AB436200031

e:cue
Butler S2

Information for Use

Read the Information for Use and the Safety Instructions carefully. Subject to modification without prior notice. Typographical and other errors do not justify any claim for damages. Modification of the product is prohibited.
This manual is designed for electricians, system administrators, and product users.
All product names and trademarks mentioned in this manual are trademarks of their respective owners.
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Downloads and more information at:
www.ecue.com

Table of Contents

1   Safety instructions

Please read the safety instructions, provided in a separate manual, carefully. Make sure that the environmental, mounting, and installation prerequisites are met. This manual should be kept at a safe place and in reach of the device.

1.1   Symbols

⚠️ The exclamation mark warns about possible damage of the device itself, to connected devices, and to the user.

ℹ️ The information symbol gives general hints and informs about handling and procedures for use of the device.

1.2   General instructions

⚠️
— Only use the device in compliance with the environmental conditions specified in the technical data. Otherwise the unit will be damaged.

— To prevent the device from overheating, only operate it in well-ventilated environment. Otherwise the unit may overheat and fail.

— Actions described in this manual may only be performed with special care by skilled personnel. Incorrect handling may damage the unit

— Repairs may only be carried out by authorized, specially trained personnel to ensure reliability. When in doubt, contact e:cue service.

— When using a power supply unit, the device must be supplied by a separate power supply that is certified according to the local regulations (e.g. SELV, Class 2).

ℹ️
— If safety instructions are missing, please contact Traxon e:cue to receive a new copy.

2   General device description

The e:cue Butler S2 is a DMX/RDM engine that can be used either in standalone mode to replay and loop previously uploaded lighting shows, or as a DMX output device controlled by another e:cue server with an e:net connection. It is programmed using a PC or the e:cue Lighting Control Engine running the e:cue software suite. One compact Butler controls up to 1024 DMX channels in two DMX universes. Up to 99 cuelists for shows in standalone mode are stored on a micro SD card. The DMX channel control can be increased to 16,384 channels by clustering more Butler S2s. The Butler is powered by an external power supply with 12 - 24 V DC or via 48 V DC PoE (Power over Ethernet). A 7-segment LED is used for message and status display.

2.1   Delivery content

Delivery content for the e:cue Butler S2 (AB436200031):

1.   Butler S2 device
2.   2-pin screw terminal   AA611830135
3.   microSDHC card for show storage   AA6137401HA

4. Safety instructions
5. Welcome card

2.2 Optional accessories

- Butler S2 accessory pack (12 V DC/12 W plug power supply, connector) (AA573980155)

- Butler S2 Garage (for up to 12 Butler S2 incl. power supply, 3U) (AA611800031)

- RJ45-to-XLR5 adapter cable (AA611810135)

2.3 Product specifications

Dimensions (W x H x D)	71.5 x 24 x 85 mm/ 2.81 x 0.94 x 3.35
Weight	125 g / 0.28 lb
Power supply input	12 … 24 V DC via ext. PSU or 48 V DC via PoE
Power consumption	2.7 W (incl. DMX termination)
Rated current	max. 250 mA
Operating / storage temperature	0 … 40 °C / 32 … 104 °F
Operating / storage humidity	0 … 80% RH, non-condensing
Protection class	IP20
Electrical safety	SELV
Housing	Aluminium, plexi glass, steel
Mounting	Desktop or in Butler Garage
Certificates	CE, ETL, UKCA

Interface specifications

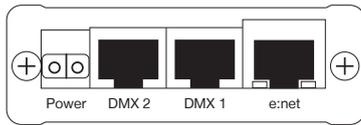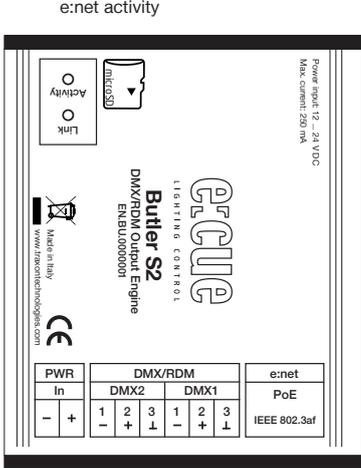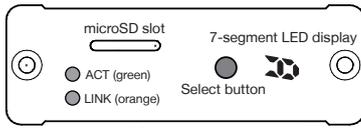|	
Operator display	7-segment LED 2 x e:net status LEDs
Control keys	1 x push button
e:net/Ethernet	1 x RJ45, 10/100 MBit, PoE enabled
Supply power	2 x Screw terminals, cable width 0.25 … 1 mm²
DMX	2 x RJ45, USITT DMX512-A/RDM E1.20 Pin 1: DMX– Pin 2: DMX+ Pin 3: DMX Ground Galvanic isolation: 1000 V

content ↑

2.4   Connectors and interfaces

View from top:

Control/interface	Function
e:net activity	Two LEDs, showing physical link to a server system (Link) and data exchange (Activity)
microSD slot	Keeps an microSD card for show and data storage
Select button	For cuelist control and system operations
7-segment LED display	Show system messages and current cuelist status
Power	Power supply 12 … 24 V DC
DMX1	DMX output universe #1/RDM universe #1
DMX2	DMX output universe #2/RDM universe #2
e:net	e:net/Ethernet connection
10	DIN rail handle

2.5   Cuelist displays

Online mode

o	A clockwise rotating circle show connection to a system and the Programmer of the Lighting Application Suite. The Butler S2 is now in online mode to be configued or to receive cuelist uploads.

Standalone mode

When in normal operation mode the display consecutively shows the current sync state, the output mode and the number of cuelists that are played at the moment. The status is displayed as SYN - MODE - CL - [pause]

SYN	The sync mode, either the Butler S2 is master or slave.
A	»A« This Butler S2 is a master.
b	»b« This Butler S2 runs in slave mode.
d	»d« The Butler outputs DMX.
4	The number of cuelists is displayed as a single digit.

2.6   System messages

LOAd	»LOAd« Butler S2 is in bootloader mode. This display may result from an incomplete firmware update or when the system button is pressed while powering up the Butler S2.
Crd	»Crd« Card error, the microSD card is missing, a file is corrupt or a read error occured. Press the button, if the error reappears rewrite the card.
SEr	»SEr« Serial number error. The reading of the serial number failed. Repower system. If the error reappears contact your e:cue service.
rES	The Butler S2 executes a soft reset after the System button was pressed for at least four seconds.
S	Standby, no cuelist running.

3   General remarks

3.1   Transport

Only transport the device in its original packaging. This protects the device from damage.

3.2   Unpacking

Only unpack the e:cue Butler S2 at its installation location. To protect the device against condensation water, unpack it and wait until all moisture remaining in the device has evaporated. Condensation can occur when the device is moved from a cold to a warm location. Keep the packaging for use in case of further transport. Inspect all parts for completeness regarding chapter „2.1 Delivery content" on page 03. If there is apparent damage to the device or parts are missing from the delivery scope, please contact the Traxon e:cue support service.

3.3   Warranty regulations

Depending on the product, warranty regulations are of different duration. The warranty time is usually noted in the quote and in the order confirmation. See www.traxon-ecue.com/terms-and-conditions for details. Legal warranty regulations apply in any case.

3.4   Maintenance and Repair

This device requires no maintenance.

> ⚠️ — Before dismounting, appropriate measures must be taken to protect the respective components against damage caused by electrostatic discharge (ESD protection).
>
>   — Do not try to repair the device. Return it to your Traxon e:cue distributor for replacement or repair.

3.5   Disposal

> 🗑️ Batteries and technical appliances must not be disposed of with domestic waste, but should be handed in at the appropriate collection and disposal points.

The proper disposal of packing materials and of the device is the responsibility of the respective user and for his account; in all other matters, the retrieval obligation for packing materials and the device is subject to the statutory regulations.

3.6 Support

In case of technical problems or questions regarding installation and repair please contact:

Traxon Technologies Europe GmbH

Customer Service

Karl-Schurz-Str. 38

33100 Paderborn, Germany

+49 (5251) 54648-0

support@ecue.com

4 Installation

4.1 e:net

⚠ e:net requires an isolated network segment and cannot operate properly when using e.g. internet or video/audio streaming in the same network simultaneously.

Use standard CAT5 (RJ45) network cabling for e:net.

4.2 DMX connection

The DMX output is taken from the RJ45 connectors labeled „DMX1" and „DMX2". To connect DMX using a XLR5 type plug, please use the adaptor cable, item number 40005, available as e:cue accessory or contact your nearest e:cue distributor for a suitable adaptor cable.

DMX pin assignment
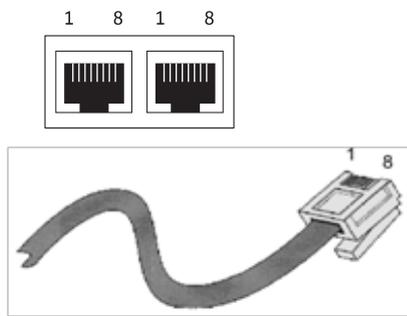
pin no.	signal
1	DMX-
2	DMX+
3	GND
4	n/c
5	n/c
6	n/c
7	n/c
8	n/c

⚠ — Do never use RJ45 cross-cables (TX and RX lines exchanged) on the DMX interfaces. This can destroy the DMX interface of the Butler S2!

— Terminate each DMX line with a 120 Ohms resistor to stabilze DMX communication.

4.3 Power supply

The Butler S2 can be powered by an external AC/DC power supply or via Power-over-Ethernet (PoE). The power supply must deliver a supply current of 250 mA. Only use the e:cue power supply. The PoE supply voltage is 48 V DC. Power-over-DMX is not supported.

⚠ When using Power-over-Ethernet do not connect any power supply physically to the DC Input of the Butler S2. Otherwise the power feed from Ethernet will not be recognized.

5   System button

5.1   During system boot

- Keeping the system button pressed while powering up the Butler S2 starts the bootloader mode and displays LOAd, no further loading happens.

- Keeping the system button pressed for three seconds, the Butler S2 displays dEF. If the system button is released now no changes are made.

- If you keep the system button pressed for additional three seconds all parameters including the IP address will be reset to factory settings. The IP address is now 192.168.123.1 again.

5.2   During normal operation in online mode

- When in online mode, connected to the Programmer, a short press marks this Butler S2 in the Network tab with a small asterisks. This helps to identify the Butler S2 in a Butler Garage or in a huge configuration. Additionally the assigned Action is triggered.

5.3   In standalone mode and during normal operation

- When pressed for a short time (less than six seconds) the Butler S2 executes the Action assigned to the system button. See the Lighting Application Suite System Manual for a detailed list of assignable Actions.

- Keeping the button pressed for more than six seconds a fast blinking rES gets displayed. If the button is released now a soft reset is executed and the Butler S2 returns to normal operation.

- Keeping the button pressed for more than 12 seconds a fast blinking dEF is displayed. Releasing the button now resets the configuration of the Butler S2 to factory settings. This includes the IP, which is then 192.168.123.1 again.

- If you keep the button pressed for more than 18 seconds no changes are made.

5.4   In standalone mode and in an error condition

- A short press acknowledges the error and restarts the system.

6   microSD card

The Butler S2 comes with a microSDHC card. The Butler S2 cannot operate if no microSD card is present. As a typical show file and configuration files do not take up more than a few Megabytes space, it is generally not necessary to replace the provided microSD card with a bigger one. If the microSD card has been removed during operation and is restored, the show may be continued by pressing the button on the device – otherwise you need to reboot.

> ⚠ Do not remove the SD card while the Butler S2 is in operation!

7   Status LEDs

e:net Link	OFF: no Ethernet link
	ON: link established
e:net Activity	OFF: no data transfer
	ON: Ethernet data exchange in progress

8   System configuration

For a complete overview of other functions like clustering and assignments of Actions and programming of shows see the System Manual for the Lighting Application Suite, available for download from www. traxontechnologies.com for free.

The Butler S2 can either be configured in standalone mode without the Lighting Application Suite and only with a web browser and a PC, or it can be setup in online mode with the Lighting Application Suite. Configuration in standalone mode is most recommended when the Butler S2 has his factory settings.

8.1   Using the standalone web interface

You can set the network parameters of the Butler S2 without any other system using a standard web browser on any PC or PC-like system.

Connect the Butler S2 with power and via a standard LAN patch cable over an Ethernet switch to the server (LCE or PC). If you want to connect the Butler S2 without Ethernet switch to the server use a so called cross cable, as not all Ethernet interfaces support automatic RX/TX detection.
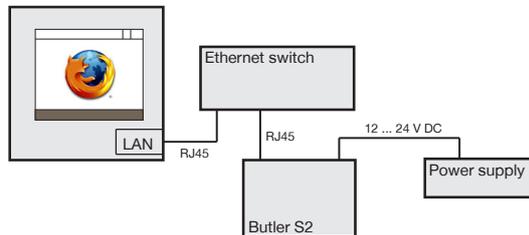
Start the web browser and enter the IP address of the Butler S2 in the address field of the browser, in factory state 192.168.123.1 (if the Butler was configured differently before and you do not know the IP address, perform a »Reset to factory settings«). You can now see the current settings and parameters.

To change the configuration, click the _**Configure**_ button and enter the password. The default password is "ecue", it can be changed during configuration.

Click _**Enter**_ and the main configuration dialogue gets displayed. Change the parameters (explained in the following chapter) and click _**Submit**_.

8.2 Online configuration

If not already available, download the e:cue Lighting Application Suite (LAS), for this visit www.traxontechnologies.com and follow the download link from the LAS page. Install the e:cue Lighting Application Suite on a server system like a notebook or a PC system.

> ⚠️ The Butler S2 requires e:cue LAS Version 5.6 or higher.

Connect the Butler S2 with power and via a standard LAN patch cable over an Ethernet switch to the server (LCE or PC). If you want to connect the Butler S2 without Ethernet switch to the server use a so called cross cable, as not all Ethernet interfaces support automatic RX/TX detection.
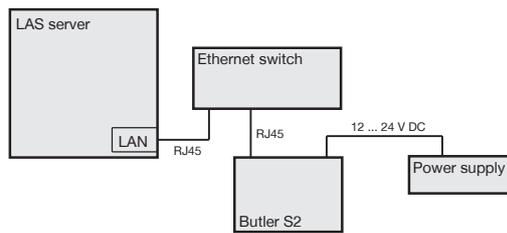

Start the Programmer from the Lighting Application Suite. In the _Application Options_ in the main icon menu use the _Advanced_ settings tab. Adjust the network card and IP address for the adapter that will be used to connect the server to the network switch and the Butler S2.

8.3 Basic Butler S2 settings

Select the Network tab from the upper left window to see network configuration and settings. Here you should see all devices in the network segment including the Butler S2. If you need more details see the System Manual for the Lighting Application Suite, also available for download from the Traxon Technologies website.
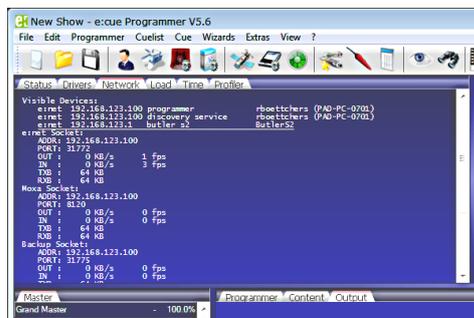
To set the basic configuration the Butler must not be used in the Programmer. Click on the _Butler S2_ line. This opens the dialogue for all basic settings including the network parameters.
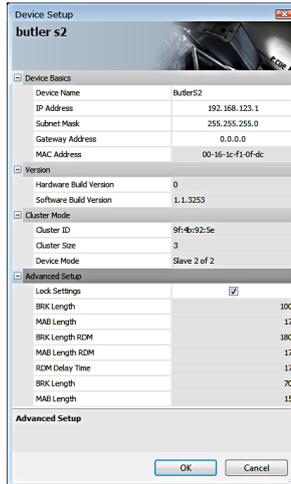
Set the necessary parameters for the Butler S2. The factory settings for the IP address is 192.168.123.1, be sure that no other device in the network uses this IP address.

⚠ When setting up more then one Butler S2 with factory settings, connect only one to the network, set a new IP address, then connect and configure the next Butler S2.

8.4 Network parameters

Device Basics

Device Name	The device will be displayed with this name in the e:cue programmer.
IP address	The IP address of the device (default: 192.168.123.1)
Subnet Mask	The netmask of the device (Default: 255.255.255.0)
Gateway address	The default gateway of the device (Default: no gateway)
MAC address	The physical address of the device (read only)

Versions

Hardware Build Version	The hardware version (read only).
Software Build Version	The software version (read only).

Cluster Mode

Cluster ID	Generated ID of the cluster for master/slave mode.
Cluster Size	Number of engines in this cluster.
Device Mode	Master or Slave n/m (n of m).

Advanced Setup

|	
Lock Settings	Checkmark, set by default, avoids changes for DMX and RDM by chance.
BRK Length	Break signal length in µs for the DMX protocol.
MAB Length	Mark after break length in µs for the DMX protocol.
BRK Length RDM	Break length in µs for the RDM protocol.
MAB Length RDM	Mark after break length in µs for the RDM protocol.
RDM Switch Time	The RDM Tx to Rx length in in µs.
BRK Length	Break length for e:pix protocol (not used).
MAB Length	Mark after break length for e:pix protocol (not used).

Do not modify the Advanced Settings, if you are not fully aware of the results.

Close the Network Configuration Dialogue, the changes will be transferred to the Butler S2. You can now

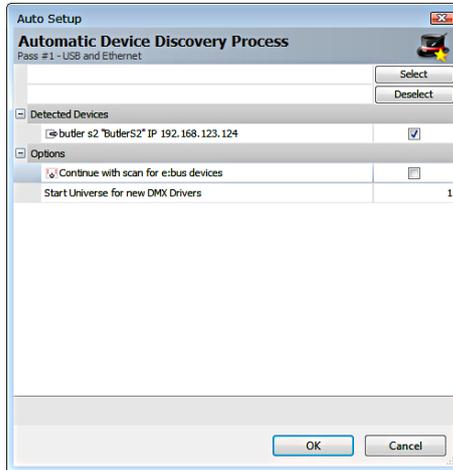integrate the Butler S2 to the Programmer for DMX output or show upload.

Execute the Device Manager dialogue of the Programmer by clicking the smartphone symbol in the top menu.
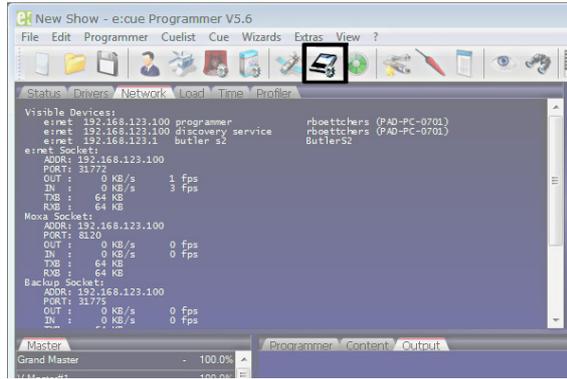

The Device Manager becomes active. Use the Network Wizard to find all new devices in the network, click the hat icon in the upper menu.
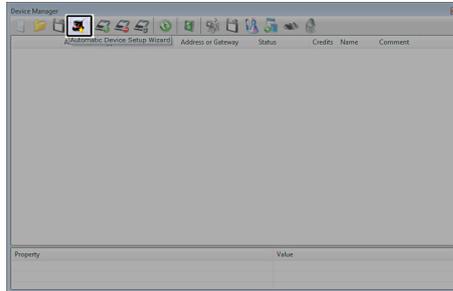
The Device Manager Wizard will find the new Butler S2 in the network. Deselect the option to check for e:bus devices, as the Butler S2 has no e:bus interface.


Click OK to connect the Butler S2 to the Programmer as DMX output device. The Device Manager now shows the Butler S2 in his device overview.
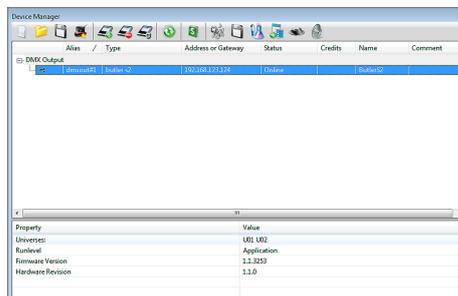
After a short time the status will change from _Warming up_ to _Online_.

8.5 Setting Device Properties

The Butler S2 can now be configured for use as an DMX output device. Double-click on the Butler S2 in the Device Manager's overview. This opens up another dialog where the application options (device properties) for the Butler S2 can be set. Alternatively move the mouse cursor over the device name, press the right mouse button and select _Properties_.
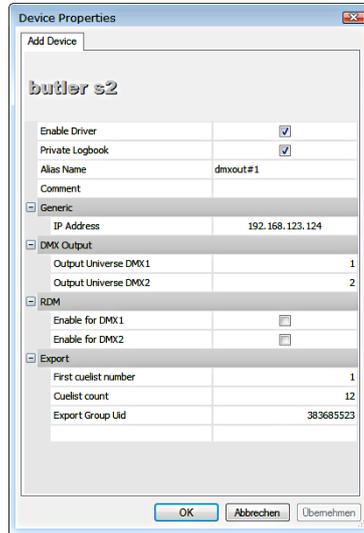
Set the proper application options for the Butler S2, click _OK_ to apply the changes.

Enable driver	Set the checkmark to make the device online, remove to set it to offline mode = standalone mode.
Private logbook	Checkmark to use a separate logbook in the Programmer. If unset, the Butler S2 messages appear in the main log.
Alias name	An arbitrary alias name to identify the Butler S2 in the Programmer.
Comment	A comment, e. g. the location or the function.

Generic

IP address	The selected IP address.

DMX Output

Output Universe DMX1	The DMX universe ID in the Programmer, for which port DMX1 of the Butler S2 is used.
Output Univers DMX2	The DMX universe ID in the Programmer, for which port DMX2 of the Butler S2 is used

RDM

Enable for DMX1	Enable RDM for DMX1 of the Butler S2.
Enable for DMX2	Enable RDM for DMX2 of the Butler S2.

Export

| First cuelist number	The first cuelist index which is sent to the Butler S2 when exporting shows.
Cuelist count	The number of cuelists, that get exported.
Export Group UID	The UID for the master/slave group on export.
Action Pad	Not used at the moment.

The Butler S2 is now configured and can be used as DMX output engine or as standalone engine after uploading shows.

For details about RDM and the RDM browser in the Lighting Application Suite please see the System Manual for the LAS, available for free download from www.traxontechnologies.com.

9   Firmware update

To update the firmware on the Butler S2 first download the latest firmware release from the Traxon Technologies website see the Butler S2 page for details. Download the firmware file and save it in a local directory on your server.

Start the Patchelor from the e:cue Lighting Application Suite. Every engine available in the network gets displayed, also the Butler S2 to update. Be sure that the checkmark in front of the Butler S2 is unset.
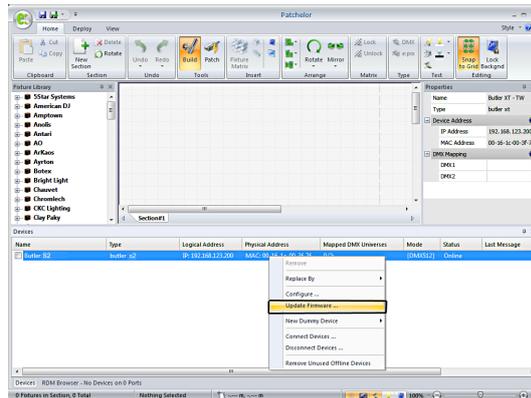
- Select the Butler S2 with a click, press the right mouse button and select *Update Firmware*.

- Select the file with the new firmware (*.bxt) in the upcoming dialog.

- After the download is complete the Butler S2 will restart with the new firmware.

The new firmware is available now.

If the update fails, the Butler will start with a message LOAd. Power down the Butler S2 and repower keeping the system button pressed. Retry to download the new firmware.

10   Dismounting

⚠ Before dismounting, appropriate measures must be taken to protect the respective components against damage caused by electrostatic discharge (ESD protection).

Disconnect all attached cables. Dismount the e:cue Butler S2. The dismounting is completed.

11 Certifications

CE UKCA

ETL LISTED Intertek
4006376

Conforms to UL Std. UL 60950-1
Cert. to CSA Std. C22.2 No. 60950-1

12 Dimensions

All dimensions in mm