



AURA

Powered by Limbic Media

Product Guide

AUGUST 2018

See the music like never before



Meet Aurora—the most sophisticated and user-friendly sound reactive lighting product in the market. Just plug it in and it works. No computer needed. No complicated software required.

Aurora uses patented audio analysis algorithms to unravel sound in ways that no human being or lighting designer can. Audio information is analyzed in real-time to extract features as input into an AI-based lighting engine.

We combine 10 years of lighting design experience with cutting-edge Artificial Intelligence techniques and advanced signal processing to provide a deeply emotive visual experience. Beyond audio, Aurora can be customized to interact with a variety of inputs such as voice recognition, motion sensors, and social media data—the only limit is your imagination.

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AURORA PRO

The Aurora controller natively controls up to 4000 pixels of RGB light. Aurora can control up to 25,000 pixels using Minleon NDBs or Ethernet-based protocols such as KINET or Artnet. Aurora Pro also has native hardware support for a single universe of DMX output. Contact Limbic Media if you require more than 25,000 pixels.

Aurora receives sound via direct line-in (e.g. from a mixer) or microphone (via USB Audio Interface). Aurora interprets audio input in real-time and translates it into lighting output. There is no need for additional computers or complicated programming.

Aurora contains a library of highly customizable patterns and palettes that are controllable in real-time and can be displayed in spatially mapped 2D and 3D environments. Aurora can be controlled through a smartphone interface (Android and IOS) or a 9-channel DMX personality.

SPECIFICATIONS

Control

Input	DMX, 3.5mm stereo auxiliary jack, Balanced XLR ¼” combo jack, USB Mic, USB 2.0, panel mount buttons
Output	USB 2.0, 1/8” Stereo out/thru, Balanced XLR ¼” combo jack thru, 1-Universe DMX 512, 8 LED ports, Ethernet (via USB adapter)

Physical

Dimensions	299 x 158 mm x 85 mm (11.75 x 6.25 x 3.35 in)
Weight	2.6 kg (5.7 lb)
Housing	Acrylic/PVC blend
Operating Temperature	-20° - 50°C (-4° - 122°F)
Humidity	20~90% RH, non-condensing

Electrical

Input Voltage (NA)	90-132 VAC 60 Hz
Input Voltage (EU)	180-264 VAC 50Hz
Power Consumption	348 W max

Certification

Certification	cLCus, FCC, CE
Environment	Indoor/Dry location, outdoor possible with enclosure

Networking

- USB Ethernet Interface (Required for network-based protocols including NDBs)
- 10', 20' or 50' Cat 5 Network Cable (Required for 1+ NDBs)
- Network Switch (Required for 2+ NDBs)



Audio and Microphones

- USB Audio Interface
- Indoor Mic
- Outdoor Mic (with 20' cable)



Outdoor Enclosures

- Aurora Enclosure





360° TRIKLITS / MINI TRIKLITS / TRIKLIT 100S

360° Triklits are the world's most versatile lights, available in three diameters. They are designed to be viewed from any angle, enabling clean and even light dispersion. They are durable and waterproof, ideal for indoor or outdoor use.

Specifications

Bulb Diameter (mm)	28, 42, 100
Transparency	Frosted
Wire Colour	Black
Voltage	12 VDC
Power	0.36 Watts/pixel
Current	30 mA/pixel
Operating Temperature	-20°—50°C (-4°—122°F)
Certifications	cUL, IP65





G20 Frosted



C9 Faceted



G40 Faceted



C9 Frosted

BISTRO AND LIGHT STRINGS

Bistro Strings (G20-G40) and Light Strings (C7-C9) are ideal for a variety of installations. They are built to commercial weatherproof standards, are UV protected and run on safe 12-Volt DC. They are ideal for indoor or outdoor use and mounting against flat surfaces.

Specifications

Bulb Size	Bistro String (G20, G30, G40, G50) Light String (C7, C9)
Transparency	Faceted, clear, frosted
Wire Colour	Black, white, green, brown, clear
Voltage	12 VDC
Power	0.36 Watts/pixel
Current	30 mA/pixel
Operating Temperature	-20°—50°C (-4°—122°F)
Certifications	UL/cUL, IP65



PEBBLE MODULE LIGHT

The PebbleModule Light is a flexible, high-quality light string available in 360° (double-sided) or flat (single-sided) styles. Pebbles are great for evoking subtle effects like rain or snowfall. They are ideal for indoor or outdoor use.

Specifications

Bulb Size	35x16mm
Transparency	Clear, frosted
Wire Colour	Black, white, green, clear
Voltage	12 VDC
Power	0.36 Watts/pixel
Current	30 mA/pixel
Operating temperature	-20°—50°C (-4°—122°F)
Certifications	uL/cUL, IP65

FLEXIBLE STRIP

Flexible Strips are a flexible weatherproof RGB LED strip. They are perfect for outlines, accents and architectural lighting. Each strip is sold in 5-metre lengths. They are ideal for indoor or outdoor use.

Specifications

LED Spacing	35mm
Transparency	Clear or frosted
Voltage	12 VDC
Power	0.36 Watts/IC section
Current	30 mA/IC section (2 LED/1 chip)
Operating temperature	-20°—50°C (-4°—122°F)
Certifications	UL/uCL, IP65



BULLET PIXELS

Bullet Pixels are small, circular lights ideal for wrapping or mounting to a panel. They are great for holiday installations with subtle lighting effects on trees or wreaths.

Specifications

Bulb Diameter	10mm
Transparency	Clear, frosted
Wire Colour	Black, white, green, brown, clear
Voltage	12 VDC
Power	0.35 Watts/pixel
Current	30 mA/pixel
String colour	Customizable
Operating temperature	-20°—50°C (-4°—122°F)
Certifications	UL/uCL, IP65





360° LIGHT TUBE

360° Light Tubes have a captivating visual effect for a variety of uses; hang them from trees, create geometric installations or RGB chandeliers. Light tubes are connectable and built to high-quality commercial weatherproof UV protected standards. They are ideal for indoor or outdoor use.

Specifications

Tube Length (feet)	0.5, 1, 2, 3, 4, 5, 6
Transparency	Clear, fluted, frosted
Wire Colour	Black, white, green
Voltage	12 VDC
Power	0.36 Watts/pixel
Current	30mA/pixel
Operating Temperature	-20°—50°C (-4°—122°F)
Certifications	UL/uCL, IP65



GLOBES

Globes come in 5 sizes and are ideal for garden installations. Hang them or mount them on the ground. They are designed to last outdoors in any environment or weather condition. Each globe comes with a ground stake.

Specifications

Bulb Diameter (mm)

250	20 LEDs / 1.8 W / 0.15 A
300	24 LEDs / 2.5 W / 0.20 A
350	28 LEDs / 2.8 W / 0.24 A
400	32 LEDs / 3.5 W / 0.30 A
500	32 LEDs / 3.5 W / 0.30 A

Transparency Frosted

Wire Colour Black

Voltage 12 VDC

Operating temperature -20°—50°C (-4°—122°F)

Certifications IP65

SMART-T

When used with an NDB, Smart-T's allow you to connect multiple, parallel light runs from a single port. This is useful, for example, when installing LED curtains. One port can support up to 100 Smart-T's.



POWER-T

Power-T's maintain voltage levels to ensure data integrity along light runs. They inject power after leader cables (extending the distance between the controller and light strands) or extend light runs.



SMART EXTENDER/RECEIVER DONGLE

Smart Extenders/Receivers extend a data range to over 300' from the controller to the first light or between light strands



LEADER CABLES

3-Core leader cables allow for short extensions between the controller and lights or between light strands. They run in 1/2/5/10/20' lengths.

4-core leader cables can extend a data run up to 300' when paired with a Smart Extender/Receiver Dongle and Power-T, and 5A Power Top-Up. They are available in 25' or 50' runs.



AURORA CONTROL (APP OR DMX)

Control Aurora via DMX In or wirelessly via the Android or IOS app. Available controls:

Brightness

Pattern

Colour palette

Decay

Speed

Variance

Energy

Transition type/duration

Audio Reactivity on/off

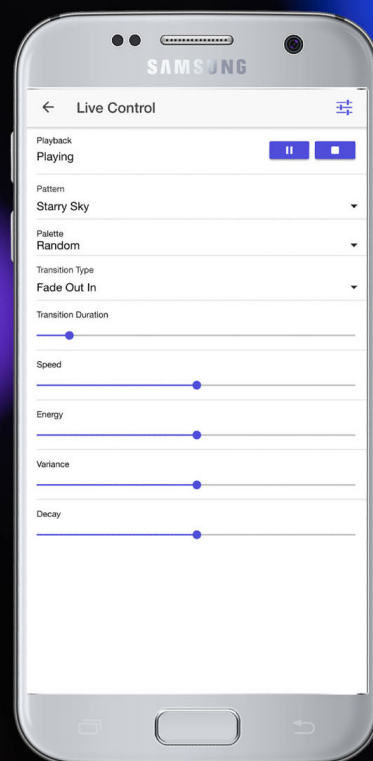
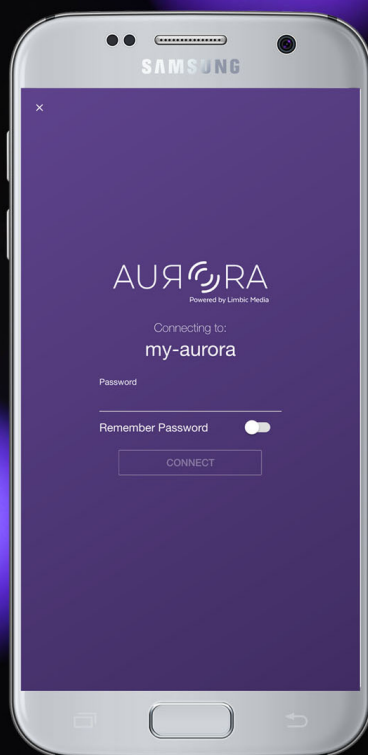
Live Mode/ DMX Mode (control Aurora in real-time)

Auto or manual gain control*

Set number of lights per ports*

Show Mode (run a playlist of timed lighting cues)*

*Not available with DMX IN



NETWORK DISTRIBUTION BOX (NDB)

An NDB allows easy integration into existing systems and live-control via computer, console, or the Aurora app. There are 16 ports with a total of 40A of power to control up to 800 lights. NDBs can be used with Smart-T's to reduce cabling and installation time and offer individual light control.

- Connect an NDB to Aurora via Ethernet Adapter
- Connect multiple NDB's via Network Switch
- 4 Or 16-output port versions available
- 800 Lights maximum per NDB
- 100 Maximum Smart-T's per output port
- 40A Per board at 12VDC
- Web interface for configuration
- Uses standard RJ45 CAT5 plugs and cables

Specifications

Voltage	12VDC
Working temperature	-10°—50°C
Rating	IP33 (IP64 with outdoor enclosure)
Warranty	12 Months



POWER SUPPLIES

Power Supplies are required with NDBs. In-line Power Top-Ups are required for leader cables longer than 15' and runs of lights longer than 80-100 (depending on light style).

- Outdoor (IP67) Power Supplies 12.5A, 16A, 22A, 40A
- Indoor Power Supply 29A, 37.5A



DMX OUT

Use the 5-pin DMX OUT port on Aurora's front panel to drive up to one universe of DMX data to fixtures of your choosing.

It is possible to drive more than one universe when using a USB to DMX OUT device such as the Enttec DMX USB PRO MK2. The following video shows Aurora used with DMX OUT:

<https://vimeo.com/263384176>

KINET / ARTNET / SACN

Aurora can send up to 25,000 pixels of lighting data over common protocols such as KiNET, ArtNet, and sACN using a USB to Ethernet adapter and a Network Switch.



WS2811 / WS2812B

As with Minleon fixtures, Aurora can natively drive WS2811 and WS2812B lights from its 8 lighting ports. WS2811 and WS2812B lights are very popular for DIY projects.



NATIVE AURORA

400-480 Pixels

Aurora Pro natively supports up to a maximum of 480 pixels (400 pixels using Minleon Triklit-style lights) without using Power Top-Ups. Each port supports 60 pixels (50 pixels using Minleon Triklit-style lights).

Refer to the Aurora Pro Manual for detailed fixture constraints.

Components

Aurora Pro

Leader cables (1'—15')*

RGB LED Fixtures

Audio Input

- Indoor Mic
- Consumer-level speakers and audio devices
- Pro audio equipment

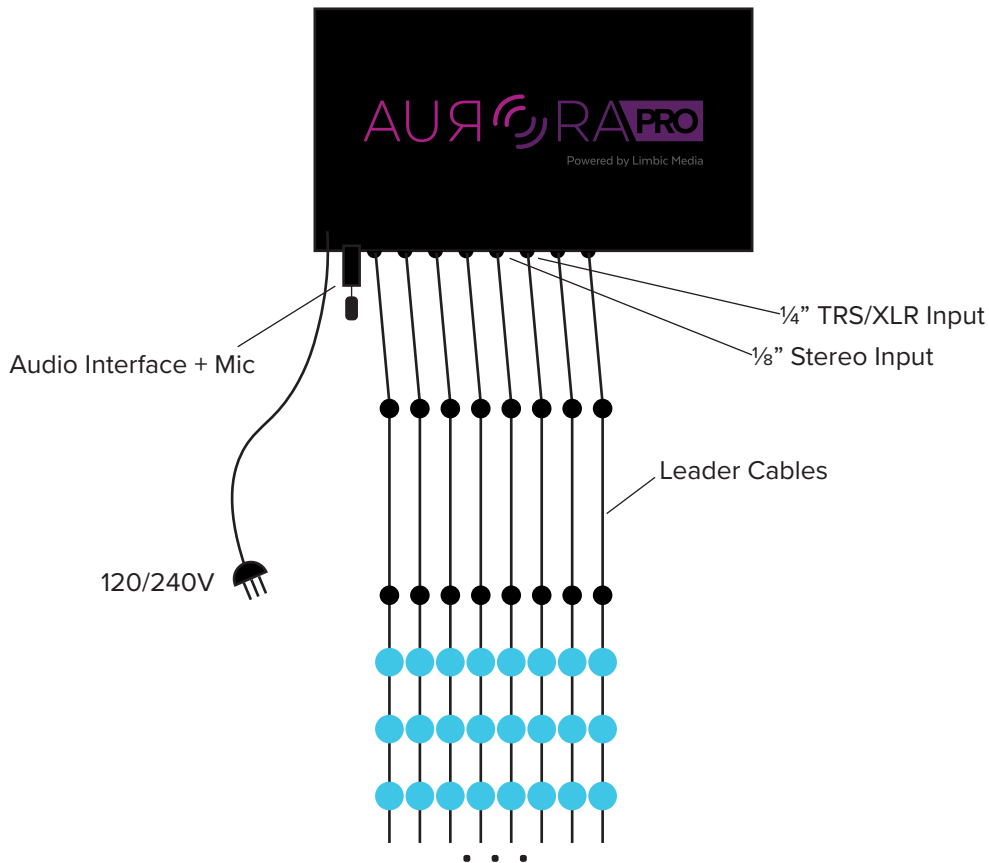
USB Audio Interface

Outdoor Components

Aurora Outdoor Enclosure

Outdoor Mic

*Leader cables 15' or longer require Power Top-Ups and Smart Extenders



NATIVE AURORA + POWER TOP-UPS

Up to 4000 Pixels

Aurora Pro natively supports up to 4000 pixels using Power Top-Ups. Each port supports a maximum of 500 pixels.

A Power Top-Up is required after each native port limit of 60 pixels (50 pixels of Minleon Triklit-style lights). A Power Top-Up additionally supports 100 pixels (80 pixels of Minleon Triklit-style lights). This allows a single port to support 4-5 Power Top-Ups depending on fixture style.

Components

Aurora Pro Controller

Leader cables (1'—15')*

RGB LED Fixtures

Audio Input

- Indoor Mic
- Consumer-level speakers and audio devices
- Pro audio equipment

USB Audio Interface

5A Power Top-Up(s)

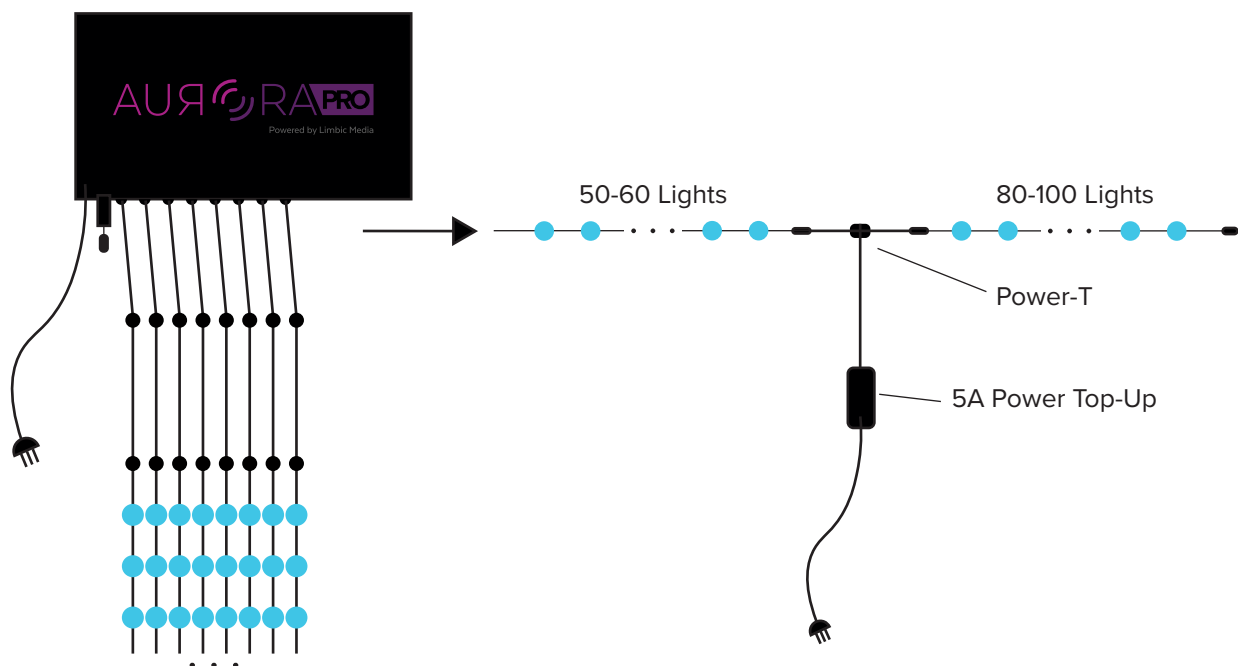
Power-T(s)

Outdoor Options

Aurora Outdoor Enclosure

Outdoor Mic

*Leader cables 15' or longer require Power Top-Ups and Smart Extenders



AURORA + NETWORK DISTRIBUTION BOX (NDB)

480 + 800 Pixels

Setting up Aurora Pro with an NDB localizes the system's power to a single source. 800 pixels maximum is the recommended pixel limit for a single NDB. An NDB has 16 ports that each power a maximum of 100 pixels (80 pixels of Triklit-style lights) without Power Top-Ups.

Components

Aurora Pro

Leader cables (1'–15')*

RGB LED Fixtures

Audio Input

- Indoor Mic
- Consumer-level speakers and audio devices
- Pro audio equipment

USB Audio Interface

USB Ethernet Interface

Cat 5 Network Cable

Network Distribution Box (NDB)

NDB Power Supply (12.5A / 16A / 22A / 40A)

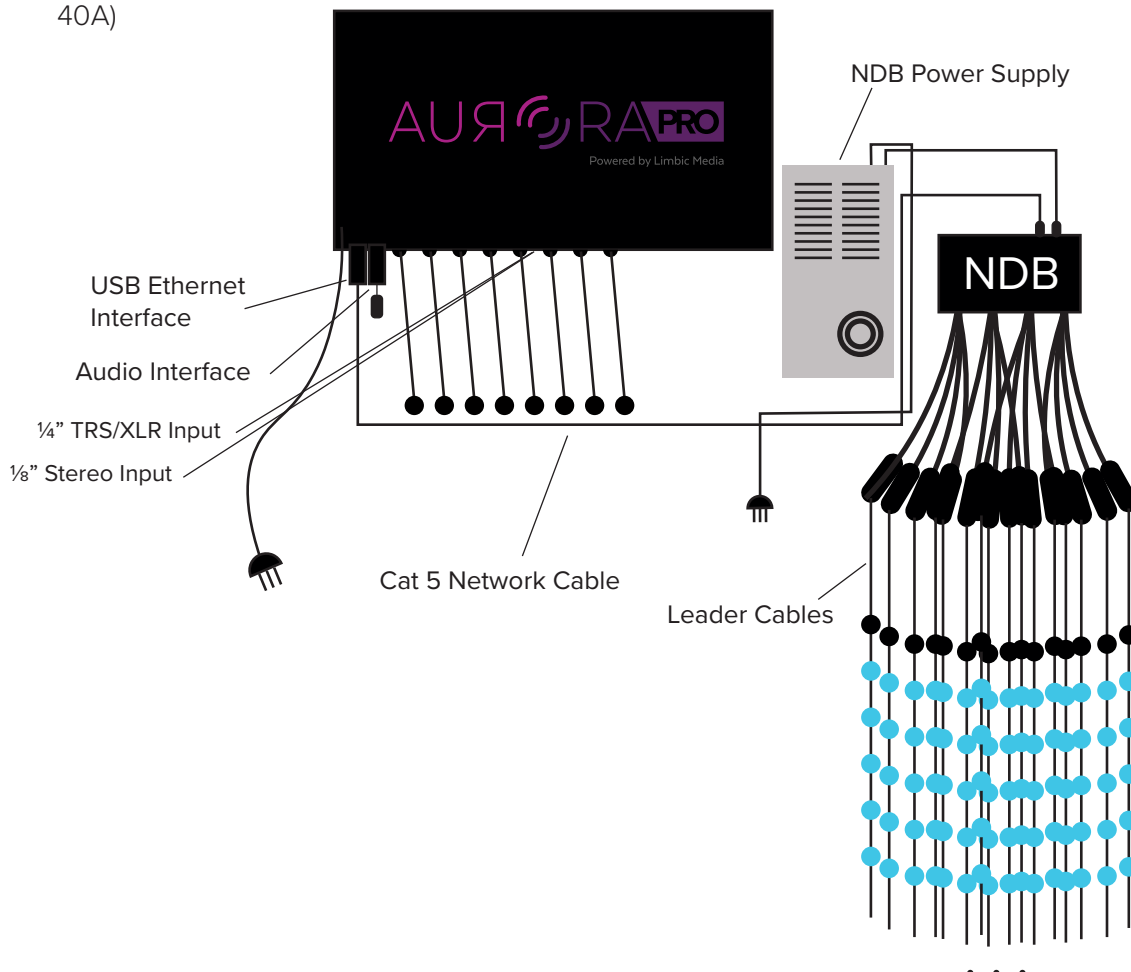
Outdoor Options

NDB Outdoor Enclosure

Aurora Outdoor Enclosure

Outdoor Mic

*Leader cables 15' or longer require Power Top-Ups and Smart Extenders



AURORA + MULTIPLE NDBS

Up to 25,000 Pixels

Installing Aurora Pro with multiple NDBs supports up to 25,000 pixels. 800 pixels maximum is the recommended pixel limit per NDB. An NDB has 16 ports that each power a maximum of 100 pixels (80 pixels of Triklit-style lights) without power top-ups. To achieve 25,000 pixels, for example, 32 NDBs are required.

Components

Aurora Pro

Leader cables (1'—15')*

RGB LED Fixtures

Audio Input

- Indoor Mic
- Consumer-level speakers and audio devices
- Pro audio equipment

USB Audio Interface

USB Ethernet Interface

Cat 5 Network Cable

Network Distribution Box (NDB)

NDB Power Supply (12.5A / 16A / 22A / 40A)

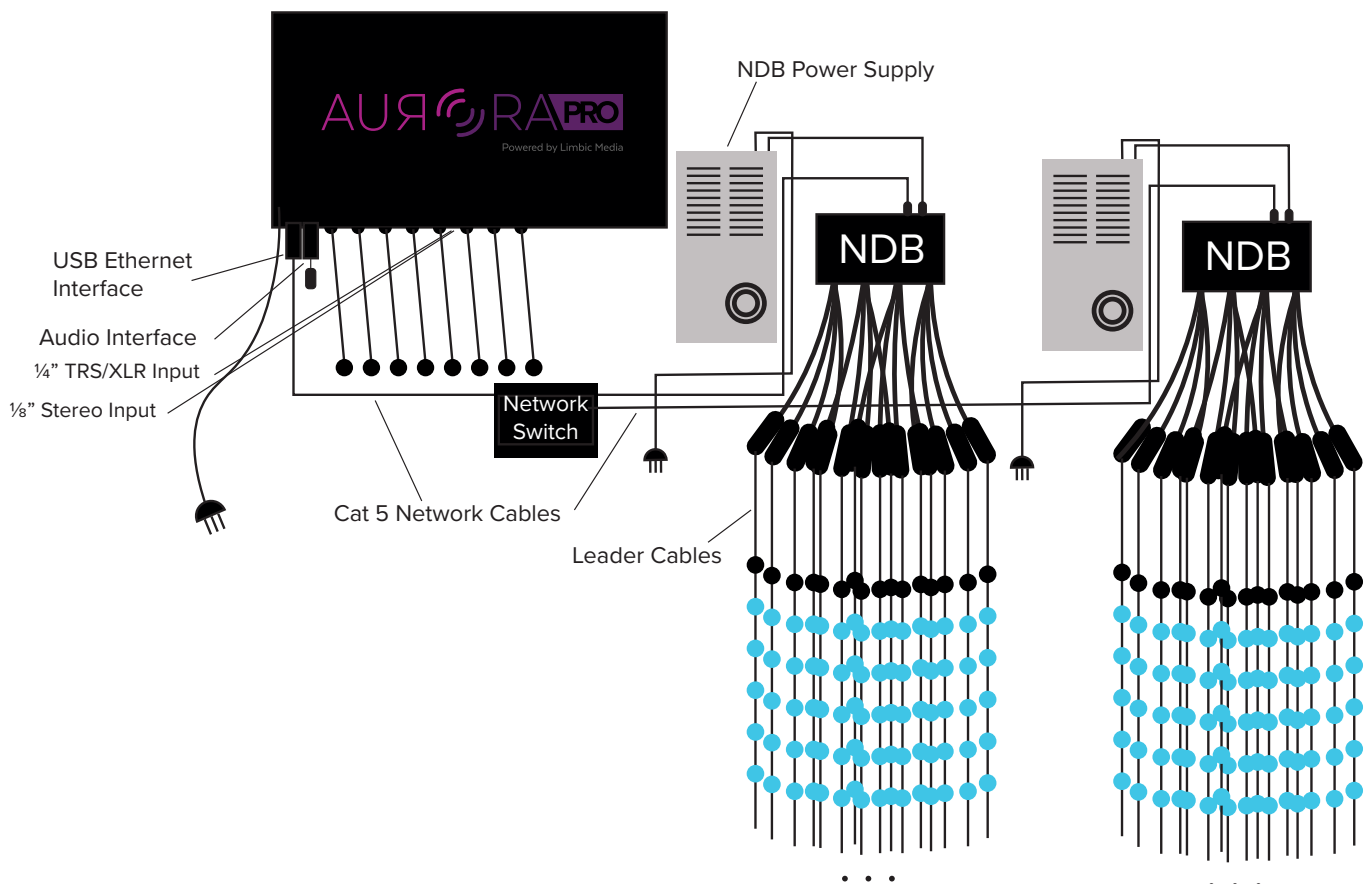
Outdoor Options

NDB Outdoor Enclosure

Aurora Outdoor Enclosure

Outdoor Mic

*Leader cables 15' or longer require Power Top-Ups and Smart Extenders



AURORA + NDBS + POWER TOP-UPS

Up to 25,000 Pixels

5A Power Top-Ups and Power-T's are required to extend light runs beyond their NDB pixel constraints per port. This is useful for installations using NDBs that require light strands longer than 80-100 pixels/port.

A 16-port NDB can support a maximum of 230 pixels per port, and an 8-port NDB can support a maximum of 460 pixels per port.

Components

Aurora Pro

Leader cables (1'—15')*

RGB LED Fixtures

Audio Input

- Indoor Mic
- Consumer-level speakers and audio devices
- Pro audio equipment

USB Audio Interface

USB Ethernet Interface

Cat 5 Network Cables

Network Distribution Boxes (NDBs)

NDB Power Supplies (12.5A / 16A / 22A / 40A)

5A Power Top-Up(s)

Power-T(s)

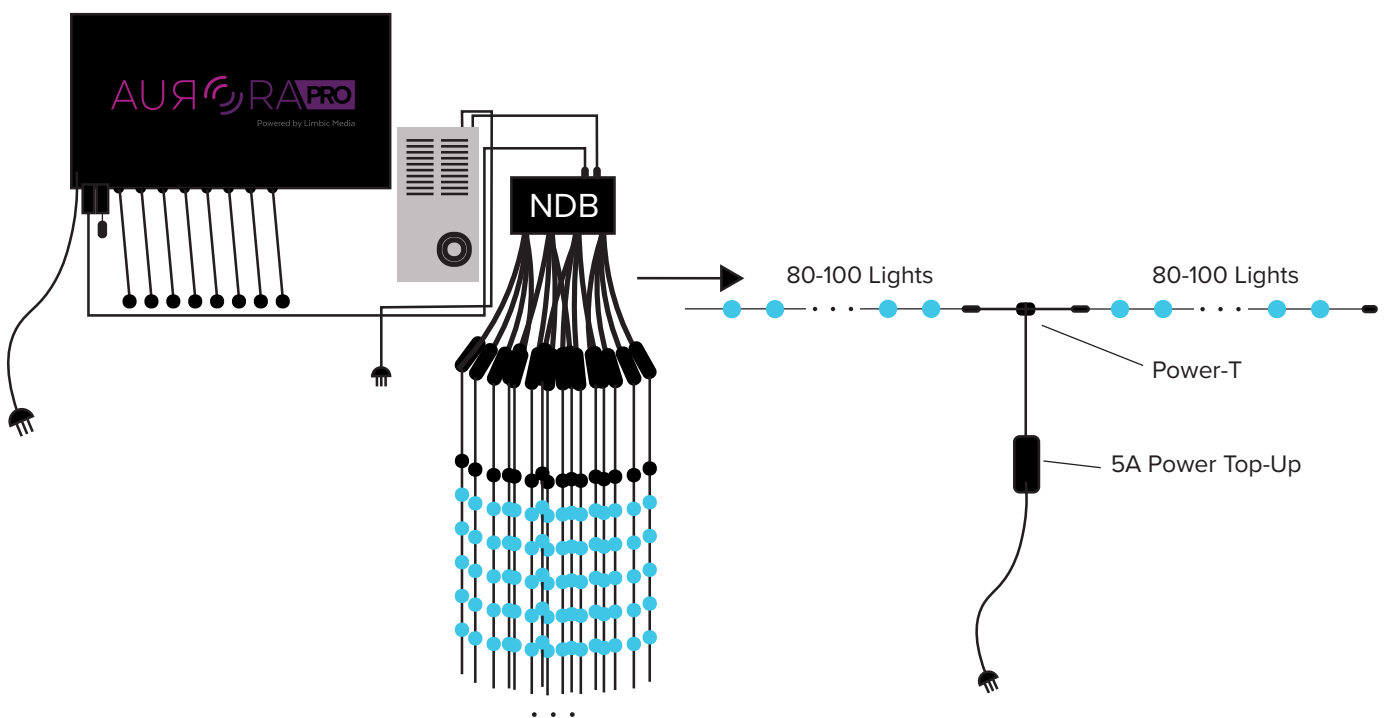
Outdoor Options

NDB Outdoor Enclosure

Aurora Outdoor Enclosure

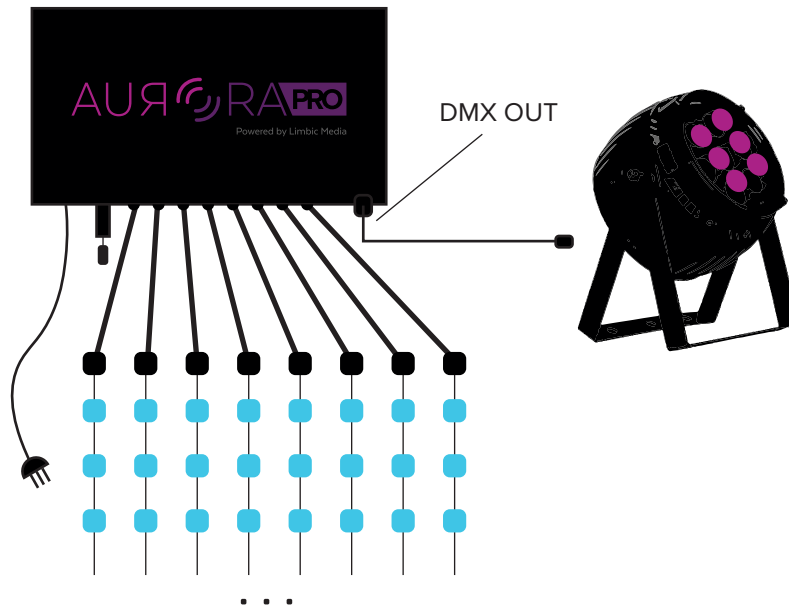
Outdoor Mic

*Leader cables 15' or longer require Power Top-Ups and Smart Extenders



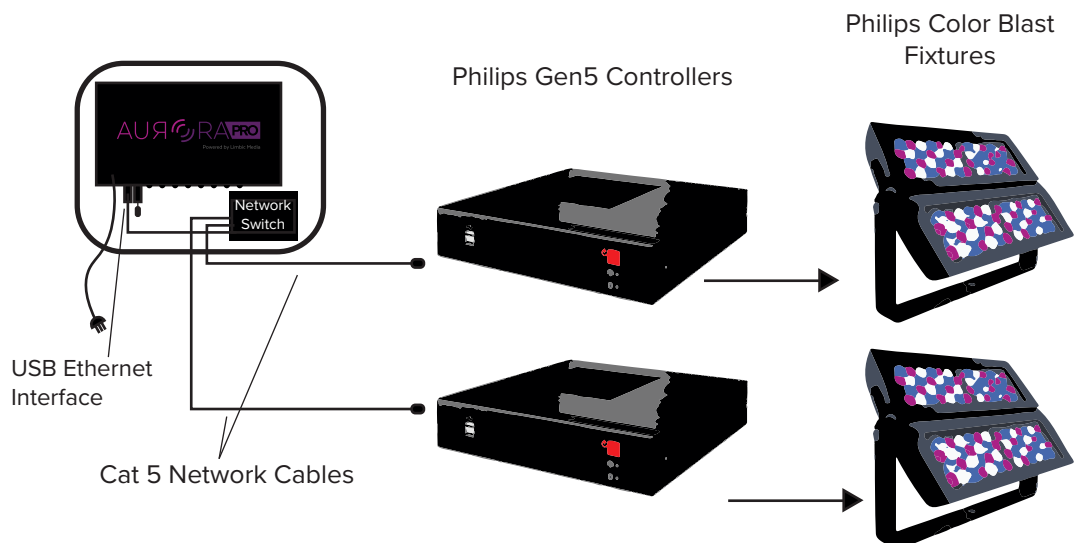
MINLEON + DMX

Connect an Aurora system via DMX Cable to control DMX fixtures standalone or in conjunction with Minleon fixtures.



KINET

Connect an Aurora with a Network Switch to controllers and fixtures using KiNET lighting protocols.



AURORA PRODUCTS

Are you looking to position yourself as an innovator? Aurora is the platform for you.

Combining usability, customizability, advanced algorithms, and dependability, Aurora can turn your lighting displays into unforgettable interactive experiences.

For any concept, Aurora allows for easy set-up in both indoor and outdoor settings with short-term, long-term, or permanent projects. Features like pattern and color palette are controlled wirelessly in real-time from the Aurora App or via DMX In, making installations quickly adaptable to specific events and existing systems. Aurora reacts to audio in real-time out of the box—but can also be customized to interact with inputs such as motion sensors, voice recognition, and social media data.

Aurora's applications are limitless. Here are some of the most popular Aurora products inspiring public engagement in the world today.

SINGING TREES

Singing Trees turn public space into interactive, social hubs. They can integrate any of our lighting fixtures and are designed as short-term, long-term, or permanent installations.

Singing Trees are most often installed with environmental microphones to encourage engagement. Whether it's the focal point of a concert or in the middle of a busy urban hub, Singing Trees transform nearby sounds into a real-time light show, making them ideal for revitalizing underused civic space, or creating a point of interest for events, botanical gardens, zoos, and other public centres.

Location: Victoria, BC, Canada

LEDs: Philips Color Kinetics

Light number: 800+

<http://bit.ly/aurorasingingtree>



CANOPIES

Aurora Canopies use Triklit-style lights to create light grids. Using DMX Out, sync up wash lights with a canopy for added impact. Aurora Canopies have a variety of applications. They can visualize the sounds of a choir in a hall, or turn easily from background lighting at an event to a music responsive dancefloor.

Right:

Location: Christ Church Cathedral,
Victoria, BC

LEDs: 360° Triklits / RGB Wash Lights

Light number: 800

<http://bit.ly/auroracanopycathedral>



Below:

Location: TED2018, Vancouver
Convention Centre, BC, Canada

LEDs: 360° Triklits

Light number: 3000

<http://bit.ly/auroracanopyted>



GLOBES GARDEN

Globes Gardens add an interactive component to existing botanical gardens and other indoor or outdoor settings. They can be suspended, mounted on the ground, or both.

Globes add variation to Singing Tree installations, integrate well into private or public landscaping, and create a captivating music-to-light show when clustered together.

Location: Botanical Gardens, Victoria, BC, Canada

LEDs: Globes (various sizes)

Light number: 60

<http://bit.ly/globesgarden>



INTERACTIVE ART WALL

The Interactive Art Wall is a customizable concept for shopping malls and other public spaces. The installation integrates RGB LED lighting against a fabricated scenic backdrop. Aurora remains in nonreactive-mode with subtle effects until triggered by a specific action. Participants are rewarded with a light show that brings the scene to life when the action is performed.

Actions include, but are not limited to:

- Placing a coin in a box (great for charitable installations)
- Letters in a box (e.g. letters to Santa)
- Specific hashtags from a social media stream
- Specific spoken words or phrases (using Aurora's voice recognition customization)
- Motion (reward participants for dancing)

Interactive Art Walls are a great way to earn attention and provide an exciting and unforgettable experience for your clients. They can be designed and adapted for any theme.

Location: Vancouver, BC, Canada

LEDs: Pebble Lights

Light number: 2,050

Additional requirements: Coin box integration/Custom programming for the desired effect

<http://bit.ly/interactiveartwall>



PRISMO

Prismo is a spatially mapped, 3D light display. Set up an Aurora Prismo with environmental microphones for an interactive public display, or line-in to a DJ booth to captivate audiences at an event.

Prismo can also morph into a Data Sculpture. A Data Sculpture is a lifelike, artistic representation of any real-time data feed. Visualize any data you want, including, but not limited to:

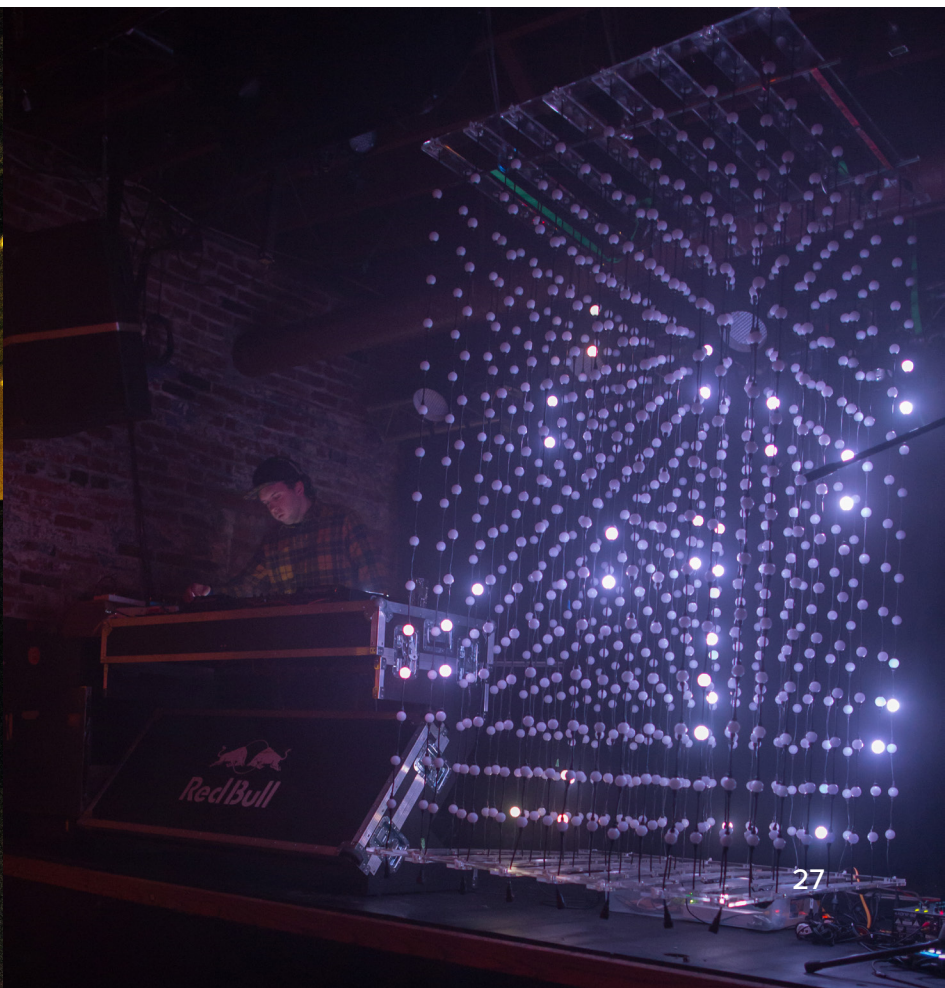
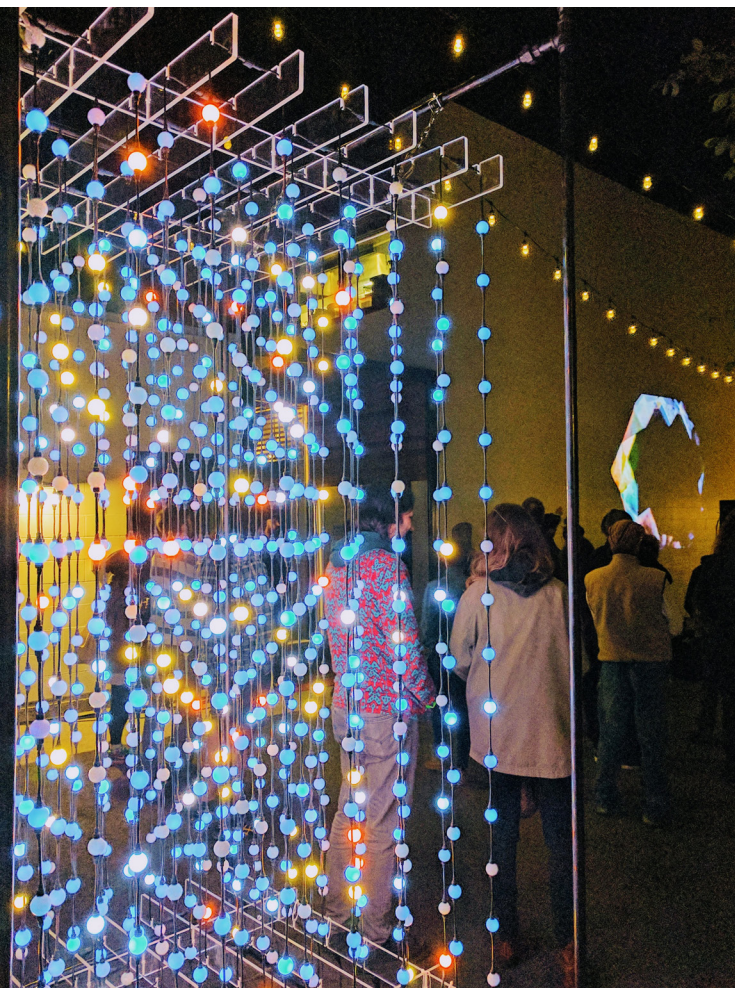
- Flight traffic for installations at airports
- Social Media Account activity
- Productivity APIs for companies (Slack, Github, Trello, Google Drive)
- Energy usage in atriums of large buildings

Location: Victoria, BC, Canada

LEDs: 360° Mini Triklits

Light number: 1000

<http://bit.ly/auroraprismo>



JAM TENT

Add a fun interactive space to your next event with an Aurora Jam Tent. Jam Tents create a secluded room for audiences to create their own light show with voices, percussion, and other instruments.

Jam Tents work well for special events or set up in public spaces like shopping malls to engage all ages. Combine Triklit-style lights with floor-mounted Globes for a fully-immersive experience, or set Aurora in nonreactive-mode for a chill space at an event.

Location: Crystal Gardens, Victoria, BC, Canada

LEDs: 360° Triklits / Globes

Light number: 300 / 8

Bongos not included!

<http://bit.ly/jamtent>

Photos: CrackerJackFlash Photos (Victoria, BC)



NORTHERN LIGHTS

Northern Lights is a sound-reactive installation that emulates Aurora Borealis. The installation integrates RGB Flexible Strips with fabricated translucent waves hanging from tracks on a ceiling, creating the illusion of waves in motion.

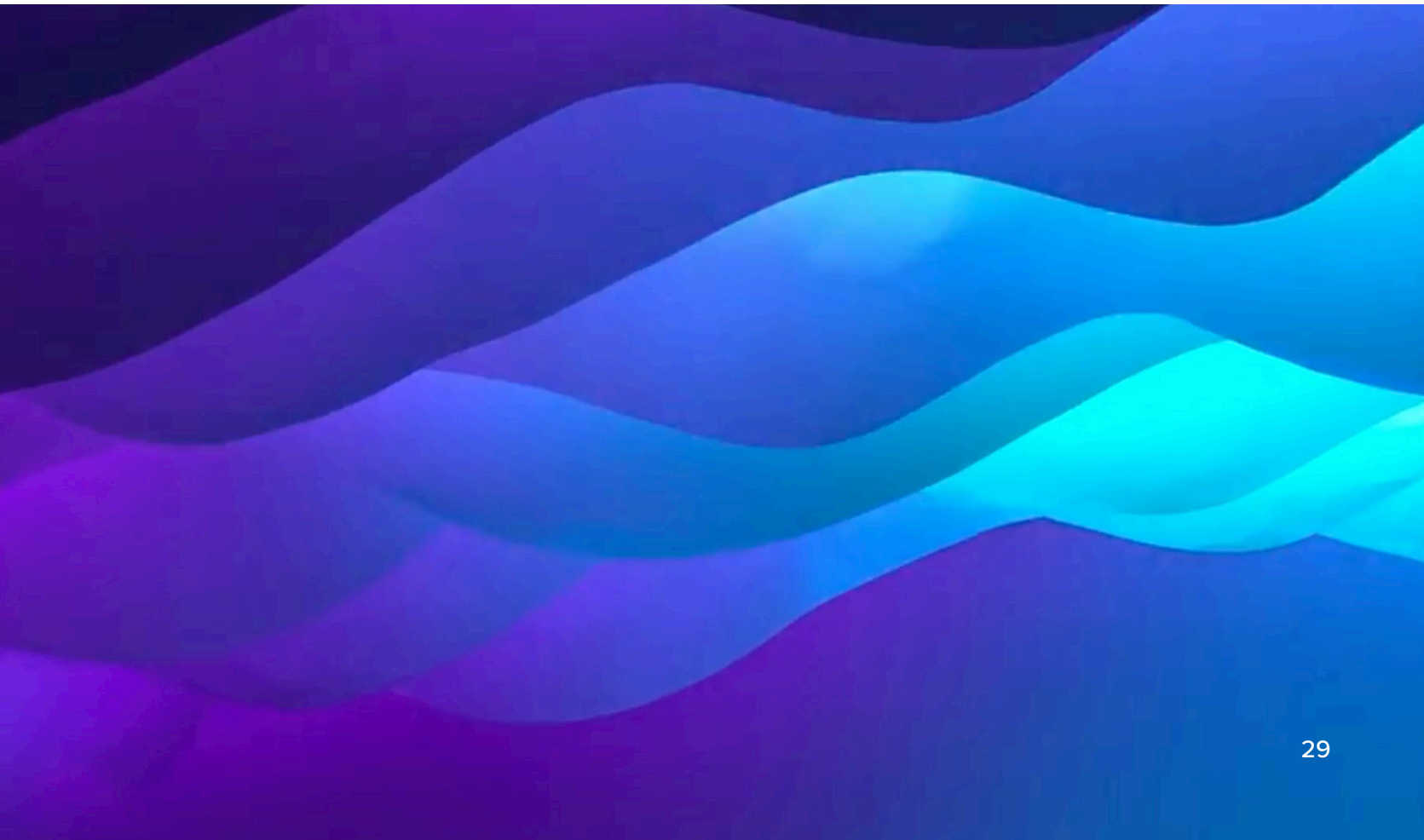
Northern Lights adds a calming, interactive feature to hallways, galleries, light shows, and other public spaces that invite audience engagement.

Location: Limbic Media, Victoria, BC

LEDs: Flexible Strips

Light number: 14 Lights/metre

<http://bit.ly/northernlightslimbicmedia>



INTERACTIVE TOWERS

Limbic Media worked with Hfour productions and Heineken to bring 2 large-scale Aurora-based LED Interactive Towers to the Escapade Music Festival. The public was invited to sing into a microphone and interact with the installation.

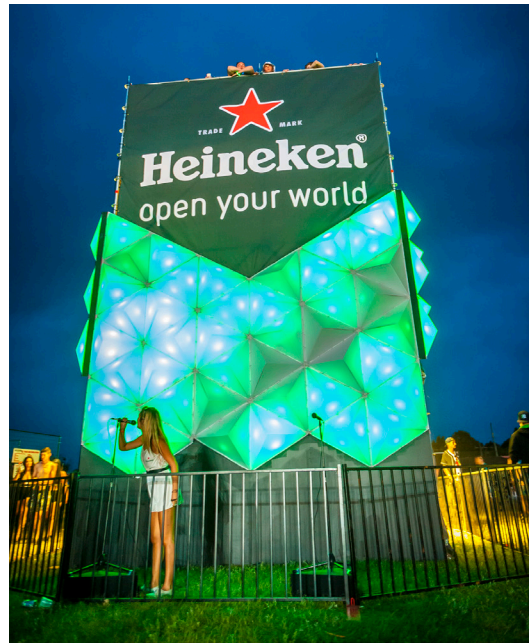
Location: Ottawa, ON, Canada

LEDs: Semi-dome WS2811

Light number: 800

Additional requirements: 3D Acrylic panelling structure

Photos: hfourstudio



VOICEBERGS

Voicebergs inspire audience participation at winter-themed shows and botanical gardens. Turn pre-existing ponds or fountains into voice-activated light shows with geometric icebergs.

Voicebergs are set up with dynamic microphones for individual engagement.

Location: VanDusen Botanical Gardens, Vancouver, BC

LEDs: Flexible Strips

Light number: 14 Lights/metre

<http://bit.ly/voicebergs>



PRE-LIT ANIMATED TREE

Pre-Lit Animated Trees are artificial, scalable trees with everything you need to create an interactive holiday light show with Aurora. Choose from string light or pole-style pre-lit trees.

See images 1 & 2

POLE TREE

RGB Pole Trees are pre-packaged kits that create the illusion of a Christmas tree with a frame and Triklit-style lights. They're easy to set up and effective at creating volumetric effects.

See image 3

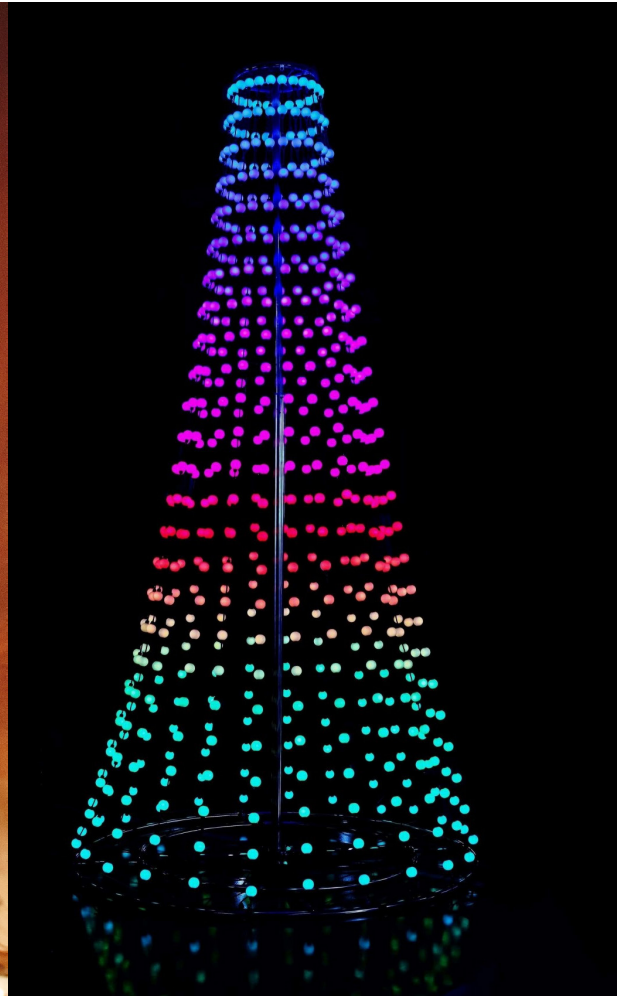
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2



3



Aurora goes beyond just sound-to-light technology. Integrate the following features into an Aurora system for additional modes of lighting interaction.

MOTION TRACKING

Modulate a lighting display by integrating motion-tracking technology. Use a camera or sensor to track an audience's energy at a show, or specifically defined gestures like waving and dancing. Aurora translates this motion-based input into a lighting scheme.



Atagamaton: A collaborative Motion-Tracking installation by Scott Amos, David Parfit and Limbic Media

VOICE RECOGNITION

Integrate voice recognition technology into an Aurora system to trigger a lighting scheme in response to select words in any language. Say themed words (snowflake, rain, wind, or candy cane, for example) and see a corresponding light effect in real-time. Voice recognition technology is also used in Show Me, an interactive content-exploration tool ideal for public directories and events:

<http://bit.ly/showmevoicerecognition>

SOCIAL MEDIA ENGAGEMENT

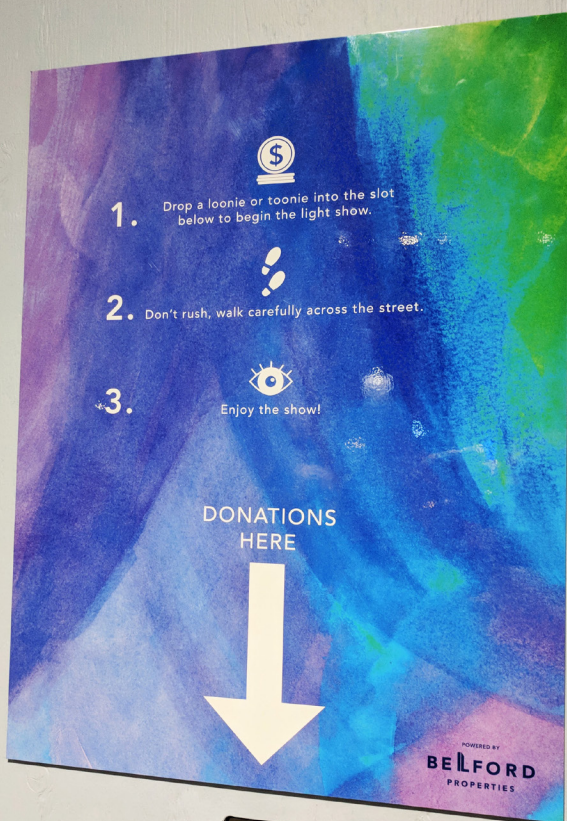
Integrate an Aurora system with social media interaction. Send select hashtags or @-tags via Instagram and Twitter and see a corresponding light effect in real-time.

USER-FACING TABLET APP

Put Aurora's possibilities in your audience's hands by presenting an installation with a stripped-down version of the Aurora App. Audiences can adjust Aurora's parameters like colour palette and pattern in real-time through a tablet interface, or finger-paint on the screen to create a corresponding light pattern.

COIN BOX INTEGRATION

Integrate an Aurora system with a coin box for charity-focused installations. Offer donors a reward for their coin donations in the form of a light show. The same integration can apply to a number of other mechanisms, such as letter slots.





Limbic Media is a transdisciplinary team of artist-engineers with a passion for technology and the arts. Since 2008, we have utilized a diverse set of technological and design skills to create unique and innovative installations and experiences. This collaboration led to the release of Aurora, the world’s most advanced sound-to-light mapping system, in Fall 2017.

Limbic Media designs public art that is truly interactive—living, dynamic systems that are influenced by public participation. **Welcome to Art Against the Ordinary.**





AURORA

Powered by Limbic Media



LimbicMedia
INTERACTIVETECHNOLOGIES



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