e:cue

TRAXON | e:cue
MEMBER OF PROSPERITY GROUP

AA628600035, AA628610035

Butler PRO (e:pix)

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.
Except for internal use, relinquishment of the instructions to a third party, duplication in any type or form - also extracts - as well as exploitation and / or communication of the contents is not permitted.

Downloads and more information at:
www.ecue.com

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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.

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

1.2   General safety instructions

⚡ Only work on the product when it is de-energized to prevent electrical shocks. Incorrect handling may damage the unit.

♨ Device components can reach high temperatures! Let unit cool down after operation before mounting or removing unit to avoid burnings.

⚠
— The product must only be installed and put into operation by a qualified electrician. The applicable safety regulations and accident prevention regulations must be observed. Otherwise the unit may be damaged.

— Do not route network, DMX or any other communication line together with power lines. Data traffic or functions can be disturbed.

— The product may only be operated in the operating modes described in the manual. All other applications are considered to be inappropriate use. If the product is not used as intended, there is no guarantee that it will operate safely.

— To prevent the device from overheating, only operate it in well-ventilated environment. The ventilation slots may not be obstructed. Otherwise the unit may overheat and fail.

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

— The device must be supplied by a separate certified SELV Class 2 power supply.

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

2   General device description

The e:cue Butler PRO is a 16 channel DMX/RDM or e:pix interface that acts as an interface between a server running the e:cue Lighting Application Suite and devices with DMX512 or e:pix connections. The Butler PRO

content ↑

usually gets mounted in a universal 19-inch rack system or on walls or ceilings.

The server connection is a standard CAT5 RJ45 based Ethernet interconnect. The device connection is also RJ45 based. All usual CAT5 RJ45 cables can be used.

Highlights

- DMX version: Controls up to 8,192 DMX512 channels in 16 DMX/RDM universes. Supports RDM protocol over DMX for bidirectional communication (ANSI/ESTA E1.20, RDM over USITT DMX512)

- e:pix version: Controls up to 32,768 e:pix channels in 16 e:pix universes

- Basic configuration via LC display and cursor keys

- Display of status messages while operating

- 100 MBit system interconnect for e:net over Ethernet

2.1 Delivery content

- Butler PRO DMX/RDM   AA628600035
  or
  Butler PRO e:pix   AA628610035

- Rack mounting brackets

- Power chords DE, US, UK

- Welcome note

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 PRO (e:pix) 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 4. 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.

To update the firmware see „12 Firmware update" on page 13.

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   System diagram
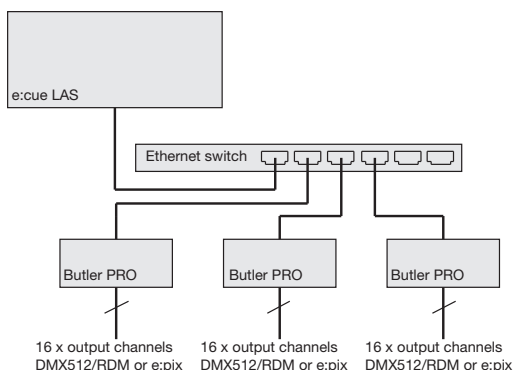
Use standard CAT5 RJ45 Ethernet cabling between server, switch and Butler PRO. Connection without Ethernet switch and with an Ethernet cross cable is not recommened. To connect DMX using a XLR5 type plugs, please use a adaptor cable, item number 40005, available as accessory or contact your nearest e:cue distributor for a suitable adaptor cable.
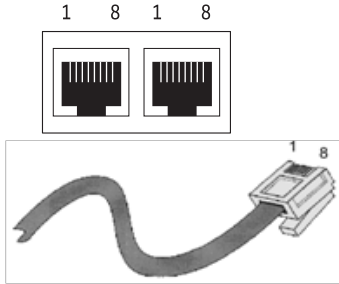
5   Connections

Frontplane

Backplane

Output ports 1 ... 16

Ethernet/e:net   Power
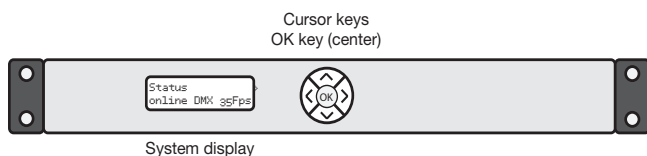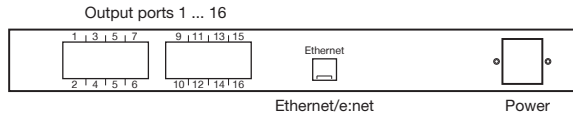
6   Terminal pinning

| pin no.	signal
1	DMX-/e:pix-
2	DMX+/ e:pix+
3	GND
4	nc
5	nc
6	nc
7	nc
8	nc

7   Mounting and installation

Mount the Butler PRO in a standard 19-inch rack system. Use appropriate rack screws, cage nuts and spring clips for mounting.

7.1   Unit distribution

As the Butler PRO has no active cooling, place a maximum of two units together, leave one unit free or place a passive device, followed by the next two units. Additionally care for:

- closing of unused units with rack plates

- mounting in a fan-ventilated closed rack

- placement of the rack in an air conditioned room
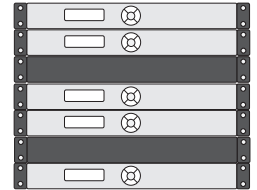
Connect the Butler PRO with the outputs of the Ethernet switch and with power.

ℹ️ When installing and mounting more than one Butler PRO in factory state, make sure that only one Butler PRO gets connected and configured at one time. If connecting more than one device with the factory IP address (192.168.123.1) the Ethernet connection will not work

8   User interface

The Butler Pro comes with a circular keypad and an LC display for operation and setup. During regular operation the Butler PRO displays status and operational messages on the display. When in setup mode, parameters and values are displayed, the keypad is used for selecting parameters and changing values. Only keypads, that are allowed at a certain state, are lit up, either in operational or in setup mode. This picture is the Butler PRO DMX.
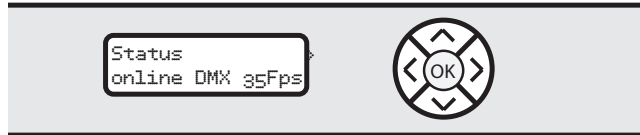
After powering up the Butler PRO, the loader shows the loading progress and revision levels of the loader and the firmware. After loading is completed, the Butler PRO enters operational mode. The setup mode must be selected separately.

During online operation, usually the IP address and other network parameters are shown, also the host address of the server running the Programmer of the Lighting Application Suite. All used values for parameters are just examples, they depend on the configuration of your Butler PRO.

9 Operational messages

After powering-up and loading the Butler PRO cycles through this set of status messages (DEVICENAME is the name given via manual or online setup):

Butler PRO <DMX> ©2013 traxon/ecue	Start screen of the Butler PRO DMX.
Butler PRO <EPIX> ©2013 traxon/ecue	Start screen of the Butler PRO e:pix.
*** ERROR *** no snapshot found	After booting the Butler PRO is offline (no LAS server present) and no snapshot was stored for offline state. Press the OK-key to clear the message and save a snapshot for offline state as shown later.
DEVICENAME <offline>	The Butler PRO is in offline mode and not connected to the Programmer of the LAS.
DEVICENAME no output	The Butler PRO does not output any data (no snapshots defined).
DEVICENAME IP: 192.168.123.123	The IP address of this Butler PRO.
DEVICENAME MASK: 255.255.255.0	The netmask that is used for the IP connection, default is 255.255.255.0
DEVICENAME <online>	The Butler PRO is in online mode, connected to the Programmer of the LAS.
DEVICENAME Mode: DMX 35 Fps	The Butler PRO DMX name and speed, the maximum possible framerate is 35 fps
DEVICENAME Mode: EPIX 31 Fps	The Butler PRO e:pix name and speed, the maximum possible framerate is 35 fps
DEVICENAME Connected to: DEVICENAME 192.168.123.100	The IP address of the LAS server the Butler PRO is connected to.
*** WARNING *** temperature high!	The Butler PRO has exceeded the allowed internal temperature. The actual temperature is displayed. Switch off the Butler PRO to cool it down. Check mounting conditions in the installation chapter of this manual.

9.1 Display and keypad use

Displayed messages without a right angle bracket (>) are info messages. Messages with a right angle bracket are entries into submenues. Use the > key to enter submenues and parameter settings. Use the < key to return. Use the ^ and ˅ keys to select parameters. Use OK to acknowldge settings or selections with a

checkmark or a cross. Only keys that are valid entries are lit up on the keypad.

10 Parameter setup

Using the ∧ and ∨ key from the main menue you can step manually through the first-level menu.

Device Info	>	Enter Device Info mode with > key
Setup	>	Enter Setup mode with > key.
Status	>	Enter Status mode with > key for the Butler PRO DMX.
online DMX 35 Fps		
Status	>	Enter Status mode with > key for the Butler PRO e:pix.
online EPIX 31 Fps		
DEVICENAME		Returned to the default display.
<online>		

10.1 Device Info mode

Info IP	The IP address of this Butler PRO.
192.168.123.250	
Info MAC	The MAC address of this Butler PRO.
00:16:1c:f1:17:b7	
Info FW Version	The current firmware version installed.
1.0.123	
Info FPGA Version	The FPGA command set version installed.
1.0.1	
Info HW rev.	The hardware revision level of this Butler PRO.
1	
Info Keypad Version	The firmware version of the keypad controller.
1.0.5	
Info connected to	The IP address of the LAS server.
192.168.123.100	
Info temperature	The internal temperature of the Butler PRO in degree Celsius.
37 C	

Leave the Device Info mode by pressing the ‹ key.

10.2 Setup mode

Selecting and changing parameter values

ℹ️ In delivery state the setup dialogue is password-protected. The default password is "ecue". The password can be changed or deleted in the online configuration with the Programmer.

- Cycle through the parameters with the ∧ and the ∨ keys.

- Select the parameter to change with the OK key.

- Use the ‹ and › keys to select the position to change.

- Use the ∧ and ∨ key to change the value. Keep the key pressed for a fast change.

- Move the cursor to the right and select the cross to cancel the change, select the checkmark to make

the entry valid. Press the OK key

- For the device name press the OK key to initialize editing mode and select position and value as above. Press OK again to get to the command selection in the top row. With the **<** or **>** key select to save, cancel or delete characters. Select the cross to cancel, the checkmark to apply the changes or the back-arrow to delete the characters in the name. Press the OK key.

With the parameter <u>Advanced settings ></u> an additional level of functions is entered for special features. Use the **<** key to leave this menu or any other menu level to return to operational mode. In the setup parameters there is an additional command set for Test Mode. Select this test mode by pressing the right-key when <u>Enter Test Mode ></u> is displayed.

10.3   Setup parameters and values

Standard parameters

enter Password	With the cursor keys **<** and **>** select position and with **^** or **v** characters. Press OK to enter the password.
Setup IP 192.168.123.200	The IP address of the Butler PRO. Factory default is 192.168.123.1
Setup Subnet Mask 255.255.255.000	The subnet mask. Default is 255.255.255.0
Setup Gateway 192.168.123.001	The network gateway. If no gateway is use, set to 0.0.0.0
Setup NAME Butler PRO	The device name, used in most displays.
Setup GROUPID 001	Set the group id for synchronisation of snapshots in a set of Butler PRO.
Setup STARTUP show snapshot1	Setup the show to display on startup, snapshot 1, snapshot 2 or no output.
Setup OFFLINE show snapshot2	Setup the show to display if the Butler PRO is offline, select snapshot 1, snapshot 2 or no output.
Advanced settings >	Enter the Advanced Settings mode.

Use the **<** to leave the setup mode.

10.4   Advanced Settings mode

Reset to defaults	Resets all parameters, including IP address, to the default values.
Reset device	Resets the device and reboots the Butler PRO. Does not change the parameter settings of the Butler PRO.
Enter Loader Mode	Enters the loader mode and waits for commands, e. g. to update the firmware. With the **^** and **v** keys you can view the Butler PRO main parameters and the escape step. To escape and leave the loader mode, select <u>START APP</u> with **^** or **v** and press <u>OK</u>. The Butler PRO loads its firmware now.
Enter Test Mode >	Calls the Test Mode command set, Press <u>OK</u> to enter Test Mode.
Capture Output SLOT1	Captures the current state as snapshot 1 for offline or startup display. All Butler PROs with the same GroupID also capture this state.
Capture Output SLOT2	Captures the current state as snapshot 2 for offline or startup display. All Butler PROs with the same GroupID also capture this state.
Contrast <bar line>	Set the contrast of the display.

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i If you want to have all fixtures turned off at startup, send a pattern with all zeroes for all channels to the Butler PRO. Use this pattern as snapshot for startup display to make sure that all fixtures are off.

10.5 Test mode

In Test Mode you can test all or a single output of the Butler PRO and the connected fixtures. There are three test modes: value, fade and strobe. In value mode a fixed DMX value is sent to all channels as white value. In fade mode the channels are faded from zero to a defines value in a loop. In strobe mode all channels get a square signal to realize a strobe effect.

After selecting from the advanced settings you reach level one of the test mode:

select Output none	Select the outputs to test. Press the <u>OK</u> key and select the tested outputs with the next step.
select Output >none	With the ∧ or ∨ key select <u>all</u>, <u>none</u> or a single output of the Butler PRO. Press the <u>OK</u> key again to set the output channel(s) and return. Press the ∨ to select the maximum brightness in test mode.
Set Level 255	Press <u>OK</u>, use the cursor keys to select and set position and value of test brightness. The maximum value is 255. Press <u>OK</u> to set this value. Press ∨ to select the test mode.
select Test Mode value	Press <u>Ok</u>, with the ∧ or ∨ key select the test mode: value, fade or strobe. Press <u>OK</u> again to select the test mode. The test mode runs until you leave test mode with the < key.
Output Mode dmx	Select the output mode dmx or epix. Butler PRO e:pix only.

For the test of a subset of fixtures you can select a block size and block move value with the > key. This submenu is reached in every position of the first level as a second level. Use ∧ or ∨ to navigate.

Block size <value>	To select a block size, press <u>OK</u> and select <u>1</u>, <u>2</u>, <u>3</u>, <u>4</u>, <u>5</u>, <u>6</u>, <u>48</u>, <u>192</u> or <u>512</u> channels. Press <u>OK</u> again to set the block size (Butler PRO DMX)
Universe size 512 (def DMX)	Select the size of one universe for the Butler PRO e:pix only.
Block move >manual	To select block move speed, press the <u>OK</u> key. Select a timing of <u>50 ms</u>, <u>100 ms</u>, <u>500 ms</u> or <u>1 s</u> for automatic movement. Select <u>manual</u> for manual stepping through channels. Press <u>OK</u> to set the block move speed.

Return from the second level submenu to the first level with the < key.

While the test is running you can switch to a third level menu from the second level with the > key. In this third level menu the current DMX or e:pix address is displayed.

Start Address <value>	In automatic (timed) mode the current DMX start address of the block. With the ∧ and ∨ keys running direction is switch to up or down direction. Keeping the key pressed a fast change is possible. With the <u>OK</u> key toggling the test mode gets paused and restarted again. In manual mode the start address is stepped up or down with the ∧ or ∨ keys.

Return to the second and first level of the test mode menu with the < key.

Pressing < again returns to the Advanced Settings.

11 Online configuration with Programmer

Connect the Butler PRO via a switch to a system runnung e:cue's Lighting Application Suite; start the Programmer.

Select the Network tab

in the status window in the upper left. Any Butler PRO devices which are connected to the network should appear in the list. If they do not show up in the list, check if the IP address settings for your computer are correct and the network range is 192.168.123.*, the default address of any new Butler PRO is 192.168.123.1. Please also make sure your fire wall does not prevent communication between the computer and the Butler PRO. The Butler PRO should become visible.
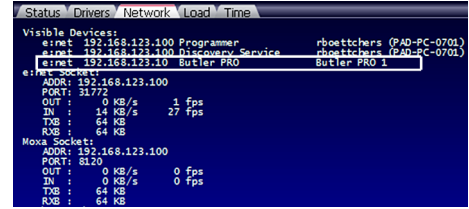
Click on the Butler PRO line in the Network display, this opens the device configuration dialog. Here you can set all driver properties of the Butler PRO. The IP address typically this

should read 192.168.123.1 at this stage, when the Butler PRO is still set to factory defaults.

- Assign a new IP address e.g. 192.168.123.200.

- Use the same procedure for the remaining network parameters: Subnet Mask - usually 255.255.255.0, Gateway – no gateway

- Give the Butler PRO a unique name.

- Apply the changes with the Ok button.
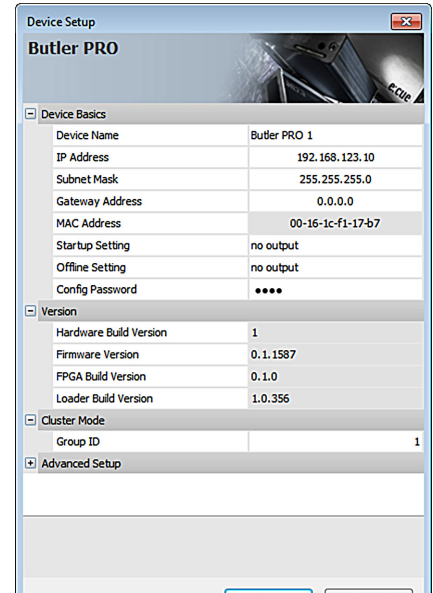
The parameters to configure in online mode are the same as configuring the Butler PRO manually. Additionally a new password may be set and the DMX parameters can be changed. Parameters in grey are read-only and cannot be changed, like the MAC address or the version numbers. If the password is omitted, the setup will not be protected.

11.1 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)
Startup Setting	The snapshot to be used in startup phase or none.
Offline Setting	The snapshot to be used in offline phase or none.
Config Password	The password to enter manual configuration mode.

Versions

| Hardware Build Version	The hardware version (read only).
Software Build Version	The software version (read only).
FPGA Build Version	The command set for the internal FPGA (read only).
Loader Build Version	The version of the firmware loader.

Cluster Mode

Group ID	The cluster ID of this Butler PRO.
Advanced Setup (do not modify unless instructed so)	
Lock Settings	Checkmark, set by default, avoids changes for DMX/e:pix and RDM by chance.
BRK Length	Break signal length in µs for the DMX/e:pix protocol.
MAB Length	Mark after break length in µs for the DMX/e:pix protocol.
BRK Length RDM	Break length in µs for the RDM protocol. Butler PRO DMX only
MAB Length RDM	Mark after break length in µs for the RDM protocol. Butler PRO DMX only
RDM Switch Time	The RDM Tx to Rx length in in µs. Butler PRO DMX only

To add the Butler PRO to
the Programmer configuration start the Device Manager.
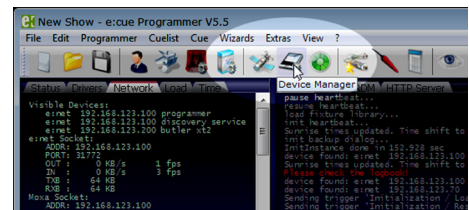
Execute the Automatic Setup Wizard. The Butler PRO will be found and displayed:
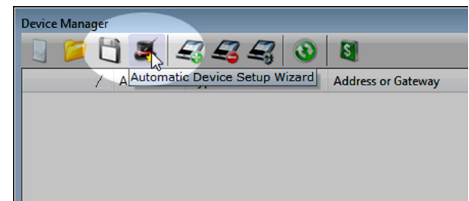
Set the checkmark for the Butler PRO to add it to your setup or click the Select button. To set the driver properties for the Butler PRO double-click the Butler PRO in den device overview of the Device Manager.

Click Ok to add the Butler PRO to the Programmer configuration, the Butler PRO is now available.

Double-click the new Butler PRO in the Device Manager and an additional configuration dialog gets displayed to set more parameters for the Butler PRO.
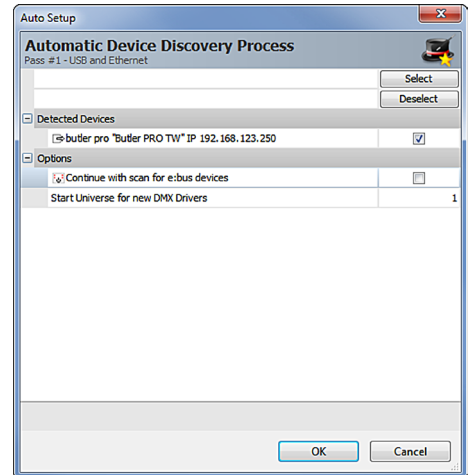
Using this device setup
dialog you can set the DMX universes as well as the required RDM feedbacks for the channels of the Butler PRO

When finished close the device setup dialog with Ok.
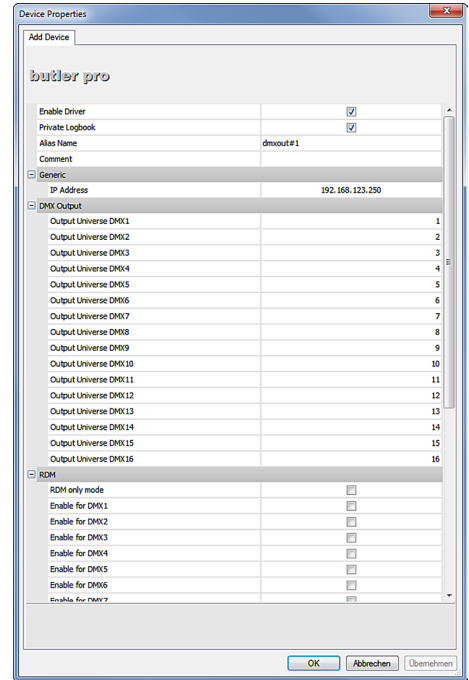
11.2   Connecting more than one Butler PRO

In case you have several Butlers PRO they need to be configured one at a time. Do not connect all of them to the network immediately! This is due to the fact that the devices all come with the same IP-address by factory default. If they are connected simultaneously an IP-address conflict will occur and configuration is not possible. Instead, connect the Butlers PRO one at a time. Connect the first Butler PRO and assign a new IP-address to the device (e.g. 192.168.123.11). Repeat this sequence until all devices have been assigned with an individual IP-address. In a next step all devices can be hooked up to the connecting network.

12   Firmware update

To update the firmware of the Butler PRO proceed the following way:

- Start the Patchelor of the e:cue Lighting Application Suite.

- In the list of found devices select the appropriate Butler PRO.

- Press the right mouse button and select Update Firmware.

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

- After the download is complete the Butler PRO will restart.

- The new firmware is available now.
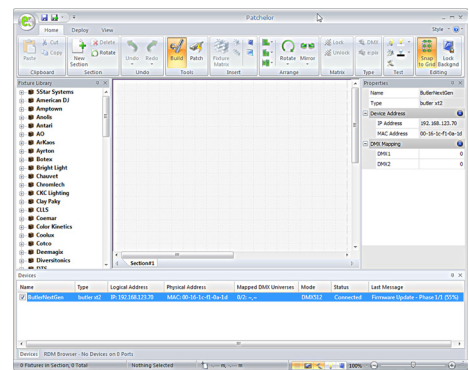
13   Technical specifications

General specifications

Dimensions	482 x 44 x 142 mm /19 x 1.7 x 5.6 in (incl. mounting brackets)
Weight	1.2 kg / 2.65 lbs
Power supply input	100 ... 240 V AC, 50/60 Hz
Power consumption	20 W
Operating/storage temp.	0 ... 40 °C/32 ... 104 °F
Operating/storage hum.	0 ... 80%, non-condensing
Protection class	IP20
Housing	Aluminium, polyamide 6.6
Mounting	on 35 mm DIN rail

Engine specifications

User interface	4-cursor keys, OK key
System links	1 x e:net (RJ45 Ethernet) 16 x DMX/RDM (RJ45) or 16 x e:pix
Display	2-lines, 40 characters/line display
Data storage	micro SD card, internal

e:net specification

Connection	RJ45, 8P8C
Speed	100 MBit/s
POE capability	no

DMX output specification

Number of outputs	16 DMX universes, 8,192 channels
Short circuit protection	yes, reversible
DMX operation	USITT DMX512-A, RDM ANSI E1.20
Connectors	RJ45 receptacle connector, Traxon pin configuration

e:pix output specification

Number of outputs	16 e:pix universes, 32,768 channels
Short circuit protection	yes, reversible
e:pix	Traxon standard
Connectors	RJ45 receptacle connector, Traxon pin configuration

CE   UKCA   ETL Intertek 4006376

Conforms to ANSi/UL Std. 60950-1.
Certified to CAN/CSA Std. C22.2#60950-1.

14   Troubleshooting

Problem	Check	Reason	See also
The Butler PRO does not go online in the Programmer/ Patchelor	Does the LAS server have a fixed network address? Is a correct IP address assigned? Are Butler PRO and LAS server in the subnet?	The Butler PRO must be in the same IP subnet as the Computer. Example: 192.168.123.xxx	Setup Manual
	Is the network adapter in the LAS server and in the Programmer/ Patchelor Network Card configured correctly?	The e:net interface IP address must be assigned in the Programmer/ Patchelor.	LAS Setup Manual
	More than one Butler PRO with the same IP Address?	Factory default of Traxon products is IP: 192.168.123.1	Setup Manual
	Is there a direct connection between the LAS server and the Butler PRO without a Ethernet switch?	Some network adapters do not support a direct connection. Use an Ethernet switch in any case.	Setup Manual
RDM without function	Is RDM enabled in the Programmer's Device Manager for the Butler PRO?	RDM "Enable for DMX 1 to 16" must be activated in the Device Properties in the Programmer for this Butler PRO.	LAS Setup Manual

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15 Dimensions

All dimensions in mm

482

146

44

butler PRO

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