

# Chroma-Q™ Magic Box™ PS12

## User Manual



**Chroma-Q™**  
BRILLIANT SOLUTIONS

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PN: 134-0100



## Warranty Statement

Chroma-Q warrants to the original purchaser, with proof of purchase, that its delivered products shall be free from defects in material and workmanship under normal use for a period of 12 months from date of shipment.

Chroma-Q will repair, or at its option, provide an equivalent item or replace, the defective product during the stated warranty period. This warranty applies only to the repair or replacement of the product and only when the product is properly handled, installed and maintained according to Chroma-Q instructions. This warranty excludes defects resulting from improper handling, storage, installation, acts of God, fire, vandalism or civil disturbances. Purchaser must notify Chroma-Q in writing within 14 days of noticing the defect. This warranty excludes field labour or service charges related to the repair or replacement of the product.

The warranty contained herein shall not extend to any finished goods or spare parts from which any serial number has been removed or which have been damaged or rendered defective (a) as a result of normal wear and tear, willful or accidental damage, negligence, misuse or abuse; (b) due to water or moisture, lightning, windstorm, abnormal voltage, harmonic distortion, dust, dirt, corrosion or other external causes; (c) by operation outside the specifications contained in the user documentation; (d) by the use of spare parts not manufactured or sold by Chroma-Q or by the connection or integration of other equipment or software not approved by Chroma-Q unless the Customer provides acceptable proof to Chroma-Q that the defect or damage was not caused by the above; (e) by modification, repair or service by anyone other than Chroma-Q, who has not applied for and been approved by Chroma-Q to do such modification, repair or service unless the Customer provides acceptable proof to Chroma-Q that the defect or damage was not caused by the above; (f) due to procedures, deviating from procedures specified by Chroma-Q or (g) due to failure to store, install, test, commission, maintain, operate or use finished goods and spare parts in a safe and reasonable manner and in accordance with Chroma-Q's instructions (h) by repair or replacement of engines without factory training.

The warranty contained herein shall not apply to finished goods or spare parts which are sold "as is", as "second-hand", as used", as "demo" or under similar qualifications or to Consumables ("Consumables" is defined as any part(s) of goods or part(s) for use with goods, which part(s) of goods or part(s) for use with goods are consumed during the operation of the goods and which part(s) of goods or part(s) for use with goods require replacement from time to time by a user such as, but not limited to, light bulbs).

The warranty contained herein shall not apply, unless the total purchase price for the defective finished goods or spare parts has been paid by the due date for payment.

The warranty contained herein applies only to the original purchaser and are not assignable or transferable to any subsequent purchaser or end-user.

This warranty is subject to the shipment of the goods, within the warranty period, to the ChromaQ warranty returns department, by the purchaser, at the purchasers expense. If no fault is found, ChromaQ will charge the purchaser for the subsequent return of the goods.

Chroma-Q reserves the right to change the warranty period without prior notice and without incurring obligation and expressly disclaims all warranties not stated in this limited warranty.

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[www.chroma-q.com](http://www.chroma-q.com)

## Disclaimer

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:

**Outside North America:**

Tel: +44 (0)1494 446000

Fax: +44 (0)1494 461024

[support@chroma-q.com](mailto:support@chroma-q.com)

**North America:**

Tel: 416-255-9494

Fax: 416-255-3514

[support@chroma-q.com](mailto:support@chroma-q.com)

For further information please visit the Chroma-Q website at [www.chroma-q.com](http://www.chroma-q.com).

Chroma-Q is a trademark, for more information on this visit [www.chroma-q.com/trademarks](http://www.chroma-q.com/trademarks).

The rights and ownership of all trademarks are recognised.

## 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.

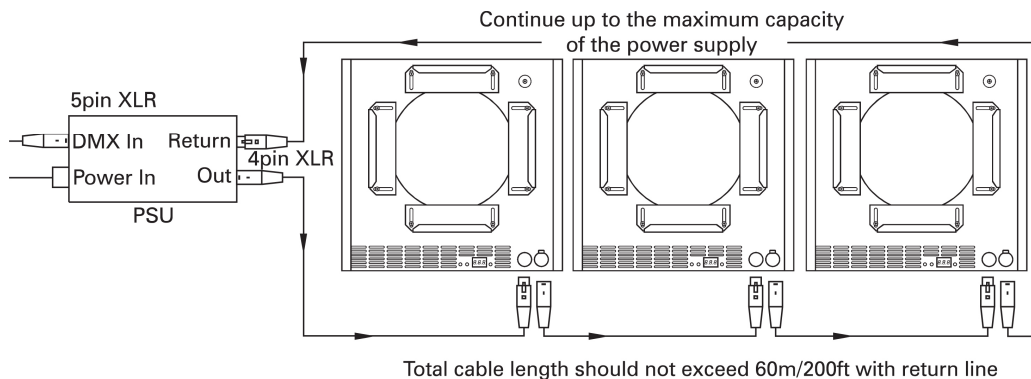
### Termination

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