

# Chroma-Q™ Magic Box™ PS12

User Manual



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The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that Chroma-Q products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent. Chroma-Q sole warranty is that the product will meet the sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

Chroma-Q reserves the right to change or make alteration to devices and their functionality without notice due to our on going research and development.

The Chroma-Q Magic Box PS12 has been designed specifically for the professional entertainment lighting industry. Regular maintenance should be performed to ensure that the products perform well in the entertainment environment.

If you experience any difficulties with any Chroma-Q products please contact your selling dealer. If your selling dealer is unable to help please contact [support@chroma-q.com](mailto:support@chroma-q.com). If the selling dealer is unable to satisfy your servicing needs, please contact the following, for full factory service:

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## Approvals



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## 1. Product overview

The Chroma-Q Magic Box PS12 supplies power and data to the Chroma-Q range of colour changers and compatible products (see below). A maximum capacity of 12PU (Power Units), it can be controlled remotely via ANSI E1.11 USITT DMX 512-A and delivers power and data via 3 XLR4 outputs.

## 2. Operation

### Power

Connect power through a fused male IEC chassis connector with input power of 100 - 240V, 50-60 Hz. The standard fuse is a 5x20mm 6A GMA 125V. It provides 3 circuits of 24VDC.

### Data

Data input ANSI E1.11 USITT DMX 512-A from an external source or lighting control console connects through a male XLR-5. A pass through connection is available on the female XLR-5. Power and data outputs are from 3 individual female XLR-4 outputs to the colour changer units.

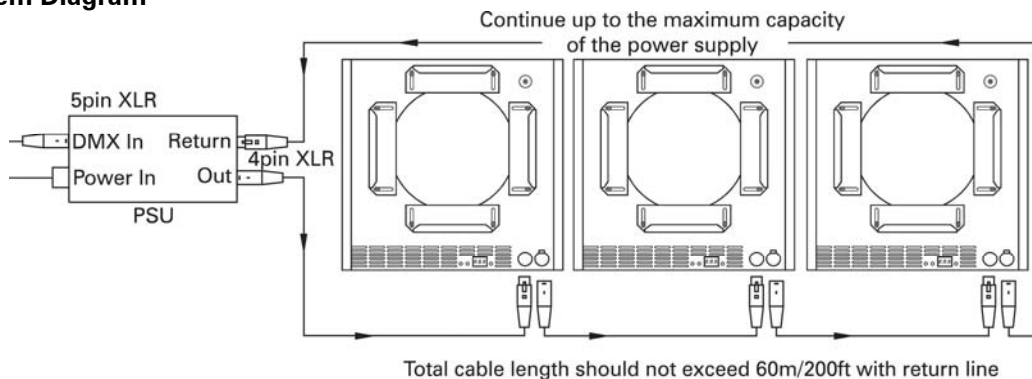
### Termination

Data termination is built in at the input.

### Indicators

The red LED indicates mains power is present and the green LED indicates a DMX signal is present.

### System Diagram



The PS12 has been designed for cable loops of up to 60m/200ft per output. Closing the loop with a return cable will enhance the stability of the power delivered and connected to your data line.

### Load

To simplify the choice of power supply we use the "PU" (Power Unit) to calculate the load requirements of the Chroma-Q system. The PS12 will supply up to 12 PU's, so you can plug-in 12 Chroma-Q Plus (12 x 1PU = 12PU). The individual output has a maximum capacity of 8PU.

### Power Units

Chroma-Q Product	Power Unit
Plus	1 PU
Broadway	1 PU
Cascade	1.5 PU
Universal	1.5 PU
M5	1.5 PU
M8	1.5 PU
Moving Mirror	1 PU
DMX Gobo Rotator	0.6 PU

### Installation

Unique Magic Box interlocking enclosure facilitates easy rack mounting when used in pairs and easy truss mounting via captive nut insert. Rack mounting brackets are available in single unit and dual unit versions.

**Note:** for truss mounting, we recommend the use of a ½"-13UNC x ¾" long bolt to avoid damage.

### Compatibility

The Chroma-Q PS12 is compatible with all Chroma-Q Colour Changers - Chroma-Q Plus, Original, Broadway, Universal, Cascade, M5, M8, Moving Mirror, Twin Gobo Rotator, Twin Effects Gobo Rotator and Twin DMX Gobo Rotator.

### Control and Power Cables

The Chroma-Q utilises an XLR-4 pin cable system. This is used to supply power and data transfer. Pins 1 and 4 supply 24VDC power and pins 2 and 3 supply ANSI E1.11 USITT DMX512-A control protocol with a ground drain wire to the connector shell.

Only genuine Tourflex Datasafe Cable is recommended for use of the Chroma-Q colour changing system.

Damage will occur if the power connections short circuit to the data or ground/shield connections. When assembling XLR4-pin cables, heat shrink sleeves should be used on each individual data pin and the drain wire to prevent short circuits.

The XLR-4 cable is wired pin to pin, in the following format:

Pin #	Function
1	0V DC
2	Control data minus
3	Control data plus
4	+24V DC
Chassis	Ground bonding

The XLR-5 cable is wired pin to pin, in the following format:

Pin #	Function
1	Ground (screen)
2	Data minus
3	Data plus
4	Spare data minus
5	Spare data plus

### Accessories

Chroma-Q Magic Box pair of rack ears - Single CHRM1

Chroma-Q Magic Box pair of rack ears - Dual CHRM2

Chroma-Q Magic Box 8>4 DMX A/B Switch - MBDMXAB

Chroma-Q Magic Box 8 way DMX Buffer - MBDMX8