models, an auto-switching DMX IN port has been provided on the bottom of the unit. To use hard-line DMX, simply attach a 5-pin XLR output to the included Mini-XLR adapter, then attach it to the unit. The AKS will automatically switch to local DMX input if signal is available, and will revert back to Art-Net input if no signal is received for more than 2 seconds.

Be sure to turn off any unused WiFi devices linked to the AKS when wired to a console. Undesired "flicker" or "flashing" is generally a symptom of multiple Art-Net control inputs, ensure only one Art-Net source is transmitting to the desired universe (usually 0).

Access the AKS control interface by connecting to the device via Ethernet or WiFi,
opening your device browser and entering the AKS IP address 10.10.100.254
Username: admin
Password: admin

MAIN SETTINGS

When making changes, press "Apply" for each box changed before moving to the next one.
Settings will become effective upon restart.

Access Point is the default mode. The unit will appear as a standard WiFi Network.

Station Mode allows the AKS to connect to other WiFi networks, including other AKS units. It requires additional configuration in the AP and STA Configuration pages.

The Art-Net Node Name will be displayed in compatible apps and consoles upon Art Poll detection.
This is separate from the WiFi SSID, which is chosen on the next page.
Default: "Ratpac AKS"

Universe ID selects the active Art-Net universe between 0-9 (Subnet 0, Net 0).
Default "0"

Port selects the network port being used for Art-Net data, and almost never changes.
Default "6454"

To Improve CRMX signal by Increasing Output power:
CRMX Power Level adjusts the output of the CRMX radio. Higher output levels can increase range and are recommended for remote antenna configurations, but will reduce battery life and may cause interference with other 2.4GHz radio products.
Default: "65mW" range can be adjusted from 10mW to 250mW

To increase WiFi Range:
CRMX Channel Block Width adjusts a "Keep-Out" window around the WiFi network.
Increasing its size will provide better WiFi separation and increased WiFi range at the cost of slightly reduced CRMX range.

Default: "32mHz"

Specific Channel Blocking:
CRMX Second Channel Block allows for an additional window to be created around a second WiFi channel.
This can be used to prevent the AKS from overpowering house WiFi which may be on a different channel than the AKS
It is recommended to reduce the Channel Block width if utilizing this option
(The recommended "CRMX Channel Block width" is 26Mhz when using Second Channel Blocking").
Default: "Off"

Be sure to click "Apply" in each box changed before moving to the next one.

AP INTERFACE SETTING

Network Mode allows 802.11b/g/n or combinations of these standards to be selected.
This setting may be used to increase compatibility with older tablets.
Default: "11b/g/n mixed mode"

Network Name (SSID) is the WiFi Network name. It can be optionally hidden.
Default: "Ratpac AKS"

Frequency (Channel) is the WiFi Access Point channel.
To reduce interference, it is recommended that only 1, 6, or 11 are chosen.
Default: "1"

Caution: "AutoSelect" disables the CRMX Keep-Out Window!

Wireless Distribution System (WDS) is an optional feature set for infrastructural networks.
This feature is not officially supported in the AKS, though it has been left functional for those who need it.

Security Mode selects the WiFi encryption method. It is recommended to use the highest one supported by connecting devices.
Default: "WPA2-PSK"

WPA Algorithms set which encryption algorithm shall be used. AES is recommended, but TKIPAES will allow devices to choose whichever they are compatible with.
Default: "TKIPAES"

Pass Phrase is the WiFi Password.
Default: "quietonset"

IP Address refers to the WiFi Router address as well as Art-Net Node address.
Default: "10.10.100.254"

Subnet Mask allows or filters ranges of IP addresses for the sake of network efficiency.
This value should be changed to "255.0.0.0" for Station Mode functionality.
Default: "255.255.255.0" or "255.0.0.0"

Server address should be the first three entries of the IP address with the fourth as "255"
This allows Art-Poll replies to be sent to all devices on the network in range.
Default: "10.10.100.255"

STA Interface Setting

To enable Station Mode: -Enter the “Main Settings” page. Click “Station Mode” and hit “Apply.”
Don’t Restart yet!
-In “AP Interface Settings”,
ensure the Subnet Mask is set to “255.0.0.0”

-Configure Station Mode’s Host WiFi Network

AP’s SSID, which represents the host network, can be configured by pressing the “Search” button.
A list of nearby networks will appear. If the desired network does not show up, click “Refresh.”
This process may need to be repeated. When the desired network is found, select it and hit “Apply.”

Enter the Passphrase, and press “Apply.”
Default SSID: “Ratpac AKS”
Default Pass: “quietonset”

It is recommended that multiple AKS units on a network be assigned to different Art-Net universes in order to maximize DMX channel count.

Restarting the device after all settings are applied will place the device into station mode and link it to your main network.

Instructions and Help
Instructions and help contains some useful tricks and tools.

Device Management
In Device Management, firmware update files can be loaded. This process is best executed on a computer rather than a tablet device.

If you accidentally lock yourself out, don’t worry! The device can be factory reset simply by powering off, then powering on while holding the “RF LINK” button. Once the reset sequence is finished, the WiFi light will illuminate, and the device will be back to its default settings upon the next power-up.

CHARGING:

Battery Cintenna RX:
- The RX battery will last 14+ hrs on a 5-6hr charge
- When initially plugged in, the yellow battery indicator light will flash BRIEFLY indicating the RX is full charged
- If there is a partial charge the battery indicator light will remain on and then turn off once fully charged

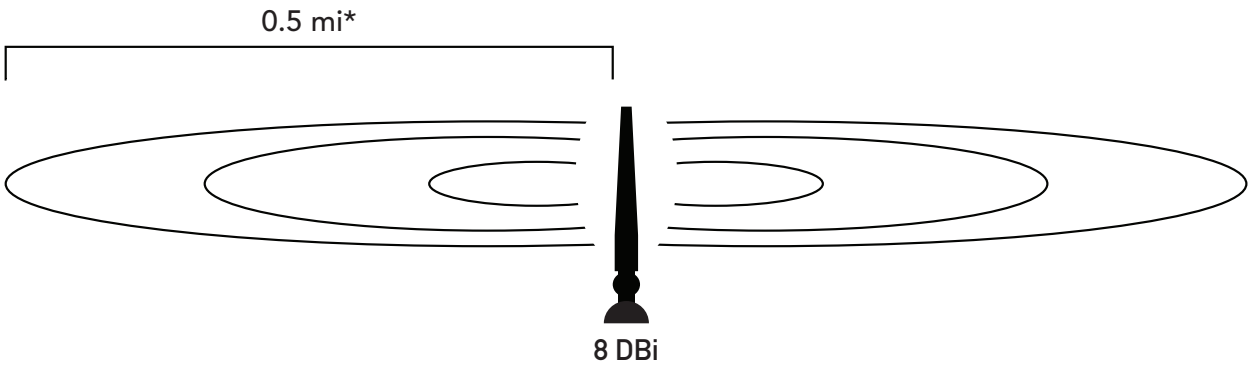
AKS:
- The AKS is fully operable while charging
- The red battery indicator light will flash with increasing frequency as the battery drains
- At 50% = slow flash; 40% faster flash; 30% even faster flash; 20% rapid flash
- NOTE: Once the 30+hr AKS battery is drained and the unit turns off, it will take a full 5 minute charge before the AKS is operable on AC Power and 6 hours for a full charge

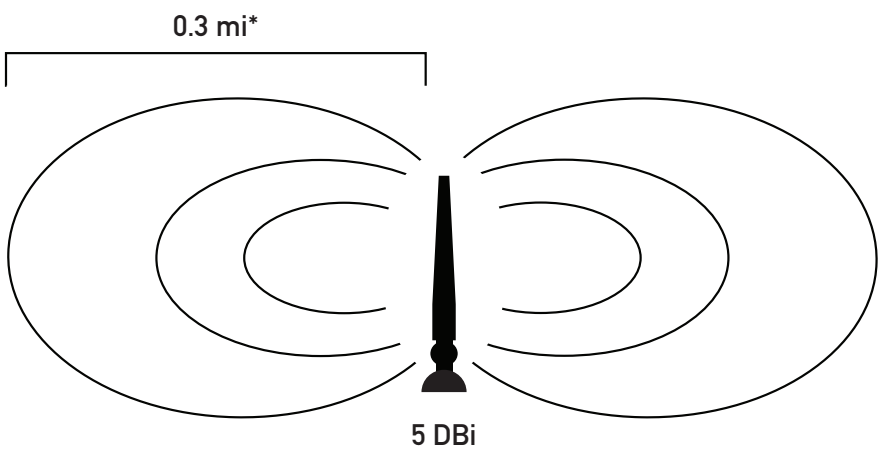
POWER DOWN:
- Turn the Cintenna RX Battery off by holding the Power button for 3 seconds
- The receiver will retain its link indefinitely until you unlink it, even when off
- To unlink just ONE Cintenna RX hold down its Link button until the link indicator light goes off

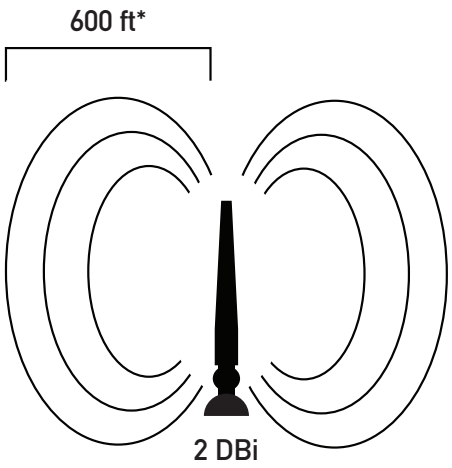
That’s it!
Your CRMX transmitter will relay one universe of all DMX commands to all linked receivers
If your linked fixture has DMX Thru, you can continue the signal through a DMX daisy chain.

ANTENNA CONFIGURATION USING THE AKS + CiNTENNA

For best reception, position antenna in line of sight of each other.
Dense material like glass and people impede the 2.4GHz signal.







*Ideal conditions, line of sight

Using antennas other than provided 2 DBi antenna on transmitters may violate FCC standards. Check local regulations before using non-standard equipment.

Use antenna extenders to increase performance.

FCC DECLARATION OF CONFORMITY

We LumenRadio AB Svangatan 2B, 41668 Gothenburg, Sweden, declare under our sole responsibility that 800-8105, TiMo RX RDM and 800-8106, TiMo FX RDM, comply with Part 15 of FCC Rules.
Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

FCC Radio Frequency Interference Warnings & Instructions
This equipment has been tested and found to comply with the limits for a Class B 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 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following methods:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an electrical outlet on a circuit different from that which the radio receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications made to the product, unless expressly approved by LumenRadio AB and Innovative Dimmers LLC., could void the user's right to operate the equipment.

Recycling and Disposal:
Device contains Li-ion battery, do not discard in trash.
For disposal, please deposit at an appropriate recycling facility or simply send to:

RAT PAC

Ratpac Dimmers
7508 Tyrone Ave.
Van Nuys, CA 91405, USA

Industry Canada statement:
This digital apparatus does not exceed the Class B limits for radio noise emissions fromdigital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications. Le resent appareil numerique émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Réglement sur le broullage radioélectrique édicté par le ministére des Communications du Canada.

CE

Innovative Dimmers declares that the Cintenna product family (AKS, TX, RX, and RX Battery) complies with the essential requirements and other relevant provisions of CE standards for safety and RF exposure. LumenRadio declares that 800-8105 TiMo RX RDM and 800-8106 TiMo FX RDM comply with the Essential Requirements of RED (Radio Equipment Directive) of the European Union (2014/53/EU).
TiMo RX RDM and TiMO FX RDM meet the ETSI EN 300 328 V1.8.1 and ETSI EN 300 328 V1.9.1 conformance standards for radio performance.

CONTAINS:

FCC ID: XRSCRMXTIMO101 FCC ID: 2ACSV-HF-A21-SMT

No User Serviceable parts inside. AKS Contains IEC62133 and UN DOT 38.3 Compliant Li-Ion Battery (10400mAh). Cintenna RX Contains IEC62133 and UN DOT 38.3 Compliant Li-Ion Battery (1700mAh). Please follow proper disposal and recycling procedures. Do not incinerate. For Indoor Use Only.

INNOVATIVE DIMMERS LIMITED WARRANTY

We warranty all workmanship and parts to be free of defect and to work as intended for the specific product's designed use for two years from the date of purchase. Accidents, deliberate breakage and/or misuse of the products voids the warranty. We will repair or replace at our discretion parts or whole units in order to remedy issues with workmanship and/or functionality of the products provided the products were used for their intended purpose and in conditions suitable for electronic devices. The products we sell are not intended for use in wet climates and require cooling of the unit if the ambient temperature is above 85 degrees F. All buyers understand that electronics involving control via DMX or WiFi are only as good as the system in which those products work. Since it is assumed that our products will be used in conjunction with DMX controls and/or products that we do not manufacture the buyer accepts responsibility for understanding and implementing the use of our products in the context of a larger lighting control system which may or may not include third party products and Innovative Dimmers products. Since we have no control of the environments the products are used in we do not warranty the cosmetic finish, whether paint, vinyl or silk screen. If the product has been modified by the buyer the warranty is void. If the buyer's product has been modified at Innovative Dimmers the warranty will be extended 2 years on the new parts and workmanship performed by Innovative Dimmers. If Innovative Dimmers is at fault in a warranty issue we will cover the cost of shipping the products to and from the service location of our choosing provided we chose the method of shipping. If we determine that the product has been exposed to wet conditions, has been damaged by using incorrect voltage or otherwise not cared for in an appropriate manner the warranty is void. Innovative Dimmers is not liable for incidental or consequential damages associated with the use of this product. RatPac and Innovative Dimmers liability will not exceed the purchase value of the product. Warranty claims must be accompanied with proof of purchase including date of purchase and must be made in writing and cannot be transferred or sold to any party or individual.