# Lighting Playback Controller X

The Pharos LPC X (Lighting Playback Controller X) offers an extreme level of power and integration, making it an ideal solution for landmark lighting installations with significant channel counts. It integrates with the full range of Pharos Designer products and offers an optional real-time video input.

**LPC FAMILY**

## LPC X Features

### Designer Engine
The intelligent Designer Engine gives you complete control of your installation. Based on individually controllable and independently running timelines and scenes, it lets you build dynamic, precise, fully customisable pre-programmed lighting displays, all while giving you the freedom of real-time manual overrides, flexible multi-zone control, prioritisation and more.

### Designer Trigger
Timing is everything. Whatever the stimulus, Designer Trigger can handle it. You can control your lighting with responsive, reactive programming. Designer Trigger is a rules engine that uses conditional logic and a broad range of interfaces and protocols. Send and receive any command, to and from any system. Conditional logic is supported, along with a powerful built-in scripting language for unlimited flexibility.

### Flexible
Be limited by your design brief, not your control system. Our products support a vast range of different fixture types and can output multiple DMX-over-Ethernet (eDMX) lighting protocols at the same time. No other system gives you this level of flexibility and control over your project.
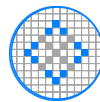
### Custom Interfaces
Create a custom web interface for your installation that gives your users the control they need and the look they expect. Our built-in web server supports an extensive JavaScript API and access control with multiple user levels.

### Remote Management
Future-proof your lighting projects by connecting your Designer controllers to Pharos Cloud. This allows direct control of your Controllers from anywhere in the world, letting you check all of your Controllers' statuses, inputs and outputs, firing triggers, scheduling events, uploading new projects and much more. All Pharos Designer Controllers also have their own Web Interface that can be accessed on a local area network that provides real-time statuses, access to the full log and the ability to fire triggers on the controller.

### Designer Mapping
Design the big picture; control every pixel. Create a map of your fixtures within the Designer software, then use Designer Mapping to create visually striking effects or play video across the entire array. Powerful controls allow you to build maps fast with pixel-precise adjustment. Multiple maps can be created to support different zones or for modelling different views of your installation.

### Scalable
The right fit for every installation. Multiple Pharos Designer Controllers can be seamlessly linked together to work as one via a standard Ethernet network giving impressive scalability. For additional integration options simply add Designer Remote Devices to further extend the network. Whether one Controller or many, it's all easily programmed using our Designer software.

### Pharos Designer
Programmed and configured using the free Pharos Designer software – available for Windows or Mac OS X – with upload over Ethernet.

### Reliable
Hardware and firmware are self-sufficient, so no PC needs to be left on site. Rugged, compact unit designed for 24/7 operation and reliability.

### Video Input
Optional DVI-D input for mapping live video, supporting up to 1080p60 with configurable scaling and X/Y pixel offset.

### Installer Friendly
Made for permanent installation, the LPC X is a 1U enclosure designed for 19" rack mounting.

## Supported Fixtures

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|---|---|
| **LEDs** | LEDs in any colour configuration (RGB, RGBW, 8-bit, 16-bit, tuneable white) |
| **Automated** | Moving heads, yokes or scanners |
| **Generic** | Downlights, spotlights, uplights, etc. via controllable dimmers, relays or ballasts |
| **Fountain Jets** | Fountain jets for fountain animation or other animatronics |
| **Fixture Library** | Pharos offers a cloud library with over 20,000 fixture profiles, for easy download of your luminaires |

## Output

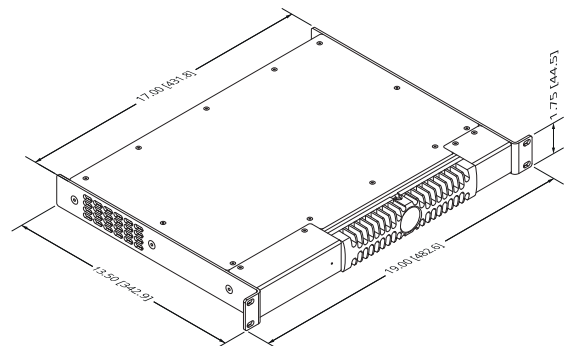| | |
|---|---|
| **sACN** | USITT E1.31 (with per fixture priority) standard |
| **Art-Net** | Art-Net I, Art-Net II and Art-Net 3. Configurable broadcast override |
| **KiNET** | KiNET V1 (DMX out) and V2 (Port out); PDS/Data Enabler discovery |
| **Pathport** | Pathway Connectivity protocol |
| **DVI-I** | DVI-I output for video-mapped fixtures |
| **DMX512** | Via the EDN or any other eDMX node |
| **DALI** | Via RIO D |
| **Scalable** | Synchronises with up to 40 Pharos Designer Controllers over network |
| **Simultaneous** | Multiple protocols can be in operation simultaneously. Limited by patched channels, not universes used |
| **EDN** | Can natively integrate with and output DMX through the ports of the EDN |
| **SPI** | Supports synchronous and asynchronous serial data output via the EDN+SDI |
| **Audio Out** | Audio Output with two audio layers; a background layer for ongoing audio, and an alert layer for high-priority overriding |

## Triggering & Integration

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| **Startup** | Commences programmed playback automatically on receiving power |
| **Clock** | Battery-backed real-time clock for calendar and time-based triggers |
| **Astronomical** | Sunrise/Sunset/Twilight and Lunar phases |
| **Ethernet** | UDP, TCP, Multicast; send/receive any Ethernet message |
| **RS232 Serial** | Configurable port; send/receive free syntax in ASCII, HEX or decimal |
| **RS485 Serial** | Via RIO; configurable port; send/receive free syntax in ASCII, HEX or decimal |
| **eDMX** | sACN or Art-Net |
| **Inputs** | Contact closure, active low, active high or 0-24V analog level via RIOs |
| **Outputs** | Isolated relay outputs (48V 250mA) via RIOs |
| **MIDI** | MIDI Notes, SysEx or Timecode via RIO A |
| **Timecode** | Linear Timecode via RIO A (SMPTE, Film, EBU, NTSC) |
| **Audio Level** | Stereo 30-band spectrum analysis via RIO A |
| **DALI** | Trigger on any message, via RIO D |
| **Web Interface** | Built-in or custom designed |
| **Wall Stations** | Integrate with BPS, TPS or TPC |
| **Conditions** | Full conditional logic support |
| **Scripting** | Lua scripting for total flexibility |
| **Scalable** | Supports Pharos Designer Remote Devices |
| **IO Modules** | Supports our extensive IO Module library for easy integration |

## Interfaces

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|---|---|
| **Ethernet** | Neutrik etherCon (RJ45 compatible) for 10/100/1000Base-TX Ethernet with Link/Data LEDs; Static IP or DHCP |
| **eDMX** | Dedicated Ethernet port for eDMX; Neutrik etherCon (RJ45 compatible) for 10/100/1000Base-TX Ethernet with Link/Data LEDs; Static IP or DHCP |
| **DVI-I Output** | DVI-I output for monitoring or video mapped fixtures |
| **Serial** | RS232 via DB9 connector |
| **USB** | Two USB 2.0 Type A ports (for future development) |
| **Audio Outputs** | Stereo analog & digital audio ports |
| **DVI-D Input** | Video input up to 1080p60 (with DVI-D IN option) |

## Specifications

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| **Power** | 100-240VAC / 50-60HZ / 0.4-0.2A 40W typical (50W maximum) IEC connector with switch * <br> * Power cable not supplied |
| **Data Storage** | Internal 16GB SSD (supplied) |
| **Configuration** | Pharos Designer 2.2 or later |
| **Temperature** | 0°C to 50°C (32°F to 122°F) |
| **Humidity** | 10-50% relative, non-condensing |
| **Ingress** | IP40 |
| **Physical** | 19" rack unit, 1U, 13.5" deep 3.1 kg (6.8 lbs) |
| **Shipping** | 57 x 45 x 18 cm (22" x 18" x 7") 5.0 kg (11 lbs) |
| **Recovery** | Hardware watchdog and recessed reset button |

## Order Code & Variants

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|---|---|
| **LPC 10** | Designer Lighting Playback Controller 10 (5,120 channels eDMX/DVI) |
| **LPC 20** | Designer Lighting Playback Controller 20 (10,240 channels eDMX/DVI) |
| **LPC 30** | Designer Lighting Playback Controller 30 (15,360 channels eDMX/DVI) |
| **LPC 40** | Designer Lighting Playback Controller 40 (20,480 channels eDMX/DVI) |
| **LPC 50** | Designer Lighting Playback Controller 50 (25,600 channels eDMX/DVI) |
| **LPC 60** | Designer Lighting Playback Controller 60 (30,720 channels eDMX/DVI) |
| **LPC 70** | Designer Lighting Playback Controller 70 (35,840 channels eDMX/DVI) |
| **LPC 80** | Designer Lighting Playback Controller 80 (40,960 channels eDMX/DVI) |
| **LPC 90** | Designer Lighting Playback Controller 90 (46,080 channels eDMX/DVI) |
| **LPC 100** | Designer Lighting Playback Controller 100 (51,200 channels eDMX/DVI) |
| **DVI-I IN** | DVI-D Input upgrade (HD capture card) |

## Warranty & Certifications

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| **Warranty** | 5 years |
| **Certifications** | CE compliant, UKCA compliant, ETL/cETL listed, may be used as part of a Title 24 compliant lighting control system. |