Chroma-Q®
AutoLED II™

User Manual

Chroma-Q®
BRILLIANT SOLUTIONS

Version 1.6 January 2015, Software Version 1.05

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.

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 AutoLED II has been designed specifically for the 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. If the selling dealer is unable to satisfy your servicing needs, please contact the following, for full factory service:

Outside North America:	North America:
Tel: +44 (0)1494 446000	Tel: 416-255-9494
Fax: +44 (0)1494 461024	Fax: 416-255-3514
support@chroma-q.com	support@chroma-q.com

For further information please visit the Chroma-Q website at www.chroma-q.com.

Chroma-Q and AutoLED II are trademarks, for more information on this visit www.chroma-q.com/trademarks.

The rights and ownership of all trademarks are recognised.

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1. Product overview

Utilising the same core technologies as the innovative Chroma-Q™ Studio Force D XT 12™, the new **AutoLED II™** is a 6,500K* CCT daylight white LED moving head fixture that boasts an extreme 16,430 lumens output for ultra bright, long distance throw; a high CRI; and a smooth linear dimming curve. Specifically designed for providing precise daylight illumination of motor industry tradeshows, fashion events and retail environments, the AutoLED II incorporates DMX control, allowing it to be operated from any DMX enabled lighting console – saving time, energy and manpower when rigging, focusing and cabling fixtures.

The **AutoLED II™** features 48 cold white high powered LEDs with a built-in power supply unit and can operate as a standalone unit or controlled remotely through the ANSI E1.11 USITT DMX 512-A protocol.

The **AutoLED II™** comes supplied with a louver accessory. A revolutionary beam shaper lens plate - custom developed by Chroma-Q for remote control of beam angle adjustment - is also available as an optional accessory.

2. Operation

2.1 Unpacking the units

The AutoLED II package includes the fixture unit, power cord, mounting bracket, safety chain and a Quick Start Guide. We recommend that you keep the original packaging in case the item needs to be returned.

2.2 Cabling

The AutoLED II fixture utilises an IEC chassis connector for power input. The DMX control data input and through connections from an external control console are via two XLR 5-pin connectors. The chassis is ground bonded.

XLR 5-pin Cable:

Pin#	Function
1	Ground (Screen)
2	Data Minus
3	Data Plus
4	Spare Data Minus
5	Spare Data Plus

Power Cable:

International Colour Code	North American Colour Code	Connections	
Green and Yellow	Green	Earth (E)	Ground (Green)
Blue	White	Neutral (N)	Neutral (Silver)
Brown	Black	Live (L)	Hot (Gold)

Important Notice:
The use of an opto-splitter for DMX signal distribution is highly recommended when several fixture units are not plugged into the same power source.

2.3 Mounting

The AutoLED ll fixture base is floor mount. The bottom of the fixture base has provisions to fasten the mounting bracket for overhead truss mounting applications.

Note: Secure the fixture with a safety bond. Provision for a fixing hold is built into the fixture base.

2.4　　Accessories

Louver:
A louver is fastened to the front of the AutoLED ll fixture head. The louver can be detached from the fixture head by removing 2 screws.

Beam Shaper:
An optional Beam Shaper attachment can be placed onto the front of the AutoLED ll fixture head. The Beam Shaper attachment is a diffuser film which can be controlled (On/Off) via DMX.

There are 2 pins at the rear side of the Beam Shaper attachment. The 2 pins match the 2 holes at the front of the AutoLED ll fixture head.

To attach the Beam Shaper,
1. Remove the louver
2. Match the 2 pins underneath the Beam Shaper attachment to the holes on the LED head
3. Align, set and fasten (with 2 screws) the Beam Shaper attachment onto the LED head with the 2 pins in the holes
4. Set the Diffuser Control on the display screen. (See Control Menu > Setup Menu > Technical)

2.5　　Moving Yoke Pan & Tilt Movement
The AutoLED ll fixture is a Daylight Moving Yoke LED Fixture. The pan movement of the yoke and the tilt movement of the head can be controlled via DMX. The movement resolution for both Pan & Tilt is 16 Bits.

1 DMX channel is assigned to each movement:

Pan	1 DMX channel
Pan (fine movement)	1 DMX channel
Tilt	1 DMX channel
Tilt (fine movement)	1 DMX channel

Maximum range of Movement & Direction:

Movement	Range	Direction
Pan	540°	Normal or Reverse
Tilt	270°	Normal or Reverse

To set the Pan & Tilt direction, see Control Menu > Setup Menu > Technical > Direction.

2.6　　Power Switch
The Power **ON/OFF** switch is located at the rear of the fixture base. The Touch Screen LCD display at the front of the fixture base lights up to show the opening screen when the switch is turned to **ON**.

2.7   Control

The AutoLED II fixture is remotely controlled via ANSI E1.11 USITT DMX512-A protocol. The control functions can be accessed through the Touch Screen LCD display at the front of the fixture base.

Opening Screen on Power On:
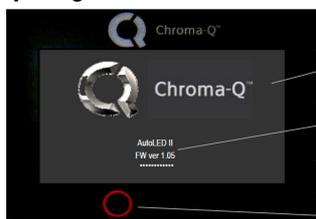
	Brand Name
	Fixture Name & Firmware Version Number
	*Display On Pinhole

*Insert a pin into the Pinhole to turn the Display on when the fixture is off.

Main Screen:

	Fixture Name
	*Data Signal Indicator
	Control Information
	Command Buttons

*Data Signal Indicator:	Shows the presence and status of the DMX signal
No Data	Appears when there is no DMX signal detected from an external control console
> > >DMX	Appears when a DMX signal from an external control console is present

DMX Channels:

DMX Ch	Description
1	Pan
2	Pan (fine movement)
3	Tilt
4	Tilt (fine movement)
5	Intensity
6	Diffuser Control (Enabled)

Locked:

	Display Lock Icon Note: The Lock Icon turns green when tapped.

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Display On/Off & Locked/Unlocked:
Factory default sets the display screen of the fixture to switch off and lock when untouched for 30 seconds. (To disable this feature, see Control Menu.)
To activate the screen,
1. Tap the screen
2. Press and hold for 5 seconds the lock symbol on the screen. Follow the text prompt that appears on the screen "Keep holding for 5sec to unlock"

The lock symbol disappears and the screen is active.

Display On/Off:
Factory default sets the display screen of the fixture to switch off when untouched for 30 seconds.
Tap the screen to activate.

Control Menu

Main Menu
The Main Menu displays the fixture name, control information and the main command buttons:

Control Information:

Address	DMX start address
Footprint	Number of assigned DMX channels
Diffuser	Status: On/Off
Pan Dir	Pan direction status: Normal or Reverse
Tilt Dir	Tilt direction status: Normal or Reverse

Command Buttons**:**

Change Add	Change DMX start address
Setup Menu	Re-configure internal settings

Select and tap a command button to access the control options available.

Change Add

Change DMX Address
To change the DMX start address,
1. On the Main Menu screen, tap **Change Add**
2. Using the buttons on the Change DMX Address screen, type the desired number
3. Tap **Apply** to save

The display goes back to the Main Menu with the new DMX address.

Setup Menu

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In this menu, internal settings of the fixture can be re-configured.
Command Buttons:

Screen	Display rotation, Lock screen
Technical	DMX Data, Frequency, Upload Engine & Diffuser Control
Direction	Pan Direction, Tilt Direction
Operation	DMX Lost, Fan Speed, Reset

→ Screen

In this menu, the display screen can be set and locked.

RotateDisp	Rotate the display screen by 180 degree
LockScreen	Enable or disable display screen lock
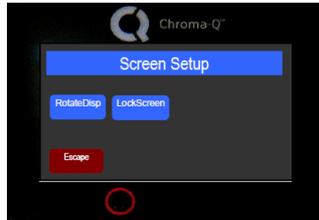
To set the screen,
1. On the Main Menu screen, tap **Setup Menu**
2. On the Setup screen, tap **Screen**
3. On the Screen Setup screen, tap **RotateDisp**

The display screen rotates by 180 degrees.

Factory default sets the display screen to turn off and lock when untouched for 30 seconds. A lock symbol appears on the screen when touched.

To disable or enable the display screen lock,
1. On the Main Menu, tap **Setup Menu**
2. On the Setup screen, tap **Screen**
3. On the Screen Setup screen, tap **LockScreen**
4. On the Lock Future screen, tap **Enable** or **Disable**
5. Tap **Apply** to save.

The screen goes to the Setup screen.

→ Technical

In this menu, the following command options are available:

DMX Data	DMX data can be accessed
Frequency	The fixture can be set with four frequency options
Upload ENG	LED Engine software can be uploaded to the fixture from an external source by activating this menu
Diffus CTL	Beam Shaping attachment can be enabled or disabled in the Diffuser Control command

DMX Data:
To show DMX Data,
1. On the Main Menu, tap **Setup Menu**
2. On the Setup screen, tap **Technical**
3. On the Technical Setup screen, tap **DMX Data**
4. The display shows the DMX start channel and the values (0-99) of the DMX channels
5. Tap Escape to go to the Setup screen

Frequency:
In this command, the fixture can be set to four frequency options. The LED scan rate can be synchronised with the video camera to avoid a flickering effect.
Frequency options:

1200 Hz
2400 Hz
4800 Hz
9600 Hz

To set the Frequency,
1. On the Main Menu, tap **Setup Menu**
2. On the Setup screen, tap **Technical**
3. On the Technical Setup screen, tap **Frequency**
4. On the PWM Frequency screen, select and tap a Frequency option, then tap **Apply** to save
The screen goes to the Setup screen.

Upload Engine:
LED Engine software can be uploaded to the fixture from an external source by activating this menu.
To activate **Upload ENG**,
1. On the Main Menu, tap **Setup Menu**
2. On the Setup screen, tap **Technical**
3. On the Setup screen, tap **Upload ENG**
4. Connect the fixture to an external uploader
   - Initiate the uploading process from the external uploader
   - Follow the display prompts on the external uploader and the fixture
5. Tap the screen to exit

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Diffus CTL:

In this command, the optional Beam Shaper attachment can be enabled or disabled:

To enable or disable the Beam Shaper attachment,

1. On the Main Menu, tap **Setup Menu**
2. On the Setup screen, tap **Technical**
3. On the Technical Setup screen, tap **Diffus CTL**
4. On the Diffuser Control screen, tap **Off** or **On**
5. Tap **Apply** to save

The screen goes to the Setup screen.

When Diffuser Control is On, the DMX channel for Diffuser Control is added and the Footprint will have 6 DMX channels.

Direction

In this menu, the direction of the yoke and head Pan & Tilt movement can be set.

To set the Pan & Tilt direction,

1. On the Main Menu, tap **Setup Menu**
2. On the Setup screen, tap **Direction**
3. On the Direction Setup screen, tap **Normal** or **Reverse** at the Pan line, then tap **Normal** or **Reverse** at the Tilt line
4. Tap **Apply** to save

The screen goes to the Setup screen.

Operation

In this menu, the following command options are available:

DMX Lost	When disconnected from DMX data
Fan Speed	Select between Low or High
Reset	Reset to Factory Default or User saved settings
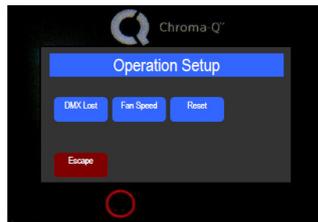
DMX Lost:
There are 2 output options available if the fixture does not detect DMX signal:

Last data	Fixture holds the last valid DMX state.
No output	Fixture output is off.

To set DMX Lost,
1. On the Main Menu, tap **Setup Menu**
2. On the Setup screen, tap **Operation**
3. On the Operation Setup screen, tap **DMX Lost**
4. On the When DMX Lost screen, select **Last data** or **No output**, then tap **Apply** to save

The screen goes to the Setup screen.

Fan Speed:
In this command, 2 Fan Speed options are available:

Low	Low fan velocity
High	High fan velocity

To set the Fan Speed,
1. On the Main Menu, tap **Setup Menu**
2. On the Setup screen, tap **Operation**
3. On the Operation Setup screen, tap **Fan Speed**
4. On the Fan Speed screen, tap **Low** or **High**, then tap **Apply** to save

The screen goes to the Setup screen.

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Reset:

In this command,

- Current user settings can be saved.
- The fixture can be reset to the saved user settings.
- The fixture can be reset to the factory default settings.

To save the current user settings,

1. On the Main Menu, tap **Setup Menu**
2. On the Setup screen, tap **Operation**
3. On the Operation Setup screen, tap **Reset**
4. On the Reset Setting screen, press and hold **Save User** for 10 seconds to save the current user settings (Follow the text prompt that appears on the screen.)

The screen goes to the Setup screen.

To reset the fixture to the saved user settings,

1. On the Main Menu, tap **Setup Menu**
2. On the Setup screen, tap **Operation**
3. On the Operation Setup screen, tap **Reset**
4. On the Reset Setting screen, tap **User**
5. Press and hold **Apply** for 3 seconds to restore the saved user settings.

The screen reboots to the opening screen and Main Menu.

To reset the fixture to the factory default settings,

1. On the Main Menu, tap **Setup Menu**
2. On the Setup screen, tap **Operation**
3. On the Operation Setup screen, tap **Reset**
4. On the Reset Setting screen, tap **Default**
5. Press and hold **Apply** for 3 seconds to restore the factory default settings.

The screen reboots to the opening screen and Main Menu.

Factory Default Settings:

DMX Address	1
Lock	Enable
Frequency	1200Hz
Diffus CTL	Off
Direction	Normal
DMX Lost	Last Data
Fan Speed	High
Reset	Default

2.8   DMX Protocol

AutoLED II DMX Personality:

AutoLED II V1.05	Diffuser Control - Off	Diffuser Control - On
Channel 1	Pan	Pan
Channel 2	Pan – Fine Movement	Pan – Fine Movement
Channel 3	Tilt	Tilt
Channel 4	Tilt – Fine Movement	Tilt – Fine Movement
Channel 5	Intensity	Intensity
Channel 6		Diffuser - On

2.9   Thermal Performance

The AutoLED II fixture features 3 internal fans in the head and base which drive the cooling system.

If the internal temperature exceeds 75ºC the output of the fixture is reduced for automatic protection. This happens on rare and extreme conditions when ambient temperature is over 35ºC or the internal fans are blocked or damaged.

The airflow to and from the fan must not be constricted to maintain the maximum operating capacity.

3.   Troubleshooting

Troubleshooting is a process of elimination. First, rule out the other field factors (i.e. bad connections, faulty cables and power supplies). For technical support and/or parts, please contact your selling dealer or the offices listed in this manual.

Symptom	Possible Cause	Solution
Fixture does not respond to DMX control.	Set to wrong or different DMX address. Bad cable connecting DMX control and fixture. Bad in/through connection between adjacent fixtures.	Check DMX address and Mode settings. Check/replace DMX cable.
Noise from fixture unit.	Fan malfunction.	Check fans.
Low LED output.	Internal temperature is over the limit. Fan is not working.	Check "Fan Control" mode. Check the fans and airflow - to and from the internal fan. Check area ventilation.

4. Specification

4.1 Technical specifications

Product Code	CHAUDXYII
Net Dimensions(Without Fixings) - Width x Height x Depth	330mm x 400mm x 216mm / 13" x 15.75" x 8.5"
Net Weight (Without Fixings)	9 kg / 20 lbs
Shipping Dimensions - Width x Height x Depth	425mm x 400mm x 295mm / 16.75" x 15.75" x 11.75"
Shipping Weight	11 kg / 24 lbs
Power & Connections	
Power Supply	Built-in
Power Input Rating	100-240V AC 50-60Hz 300VA
Power Factor	0.9
Power Consumption	300W
Typical Power & Current	Measurements done with all LEDs at maximum intensity. Measurements made at nominal voltage. Allow for a deviation of +/- 10%.
Power Connectors In/Out	IEC (Input)
Data Connectors In/Out	XLR 5-pin
Control Protocol	ANSI E1.11 USITT DMX 512-A
Cooling System	Forced - 3 fans
Operating Temperature	0°C to 40°C
Construction	Powder coated aluminium base with plastic cover & anodised aluminium extrusion head
Colour	Black
Built-In Hardware	Base handles
IP Rating	IP20
Approvals	CISPR 22 / EN55022, CISPR 24 / EN55024, FCC Part 15 Subpart B & ICES-003; CSA C22.2, UL 1573, IEC 60598
Control & Photometric	
Pan movement range	540°
Tilt movement range	270°
Movement resolution	16 Bits
Total LEDs	48 Cold White
Control Modes	5 channels for Pan, Pan Fine, Tilt, Tilt Fine & Intensity + 1 channel Diffus CTL
Dimming Curve	Theatrical
Hot Lumen Output (Combined)	16,430
Beam Angle	~17°
Beam Distribution	Symmetrical direct illumination
CCT	6500K
CRI	>=70
Lamp Life	L70 at 50,000 hours
Accessories	Louver, Beam Shaper

CE

4.2 Drawings

AutoLED II
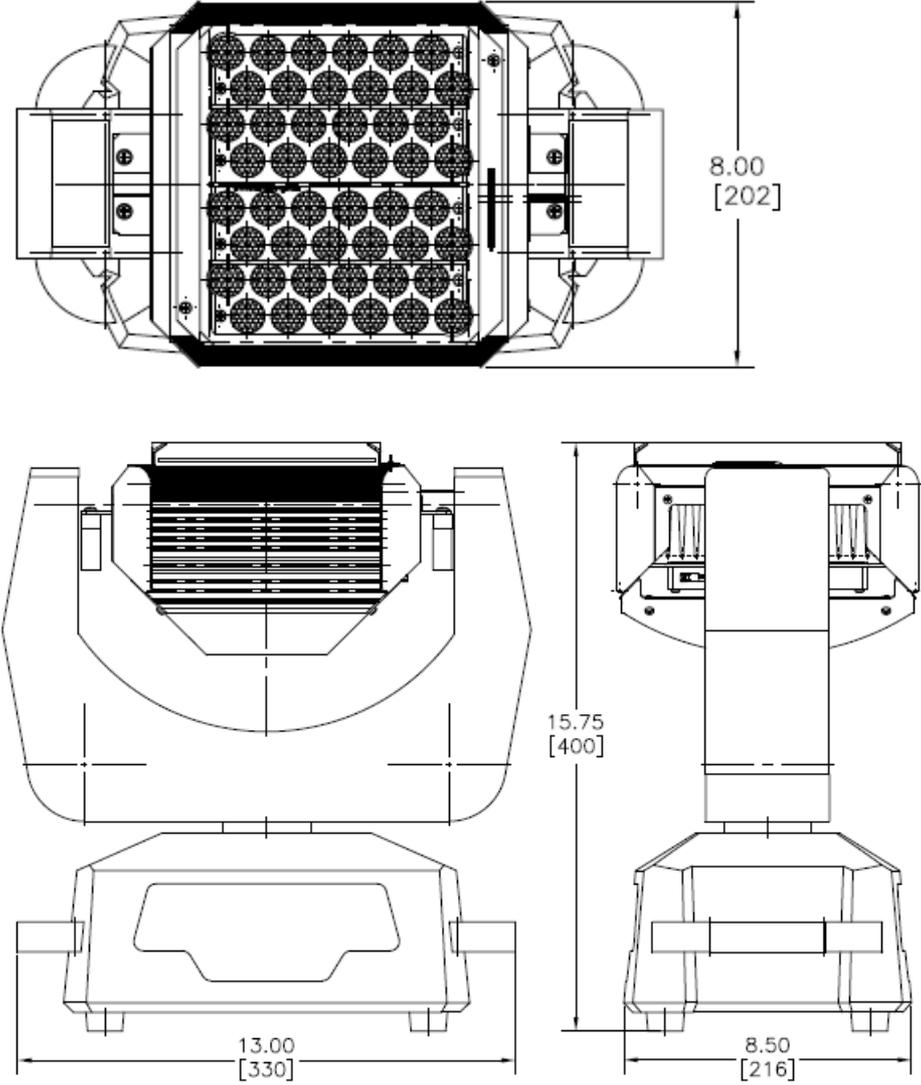
5.   Maintenance

With care, the AutoLED II requires little maintenance. However, as the unit is likely to be used in a stage environment we recommend periodical internal inspection and cleaning of any resulting dust and cracked oil residue.

Do not spray liquids on the front or rear panel. If the front enclosure requires cleaning, wipe with a mild detergent on a damp cloth.