

# User Manual

## ipCUE Controllers

Version 03



User Manual ipCUE Controllers

UM028\_03, 4.7.2008

Copyright © CUE, a.s., Praha, Czech Republic 1990 - 2008.

All rights reserved. Specifications are subject to change without prior notice.

# 1. Table of Contents

<b>1. Table of Contents</b> .....	<b>3</b>
<b>2. Introduction</b> .....	<b>5</b>
2.1. Overview .....	5
2.2. Models and Accessories .....	5
2.3. Features .....	5
2.4. Programming.....	5
<b>3. Box Contents</b> .....	<b>6</b>
<b>4. Specifications</b> .....	<b>7</b>
<b>5. Quick Start</b> .....	<b>8</b>
5.1. Powering Up.....	8
5.2. PC Connection .....	8
5.3. Windows XP Local Area Connection Settings.....	10
5.4. Access Admin Web Server.....	11
<b>6. Front Panels</b> .....	<b>12</b>
<b>7. Indicators</b> .....	<b>13</b>
7.1. PWR Indicator.....	13
7.2. LINK Indicator.....	13
7.3. ACT Indicator .....	13
7.4. CPU Indicator .....	13
7.5. IR SENSOR .....	13
7.6. SERIAL Port Indicator .....	14
7.7. IR/SERIAL Output Indicator .....	14
7.8. GENERAL I/O Indicator.....	14
7.9. AUX Indicator .....	14
7.10. ANALOG Output Indicator .....	14
<b>8. Rear Panels</b> .....	<b>15</b>
<b>9. Connection</b> .....	<b>16</b>
9.1. CUEnet (LAN) .....	16
9.2. PWR IN .....	17
9.3. CUEwire .....	17
9.4. OUT 5 V .....	17
9.5. SERIAL 1 – 2 .....	18
9.6. SERIAL 3 – 6 .....	19
9.7. IR/SERIAL Output .....	21
9.8. GENERAL I/O .....	22
9.9. AUX (Low Voltage Relay).....	23
9.10. ANALOG Output.....	23
<b>10. System Connection</b> .....	<b>24</b>
10.1. CUEwire .....	24
10.2. CUEring.....	27
<b>11. Mounting</b> .....	<b>28</b>
11.1. Shelf Placement or Stacking .....	28
11.2. Rack Mounting .....	29
<b>12. FACTORY DEFAULT Button</b> .....	<b>30</b>
<b>13. Admin Web Server</b> .....	<b>31</b>
13.1. Login .....	31
13.2. Configuration .....	32
13.3. Date and Time.....	33
13.4. Applications.....	34
13.5. File Storage.....	35
13.6. Web Storage .....	36
13.7. Diagnostics.....	37

13.8. E-mail .....	38
13.9. System .....	39
13.10. Password .....	40
13.11. Backup .....	41
13.12. Reset .....	42
13.13. Logout .....	43
13.14. License .....	44
<b>14. Software and Firmware License .....</b>	<b>45</b>
<b>15. Notes .....</b>	<b>46</b>

## 2. Introduction

### 2.1. Overview

CUE, a.s. unveils the ipCUE controllers as a new generation of Ethernet IP enabled controllers. These controllers are well suited for single-room applications as well as huge multi-room, multi-floor distributed control applications. The ipCUE controllers come with multiple control ports well suited for home applications as well as commercial. The control ports include bi-directional serial ports RS-232, bi-directional serial ports configurable as RS-232, RS-422, or RS-485, infrared outputs up to 1.2 MHz that can be configured to control up to three pieces of equipment, general I/O ports that can also be configured as analog inputs and 24 volts relay outputs. The Ethernet port allows for bi-directional IP control of any manufacturer IP enabled products. The ipCUE controllers are compatible with CUE's existing range of button panels and touch panels through and come equipped with a CUEwire port. For convenience there has also been a +5 VDC output added to the design for powering external low-voltage equipment (except ipCUE-gamma). The units are equipped with internal IR sensor (except ipCUE-gamma). The sensor allows to capture IR codes and links IR wireless control panels. Convenient for testing and troubleshooting the ipCUE controllers also come with indicator LEDs on the front panel, which indicates the status of all of the control ports. The ipCUE controllers keep perfect time with its onboard real time clock (RTC), thus allowing for a wide variety of distributed intelligence scheduling applications. The ipCUE controllers come complete with a web-server and allow for setup, configuration, and testing through a standard web browser. This web-based interface allows for the graphical monitoring and control of all ports, which provides a truly timesaving method for testing and troubleshooting.

### 2.2. Models and Accessories

Model	Product code	Description	Note
ipCUE-alpha	CS0251	IP based controller	
ipCUE-beta	CS0252	IP based controller	
ipCUE-gamma	CS0253	IP based controller, DIN rail mounting	
ipCUE-delta	CS0267	IP based controller	
ipCUE-epsilon	CS0268	IP based controller	
	CS0251-MR	Rack 19" mounting kit (sold separately)	

### 2.3. Features

The main features of the controllers are

- Based on the Motorola ColdFire® processor
- Ethernet IP enabled
- Fully compatible with current CUE communication buses – CUEnet, CUEwire, CUEring and PEbus
- Standard control ports - bi-directional serial, IR/serial, general I/O, analog and relay ports.
- Web server complete with Admin Web pages for setup and diagnostics
- XPL Inside, fully compatible with CUE programming tools
- Front panel indicators for each control port
- Unified enclosure design for desktop, rack, DIN rail and wall installation - no special models required
- DIN rail, wall installation and 19" rack installation available with accessories

### 2.4. Programming

The ipCUE controllers are programmed using **Cue Director** programming tools.

### 3. Box Contents

Item	ipCUE-alpha	ipCUE-beta	ipCUE-gamma	ipCUE-delta	ipCUE-epsilon
Controller	ipCUE-alpha	ipCUE-beta	ipCUE-gamma	ipCUE-delta	ipCUE-epsilon
Connector Set	1 set	1 set	1 set	1 set	1 set
IR Adapter /i	4	4	2	4	4
Ethernet cable straight-through	1	1	1	1	1
Ethernet cable crossed-over	1	1	1	1	1
CUEadapter /30W	1	1	1	1	1
Power Cable	1	1	1	1	1
CE declaration	1	1	1	1	1
RoHS declaration	1	1	1	1	1
Controller data sheet	1	1	1	1	1
Cue System Connector Wiring	1	1	1	1	1
CUE Application CD	1	1	1	1	1

## 4. Specifications

Feature	ipCUE-alpha	ipCUE-beta	ipCUE-gamma	ipCUE-delta	ipCUE-epsilon
Ethernet connection					
10/100 BaseT LAN, RJ-45 connector	1				
System connection					
CUEwire (RS-485) for control panels, dedicated 4-pin connector 5 mm	1				
CUEring (RS-232) for interfaces, bi-directional serial channel	1 *				
PEbus (RS-485) for power and lighting control, bi-directional serial channel	1 *				
Control ports					
Bi-directional serial RS-232, 5-pin connector 3.5 mm	2				
Bi-directional serial RS-232/422/485, 5-pin connector 3.5 mm	4	-	-	4	-
IR/serial output, IR output up to 1.2 MHz, 2-pin connector 3.5 mm	8	8	2	8	8
General I/O input (analog 0 - 5 V) or output (open collector max. 80 mA), 2-pin connector 3.5 mm	8	-	8	8	8
Relay 24 V / 0.5 A, 3-pin connector 3.5 mm	2	-	2	16	8
Analog output 0 – 10 V, 2-pin connector 3.5 mm	-	-	-	4	4
Power output 5 VDC (max. 1 A), 2-pin connector 3.5 mm	1	1	-	1	1
Internal IR sensor for IR code capture and for IR wireless control panel link	1	1	-	1	1
LED indicators	PWR, LINK, ACT, CPU, All control ports				
Button Factory default settings	1				
Real time and date - RTC with battery backup	1				
Memory	Internal RAM 16 MB, Flash 4 MB (16 MB from 2007)				
Software	XPL Runtime, Admin web				
Power supply, 2-pin connector 5 mm	24 VDC (+/-20%)				
Power consumption	12 W	10 W	10 W	18 W	15 W
Enclosure	Metal	Metal	Plastic	Metal	Metal
Dimensions (WxHxD) in mm	210 x 43.5 x 92	210 x 43.5 x 92	106 x 90 x 58	422 x 43.5 x 92	210 x 43.5 x 92
Weight	0.6 kg	0.5 kg	0.4 kg	0.9 kg	0.6 kg

\* Shared with S1 bi-directional serial RS-232 port

# 5. Quick Start

## 5.1. Powering Up

Every ipCUE controller requires power from an external power supply. The standard CUEadapter /30W is delivered with the unit. Attach the 2-pin connector of the power supply unit to the PWR IN connector located on the rear panel of ipCUE controller and attach power cable to a power outlet. The LED labeled PWR will light up when the unit is powered on.

## 5.2. PC Connection

### Using LAN Directly to PC

Attach one end of an RJ-45 Ethernet **crossed-over cable** to the ipCUE controller CUEnet (LAN) port and attach the other end of the RJ-45 Ethernet cable to your computer.

#### Ethernet Crossed-Over Cable

This cable can be used to cascade hubs, or for connecting two Ethernet stations back-to-back without a hub. It works with 10Base-T, 100Base-TX, 100Base-T4 and 1000Base-T. Use a good enough cable, if you are confused about categories of cables then use Category 5 (enhanced) and you'll be fine even at 1000Base-T.

To Network Interface Card 1 (NIC 1)  
Computer  
RJ45 Male Connector

To Network Interface Card 2 (NIC 2)  
Touch panel  
RJ45 Male Connector

Name	NIC 1	Color	NIC 2	Name
TX+ (BI_DA+)	1	White/Orange	3	RX+ (BI_DB+)
TX- (BI_DA-)	2	Orange	6	RX- (BI_DB-)
RX+ (BI_DB+)	3	White/Green	1	TX+ (BI_DA+)
- (BI_DC+)	4	Blue	7	- (BI_DD+)
- (BI_DC-)	5	White/Blue	8	- (BI_DD-)
RX- (BI_DB-)	6	Green	2	TX- (BI_DA-)
- (BI_DD+)	7	White/Brown	4	- (BI_DC+)
- (BI_DD-)	8	Brown	5	- (BI_DC-)

That means that the White/Orange cable connected to NIC 1 pin 1 should go to NIC 2 pin 3 and NIC 1 pin 2 to NIC 2 pin 6 etc.

## Notes

1. 1000Base-T names are in parentheses.
2. It's important that each pair is kept as a pair. TX+ & TX- must be in the pair and RX+ & RX- must together in another pair. Just as the table above shows.
3. While 10Base-T and 100Base-TX only uses 2 pairs, please connect all four since 100Base-T4 and 1000Base-T needs them and save you some future debugging.
4. The colors originate from the numbering and name on NIC 1.
5. The connection is based on IEEE Standard 802.3, 2000 Edition.

## Using LAN Network

Attach one end of an RJ-45 Ethernet **straight-through cable** to the ipCUE controller CUEnet (LAN) port and attach the other end of the RJ-45 Ethernet cable to your computer.

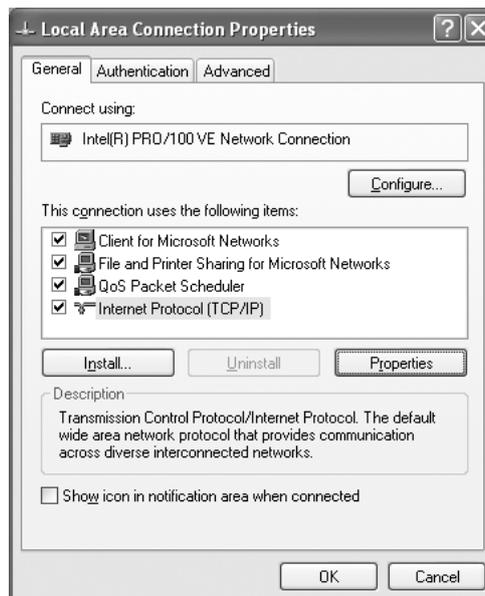
## 5.3. Windows XP Local Area Connection Settings

Steps are

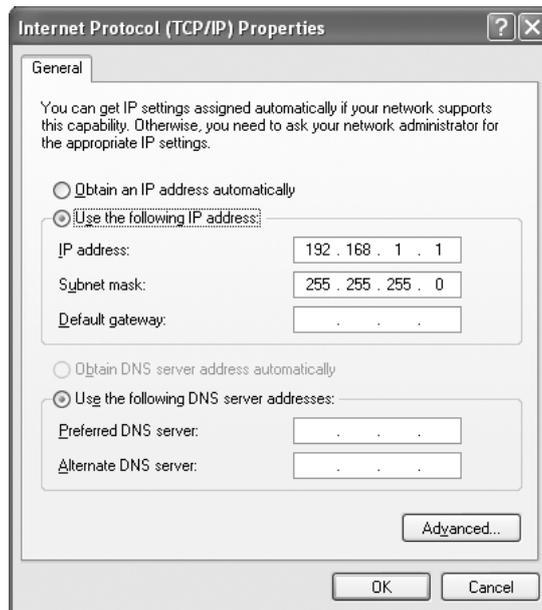
1. Start Windows XP.
2. Click Start, then click Control Panel choose the option to switch to Classic View.
3. Double-click Network Connections, select the Local Area Connection and then right-click and select Properties.



4. Select Internet Protocol (TCP/IP) and click Properties button.



5. Select Use the following IP address option. Set IP address to 192.168.1.1 (or other address different from 192.168.1.127) and Subnet mask to 255.255.255.0. Leave other options unchanged and click OK.



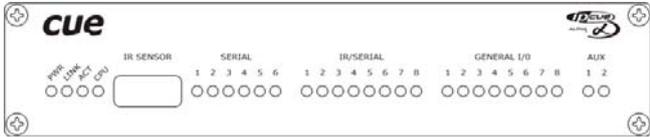
## 5.4. Access Admin Web Server

---

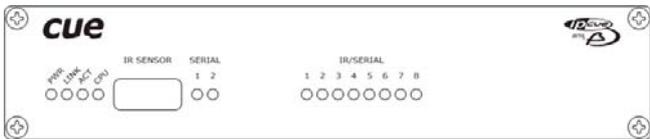
Run the Internet browser on your PC and type in the ipCUE factory default IP address **192.168.1.127**. The Admin login web page will be displayed. The password is set to default.

## 6. Front Panels

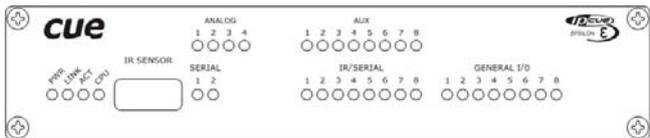
The ipCUE-alpha, ipCUE-beta, ipCUE-delta and ipCUE-epsilon front panels are made of aluminum plate. The ipCUE-gamma front panel is made of plastic. It should be cleaned with a soft/non-abrasive cloth. The indication LEDs and infrared sensors are behind the front panel.



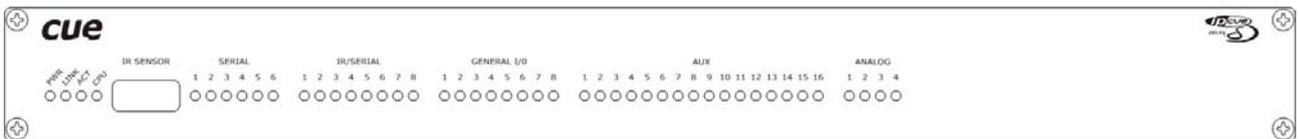
ipCUE-alpha



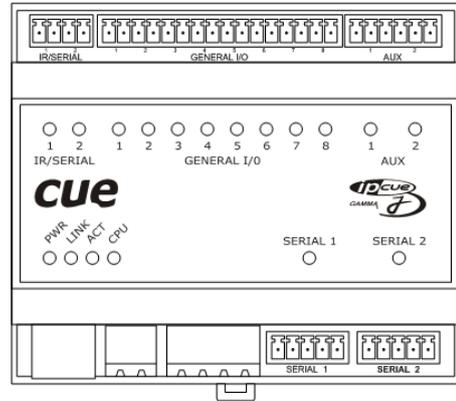
ipCUE-beta



ipCUE-epsilon



ipCUE-delta



ipCUE-gamma

## 7. Indicators

### 7.1. PWR Indicator

---

Off ..... No power presented.  
On ..... Power 24 V is presented. The unit is ready.

### 7.2. LINK Indicator

---

Off ..... Network is not detected.  
On ..... Network detected.

### 7.3. ACT Indicator

---

Off ..... No data transmitted or received through the CUEnet (LAN) port.  
On or Flashing ..... Data is being transmitted or received through the CUEnet (LAN) port.

### 7.4. CPU Indicator

---

This LED indicates the end of the operating system boot up by flashing OK in Morse code. Operating system is booted after the unit has either been reset or switched on. The booting time is approx. 26 seconds.

### 7.5. IR SENSOR

---

The window marked by IR SENSOR (not applied in ipCUE-gamma), covers two IR sensors and one LED indication.

1. The first built-in IR sensor carries the same functionality as irCUE Receiver or irCUE Receiver 485. This means that ipCUE can receive IR signal from CUE wireless IR control panels without the need to use any external IR receiver.
2. The second built-in IR sensor allows IR codes capture directly by ipCUE unit. The flashing Yellow LED indicates the received infra-red signal and serves for optimum distance setup between the receiver and captured IR remoter.

## 7.6. SERIAL Port Indicator

---

Off ..... No data transmitted or received through the serial port.

**Green** On or Flashing ..... Data is being transmitted through the serial port.

**Red** On or Flashing ..... Data is being received through the serial port.

Note: The S1 serial channel is used as **CU**ering port for interfaces and power and lighting control units.

## 7.7. IR/SERIAL Output Indicator

---

Off ..... No data or IR code transmitted through the IR/serial port.

On or Flashing ..... Data or IR code is being transmitted through the IR/serial port.

## 7.8. GENERAL I/O Indicator

---

Off ..... Output is switched OFF.

On ..... Output is switched ON.

## 7.9. AUX Indicator

---

Off ..... AUX (relay) is switched OFF.

On ..... AUX (relay) is switched ON.

## 7.10. ANALOG Output Indicator

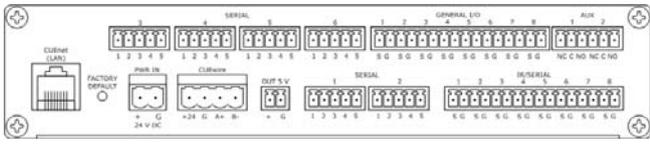
---

Off ..... Analog output is set to 0 V.

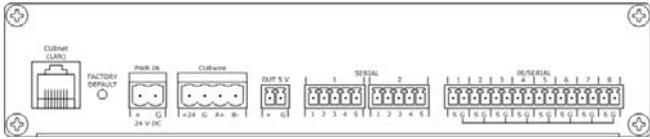
On ..... Analog output is set to 10 V.

# 8. Rear Panels

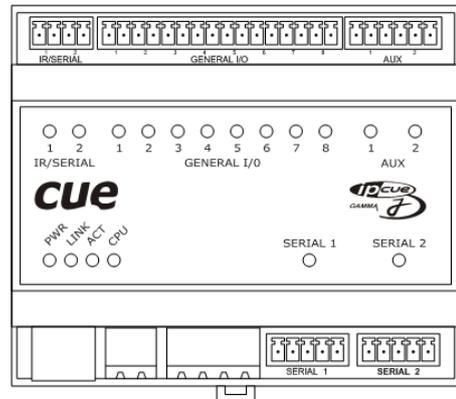
Connectors and button are located on the rear panel of the device. All connectors are labeled incl. pin out.



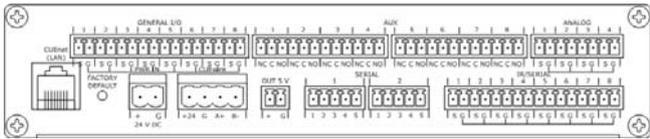
ipCUE-alpha



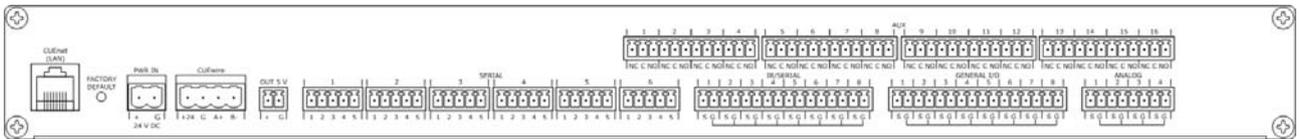
ipCUE-beta



ipCUE-gamma



ipCUE-epsilon



ipCUE-delta

## 9. Connection

### 9.1. CUEnet (LAN)

The CUEnet is a standard network connection 10/100 BaseT LAN using RJ-45 connector. There is no auto sense, which means it does not recognize straight through cable to cross-over cable. For the direct PC connection it is necessary to use cross-over cable; for the connection to Ethernet switch straight through cable. The length of the Ethernet cable connecting ipCUE controller to the network must not exceed 100 meters.

Connector pin out

CUEnet (LAN)				
RJ-45	Pin	Signal	Description	Cat5 Cable Color
	1	TX_D1+		White / Orange
	2	TX_D1-		Orange
	3	RX_D2+		White / Green
	4			Blue
	5			White / Blue
	6	RX-D2-		Green
	7	G	Ground	White / Brown
	8	G	Ground	Brown

## 9.2. PWR IN

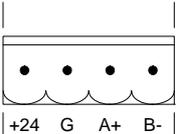
Warning: Use any ipCUE controller only with the power adapter supplied in the product package. Using another power supply may damage the unit.

Connector pin out

PWR IN		
2-pin 5 mm	Pin	Description
	+	Power +24 VDC
	G	Ground

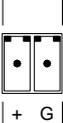
## 9.3. CUEwire

Connector pin out

CUEwire			
4-pin 5 mm	Pin	Signal	Description
	1	+24	Power +24 VDC
	2	G	Ground
	3	A+	RS-485 Data +
	4	B-	RS-485 Data -

## 9.4. OUT 5 V

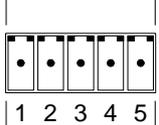
Connector pin out (not applied in ipCUE-gamma)

OUT 5 V		
2-pin 3.5 mm	Pin	Description
	+	Output +5 VDC, max. 1 A
	G	Ground

## 9.5. SERIAL 1 – 2

These two bi-directional serial channels are used for RS-232 communication. Maximum speed is 115 200 Bd (bps). Transmission levels for RS-232 output are in the -12 V to +12 V.

Connector pin out

RS-232				
5-pin 3.5 mm	Pin	Signal	Description	Direction
	1	TxD	RS-232 Transmitted Data	From ipCUE
	2	RTS	RS-232 Request to Send	From ipCUE
	3	GND	Ground	
	4	RxD	RS-232 Received Data	To ipCUE
	5	CTS	RS-232 Clear to Send	To ipCUE

Note: The S1 serial channel is used as **CUERING** port for interfaces and power and lighting control units.

## 9.6. SERIAL 3 – 6

### Overview

These four bi-directional serial channels (ipCUE-alpha, ipCUE-delta only) are used for RS-232, RS-422 and RS-485 communication. Maximum speed is 115 200 Bd (bps). Default mode for all channels is RS-232, other modes must be set in programming application or by Admin Web. For more details about Admin Web see in the chapter **Admin Web Server**.

### Channel Mode Setting

It is important to set channel mode in the programming application. The mode is selected by part of mode string in the command `CommunicationSet`.

Command example in XPL language for 9600 bd, non parity and 1 stop bit is as follows

- `ipCUE_alpha.S3.CommunicationSet ("0096008n1m232")` for RS-232 mode (default)
- `ipCUE_alpha.S3.CommunicationSet ("0096008n1m422")` for RS-422 mode
- `ipCUE_alpha.S3.CommunicationSet ("0096008n1m485")` for RS-485 mode

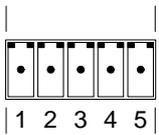
For more details see programming manuals.

### RS-232 Mode

Transmission levels for RS-232 output are in the -10 V to +10 V.

This is default mode for all channels. If a channel was set to other mode, it is possible to use XPL command `ipCUE_alpha.S3.CommunicationSet ("0096008n1m232")`.

Connector pin out

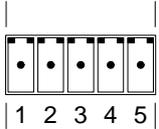
RS-232				
5-pin 3.5 mm	Pin	Signal	Description	Direction
	1	TxD	RS-232 Transmitted Data	From ipCUE
	2	RTS	RS-232 Request to Send	From ipCUE
	3	GND	Ground	
	4	RxD	RS-232 Received Data	To ipCUE
	5	CTS	RS-232 Clear to Send	To ipCUE

## RS-422 Mode

Only channels S3 – S6 can be used in the RS-422 mode.

This mode must be set in the programming application or by Admin Web. The right command in XPL is *ipCUE\_alpha.S3.CommunicationSet ("0096008n1m422")*.

Connector pin out

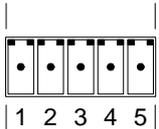
RS-422				
5-pin 3.5 mm	Pin	Signal	Description	Direction
	1	Tx A+	RS-422 Transmit Data (Idles High)	From ipCUE
	2	Tx B-	RS-422 Transmit Data (Idles Low)	From ipCUE
	3	GND	Ground	
	4	Rx A+	RS-422 Receive Data (Idles High)	To ipCUE
	5	Rx B-	RS-422 Receive Data (Idles Low)	To ipCUE

## RS-485 Mode

Only channels S3 – S6 can be used in the RS-485 mode.

This mode must be set in the programming application or by Admin Web. The right command in XPL is *ipCUE\_alpha.S3.CommunicationSet ("0096008n1m485")*.

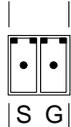
Connector pin out

RS-485				
5-pin 3.5 mm	Pin	Signal	Description	
	1	A+	RS-485 Data +	
	2	B-	RS-485 Data -	
	3	GND	Ground	
	4	N.C.	Not Connected	
	5	N.C.	Not Connected	

## 9.7. IR/SERIAL Output

IR/Serial output labeled **IR/SERIAL 1 – 8** (ipCUE-alpha, ipCUE-beta, ipCUE-delta, ipCUE-epsilon) or **IR/SERIAL 1 – 2** (ipCUE-gamma) provides output for infra-red emitters (IR Adapter /i) or eight RS-232 serial outputs (one way). Maximum IR output rate is 1.2 MHz, maximum serial data rate is 115 200 Bd (bps). Transmission levels for RS-232 output are in the -12 V to +12 V. The IR outputs and RS-232 outputs can be combined on independent outputs (for example three outputs can be used as IR, five outputs can be used as RS-232).

Connector pin out

IR/Serial		
2-pin 3.5 mm	Pin	Description
	S	IR/Serial Signal (Output)
	G	Ground

Note: All pins labeled G are connected together.

Note: Up to three original infra-red emitters IR Adapter /i can be connected to each output in parallel. Finally it allows to control up to 24 IR controlled devices.

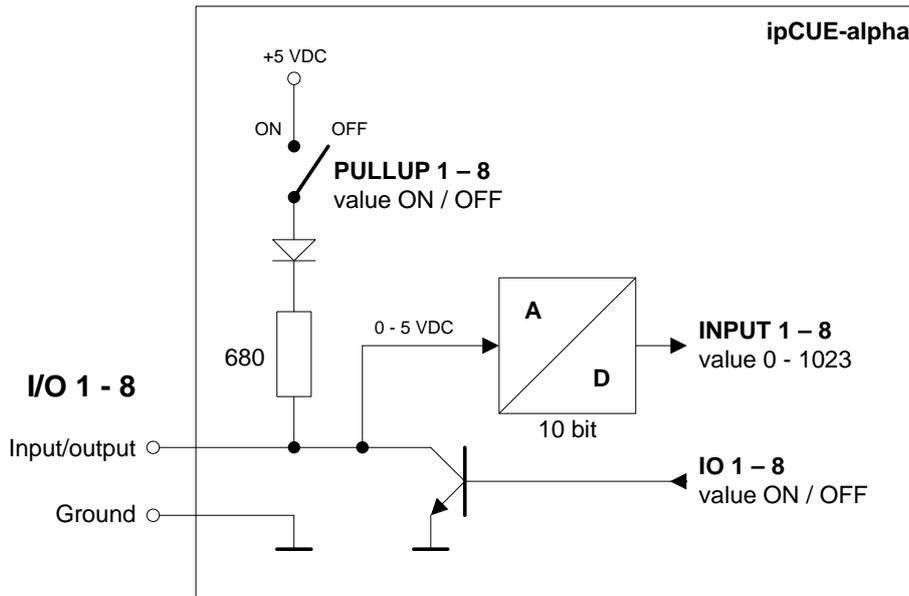
Note: It is not suggested to connect more infra-red emitters of various manufacturers in parallel because the output can be either overloaded or damaged.

## 9.8. GENERAL I/O

General IO labeled **GENERAL I/O 1 - 8** (not applied in ipCUE-beta) provide analog input as well as digital output. Each general I/O port can be used either as input or as output.

Analog input is rated 0 – 5 VDC, digital output offers 80 mA. Pull-up resistor 680 ohms connected to +5 VDC can be switched on and off for each IO independently. Input voltage with pull-up on is approx. 4.3 VDC, because protection diode is connected in series (0.7 V drop-down). Output voltage for output switch on is approx. 0.6 V. Analog to digital (A/D) converter has 10-bits precision (i.e. 1024 levels).

IO schematic diagram



Connector pin out

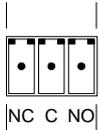
General IO		
2-pin 3.5 mm	Pin	Description
	S	Input/Output Signal
	G	Ground

Note: All pins labeled G are connected together.

## 9.9. AUX (Low Voltage Relay)

This connector labeled **AUX 1 – 2** (ipCUE-alpha, ipCUE-gamma) or **AUX 1 – 8** (ipCUE-epsilon) or **AUX 1 – 16** (ipCUE-delta) provides one isolated low voltage relay. Normally Close and Normally Open contacts as well as Common contact of each relay can be used. The Normally Close position is the state of the relay when it is not turned on (energized). Each relay contact closure is rated 24 V / 0.5 A.

Connector pin out

Aux (Low Voltage Relay)		
3-pin 3.5 mm	Pin	Description
	NC	Aux Contact Normally Close
	C	Aux Contact Common
	NO	Aux Contact Normally Open

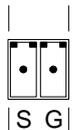
## 9.10. ANALOG Output

Analog output labeled **ANALOG 1 - 4** (ipCUE-delta and ipCUE-epsilon only) provides analog output 0 - 10 V. When connecting with another device (e.g. dimmer) it is essential to see to a perfect interconnection with earth. The output voltages generated by the analog output is mutually related to the reference level (ground) on pin labeled G.

Parameters of the analog output

- Range of the output voltage 0 - 10 V
- Max. output current (both source and sink) 10 mA
- Stepping regulation (LSB) 39 mV
- Min. set-up precision  $\pm 0.08$  V ( $\pm 2$  LSB)

Connector pin out

Analog Output		
2-pin 3.5 mm	Pin	Description
	S	Analog Output Signal 0 - 10V
	G	Ground

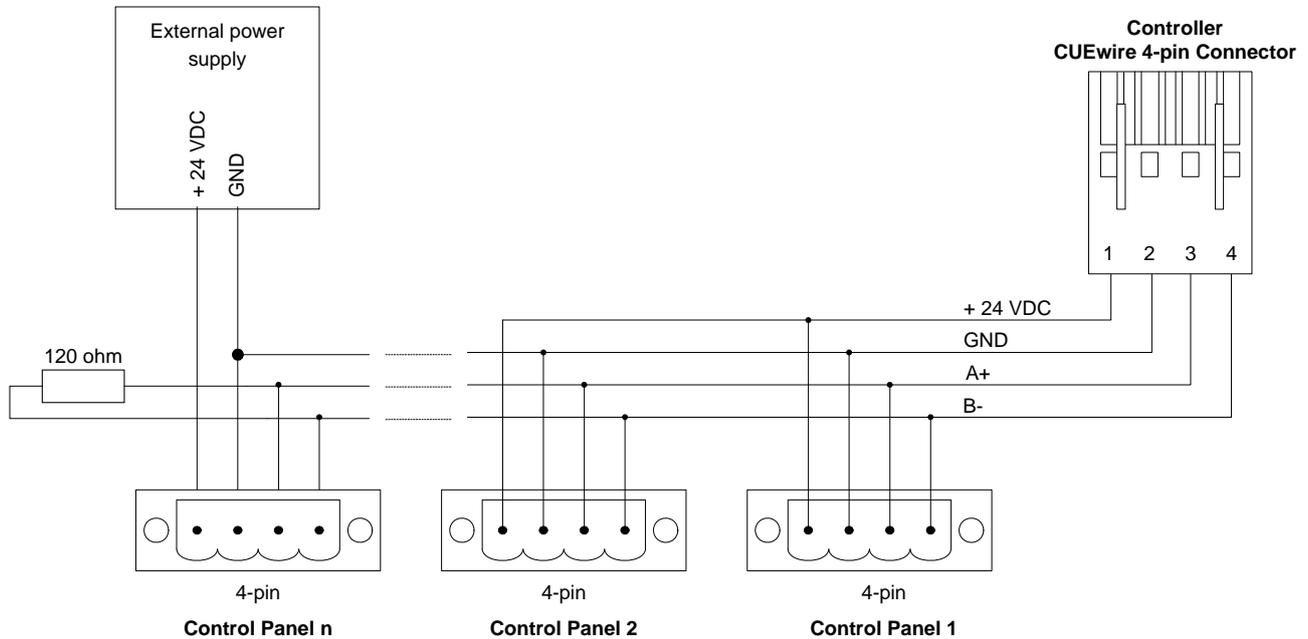
Note: All pins labeled G are connected together.

# 10. System Connection

## 10.1. CUEwire

### CUEwire Installation

On the picture you can see a typical connection of CUEwire.



The cable consists of 4 wires. The first pair serves as a signal line. The second pair of wires serves for power distribution. The signal conductors can have minimum 0.25 mm<sup>2</sup>, maximum capacity 100 pF/m.

The power distribution cable design depends on the number of control panels to be connected and on the required length of the cable. The maximum voltage loss on the whole power distribution conductors should not exceed 4 V on the ground wire and 4 V on the +24 V wire.

To supply power distribution line the output **OUT** of the controller can be used. In this case the whole consumption should not exceed 2 A. In case of using more than 2 touchCUEs units or for longer distances it is necessary to use external power supply +24 V for remote panels (see example of the **Panel n** in the picture above).

Approximate consumption of control panels is

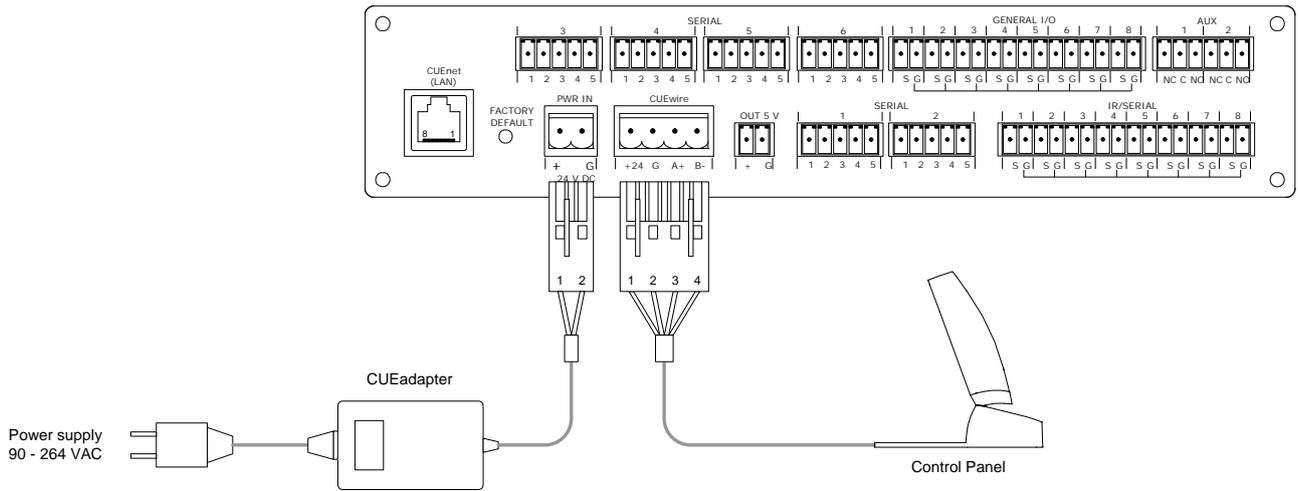
touchCUE ..... 1.0 A  
 keyboardCUE ..... 0.3 A  
 keyboardCUE-S..... 0.1 A

For the power consumption you can calculate **1 touchCUE = 3 keyboardCUE = 10 keyboardCUE-S**.

Table of maximum cable lengths

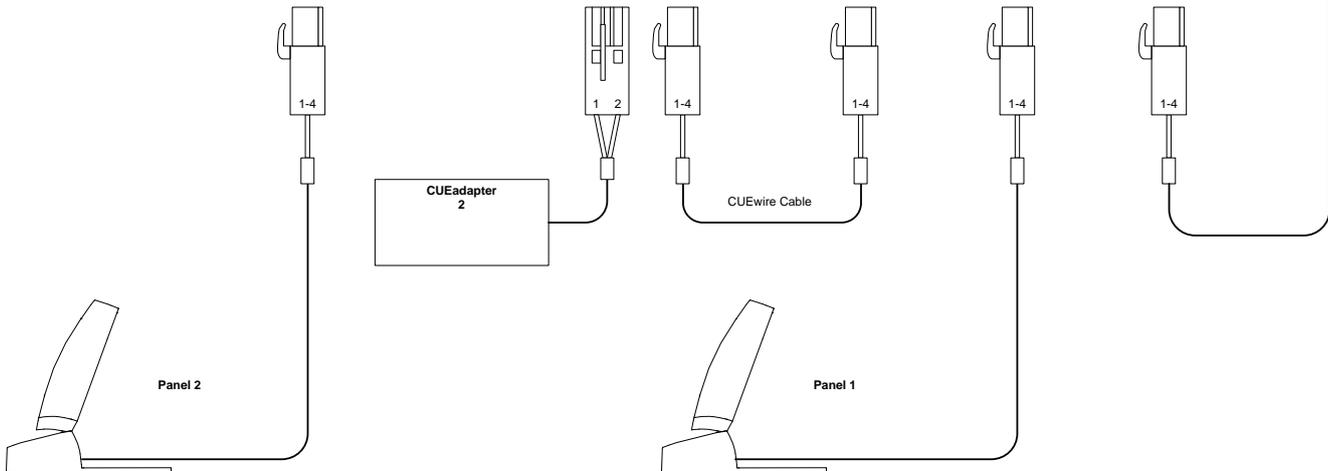
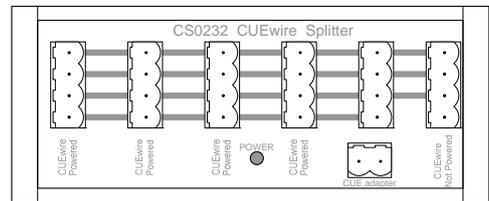
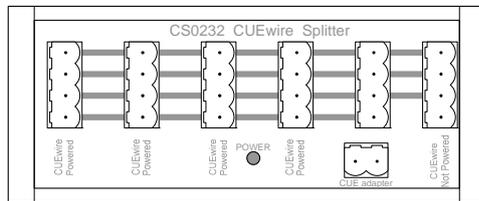
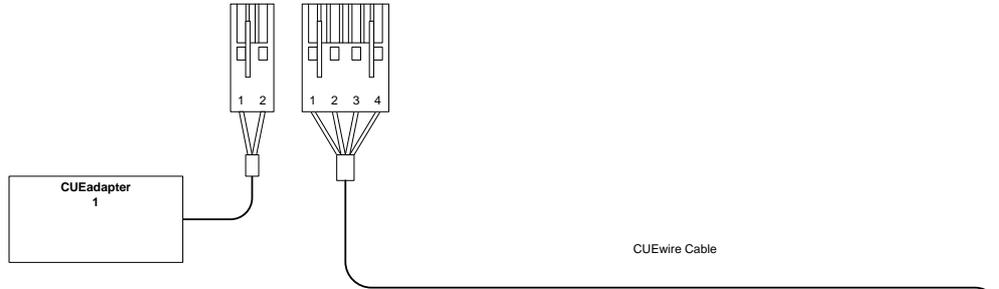
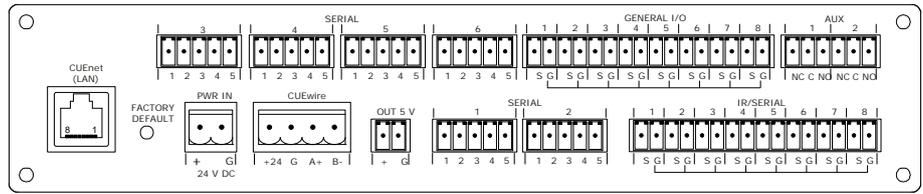
Number of touchCUE	Cable 1 mm <sup>2</sup>	Cable 2 mm <sup>2</sup>	Cable 3 mm <sup>2</sup>	Cable 4 mm <sup>2</sup>
1	200 m	400 m	600 m	800 m
2	100 m	200 m	300 m	400 m
3	60 m	130 m	200 m	260 m
4	50 m	100 m	150 m	200 m
5	40 m	80 m	120 m	160 m

# Simple control panel connection



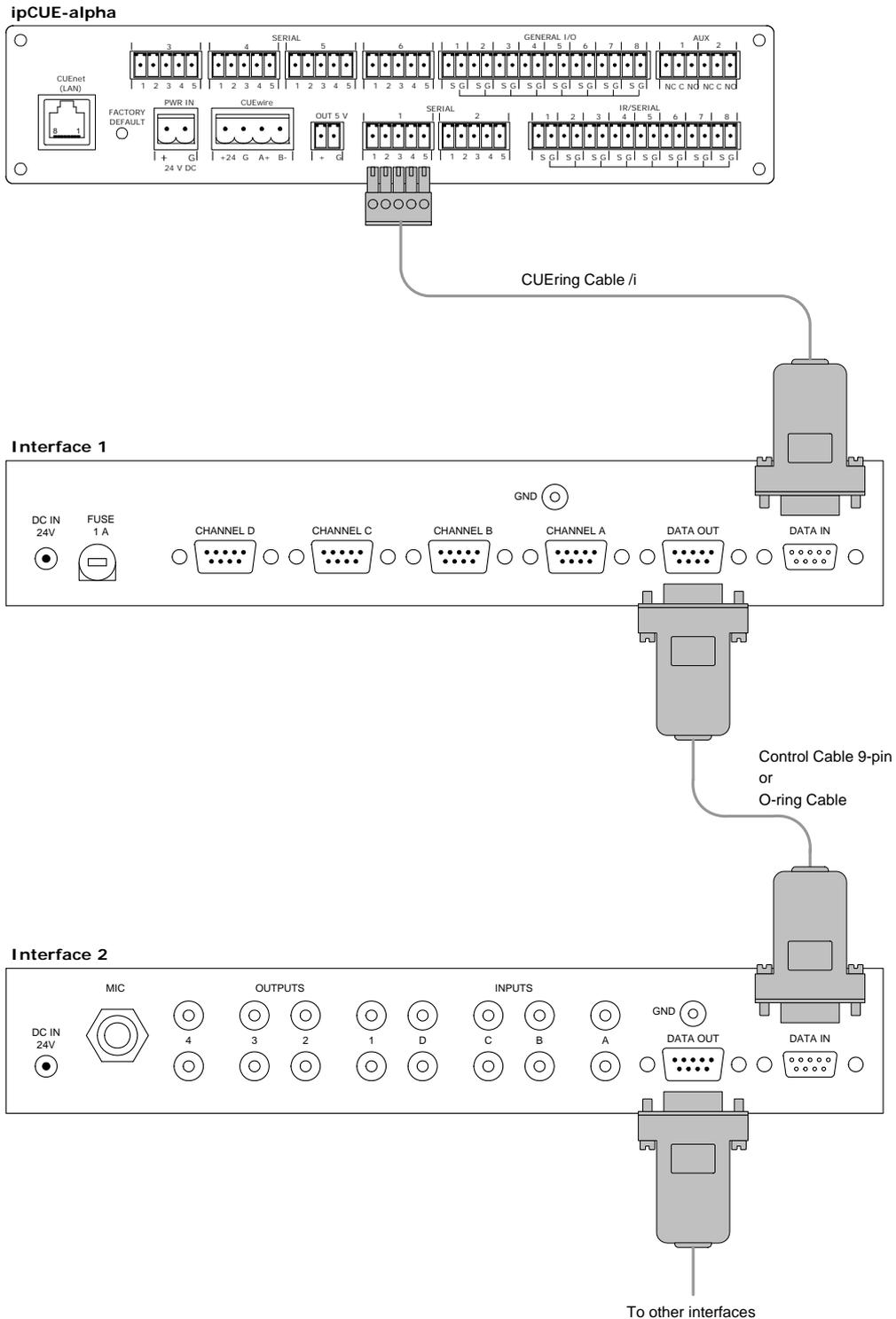
# Multiple control panels connected to a CUEwire Splitter

## ipCUE-alpha



## 10.2. CUERING

The S1 serial channel is used as CUERING port for interfaces and power and lighting control units. If no interface or power and lighting control units are used in project, it is possible to use S1 serial channel as standard RS-232 control port.

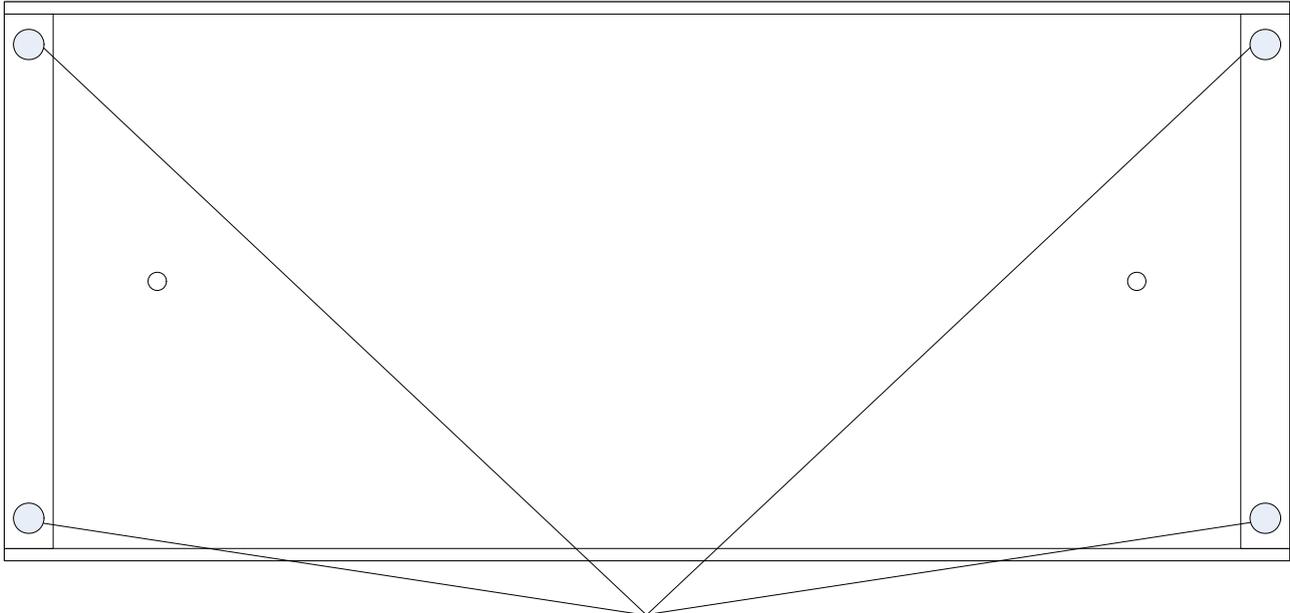


# 11. Mounting

## 11.1. Shelf Placement or Stacking

Rubber feet are provided for shelf placement or stacking. Stick the feet near the corner edges on the bottom side of the ipCUE Controller.

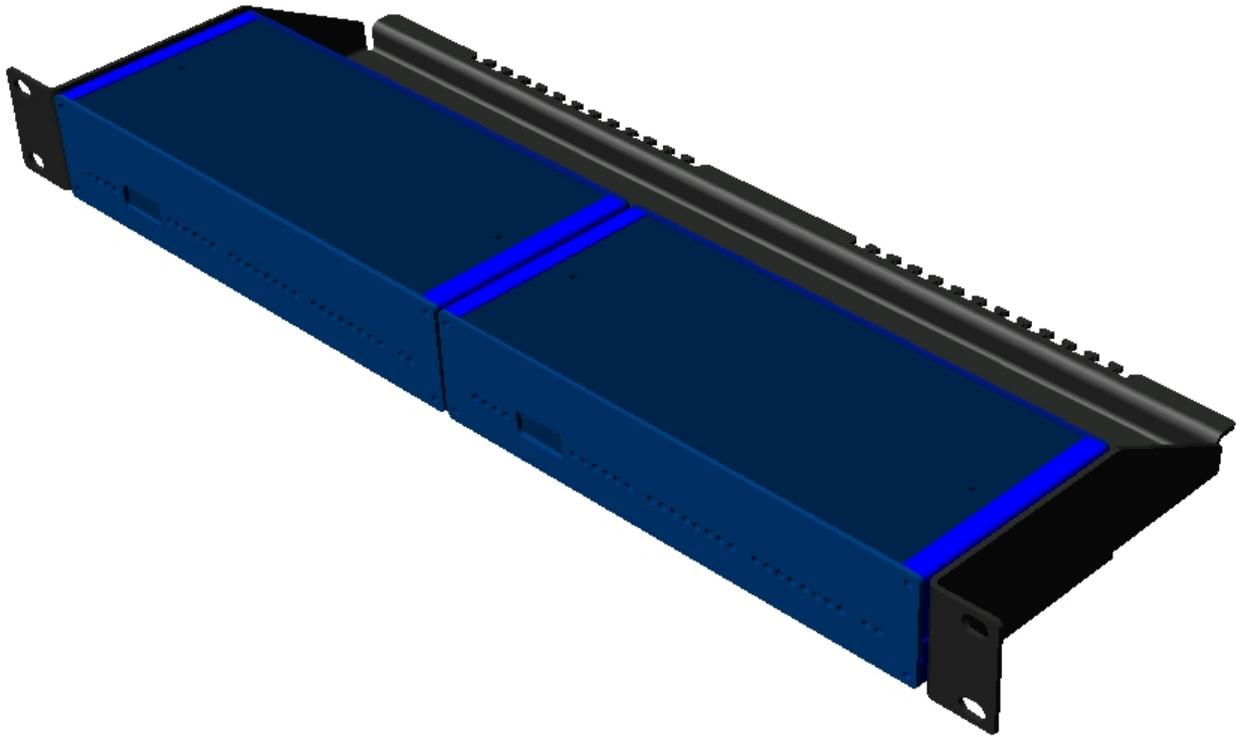
ipCUE-alpha Bottom Side



Four Rubber Feet

## 11.2. Rack Mounting

---



## 12. FACTORY DEFAULT Button

This button carries two functions:

1. When pressed shortly (< 2 seconds) the reset of the unit is performed followed by operating system boot taking approx. 26 seconds.
2. When pressed longer (until The CPU LED indicator will flash three times shortly to confirm), the factory default function is performed. The factory default is setup as follows:

### Identification

Name..... Empty

Internet Clock..... Empty

### Date and Time

Time zone ..... GMT + 0

Date and time... Unchanged

### IP Connection

Host name..... Empty

IP address ..... 192.168.1.127

Subnet mask .... 255.255.255.0

Default gateway Empty

DNS..... Empty

Applications..... Unchanged, stopped

### Diagnostics

Serial ..... Mode RS-232

IR/Serial ..... Unchanged

IO..... All off, pull-up off

AUX..... All off

Firmware ..... Unchanged

Password ..... Set to empty

Other settings are cleared (see Admin web).

Saved applications and files are not deleted.

# 13. Admin Web Server

## 13.1. Login



You have to login at first for operating with your ipCUE via these web pages.

Enter your password into the Password box and click the Login button to enter the ipCUE web pages.

Remember that the password is case sensitive.

Note: For changing your password use the Password menu after you are logged in.

## 13.2. Configuration



### Identification

Each ipCUE controller can be identified by a unique identification name. Unique names are most useful in applications requiring more than one ipCUE. This enables programmers and installers to reference controllers with logical, user friendly names, like “boardroom,” “lobby,” etc. To set the ipCUE controller identity, enter the unique name you wish to use in the Name box.

Be sure to click the Apply button for changes to the identification to become effective!

### IP Settings

This page is used for establishing the communication parameters for your ipCUE. The ipCUE uses standard internet protocol (IP) communication parameters. Certain parameters can be reset by the user. On start up, this page will display the ipCUE’s given Physical address (MAC), Current IP address. Carefully note this addressing information (and any changes you elect to make to the IP address, subnet mask, or default gateway). This information must be entered into the CUE System Director® program written for your specific application. For control systems with more than one ipCUE controllers, a unique IP address must be given to each ipCUE.

Some control systems are “stand alone” and not part of a larger network. For such “stand alone” systems, the Host name is optional. However, for control systems that are connected to a larger network, please obtain the Host name from the network administrator, and enter it into the corresponding box. DHCP is not supported in this release. Be sure to click the Apply button for any changes to the IP settings to become effective!

### DNS

This page is used for setting parameters of your ipCUE’s DNS server. On start up, this page will display the ipCUE’s given Current primary DNS server, Current secondary DNS server. You can reset the primary DNS server and secondary DNS server manually by entering your changes into the appropriate boxes. DHCP is not supported in this release. Be sure to click the Apply button for any changes to the DNS to become effective!

### SMTP

This page is used for setting parameters of SMTP server. Set a name or an address and the port of your SMTP server. The SMTP server and port are used by the XPL commands *EmailSend* and *PresetsEmailSend*.

## 13.3. Date and Time

The screenshot shows the 'Date and time' configuration page in the ipCUE web interface. The page has a purple header with the ipCUE logo and the text 'ipCUE-delta CS0267.000088'. A left sidebar contains a menu with items: Configuration, Date and time (highlighted), Applications, File storage, Web storage, Diagnostics, E-mail, System, Password, Backup, Reset, and License. The main content area is titled 'Date and time' and has three tabs: 'Current date and time' (selected), 'Time zone', and 'Internet clock'. Under the 'Current date and time' tab, the 'Current time:' is displayed as '01.01.2007 12:00:00 GMT'. Below this, there are input fields for 'Day, month, year:' with values '01', '01', and '2007', and 'Hour, minute, second:' with values '12', '00', and '00'. At the bottom right of the main area are 'Apply' and 'Help' buttons. The footer of the page includes 'www.cuesystem.com' and 'Contact Support' on the left, and the 'cue' logo on the right.

### Current date and time

This page is used for setting the time clock on your ipCUE. The current date, time, and time zone are shown on the Current time line. The applicable boxes can be selected to enter changes to the: date: day/month/year, time: hour/minute/second. Be sure to click the Apply button for any changes to the date and time to become effective!

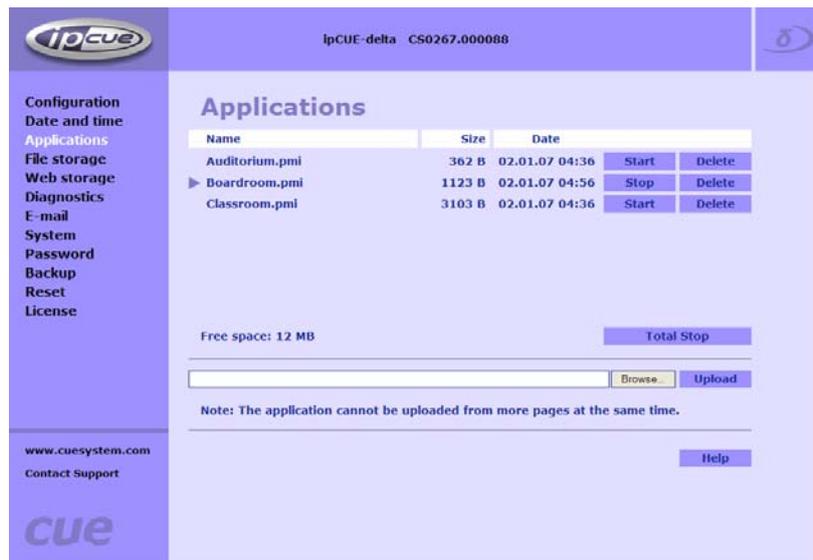
### Time zone

This page is used for setting the time zone on your ipCUE. The current date, time, and time zone, are shown on the Current time line. The time zone box can be selected to enter changes to the Time zone. Be sure to click the Apply button for any changes to the time zone to become effective!

### Internet clock

This page is used for synchronization of the ipCUE's date and time with an internet clock. Begin by selecting the check box for Use Internet clock. Next, enter the IP addresses (or complete address name) of the primary and secondary NTP servers. Use the Primary NTP server and Secondary NTP server boxes for this purpose. Be sure to click the Apply button for any changes to the internet clock to become effective!

## 13.4. Applications



This page is used for uploading compiled CUE System Director® programs to your controller. All uploaded applications are listed on this page, along with their file properties: file name/file size/date. The controller has a generous memory; unused free space is shown at the bottom of this page.

Controller also permits other service functions like deleting files, downloading programs back to a personal computer, and starting/stopping specific applications.

A “running flag” denotes the active application. The running application can be stopped via the Start/Stop button. Likewise, a stopped application can be restarted with the Start/Stop button.

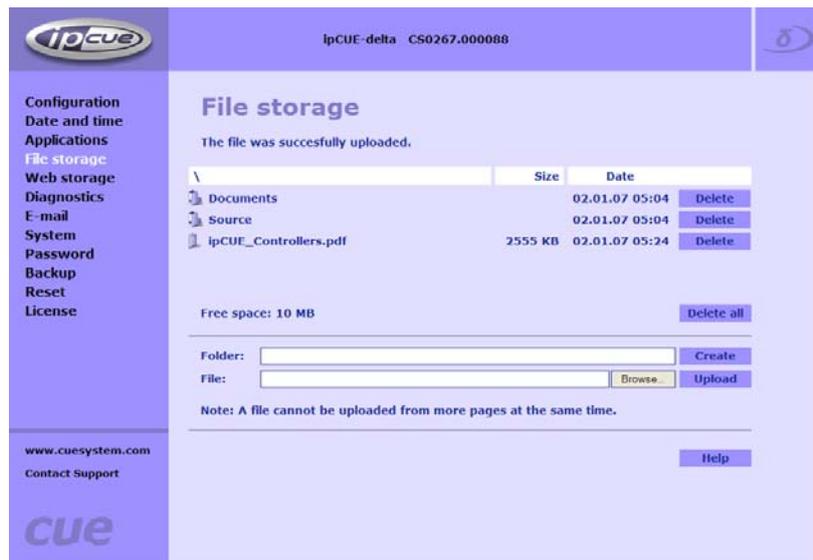
Files are uploaded from a personal computer to the controller by selecting the desired application program, and clicking the Upload button.

Files are downloaded from the controller to a personal computer by clicking the File name.

Files are easily deleted with the Delete button.

The button Total stop stops a running application. This application will not be automatically started after reset.

## 13.5. File Storage



The ipCUE's generous memory can be used as an auxiliary file storage device. This is helpful in archiving electronic manuals, pdf files, and other support documentation. File storage is managed via the file storage page.

A list of existing files, folders, and their properties is shown. To delete a file or a folder, click the Delete button on the corresponding line. To delete all files and folders from the current folder, click the Delete All button.

To create a new folder, enter a name for the new folder, and click the Create button. To upload a file, select the desired file, and click the Upload button.

Note: Files are automatically compressed for the ipCUE's internal file system. Accordingly, the size of your uncompressed file before storing may not match the decrease of free space shown on the ipCUE.

## 13.6. Web Storage

	Size	Date		
background.gif	296 KB	02.01.07 05:40	Test	Delete
buttonstart_press.gif	2991 B	02.01.07 05:41	Test	Delete
buttonstart_release.gif	5369 B	02.01.07 05:41	Test	Delete
buttonstop_press.gif	2826 B	02.01.07 05:41	Test	Delete
buttonstop_release.gif	5175 B	02.01.07 05:41	Test	Delete
index.html	3421 B	02.01.07 05:42	Test	Delete
logo.gif	149 KB	02.01.07 05:43	Test	Delete
postform.html	1046 B	02.01.07 05:43	Test	Delete
progressbar.gif	37 KB	02.01.07 05:43	Test	Delete
progressbar_background.gif	5226 B	02.01.07 05:43	Test	Delete
Free space: 9716 KB			Delete all	

Folder:

File:

Note: The maximum size of file with the .html or .htm extension is 81920 bytes. A file cannot be uploaded from more pages at the same time.

The ipCUE's generous memory can be used as an user web pages file storage device. Web storage is managed via the web storage page.

The maximum size of single file with the \*.html or \*.htm extension is 81 920 bytes. The maximum size of file with another extensions is unlimited.

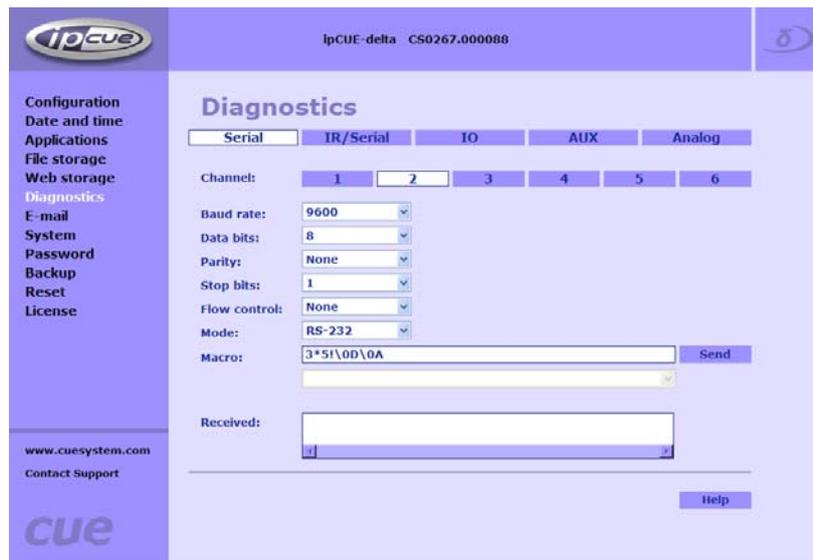
Click the button Test if you want to show web page in an explorer.

A list of existing files, folders, and their properties is shown. To delete a file or a folder, click the Delete button on the corresponding line. To delete all files and folders from the current folder, click the Delete All button.

To create a new folder, enter a name for the new folder, and click the Create button. To upload a file, select the desired file, and click the Upload button.

Note: Files are automatically compressed for the ipCUEs internal file system. Accordingly, the size of your uncompressed file before storing may not match the decrease of free space shown on the ipCUE.

## 13.7. Diagnostics



### Serial

The page is used for sending strings to the ipCUE outputs and showing its answers. Select the desired Channel and other communication parameters: a Baud rate, a number of Data bits, a Parity, a number of Stop bits and a Flow control. Select a serial communication port Mode. Enter a string to the Macro box and click the Send button. The Received data box will show the answer in the ASCII format on the first line and in the hexadecimal format on the second line.

### Important notes

- Remember all channel parameters keep their values which you set via these web pages even if you exit them.
- The channel S1 is by default used as the CUERING.
- The channels S1 and S2 can be operated only in RS-232 mode.
- RS-422 and RS-485 can be operated only with the None or Delay flow control modes.
- The answer shown in the Received data box is captured only during the first 2 seconds after pressing the Send button.

### IR/Serial

The page is used for sending strings to the ipCUE's outputs. Select the desired Channel and other communication parameters: a Baud rate, a number of Data bits, a Parity and a number of Stop bits. Enter a string to the Macro box and click the Send button. Important note: Remember all channel parameters keep their values which you set via these web pages even if you exit them.

### IO

The page shows a status of ipCUE's IO channels and enables to set up them. An input voltage of the channels is shown in volts and in a number value. Pull-up resistors and outputs can be set via this page. To do it click the On/Off button. Important note: Remember all channel parameters keep their values which you set via these web pages even if you exit them.

### AUX

The page shows a status of ipCUE's AUX channels and enables to set up them. A status of the channels is shown. To change it click the Close/Open button. Important note: Remember all channel parameters keep their values which you set via these web pages even if you exit them.

## 13.8. E-mail

The screenshot shows the 'E-mail' configuration page in the ipCUE web interface. The page has a purple header with the ipCUE logo and the text 'ipCUE-delta CS0267.000088'. A left sidebar contains a menu with items like Configuration, Date and time, Applications, File storage, Web storage, Diagnostics, E-mail, System, Password, Backup, Reset, and License. The main content area is titled 'E-mail' and contains fields for Sender Name (ipCUE Controller), Sender E-mail (delta@ipcue.com), and four Recipient entries (Recipient #1 to #4) with Name and E-mail fields. At the bottom right are 'Apply' and 'Help' buttons. The footer of the sidebar shows 'www.cuesystem.com' and 'Contact Support'.

This page is used for setting parameters of email parameters and recipients addresses.

The SMTP server must be set. See the Configuration/SMTP setting.

The sender Name and E-mail are addresses of your ipCUE. The sender Name and E-mail are used by the XPL commands *EmailSend* and *PresetEmailSend*.

The recipient Names and E-mails are addresses of recipients, where emails will be sent using the XPL command *PresetEmailSend*.

## 13.9. System



### Firmware

This page is used for updating the ipCUE firmware. The Current version of firmware is shown. To upload new firmware, select the desired version, and click the Upload button.

### Information

The page shows basic information about your ipCUE's hardware. The CPU type, CPU frequency, and the flash and RAM memory sizes are shown.

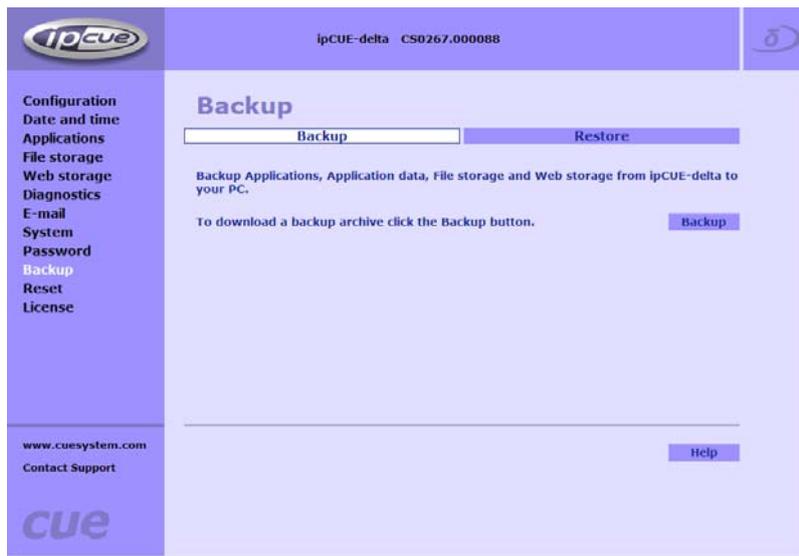
## 13.10. Password



The screenshot displays the web interface for configuring a password. The top header includes the ipCUE logo, the text "ipCUE-delta CS0267.000088", and a refresh icon. A left-hand navigation menu lists various system settings: Configuration, Date and time, Applications, File storage, Web storage, Diagnostics, E-mail, System, Password (highlighted), Backup, Reset, and License. The main content area is titled "Password" and contains two input fields: "New password:" and "Confirm new password:", both filled with asterisks. At the bottom right of the main area are "Apply" and "Help" buttons. The footer of the page contains the website address "www.cuesystem.com" and "Contact Support", along with the "cue" logo.

A case sensitive password is necessary to login to the web pages. Set a new password via the New password box. You must reenter the password in the Confirm new password box (an error message will appear if the confirmation does not match, in which case you should reenter your password again in both boxes). Finally, the new password is implemented by clicking the Apply button.

## 13.11. Backup



### Backup

The page is used for the backup applications, files and folders. The Backup copies all Applications, Application data, File storage and Web storage to the one archive. This archive is saved to the PC. To start the backup process, click the Backup button.

Note: To see the backed-up/restored applications, click the Applications menu. To see backed-up/restored files and folders, click the File Storage menu. The page is used for the backup of all applications, files and folders.

Note: To see the backed-up/restored applications, click the Applications menu. To see backed-up/restored files and folders, click the File Storage menu.

### Restore

**READ ALL IMPORTANT NOTES THAT FOLLOW BEFORE USING THIS OPERATION!**

The page is used for the restoring of all applications, files and folders. Restore copies of all applications, files, and folders from a backup archive on the PC to their corresponding locations on the ipCUE. To start the restore process, select the desired backup archive, then click the Restore button. The restore process can take up to 10 minutes, depending on the size of the files being restored.

If you want ipCUE's settings will be restored too, check the "Restore configuration" box. The ipCUE's settings are accessible via the Configuration, Date and time and Password menus. Important note: actual password and IP settings will be restored too.

The restore process takes from 1 to 10 minutes. It depends on the sizes of the restored files.

Important note: When restoring files, the running application will be stopped and all applications, files, and folders currently stored in the ipCUE will be deleted! If you want to retain them, use the Backup command before the Restore command.

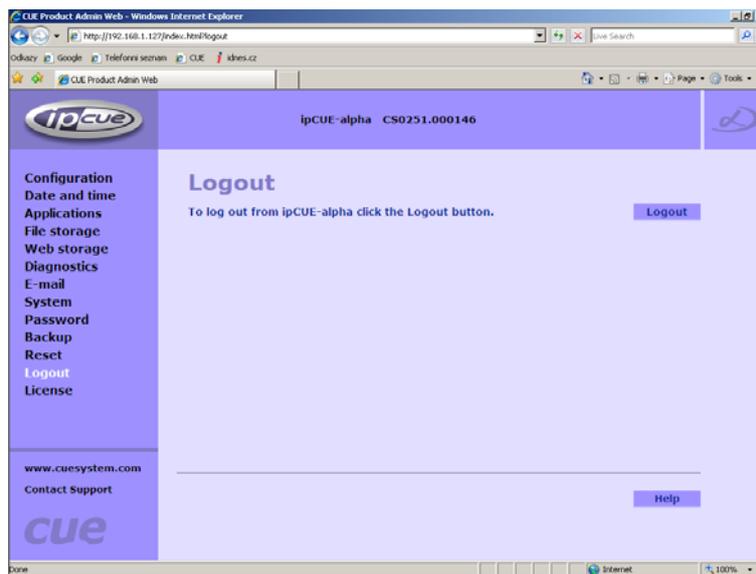
Note: To see the backed-up/restored applications, click the Applications menu. To see backed-up/restored files and folders, click the File Storage menu.

## 13.12. Reset



To restart your ipCUE, click the Reset button.

## 13.13. Logout



When you are finished working with the ipCUE, click Logout to exit.

## 13.14. License



ipCUE-delta CS0267.000088

**License**

END-USER NOTICE AND LICENSE AGREEMENT FROM CUE, a.s.

NOTICE TO END-USER: CAREFULLY READ THE FOLLOWING LEGAL AGREEMENT (THIS "LICENSE"). INSTALLATION OR USE OF THE ENCLOSED CUE, a.s. SOFTWARE PROGRAMS (COLLECTIVELY, "SOFTWARE") ON YOUR COMPUTER SYSTEMS OR HARDWARE DEVICES CONSTITUTES YOUR ACCEPTANCE OF THESE TERMS. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE, PROMPTLY DELETE THE SOFTWARE FROM YOUR COMPUTER SYSTEMS AND HARDWARE DEVICES, DESTROY ANY COPIES YOU MADE OF THE SOFTWARE OR ANY INSTALLATION MEDIA OF THE SOFTWARE INCLUDED WITH YOUR SYSTEM, AND DISPOSE OF ALL WRITTEN MATERIALS IN YOUR POSSESSION REGARDING THE SOFTWARE.

License Grant: CUE grants to You, as an individual, a license to install and use one (1) copy of the Software on a single computer at a time; provided, however, that You may make copies of the Software solely for Your development of applications for CUE hardware and demonstration versions of such applications. Any applications created with the Software may only be used with Cue hardware. Your license to use the Software is conditioned upon Your compliance with the terms of this License. A License is required for each end-user of the Software. A license is required for each installation of the Software. You may make one (1) copy of the Software for archival purposes only. You may use this Software only in connection with CUE hardware. You must have acquired the Software directly in connection with the purchase of CUE hardware from CUE or from a CUE approved reseller for this license to be effective. If You have purchased a Site License, You may complete only the number of installations specified in the License Agreement accompanying the Software.

Copyright: The Software and software built into CUE hardware ("Firmware") are protected by copyright law and international treaty provisions. You acknowledge that no title to the intellectual property in the Software and Firmware is transferred to You. You further acknowledge that title and full ownership rights to the Software and Firmware will remain the exclusive property of CUE, and You will not acquire any rights

www.cuesystem.com  
Contact Support

cue

## 14. Software and Firmware License

END-USER NOTICE AND LICENSE AGREEMENT FROM CUE, a.s.

**NOTICE TO END-USER:** CAREFULLY READ THE FOLLOWING LEGAL AGREEMENT (THIS "LICENSE"). INSTALLATION OR USE OF THE ENCLOSED CUE, a.s. SOFTWARE PROGRAMS (COLLECTIVELY, "SOFTWARE") ON YOUR COMPUTER SYSTEMS OR HARDWARE DEVICES CONSTITUTES YOUR ACCEPTANCE OF THESE TERMS. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE, PROMPTLY DELETE THE SOFTWARE FROM YOUR COMPUTER SYSTEMS AND HARDWARE DEVICES, DESTROY ANY COPIES YOU MADE OF THE SOFTWARE OR ANY INSTALLATION MEDIA OF THE SOFTWARE INCLUDED WITH YOUR SYSTEM, AND DISPOSE OF ALL WRITTEN MATERIALS IN YOUR POSSESSION REGARDING THE SOFTWARE.

**License Grant:** CUE grants to You, as an individual, a license to install and use one (1) copy of the Software on a single computer at a time; provided, however, that You may make copies of the Software solely for Your development of applications for CUE hardware and demonstration versions of such applications. Any applications created with the Software may only be used with Cue hardware. Your license to use the Software is conditioned upon Your compliance with the terms of this License. A License is required for each end-user of the Software. A license is required for each installation of the Software. You may make one (1) copy of the Software for archival purposes only. You may use this Software only in connection with CUE hardware. You must have acquired the Software directly in connection with the purchase of CUE hardware from CUE or from a CUE approved reseller for this license to be effective. If You have purchased a Site License, You may complete only the number of installations specified in the License Agreement accompanying the Software.

**Copyright:** The Software and software built into CUE hardware ("Firmware") are protected by copyright law and international treaty provisions. You acknowledge that no title to the intellectual property in the Software and Firmware is transferred to You. You further acknowledge that title and full ownership rights to the Software and Firmware will remain the exclusive property of CUE, and You will not acquire any rights to the Software and Firmware except as expressly set forth in this License. You agree that any copies of the Software will contain the same proprietary notices which appear on and in the Software.

**Prohibited Uses:** Without obtaining prior written permission from CUE, You may not (a.) use, copy, modify, alter, or transfer the Software or documentation except as expressly provided in this License; (b.) translate, disassemble, decompile, reverse program or otherwise reverse engineer the Software and Firmware; (c.) sublicense or lease the Software or its documentation (d.) use this Software with any hardware other than products produced by CUE or in connection with applications being developed for CUE hardware; or (e.) use the Software in a multi-user, network, or multiple computer environment or in a rental, time sharing or computer service business. Without prejudice to any other rights, CUE may terminate this License if You fail to comply with its terms and conditions. In such event, You must immediately destroy all copies of the Software.

**No Other Warranties:** CUE DOES NOT WARRANT THAT THE SOFTWARE AND FIRMWARE IS ERROR FREE. CUE DISCLAIMS ALL WARRANTIES WITH RESPECT TO THE SOFTWARE AND FIRMWARE, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES OR LIMITATIONS OF HOW LONG AN IMPLIED WARRANTY MAY LAST, OR THE EXCLUSION OF LIMITATION OF INCIDENTAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION.

**No Liability for Consequential Damages:** IN NO EVENT SHALL CUE BE LIABLE TO YOU FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OF ANY KIND ARISING OUT OF THE PERFORMANCE OR USE OF THE SOFTWARE, EVEN IF CUE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

**Label on Hardware:** Use of this hardware and the software programs controlling this hardware is subject to the terms of the Software and Hardware License Agreements (the "License Agreements"). You should not use the software and hardware until you have read the License Agreements. By using the software and hardware, you signify that you have read the Licenses Agreements and accept their terms. The "License Agreement" is available at [www.cuesystem.com](http://www.cuesystem.com).

**Trademark Notice:** CUE and the CUE logo are trademarks of CUE, a.s. in the United States and in other countries.

