

# e:cue

L I G H T I N G   C O N T R O L

## **Lighting Control Engine** **Lighting Control Engine fx** Setup Manual



©e:cue control GmbH  
An OSRAM Company  
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## Security instructions



To reduce the risk of personal injury, electric shock, or damage to the equipment, remove the power cord to remove power from the server. Portions of the power supply and some internal circuitry remain active until AC power is removed.



To prevent the device from overheating, only operate it in well-ventilated environment. Ventilation slots may not be obstructed. Do not install next to heat emitting sources or in a place subject to direct sunlight or excessive dust.



Device components inside the system can reach high temperatures! Do not open the system while in operation. Repairs may only be carried out by authorized, specially trained personnel. When in doubt, contact e:cue service.



Installation and maintenance of this product must be performed by individuals who are knowledgeable about the procedures, precautions and hazards associated with the product.



## About the Lighting Control Engine

Designed to control large and complex projects, the Lighting Control Engine (LCE) is a high performance server with the e:cue software suite pre-installed. As a central control unit this versatile lighting control server orchestrates all devices and fixtures within a project. The LCE is able to output DMX/RDM, e:net, and other protocols such as KiNet and Art-Net. This and the capability to integrate various audio/video, external triggering as well as other devices and content, the LCE is the ultimate solution for the most demanding projects. A built-in touch-screen monitor on the front panel of the attractive, durable aluminum casing provides user interaction with custom graphic user interface designs. The LCE can be mounted in a 19-inch rack.

## Differences LCE and LCEfx

	<b>LCE</b>	<b>LCEfx</b>
Processor	Intel® Xeon® E5606	Intel® CPU Core i7-960
Hard disk drives	2 x SATA2 250GB	2 x SATA2 500GB
Memory	2048 MB	4096 MB
Video interfaces	1 x DVI 1 x HDMI (VGA internal for touch-screen)	2 x DVI 1 x HDMI 1 x Display Port (VGA internal for touch-screen)
RS-232 interfaces	2	4
e:net interfaces	2	3

### Highlights

- Integrated touch-screen for control and monitoring
- Pre-installed e:cue Lighting Application Suite
- Reliable, uninterrupted operation
- Supports various Ethernet-based protocols
- Control of up to 65,536 DMX channels
- Easily mountable in a standard 19" rack
- Integration of media content
- 2 x RS232 (LCE), 4 x RS-232 (LCEfx)
- 16 digital dry contact inputs
- Ethernet (e:net)
- MIDI interface

### Delivery Content & Accessories

#### Included in the package

- e:cue System Manual Basic
- e:cue System Manual Advanced
- DIN A6 Setup Manual
- HDMI to DVI adapter
- Screw driver
- 2 m CAT5e SFTP cable
- AC power cord DE, UK, US
- Rack mount kit

#### Optional accessories

- AC power cord AU PS.AC.0000.400
- AC power cord JP PS.AC.0000.500

## **Transport**

Only transport the LCE in its original packaging. This protects the server from damage. Only unpack the LCE at its installation location. To protect the device against condensation water, unpack it and wait until all moisture remaining in the LCE has evaporated. Condensation can occur when the device is moved from a cold to a warm location.

## **Cleaning**

To clean the device, disconnect it from the line power supply. Disconnect all devices connected to the server. Depending on the operating environment, the server interior must be cleaned. This cleaning may only be carried out by skilled personnel. Do not use any cleaning agents containing solvents (e.g. acetone, alcohol or thinner) or abrasives. The housing surface and touch-screen can be cleaned with a moist, lint-free cloth. Ensure that no water penetrates into the housing. Otherwise, this could damage the electronics.

## **Commissioning**

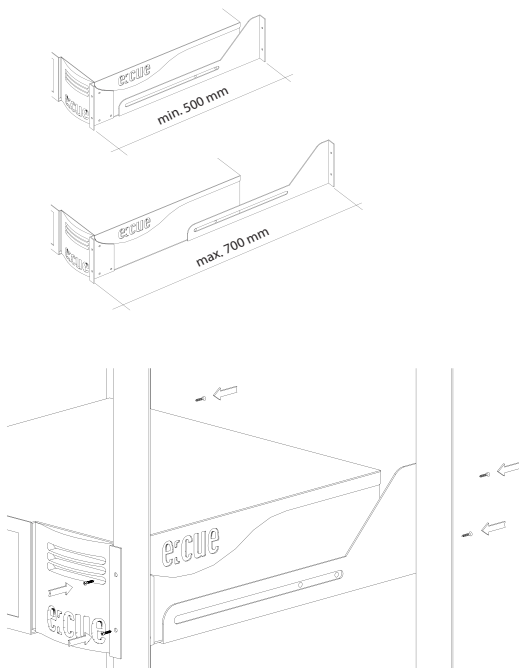
### **Inspect the delivery content**

Unpack the LCE and inspect all parts for completeness. Keep the packaging for use in case of further transport. If there is apparent damage to the device or parts are missing from the delivery scope, please contact e:cue service.

### **Set up the device**

You can use the LCE as a desktop or rack-mounted device. As delivered, the server is configured as a desktop device. The hardware for mounting in a 19" rack is included in the delivery scope. To mount in a rack, fasten the rack brackets and 19" installation brackets to the server. Then, fasten the brackets to the front and rear of the server rack.

## Rack mounting



Ensure that the server rack is sufficiently ventilated.

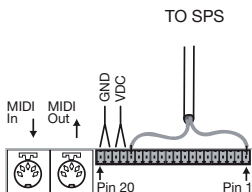


## Installation location

In case of desktop operation, place a non-slip pad beneath the server. This prevents damage to the server and the installation location.

- Do not obstruct the ventilation slots.
- There must be at least 10 cm distance to other devices or objects.
- Do not stack several devices on top of each other, otherwise this could lead to overheating.
- Install the server in a location where the device is protected against dust, heat, moisture and vibration.
- Only install the device in a vertical position. All other operating modes are prohibited.

## ME2 connections

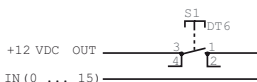


### SPS (isolated opto-inputs)

1-16: In (5..25 VDC) Inputs 0-15
17: +12 VDC out (max. 100mA)
18: +12 VDC out (max. 100mA)
19: GND
20: GND

### Example for SPS connections

The +12 VDC connectors can be used to connect pushbuttons. For this connect +12 VDC to one of the sixteen inputs with the pushbutton inbetween.

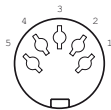


#### Attention!

When using internal +12 VDC output, pay attention to the max. current rating (100mA).

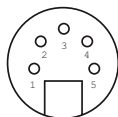
### MIDI

IN	OUT
1: nc	1: nc
2: nc	2: Shield
3: nc	3: nc
4: IN+	4: +5v
5: IN -	5: IN

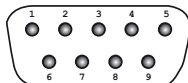


### DMX

1: GND
2: DMX -
3: DMX +
4: nc
5: nc



### RS 232 - 9 pin male



1: nc	5: GND	9: nc
2: RxD	6: nc	
3: TxD	7: nc	
4: nc	8: nc	

## MIDI/dry contact input configuration

### Setup Hardware

Pins are from top to bottom: In0, In2, ..., In15, +12V, +12V, GND, GND

Connect LCE +12V with one of the Input pins (pin In0 to In15, usually through a push-button) for example (LCE) +12V --> push-button --> In1



These inputs are for dry contacts only, do not apply external voltage on the inputs, this can damage the input module!

### Setup Software:

- In Programmer | Device Manager, add “Me2 Midi Interface” (category “Midi Device”; can be found via “Automatic Setup Wizard”)
- Also add “Me2 Input Module” (category “Terminals and Miscellaneous”; will NOT be found via “Automatic Setup Wizard”)
- Select “Me2 Input Module” in Device Manager to see the current Input status

### Initial start up

Connect your devices to the server and connect with the line power supply. Once the line power supply is connected, the LCE switches on automatically. The front LED indicators light up in green. Red blinking of the LEDs indicates hard drive activity. You can now see on the touch-screen that the server has started.

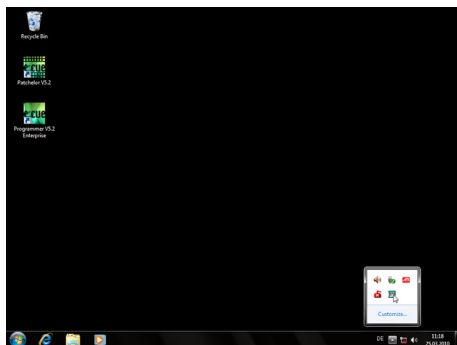
For normal switching on of power, press the On switch on the left side of the LCE. Only switch off power to the LCE by shutting down the operating system. Disconnecting the operating voltage can lead a loss of data. If the operating system does not respond, press the Off switch on the LCE and keep pressed until the LCE switches itself off.



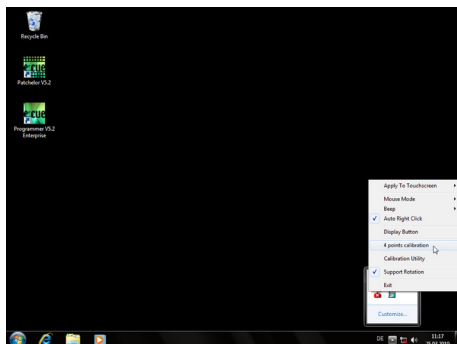
Change the Windows administrator password within six weeks after first startup. Otherwise the password will expire and cannot be reset anymore!

### System Configuration

All steps shown here relate to the English version of Microsoft® Windows 7™. If you have a different language version, it is possible that expressions change. The default language of the operating system is English.

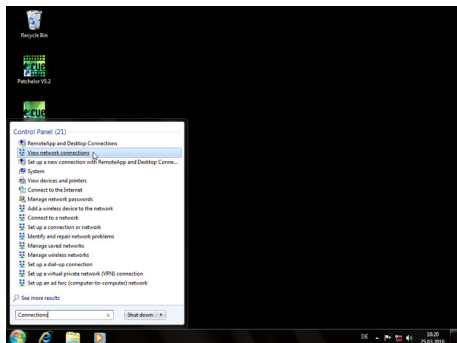


Open the menu in task bar and right-click on the “Touchmon” icon.

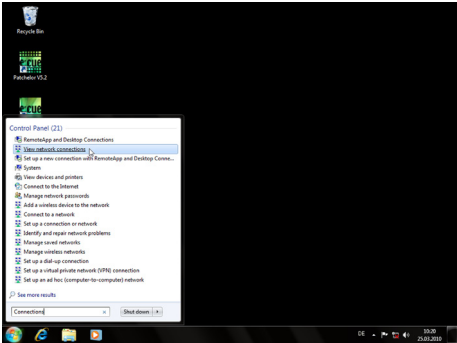


Click on “4 points calibration”; a window opens for calibrating the touch-screen. Follow the instructions on the screen.

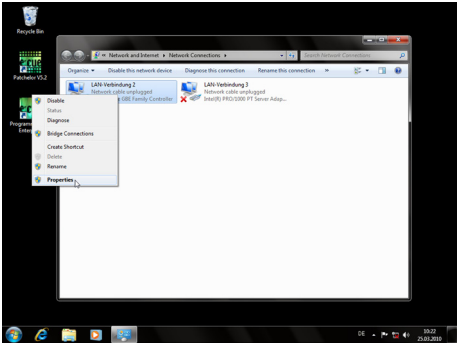
## Setting the network address



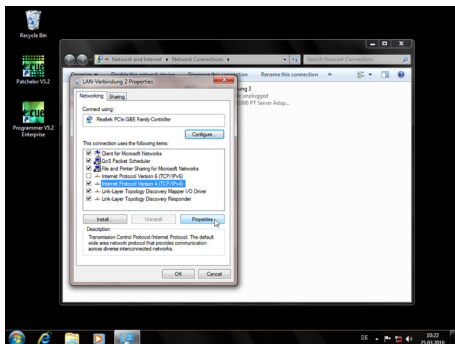
To change the network address of one of the installed network cards, click on the “Start” icon and enter “Connections” in the search box.



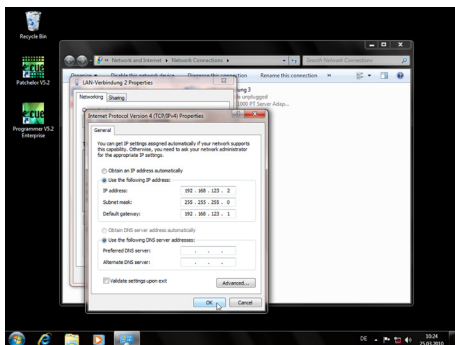
Select “View network connections” in the hit list.



You now see all available connections. Right-click on the desired connection and select “Properties”.



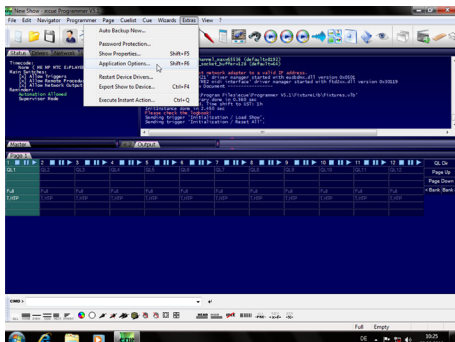
In this open window click on “Internet Protocol Version 4 (TCP/IPv4)”, then press the “Properties” button.



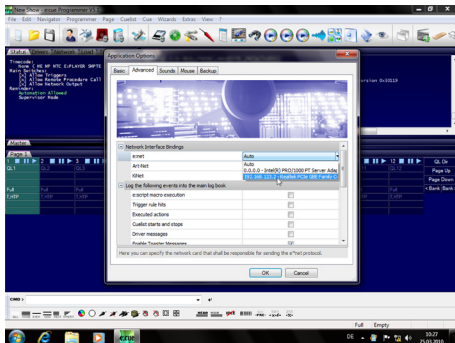
Enter the appropriate address for the network. Confirm your input by clicking on the “OK” button. You can close all windows now. The network connection is now configured.

# Adjust the Programmer's network settings

Start “Programmer V5.3 Enterprise”.



Click on “Extras” and select “Application Options”.



In the menu, under the “Advanced” tab, you can specify which network card the programmer software e:net should output to. You can also specify this setting for the “ArtNet” and “KiNet” protocols. e:cue recommends only outputting one



protocol per network card.

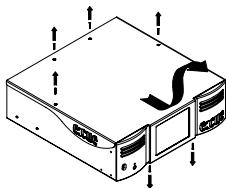
## Performing maintenance

### Lighting Control Engine - System Configuration

This section contains instructions for maintaining the server hardware. Consult with e:cue before performing any of this work. Work on the server may only be performed by trained personnel and in compliance with the ESD guidelines. Non-compliance can cause damage to the system.

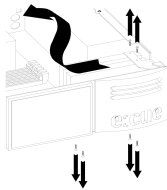
#### Open the server housing

To open the housing, remove the LCE from the 19" rack if necessary. Unfasten the six screws. The red cover can now be taken off as shown.



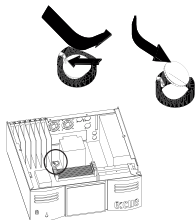
#### Replacing hard drives

Each hard drive can be removed by unfastening three screws. Only use hard drives for replacement that have been approved by e:cue.



#### Battery replacement

The server's CMOS battery can be replaced if it is exhausted. Only use the same type of batteries that e:cue has approved for use.

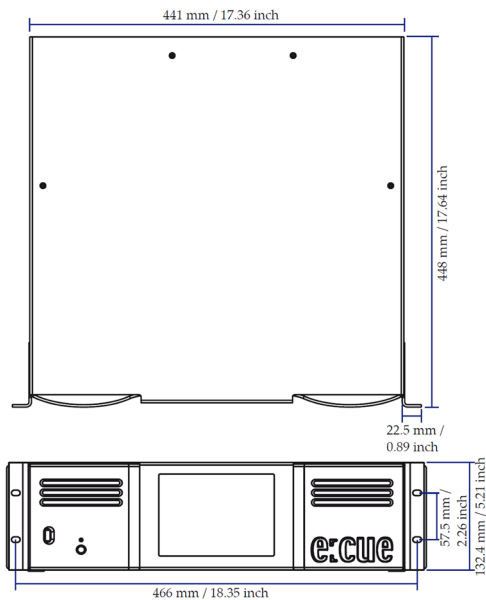


## Technical data

General data	
Item number LCE	EN.LC.9000000
Item number LCEfx	EN.LC 9100000
Dimensions	504.5 x 487 x 132.4 mm/19.86 x 19.7 x 5.21 inch
Weight	12 kg/26.45 lbs
Power	100 ... 240V AC, 600W
Operating/storage temperature	0 ... 35° C/32 ... 95° F
Operating / storage humidity	0 ... 80%, non-condensing
Protection class	IP20
Housing	Steel, aluminum
Mounting	Desktop, 19" mounting
Certifications	CE
Engine	
User interface	Keyboard / mouse / touch-screen
Operating system	Microsoft® Windows 7™ Ultimate
System connection ports	2 x e:net (RJ45 Ethernet)
Data storage LCE	2 x 250 GB SATA2 HDD (RAID1)
Data storage LCEfx	2 x 500 GB SATA2 HDD (RAID1)
Outputs LCE	2 x DMX512 (XLR5-Pin) 2 x RS-232 (D-Sub9) 1 x MIDI 1 x DVI 1 x Audio
Outputs LCEfx	2 x DMX512 (XLR5-Pin) 4 x RS-232 (D-Sub9) 1 x MIDI 2 x DVI 1 x Audio (RCA)

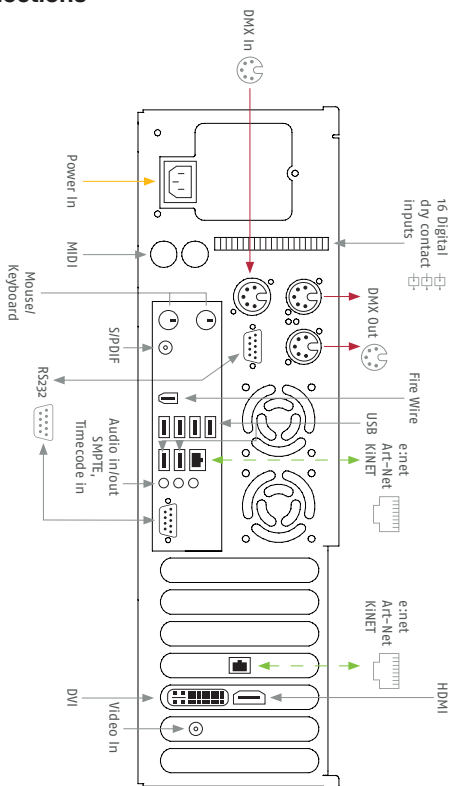
Inputs LCE	1 x Audio 1 x Video 1x DMX512 (XLR5-Pin) 2 x RS232 (D-Sub9) 1 x MIDI 16 x digital dry contact inputs
Inputs LCEfx	1 x Audio 1 x Video 1 x DMX512 (XLR5-Pin) 4 x RS232 (D-Sub9) 1 x MIDI 16 x digital dry contact inputs
<b>Display</b>	
Display format	XGA (1024x768)

## Dimensions

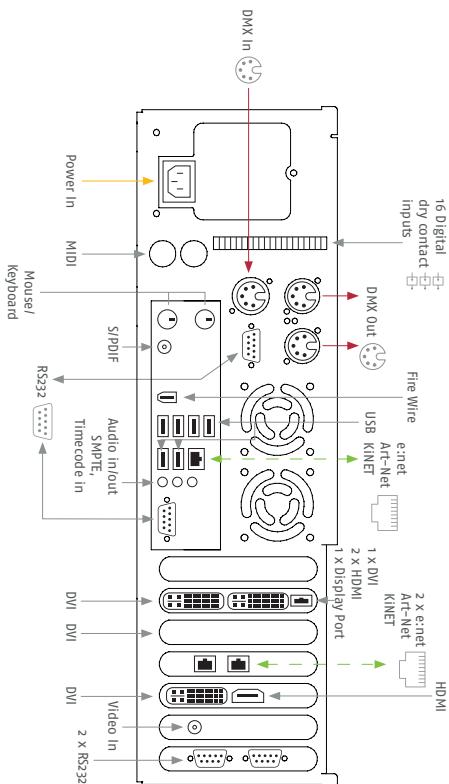


# Appendix

## LCE connections



## LCEfx connections





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