

# LumenRadio



**CRMX™ wireless lighting controls**  
**DMX/RDM/DALI/Ethernet**

## **LumenRadio, a wireless technology leader**

LumenRadio develops and manufactures state-of-the-art wireless lighting control technology. Our products offer unique features and benefits to the professional lighting and Entertainment markets.

We engage in a continuous dialog with users and specifiers world wide as a part of our development process. Our in-house research and development team combines this input with years of wireless lighting control and radio technology experience to design truly ground breaking products. Our staff includes pioneers in the field of wireless lighting control who have developed and designed many of today's market leading products and technologies.

LumenRadio's extensive CRMX product lines are designed to meet the particular challenges and rigorous requirements facing DMX, RDM, DALI and Ethernet distribution in professional Entertainment and Architectural control systems. We are also working with other protocols and technologies that will facilitate further integration with building and energy management systems.

We are, based on the tremendous success of our CRMX products, looking forward to a bright future with many new innovations to come.

**CRMX OUTDOOR**  
Coexistence assured



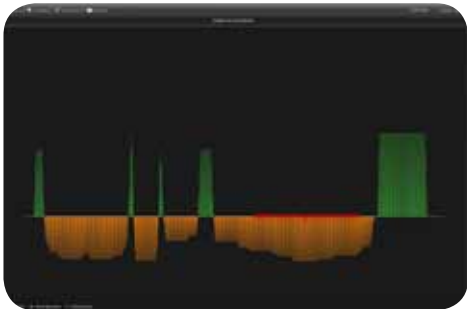
### **CRMX Nova lighting controls**

Pages 6-9



### **CRMX Outdoor lighting controls**

Pages 12-13



### **CRMX SuperNova**

Pages 16-17



### **CRMX OEM**

Pages 20-23



### **CRMX product range and accessories**

Pages 24-27

## Why go wireless?

Wireless lighting controls are today to some extent viewed as niche products, but reality is that they represent an enormous potential that will change how lighting and lighting systems are specified, installed, changed, controlled, monitored, and managed. Wireless lighting controls are becoming easier to use, faster, smarter and more flexible every year.

LumenRadio's CRMX wireless lighting controls come with the built-in ability to control, monitor, and manage any size and type of lighting system. Lighting professionals and users can configure, reconfigure, monitor status of the network, receive alarms from individual fixtures and even receive warnings before fixtures break down. In short; our wireless systems do everything a cable does and much more.

It is our belief at LumenRadio that the main reason why wireless lighting controls have not yet become a mainstream product is that wireless lighting controls until now have not been viewed as reliable as cabled lighting controls. Historically wireless systems have had issues such as lack of wireless coexistence, reliability, security and often came at a price significantly higher than wired systems.

LumenRadio's mission is to remedy this situation with the introduction of cost effective, flexible, reliable, and easy-to-use products that have everything the user could ever want with all the advanced functions automated so everyone can use them. The solution we came up with was CRMX.

## Why is CRMX better than cable?

The short answer is:

- CRMX is fast, flexible and easy to install - cable isn't.
- CRMX checks the signal, repairs if needed, and encrypts for security - cable doesn't.
- CRMX tells the user if something doesn't work and what's wrong - cable doesn't.



## Why choose CRMX over other wireless lighting controls?

CRMX is an acronym for Cognitive Radio Multiplexer. CRMX is essentially a smart radio that automatically and continuously adapts to its surroundings to maximize performance and minimize disturbances. CRMX requires no expertise from the user since it is automated.

There are many advantages of CRMX technology over other wireless products:

- Automated Cognitive Coexistence means that you never disturb or are disturbed by other wireless equipment.
- Sent and received signals are always identical and corrupt or lost data are recreated to maintain 100% signal and data integrity.
- CRMX has the industry's best latency, which is 5ms even in multi-universe systems.
- Encryption makes sure you're "hacker safe".
- With CRMX SuperNova and RDM you can monitor, configure and manage your lighting network with ease from a laptop or smart phone.
- Unparalleled flexibility with CRMX Flex units that can take in any protocol and transmit any protocol out and be fully configured by the user for any situation.

It doesn't get much better than this.

## Where are CRMX products used today?

CRMX is extensively used in entertainment lighting installations such as theatres, opera houses and concert halls. CRMX is also used in architectural lighting installations such as bridges, parks and building exteriors.

LumenRadio's CRMX OEM products are currently being designed into lighting fixtures and devices by major manufacturers for a wide variety of applications ranging from stage and studio lighting to street lighting. Our OEM solutions bring the advantages of CRMX to the global market with an efficiency, and to applications, far beyond what we ever had hoped for. LumenRadio also has an ambitious development program based on our CRMX technology that will bring its features and benefits to the broader architectural and commercial lighting markets.

## The future of indoor Entertainment lighting

Losing signals during a major theatre performance or having interference with wireless equipment during a concert tour can be devastating. There is a reason why CRMX Nova has become the most reliable wireless lighting control system worldwide.

All CRMX products utilizes Automated Cognitive Coexistence, which means that they never disturb nor are disturbed by other wireless systems. We do this by continuously and automatically scanning the frequency band every millisecond to identify and adapt to surrounding wireless traffic.

With CRMX Nova we offer you peace of mind during the operation. Cable is not able to set up the lights for concerts all over the world with just the push of a button, CRMX Nova can. The most cautious user will feel safe that CRMX is the way to go. Let's just face it; wireless is the future.

### **CRMX Nova - DMX, RDM and Ethernet**

CRMX Nova, LumenRadio's indoor product line, is the world's fastest growing wireless lighting controls. It is more reliable, more cost effective and more secure than cables and other wireless systems.

No matter what the environment looks like, thick concrete walls or long distances, CRMX Nova together with CRMX SuperNova and our wide range of antennas will ensure complete control over the wireless signal. CRMX Nova offers the most reliable and secure wireless DMX distribution available; with full RDM support, the lowest latency in the industry at 5ms in multi-universe systems, full synchronization between any number of receivers and advanced encryption and error correction algorithms, it makes any impossible situation possible. To make things even better, we've added support for the most common Ethernet protocols in our transmitters and Flex receivers.

CRMX Nova received PLASA's Innovation Award 2009 in recognition of the superior engineering in developing the CRMX Nova product line.





### **The most durable solution**

LumenRadio's CRMX Nova products are designed to meet the demanding requirements of Entertainment and Architainment lighting. In addition to all the advantages of CRMX wireless technology, CRMX Nova products are designed to withstand the wear and tear of touring, rental and stage use. Easily mounted in a truss or a rack, CRMX Nova units will stay with you for many years when less durable products have given up. All CRMX products are also upgradeable, so if you want to add new features or cognitive dual band, you can upgrade your units. CRMX Nova is built to last.



### **What is RDM?**

RDM is a bi-directional communication protocol used between a lighting controller and a fixture or other types of Entertainment devices for remote configuration and feedback. The communication protocol allows the controller to change settings and retrieve information, where the most common might be changing DMX addresses, monitoring sensors and receiving alarms. All this without ever leaving your computer.

LumenRadio are proud to be standing at the forefront of the entertainment lighting evolution with full RDM support in both transmitters and receivers. RDM is here to stay, and we intend to prove it.

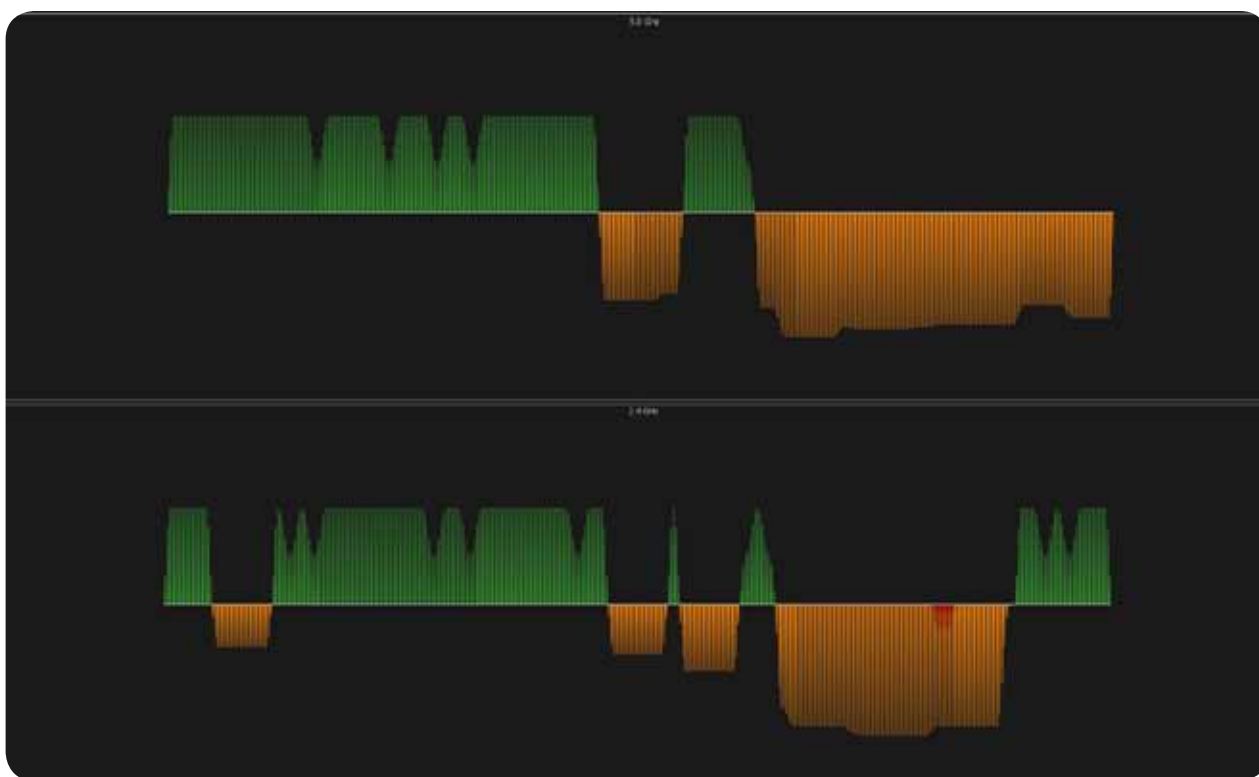


## CRMX brings Cognitive dual band

TV studios, among others, require complete harmony between all wireless systems. Wireless interference during a live show can be disastrous. CRMX technology offers Cognitive dual band, Automated Cognitive Coexistence that operates on both the 2.4 GHz and 5.8 GHz bands simultaneously. The ability for the system to operate on both bands simultaneously creates a flexibility and redundancy which no other system on the market can offer.

CRMX solves the coexistence problems on the 2.4 GHz band, but sometimes you need more frequencies for all your wireless systems to share. The beauty of the unique CRMX Cognitive dual band technology is that it's now available for all CRMX series. Cognitive dual band can be ordered as an upgrade for already purchased products or built-in for newly purchased CRMX products.

# 2.5 GHz



The user is able to see the wireless traffic on both the 2.4 GHz and 5.8 GHz bands in real-time.

### CRMX OEM & CRMX Cognitive dual band

All CRMX products can be upgraded with Cognitive dual band, which ensures harmony during the operation and the best possible signal reliability. The choice and possibility to operate on both the 2.4 GHz and 5.8 GHz bands is an ideal solution for any installation.

CRMX OEM White enables all CRMX OEM products to communicate on both the 2.4 GHz and 5.8 GHz bands. CRMX OEM White is easy to integrate into fixtures and seamlessly performs Automated Cognitive Coexistence over the entire spectrum available on both bands.

## The Flex(ible) revolution - CRMX Nova Flex

LumenRadio has taken CRMX Nova to a higher level with the CRMX Nova Flex products. Flex products feature multi-protocol transmissions and can be configured by the user to function as either a transmitter or receiver. This revolutionary technology creates perfect flexibility for the user.

For the first time on the market, CRMX Nova Flex offers complete compatibility between all supported protocol - meaning you can input any protocol into the transmitter and receive any protocol from the receiver. For example, send Streaming ACN to a CRMX transmitter and receive Art-Net from the receiver. Input ETCNet and output Pathport. Or just input Art-Net and output Art-Net wirelessly directly to control a media server. Or output Streaming ACN directly to fixtures. You choose.

	Protocol in							
	Streaming ACN (draft)	Streaming ACN (final)	Art-Net	Pathport	ETCNet 2	ETCNet 3	Strand ShowNet	DMX/RDM
Streaming ACN (draft)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Streaming ACN (final)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Art-Net	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pathport	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ETCNet 2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ETCNet 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Strand ShowNet	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DMX/RDM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**Any protocol - any environment - any installation**







## Swedish Royal Wedding, Stockholm, Sweden June 19, 2010

“Choosing LumenRadio’s CRMX Nova wireless system for the lighting controls for the wedding was a natural choice, given that it was crucial for the installation to work together with the many other wireless systems that were in close proximity. The CRMX wireless installation was custom built into the fixtures and everything worked as a charm”, said Patric Nord, Sales and Project Manager at Hofmann Teknik.

Hofmann Teknik, LjusDesign och lighting designer Peder Lindbom used LumenRadio’s CRMX wireless lighting controls to light up the Swedish Royal Wedding. LumenRadio custom built a CRMX wireless DMX system for seamless integration into the 75 fixtures in the ancient church. Storkyrkan has been the scene of countless royal weddings and it has a historic fragile interior. Instead of using cables, the church went wireless with CRMX Nova.



Photo: Prolineserver

## The future of outdoor Entertainment & Architainment lighting

Outdoor installations can be tricky. You may have long distances and difficult environments which undermine the wireless signals. With CRMX Outdoor you can still achieve perfection in any outdoor installation. CRMX Outdoor is an adaptation of the CRMX Nova product line for outdoor use with the same best-of-class CRMX wireless technology. CRMX Outdoor products are also water proof (IP65-IP67) and can convert DMX to DALI for installations where DMX and DALI fixtures are mixed in the same installation. CRMX Outdoor products are compatible with all other CRMX DMX/RDM/Ethernet products. It is simply the best solution for any outdoor installation.

**CRMX Outdoor: Making any outdoor installation a success.**





### CRMX Outdoor Flex

A multiple functionality water proof unit in a vandal proof housing vouches for the ideal permanent installation in urban outdoor environments. Multiple functionality gives you flexibility during operation, because CRMX Outdoor Flex can be configured by the user as a DMX/RDM/Ethernet transmitter, DMX/RDM/DALI receiver or DMX/RDM/DALI repeater.

The repeater is ideal for transmitting signals over large distances and the CRMX technology makes sure the signal reaches its destination.

CRMX Outdoor Flex can be powered over Ethernet and no additional power cables are needed. It also supports Streaming ACN draft & final, ETCNet2, ETCNet3, Pathport, Strand ShowNet and ArtNet I & II.

### CRMX Outdoor Receiver

One of the unique features of the CRMX Outdoor Receiver is that it features DALI support. CRMX Outdoor is the world's first wireless DMX/RDM system on the market that integrates DMX to DALI conversion. It is designed to withstand many years of the worst weather thanks to its unique combination of an IP67 rated housing (can be submerged up to 1 meter) and the vandal proof mounting cover.



CRMX Outdoor Slim measures 17,3 cm (6,8") tall and weighs only 0.25 kg (0.55lb).

### CRMX Outdoor Slim

Outdoor installations can be demanding and need to reach critical locations. LumenRadio's CRMX Outdoor Slim is the perfect solution when size is critical. CRMX Outdoor Slim is the smallest DMX/RDM/DALI wireless light control product rated and available for outdoor use.

Slim can easily be mounted inside light poles or anywhere else where space is limited. CRMX Outdoor Slim is an IP65 outdoor receiver for one DMX/RDM/DALI universe. Don't underestimate its size; it can reach distances you never thought possible.

If you didn't know it before, you know it now: wireless outdoor technology has never been this reliable before.



Photo: Karo Holmber, SESSIONS2

## LumenRadio excels in Finland

In May 2010 the 7th consecutive Pacificque dance music event was held at Serena waterpark in Espoo, Finland. The always sold out event gathers 3500 fans of electronic music annually to party the night away in very hot and moist conditions. The concept of the party is contrast. In the main hall there is a huge see-through glass wall with complete winter and snowy forests outside. Inside, the crowd is mostly dressed in swimwear, basically dancing barefooted and doing waterslides in bikinis. Due to the very special nature of the venue there has always been a demand for wireless technology for the event.

"In previous years we have tried different wireless DMX systems and have always experienced a number of problems or failures. When we heard about LumenRadio we immediately wanted to give it a try", says Lauri Halonen, longtime technical director of Pacificque.

LumenRadio's Finnish distributor Sun Effects worked together with Broadway Finland, the design and rental company involved. A multi-universe RDM/DMX system was delivered according to the needs of lighting designer Jani Pellikka from Broadway Finland who was satisfied:

"LumenRadio CRMX Nova worked perfectly, no problems at all. I really liked the ease of use and of course the reliability of it. With all the concrete, glass, water and people around, the challenges for a wireless system can not get much harder anywhere than here. It's a really good product."



Photo: Karo Holmber, SESSIONS2



Photo: Karo Holmber, SESSIONS2

## It's all about Coexistence

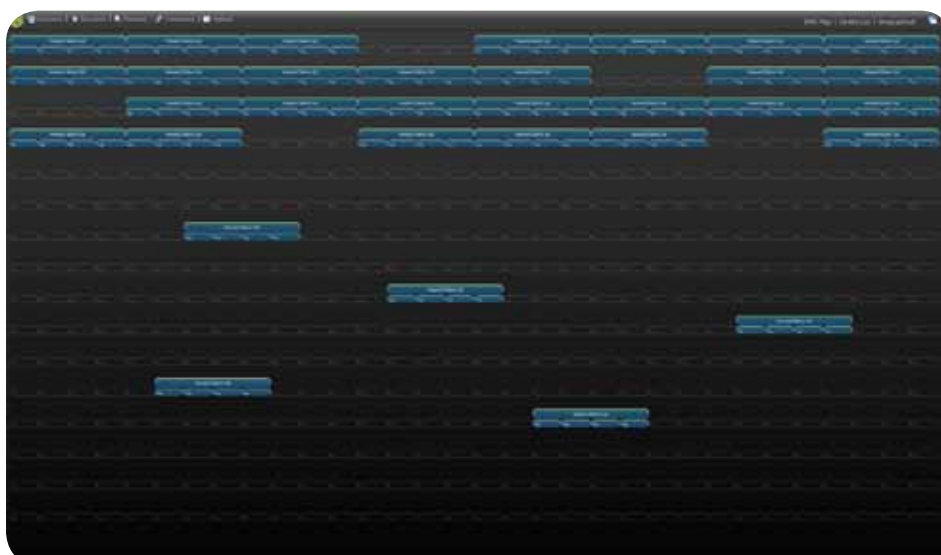
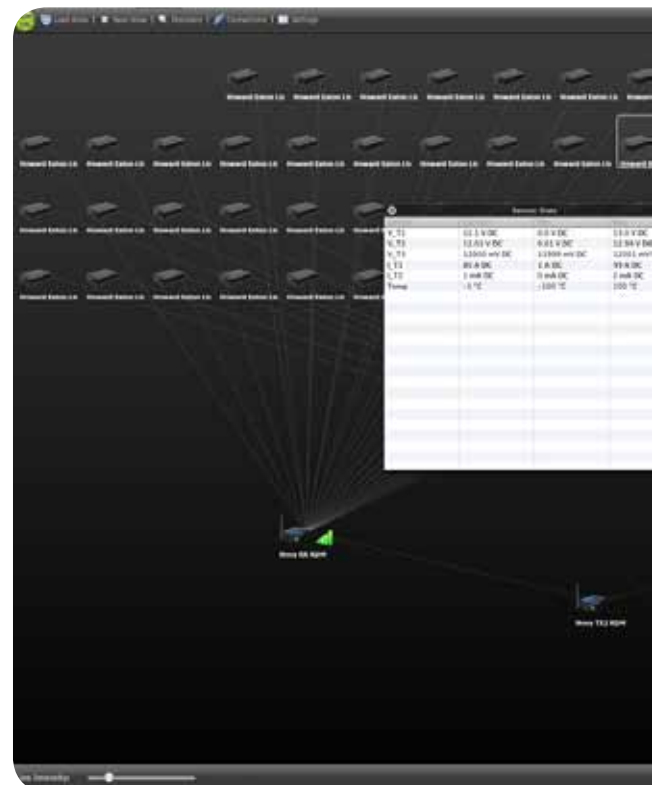
CRMX products operate on the license free 2.4 GHz frequency band (when not using Cognitive dual band). The 2.4 GHz band is shared with by a multitude of wireless equipment such as wireless lighting controls, intercoms, stage controls, camera controls, Bluetooth, ZigBee, WiFi and even microwaves. Let's face it - the stage is an extremely crowded place from a wireless perspective. At a minimum, there are some disturbances. At worst, not all systems can be used at the same time. This is the wireless coexistence problem, and it is growing every day.

To avoid interferences with other wireless systems, LumenRadio has developed the Automated Cognitive Coexistence. This automated feature offers unrivaled convenience and it is the first system to continuously scan the radio spectrum and dynamically and automatically adapt its frequency hopping patterns every millisecond for maximum reliability and performance.

### SuperNova - The Coexistence view

One of the functions of the Coexistence view in CRMX SuperNova is that it allows you to see what is happening in the wireless spectrum. You can easily see what frequencies the CRMX Nova system is using and witness the automated frequency adaption in real-time. The easy on-screen tools lets you view both your own traffic and the traffic of other surrounding wireless systems.

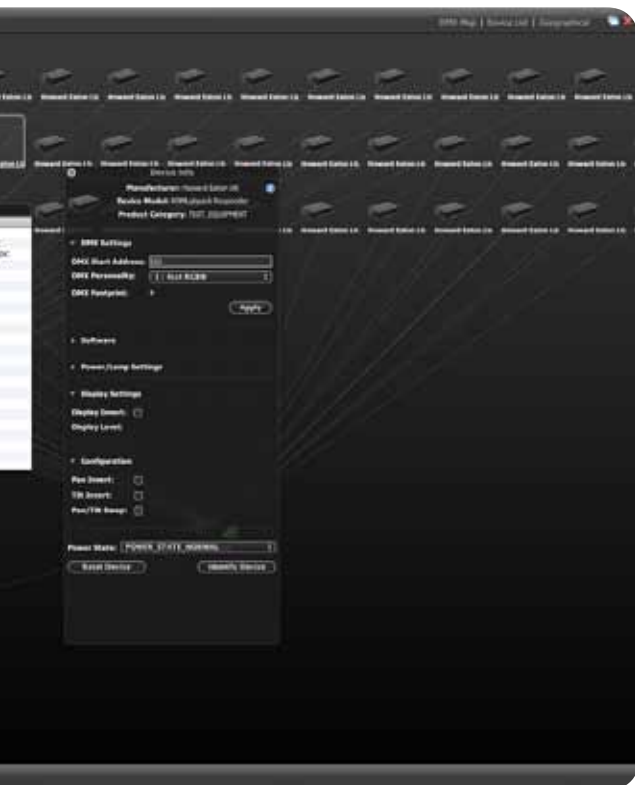
You also have the possibility to block parts of the radio band from being used by the CRMX system. This option is useful for instance if a venue demands that your equipment stays away from specific frequencies for various reasons. The growing problem in the industry with no reliable wireless coexistence is no longer a problem with CRMX's automated cognitive coexistence.



## SuperNova - visualising your network

When a fixture breaks or stops working, identifying the fixture, finding the error and solving the problem can be very time consuming. Not anymore. LumenRadio has the solution; the CRMX SuperNova RDM Controller and Management software.

CRMX SuperNova is a software that requires a computer and a CRMX RDM transmitter to function. It lets you setup, monitor and troubleshoot your RDM systems. CRMX SuperNova makes it easy to setup the CRMX transmitters. It lets you configure all the aspects of the transmitters such as output power, network protocols, set alarms, receive warnings by email or smart phone and much more. CRMX SuperNova makes everything possible with a simple mouse click.



### SuperNova - The geographical view

Once you have connected your devices, just run a discovery process that will find all your RDM enabled devices in the network. Then you are good to go.

You can access any connected device to set DMX addresses, configure settings, monitor sensors, set alarms, link and re-link transmitters and receivers, set Ethernet settings, configure output power, monitor signal strength, access logs for maintenance, email status reports and much, much more.

RDM is a very powerful tool; CRMX SuperNova with its intuitive graphical user interface makes RDM easy to use, in fact it has never been this easy. Start saving time now.





Photo: Ola Kjelbye Fotografi AB  
Performance: No tears for queers

## Riksteatern, Sweden

Riksteatern is Sweden's leading nationwide theatre, owned by 42.000 members organized in more than 230 associations. They do an average of ten shows on different stages throughout Sweden every day of the season. Ralph Svalander is supervisor of lighting equipment at Riksteatern and a frequent user of CRMX Nova.

Riksteatern typically perform only one or two shows on each location so the time and effort saved during setup and load-out using CRMX Nova is critical to their operations.

"After a long period of evaluating LumenRadio's CRMX Nova we can honestly say that it is actually more reliable for us than using wired DMX", explains Ralph.



Photo: Roger Stenberg

## **The Royal Dramatic Theatre, Sweden**

"LumenRadio's CRMX Nova worked perfectly from the beginning and has always delivered flawlessly. The system is easy to use and setup was done in a few minutes", said Pierre Leveau, Second Stage, The Royal Dramatic Theatre.

The Royal Dramatic Theatre of Stockholm, established in 1788 is Sweden's national stage for "spoken drama". It hosts over a thousand performances every year on eight different stages. Pierre Leveau is Technical Director for the Royal Dramatic Theatre's Second Stage. When it was time to replace the lighting control system wiring he decided that the best choice by far was to go wireless with CRMX Nova.

## CRMX technology for OEM

The best wireless technology, CRMX, is available on an OEM basis to allow manufactures to integrate all the advantages of the CRMX technology into their products. Fixtures and controllers with integrated CRMX OEM will be fully compatible with all other CRMX products. CRMX OEM has been successfully used in the most challenging installations. It's so secure and reliable it can only be CRMX.

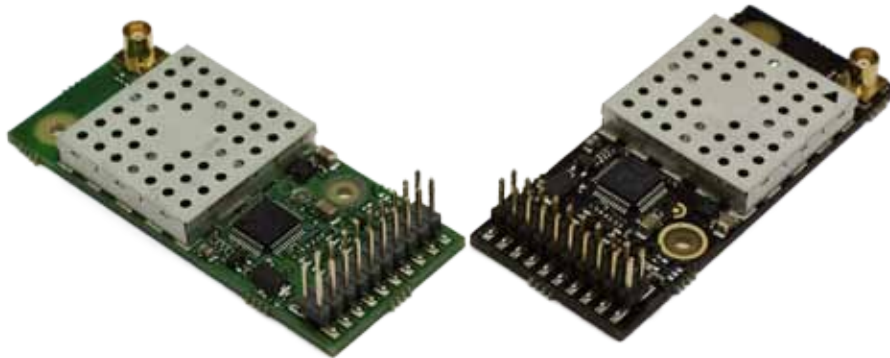
CRMX OEM comes in five different models:

### CRMX OEM Black RDM Flex

This is the most complete and flexible OEM solution available on the market. It can be configured to work in three different modes of operation: RDM/DMX transmitter, RDM/DMX receiver and RDM/DMX repeater. The CRMX OEM Black RDM Flex offers flexibility for the user and makes any installation free from interference.

### CRMX OEM Black RDM Receiver

With CRMX OEM Black RDM you get all of the advanced CRMX technology features and the ability to allow for feedback in RDM enabled fixtures as well as feedback from the PCB itself. It's not only the perfect solution for any kind of installation, it's so easy to integrate into your products it makes any hesitant user feel fully convinced.



### CRMX OEM White

Together with either CRMX OEM Black or CRMX OEM Green series this PCB is the future of wireless DMX and RDM. CRMX OEM White brings cognitive dual band operation to the CRMX OEM series. CRMX OEM White enables all CRMX OEM products to communicate on both the 2.4 GHz and 5.8 GHz bands and seamlessly perform Automated Cognitive Coexistence on both bands simultaneously.



**The advanced CRMX technology packed together in a small PCB**

**CRMX OEM Green DMX Flex**

CRMX Nova Green DMX Flex is the most flexible DMX OEM solution on the market. The user can configure this PCB as either a DMX transmitter or receiver. The days when installations were complicated projects do no longer exist; CRMX OEM Green DMX Flex is a true time saver.

**CRMX OEM Green DMX Receiver**

CRMX OEM Green DMX Receiver is the OEM version of the CRMX Nova DMX receiver. The possibility for manufactures to integrate CRMX technology offers unparalleled reliability.



## CRMX OEM installation Fagerhult Sweden

LumenRadio has, in cooperation with lighting giant Fagerhult, the University of Lund, Riksbyggen and the Swedish Department of Energy, installed wirelessly controlled lighting in residential areas in Sweden.

All fixtures were equipped with custom made wireless DMX to DALI converters and CRMX OEM units, everything controlled by CRMX Nova TX2 RDM transmitters and SuperNova. Fixtures were also equipped with proximity sensors used as RDM sensors to control the lighting.

The entire installations were managed with SuperNova and remote accessed by Lund University over 3G cellular connections.





# Product range

## CRMX Nova Transmitters

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### CRMX Nova TX2 RDM

Dual universe RDM transmitter (controller & proxy) with ethernet. Supports RDM ANSI E1.20, USITT DMX512 & DMX512-A, Streaming ACN, Art-Net I & Art-Net II, ETCNet 2 & 3, Strand ShowNet, Pathport. Ethernet enabled transmitter with RDM support. Brings RDM feedback to the CRMX family.

**Order code:** IN-RTX2



### CRMX Nova TX2 DMX

Dual universe DMX transmitter with Ethernet. Supports USITT DMX512 & DMX512-A, Streaming ACN, Art-Net I & Art-Net II, ETCNet 2 & 3, Strand ShowNet, Pathport. Ethernet enabled transmitter. Combines the advanced CRMX technology with wired network support.

**Order code:** IN-DTX2



### CRMX Nova TX DMX

Single universe DMX transmitter. Supports USITT DMX512 & DMX512-A. Has all the advanced CRMX features for DMX installations.

**Order code:** IN-DTX1



## CRMX Nova Receivers

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### CRMX Nova RX RDM

Single universe RDM/DMX receiver. Supports RDM ANSI E1.20, USITT DMX512 & DMX512-A. Allows you to receive wireless RDM feedback from RDM compatible fixtures.

**Order code:** IN-RRX1



### CRMX Nova RX

Single universe DMX receiver. Supports USITT DMX512 & DMX512-A. All you need to make DMX installations reliable.

**Order Code:** IN-DRX1



## CRMX Nova Flex - Configurable as Transmitter or Receiver

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### CRMX Nova FX2 RDM

User configurable as dual universe DMX/RDM transmitter or receiver with Ethernet. Supports RDM ANSI E1.20, USITT DMX512 & DMX512-A, Streaming ACN, Art-Net I & Art-Net II, ETCNet 2 & 3, Strand ShowNet, Pathport. Receivers can output any supported Ethernet protocols. Offers maximum flexibility for every situation.

**Order code:** IN-RFX2



### CRMX Nova FX RDM

User configurable as single universe DMX/RDM transmitter or receiver with Ethernet. Supports RDM ANSI E1.20, USITT DMX512 & DMX512-A, Streaming ACN, Art-Net I & Art-Net II, ETCNet 2 & 3, Strand ShowNet, Pathport. Receivers can output any supported Ethernet protocols. Offers maximum flexibility for every situation.

**Order code:** IN-RFX1



## Overview

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### CRMX SuperNova



CRMX Nova



CRMX Outdoor Flex



CRMX Outdoor Slim



CRMX OEM

## CRMX Outdoor

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### CRMX Outdoor Flex

IP67 rated vandal proof housing. User configurable as single universe DMX/RDM/DALI transmitter/repeater/receiver. Supports RDM ANSI E1.20, USITT DMX512 & DMX512-A, DALI and DSI. Ethernet enabled with Streaming ACN, ArtNet, ETCNet 2 & 3, Sand ShowNet & Pathport converted to DMX/DALI. Power-over-Ethernet.

**Order code:** OF-RFX1



### CRMX Outdoor Receiver

IP67 rated single universe DMX/RDM/DALI receiver. Supports RDM ANSI E1.20, USITT DMX512 & DMX512-A, DALI and DSI. First RDM enabled wireless light control product. IP67 rated waterproof and vandal proof housing.

**Order code:** OR-RRX1



### CRMX Outdoor Slim

IP65 rated single universe DMX/RDM/DALI receiver. Supports RDM ANSI E1.20, USITT DMX512 & DMX512-A, DALI and DSI. The smallest RDM/DALI enabled wireless light control product available. Suitable when size matters.

**Order code:** OS-RRX1

## CRMX OEM

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### CRMX OEM Black RDM Flex

Configurable as a single universe RDM/DMX transmitter, receiver or repeater. Supports RDM ANSI E1.20, USITT DMX512 & DMX512-A. The perfect solution for wireless DMX and RDM in your RDM enabled equipment.

**Order code:** OE-BFX1



### CRMX OEM Black RDM Receiver

Single universe RDM/DMX receiver. Supports RDM ANSI E1.20, USITT DMX512 & DMX512-A. All features of the CRMX Nova RDM receivers.

**Order code:** OE-BRX1



### CRMX OEM Green DMX Flex

Configurable as single universe DMX transmitter or receiver. Supports USITT DMX512 & DMX512-A. CRMX Nova DMX transmitter and receiver combined in one PCB.

**Order code:** OE-GFX1



### CRMX OEM Green DMX Receiver

Single universe DMX receiver. Supports USITT DMX512 & DMX512-A. All features of the CRMX Nova DMX receiver.

**Order code:** OE-GRX1



### CRMX OEM White

Enables any CRMX OEM product to communicate on both 2.4GHz and 5.8GHz bands. Seamless automated cognitive coexistence on dual bands.

**Order code:** OE-WDX1

## CRMX accessories

### CRMX Indoor antenna

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All CRMX Nova products are supplied with a RP-TNC 2 dBi antenna. If you need extended range, we offer a RP-TNC 5 dBi antenna.

#### Omni 2 dBi, RP-TNC Female

Our standard indoor antenna specially designed to meet requirements for indoor installations.

#### Omni 5 dBi, RP-TNC Female

To increase the sensitivity level of our receivers or adapt to power losses while using an extension cable the 5 dBi antenna will be your choice for the installation.



### CRMX Outdoor antenna

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CRMX Outdoor series are supplied with a N-male 2 dBi antenna. The antenna is waterproof and provides maximum reliability for outdoor installations.

#### Omni 2 dBi, N-male

Our standard outdoor antenna specially designed to meet the rough requirements in outdoor environments.

#### Omni 6 dBi, N-female

To increase the sensitivity level of our receivers or adapt to power losses while using an extension cable the 6 dBi antenna will be your choice for the installation.

#### Directional 12 dBi, N-female

In environments where the transmitting or receiving direction is limited within a narrow long area, our 12 dBi directional antenna will meet your needs. This antenna has been successfully used for challenging bridge installations and is suitable for extreme environments.



### CRMX antenna cables

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#### Low loss, N -female/N-male, N-female/N-female

This cable enables opportunities to place your transmitter or receiver in any location and still be able to put the antenna in a well suited position. The low loss cable is thin and flexible and normally used for shorter cable runs. Our low loss cables will attenuate the signal 0.5 dB per meter and is preferably used with a high-gain antenna.



#### C2FC2, N Female/ N Female, N Female/ N Male

This cable enables opportunities to place your transmitter or receiver in any location and still be able to put the antenna in a well suited position. The C2FC2 cable is less flexible but enables opportunities to locate the antenna further away from the device as the attenuation is even lower than that the low loss cable. Our C2FC2 cables will attenuate the signal 0.23 dB per meter and is preferably used with a high-gain antenna.





## **The Golden Hall - Stockholm City Hall**

City Hall of Stockholm is world renowned for hosting the Nobel Prize banquet. Jan Pettersson of StageArt and Robert Ricciuti of R&R Lighting & Event Design were responsible for the new lighting design in the Golden Hall.

"The Golden Hall is a sensitive environment with mosaic and marble walls which need to be preserved, so going wireless with CRMX Nova was a natural choice", explains Robert Ricciuti.

"CRMX Nova was of better quality and more rugged than other wireless products", continues Jan Pettersson.

## Distributors



## The Road Ahead

LumenRadio was founded with a clear vision of how wireless technology will change the lighting industry. This belief is shared by all of us at LumenRadio together with a strong culture of entrepreneurship and innovation that defines who we are.

LumenRadio was founded by professional entrepreneurs and pioneers of wireless light controls. All of us in management have founded and built successful businesses before. Several members of our technical team built some of the first wireless lighting control products and learned what works and doesn't work by years of experience. Most of our technical staff also have a background from Ericsson having built some of the first products for the GSM wireless cell phone technology.

In short, we're here to change things. With the release of over sixteen new products over the last year, winning numerous awards for innovation as well as business excellence and partnering with some of the most respected companies in the industry we believe we've made our point. And the best part is - we're only getting started.

So what can you expect looking forward? We've made a point to have a new innovation to reveal at every trade show. We intend to keep doing that.

It has also been a matter of pride for us to ship all new products within three months of announcing them. We intend to continue honoring this commitment.

We have also made it clear that we're expanding into additional areas of lighting. You can expect new products for new applications.

But exactly what we are releasing in the future we will continue to keep for ourselves. We believe in pleasantly surprising our customers and delivering on our promises. That you can expect us to continue to do.

We look forward to a bright future. If you're a newcomer to our wireless technology or an old devotee, you are equally welcome to enjoy the technology we've developed with passion, love and fanatical attention to perfection.

As we say, we're only getting started.

**Per Hulthén (CEO) & Niclas Norlén (CTO)**  
Co-founders of LumenRadio



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**Any protocol - any environment - any installation**

**It's all about coexistence and peace of mind**

 **LumenRadio**

September 2010 issue