

Chroma-Q® Studio Force™ D Compact / V Compact

User Manual



Chroma-Q®
BRILLIANT SOLUTIONS

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PN: 627-0500



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 ongoing research and development.

The Chroma-Q Studio Force Compact range 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:
Tel: +44 (0)1494 446000
Fax: +44 (0)1494 461024
support@chroma-q.com

North America:
Tel: 416-255-9494
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For further information please visit the Chroma-Q website at www.chroma-q.com.

Chroma-Q and Studio Force Compact are trademarks, for more information on this visit www.chroma-q.com/trademarks.

The rights and ownership of all trademarks are recognised.

Important Notice:

As per the requirements in the Occupational Safety and Health Administration standards for product approval, please refer to the OSHA web pages <http://www.osha.gov/dts/otpc/nrtl/> for information on the list of Nationally Recognized Testing Laboratories (NRTLs) and the scope of recognition.

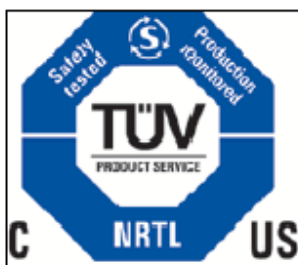


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1. Product overview

The Chroma-Q™ Studio Force™ white LED lighting range has been extended with new Studio Force Compact™ daylight white and variable white cost-effective, slim profile, workhorse fixtures. Together with the existing lineup, the Studio Force range now provides a full choice of creative lighting tools.

Utilising core technology from the white LED range, the Compact is available in a choice of 6,100K CCT, daylight white (Studio Force D Compact) and 3,000K – 6,100K CCT, variable white (Studio Force V Compact) models – the latter featuring 3200°K and 5600°K laboratory calibrated presets.

Both Studio Force models utilise one light engine featuring 28 high powered LEDs. The D Compact features 28 cold white LEDs, whereas the V Compact features 14 cold white and 14 warm white LEDs.

With an extreme output of 2,800 lumens (D Compact) / 2,600 lumens (V Compact) – providing at least 50% more white light output than their Color Force RGBA colour variants – and at only 212mm / 8.4” in length, the fixtures are ideal for evenly washing large areas with a very small footprint.

Featuring a rugged external design and IP65 rated* casing, the multi-purpose workhorse fixtures are specifically designed for TV, film, touring, exhibitions, corporate events and theatre lighting applications - including uplighting, pipe-end shin-busting, backlighting, wash applications and truss warmers.

Up to five fixtures can be daisy-chained from each 15-way Compact PSU output, eliminating the need to home-run a cable from each fixture back to the PSU. In addition, up to four fixtures per output can be daisy-chained on a Chroma-Q Color Block PSU (PSU-05B, PSU530).

The Studio Force Compact models enable an even wider range of users and budgets to utilise the power of the Studio Force as a creative lighting tool.

The Studio Force range's camera-friendly custom optical design provides a smooth, uniform output matched by theatrical grade dimming.

For real versatility and compatibility with existing lighting inventories, the models are compatible with City Theatrical top hat, half top hat, egg crate louver and barn door accessories. The fixtures are supplied with a holder for these four optional accessories, as well as interchangeable clear and frosted glass light lenses. An optional W-DMX wireless accessory for the 15-way Compact PSU is also available.

The models can operate as a standalone unit or be remotely controlled through ANSI E1.11 USITT DMX 512-A protocol. The control options incorporate a choice of multiple channel intensity control, effects and a dynamic Variable Effects Engine integrated in the software, which gives the user full control of the effects combination.



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*As per IEC60529 ingress protection rating code.

15-way Power Supply Unit

The Color Force Compact PSU15 is a 15-way Power Supply unit that supplies power and data for a maximum total of 15 Color or Studio Force Compact fixtures. The PSU15 power supply unit features 3 XLR4 outputs and each output with a maximum capacity for up to 5 fixtures daisy-chained together. The PSU15 power supply unit can be controlled remotely through an external DMX control console via XLR 5-pin cable or with the wireless option.



5-way Power Supply Unit

The Color Force Compact PSU-300 is a 5-way Power Supply unit that supplies power and data to a maximum total of 5 Color or Studio Force Compact fixtures. The PSU-300 power supply unit features a single XLR4 output for a maximum capacity for up to 5 fixtures daisy-chained together. The PSU-300 power supply unit can be controlled remotely through an external DMX control console via XLR 5-pin cable.



2. Operation

2.1 Unpacking the units

The Studio Force Compact fixture package includes the fixture, frosted glass lens, accessory plate, safety cable and the Quick Start Guide.

The PSU15 package includes the power supply unit, power cord, truss/rack mounting brackets (“Rack Ears”), screws and a Quick Start Guide.

The PSU-300 package includes the power supply unit, power cord and a Quick Start Guide.

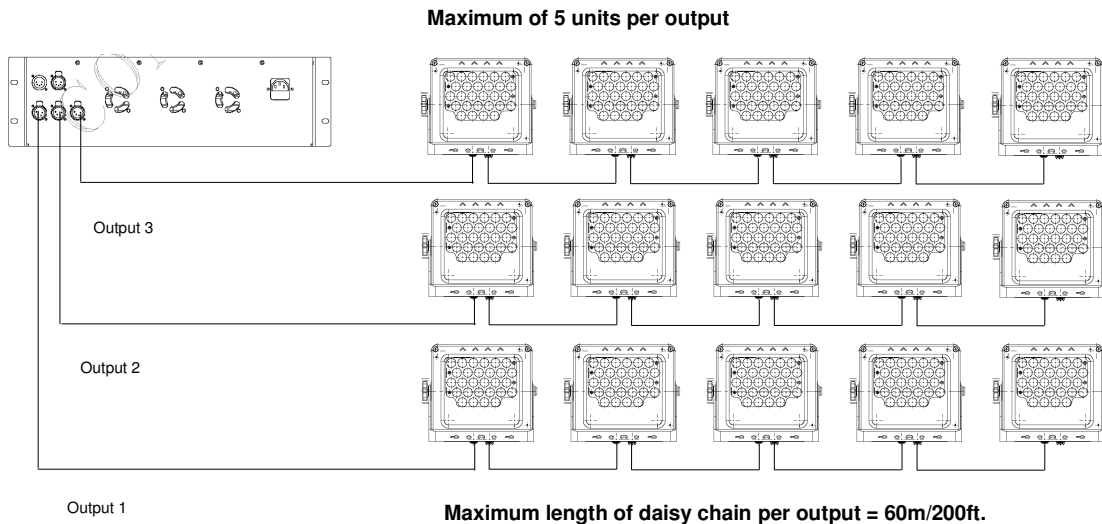
We recommend that you keep the original packaging in case the item needs to be returned.

2.2 Cabling

The Studio Force Compact utilises XLR4 connectors for power and data input and through. The chassis are ground bonded.

Power Supply Output Configuration:

PSU15:



WARNING!

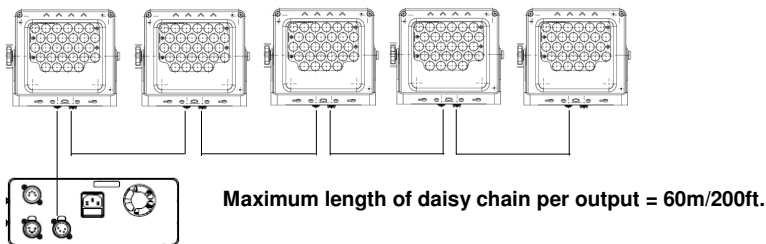
PSU15 Output: Maximum of 5 fixtures per output – 48VDC, 6A per output.

Cable: The total cable length of the daisy chain per output must not exceed 60m/200ft.

PSU15 Input: 100-120V~, 10A; 200-240V~, 5A; 50-60Hz

PSU15 Fuse type & size: T12.5A 250V~

PSU-300:



WARNING!

PSU-300 Output: 5 fixtures – 48VDC, 6A.

Cable: The total cable length of the daisy chain must not exceed 60m/200ft.

PSU-300 Input: 100-120V~, 4A; 200-240V~, 2A; 50-60Hz

PSU15 Fuse type & size: SLOW 5X20 4A 250V~

Power and control data outputs from the power supply to the fixture are through an XLR 4-pin cable. The drain wire should be connected to the chassis of the XLR.

XLR 4-pin Cable:

Pin #	Function	Minimum Cable size
1	Ground (-ve)	2.50mm ² (14 AWG)
2	Control data minus (-)	0.35mm ² (22 AWG)
3	Control data plus (+)	0.35mm ² (22AWG)
4	48V DC (+ve)	2.50mm ² (14 AWG)
Chassis	Cable shield/drain wire	0.25mm ² (24 AWG)

Data signal from the external lighting control console to the power supply is through an XLR 5-pin cable.

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)

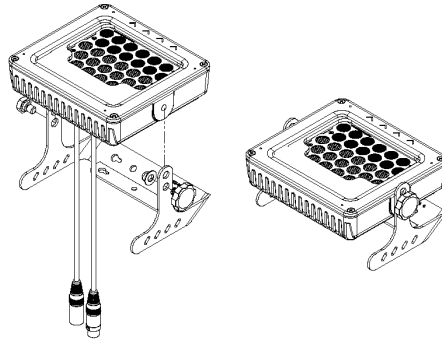
Important Notice:

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.

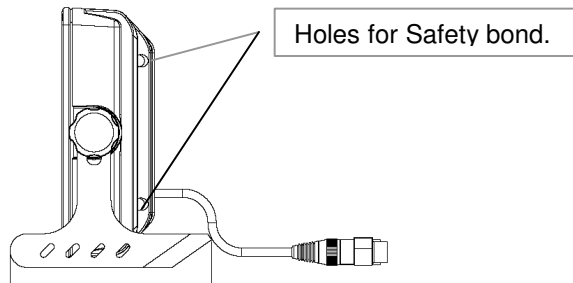
2.3 Mounting

The Studio Force Compact fixture is built with a mounting yoke for floor, wall and truss mounting applications.

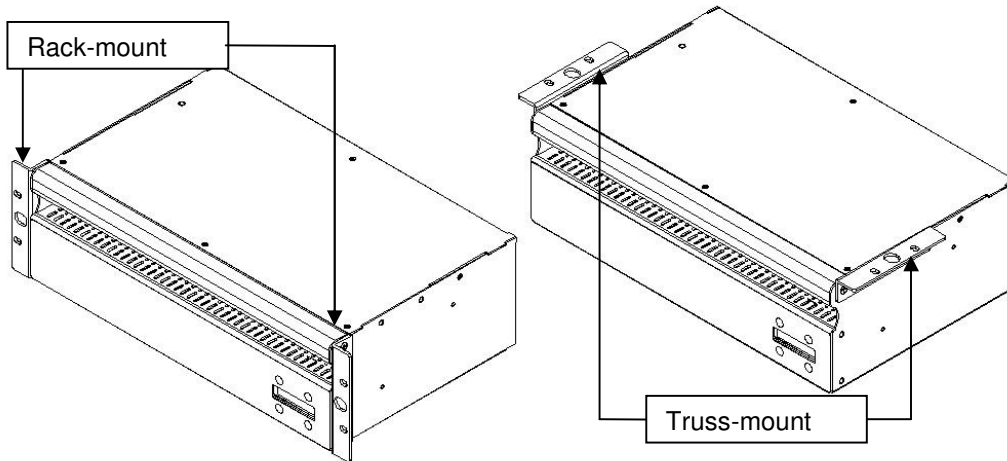
The yoke features an added pair of holes for height adjustment. The fixture enclosure mounted on the top holes of the yoke allows the fixture to face upwards and perpendicular. The fixture mounted on the bottom holes of the yoke allows the fixture to face upwards only.



Note: Secure the fixture with a safety bond. A provision for a fixing hold is built into the enclosure.



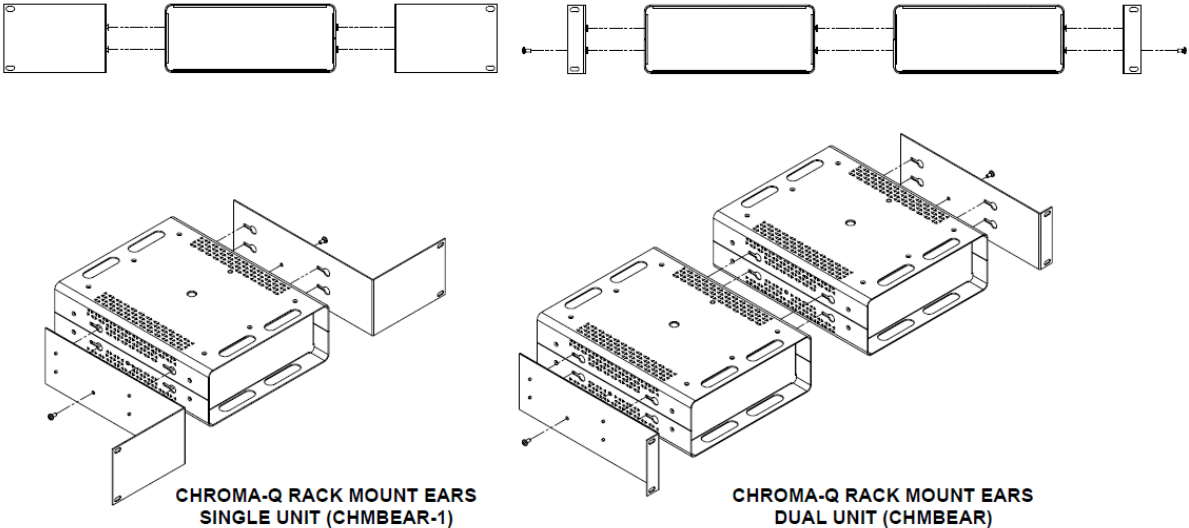
The PSU15 can be rack-mounted or hung from a truss with a pair of “Rack Ears” brackets fastened with 3 x M5 FH/CS screws onto each side or on the top of each side.



The PSU-300 has a unique Magic Box interlocking enclosure which facilitates easy rack mounting when used in pairs and easy truss mounting via captive nut insert.

For truss mounting, we recommend the use of a 1/2"-13UNC x 3/4" long bolt to avoid damage.

Rack mounting brackets are available in single unit and dual unit versions.



2.4 Optical Accessories

An optional frosted or clear glass lens is included in the package to adjust the light output of the Compact fixtures. An accessory plate is also included to hold and lock in place accessories such as top hats, half top hats, barndoors, egg crate louvers and others.

Glass change procedure:

Screws: 4 x M5 flathead screws

Tool: Torque screwdriver with PH #2

Torque: **15 in-lb**

Warning!

Not following the proper procedure and torque requirements will result in a void warranty.

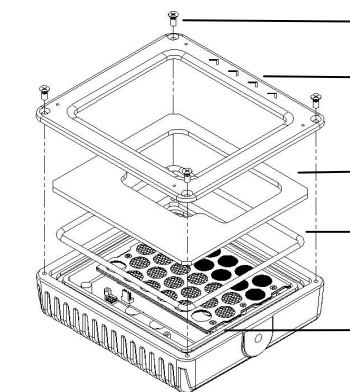


Figure 2

1. Remove the 4 screws

2. Remove the frame

3. Change the glass

4. O-ring must be well placed inside the channel

5. Channel

6. Put back the frame

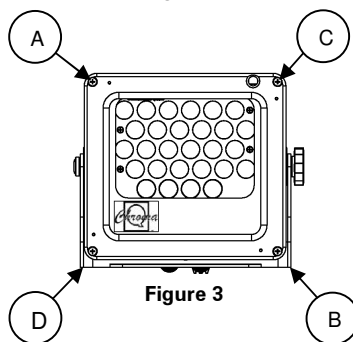


Figure 3

7. Insert halfway the M5 screws in this sequence:

A – B – C – D. (Fig. 3)

8. Tighten the screws to full torque in this sequence:

A – B – C – D. (Fig. 3)

Accessories plate installation procedure:

Screws: 4 x M3 flathead included in package

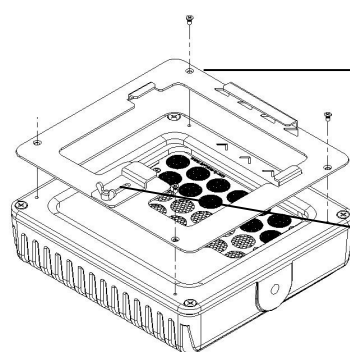


Figure 4

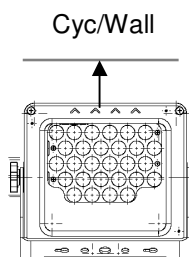
1. Position the plate to match holes. (Fig. 4)

2. Fasten the plate to the frame.

3. Use the locking plate for adjustments and to fix in place accessories

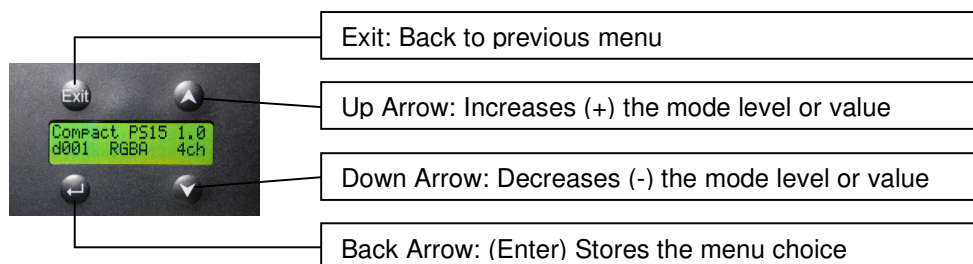
2.5 Chevrons

The “chevron” markings that are stamped on the front of the fixture indicate the side of the fixture that should be adjacent to the wall or cyclorama.



2.6 Control

The PSU15 and PSU-300 can operate as stand-alone units or be controlled remotely via ANSI E1.11 USITT DMX512-A protocol. The control functions can be accessed through the LCD display at the front with 4 push buttons.



Power-Up Display:

On power-up and home position, the Main Menu display shows the Model Name, Software Version, the DMX Address, current assigned Control Mode, and the number of Channels.

Display Mode:

The LCD is backlit when you access the menus. This will turn off when left undisturbed for 5 seconds.

System:

The control system in both PSU15 and PSU-300 can be switched to control Color Force Compact RGBA fixtures, Studio Force D, V and Phosphor V Compact fixtures.

1. From the Main Menu, press Up or Down to select System, then press Enter
2. Press Up or Down to select Color, Daylight, Varywhite, or Phosphor V
3. Press Enter for 2 seconds to save the settings.

The Control Mode options available will be different for each System.

Grouping options:

Three grouping options are available for the control of the fixtures.

- “Single” grouping allows for the control of the individual LED circuits in every fixture unit.
- “Out” grouping per output, allows for the control of up to 5 fixtures from each PSU output as one group.
- “All” grouping allows for the control of all fixtures from all the outputs as one group.

Control Modes for Color Force Compact fixture:

The Color Force Compact fixture consists of a single LED engine with 4 circuits of 7 (Red, Green, Blue, Amber) LEDs each, for a total of 28 LEDs.

Control Modes – System - Color:

Group	Ch PSU15	Ch PSU-300	Display	Description
Single	52	22	FxHSI	gives 2 colour channels for hue, saturation and a separate intensity channel for each single fixture and 7 channels for pre-programmed effects.
Single	45	15	HSI	gives 2 colour channels for hue and saturation, and a separate intensity channel for each single fixture.
Single	45	15	RGB	gives 3 control channels directly affecting the intensity of the corresponding Red, Green, Blue LED (with *Magic Amber) for each single fixture. Colour is mixed by adjusting the levels of the three primary colours. White is achieved with all channels at full including *Magic Amber.
Single	60	20	RGBA	gives 4 control channels directly affecting the intensity of the corresponding Red, Green, Blue, and Amber LED for each single fixture.
Single	61	21	sRGBI	gives 3 control channels directly affecting the intensity of the corresponding Red, Green and Blue LED (with *Magic Amber), 1 channel affecting the intensity of all the RGB channels for each single fixture, and a channel for intensity effects.
Output	15		FxHSI	gives 2 colour channels for hue and saturation, a separate intensity channel for every output of 5 fixtures each, and 6 channels for effects.
Output	9		HSI	gives 2 colour channels for hue and saturation and a separate intensity channel for every output of 5 fixtures each.
Output	9		RGB	gives 3 control channels directly affecting the intensity of the corresponding Red, Green, Blue LED (with *Magic Amber) for every output of 5 fixtures each.
Output	12		RGBA	gives 4 control channels directly affecting the intensity of the corresponding Red, Green, Blue, and Amber LED for every output of 5 fixtures each.
Output	13		sRGBI	gives 3 control channels directly affecting the intensity of the corresponding Red, Green and Blue LED (with *Magic Amber), 1 channel affecting the intensity of all the RGB channels, and 1 channel for intensity effects for every output of 5 fixtures each.
All	9	9	FxHSI	gives 2 colour channels for hue and saturation, a separate intensity channel for all the fixtures on all the outputs, and 6 channels for effects.
All	3	3	HSI	gives 2 colour channels for hue and saturation and a separate intensity channel for all the fixtures on all the outputs.
All	3	3	RGB	gives 3 control channels directly affecting the intensity of the corresponding Red, Green, Blue LED (with *Magic Amber) for all the fixtures on all the outputs.
All	4	4	RGBA	gives 4 control channels directly affecting the intensity of the corresponding Red, Green, Blue, and Amber LED for all the fixtures on all the outputs.
All	5	5	sRGBI	gives 3 control channels directly affecting the intensity of the corresponding Red, Green and Blue LED (with *Magic Amber), 1 channel affecting the intensity of all the RGB channels, and 1 channel for intensity effects for all the fixtures on all the outputs.
All	1	1	Look sel	gives 1 control channel to select from the programmed scenes in the look store.
			Mastr StandAlon	Master Standalone – assigns the unit to be the Master unit where stand-alone control options are set.
			Slave StandAlon	Slave Standalone – assigns the unit to be the Slave unit and follows the control options assigned to the Master unit.

Control Modes for Studio Force D Compact fixture:

The Studio Force D Compact fixture consists of a single LED engine with 28 Cold White LEDs each.

Control Modes – System – Daylight

Grouping	Ch	Ch PSU-	Display	Description
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	PSU15	300		
Single	60	20	Dim4x	gives 1 channel for each LED circuit in every single fixture for a total of 4 channels per single fixture.
Single	15	5	Dim1x	gives 1 channel for all the LEDs in each single fixture.
All	1	1	Dim1x	gives 1 channel for all the LEDs in all the fixtures.
All	2	2	FxDim	gives 1 channel for intensity effects and 1 channel for all the LEDs in all the fixtures.
All	1	1	Look sel	gives 1 control channel to select from the programmed scenes in the look store.
			Mastr StandAlon	Master Standalone – assigns the unit to be the Master unit where stand-alone control options are set.
			Slave StandAlon	Slave Standalone – assigns the unit to be the Slave unit and follows the control options assigned to the Master unit.

Control Modes for Studio Force V Compact fixture:

The Studio Force V Compact fixture consists of a single LED engine with 14 Cold White and 14 Warm White LEDs.

Control Modes – System – Varywhite

Grouping	Ch PSU15	Ch PSU-300	Display	Description
Single	30	10	WW/CW	gives 1 channel for Warm White LEDs and 1 channel for Cold White LEDs in every single fixture for a total of 2 channels per single fixture.
Single	30	10	CTI	gives 1 channel for Color Temperature and 1 channel for Intensity in every single fixture for a total of 2 channels per single fixture.
All	2	2	WW/CW	gives 2 channels for Warm White and 2 channels for Cold White for all the fixtures.
All	2	2	CTI	gives 1 channel for Color Temperature and 1 channel for Intensity for all the fixtures.
All	1	1	Look sel	gives 1 control channel to select from the programmed scenes in the look store.
			Mastr StandAlon	Master Standalone – assigns the unit to be the Master unit where stand-alone control options are set.
			Slave StandAlon	Slave Standalone – assigns the unit to be the Slave unit and follows the control options assigned to the Master unit.

Control Modes for Studio Force V Compact Phosphor fixture:

The Studio Force V Compact Phosphor fixture consists of a single LED engine with 4 circuits of 7 (Red, Green, Blue, Amber) LEDs and a remote phosphor panel.

Control Modes – System – Phosphor V

Grouping	Ch PSU15	Ch PSU-300	Display	Description
Single	45	15	KHL	gives 1 channel for Kelvin, 1 channel for Hue and 1 channel for Level in every single fixture for a total of 3 channels per single

				fixture.
All	3	3	KHL	gives 1 channel for Kelvin, 1 channel for Hue and 1 channel for Level in all the fixtures.
All	1	1	Look sel	gives 1 control channel to select from the programmed scenes in the look store.
			Mastr StandAlon	Master Standalone – assigns the unit to be the Master unit where stand-alone control options are set.
			Slave StandAlon	Slave Standalone – assigns the unit to be the Slave unit and follows the control options assigned to the Master unit.

Other Control Options (All Models):

Internal FX engine: integrated in the software is an internal FX engine with variable parameters to create an unlimited amount of unique lighting effects. (see 2.7 DMX Protocol for list of parameters)

Note: All internal FX are referenced back to the group base HSI colour and intensity levels.

*Magic Amber is the term used for the unit's ability to bring in amber when mixing colours that require it.

Control Menu

To set control menu options:

1. From the Main Menu, press the Up or Down buttons to scroll through the control menu options
2. Press Enter to select a control menu option
3. Press the Up or Down buttons to scroll through the setting options
4. Press Enter to select and save the setting, or press Exit to return to the previous menu without saving.

The display goes back to the Main Menu.

Main Menu / DMX Address

To set the DMX start address,

1. From the Main Menu, press Enter
2. Press the Up or Down buttons to adjust the DMX start address
3. Press Enter for 2 seconds to save and the display goes back to the Main Menu.



Control Mode

The PSU15 & PSU-300 can be set to operate in various DMX controlled and stand-alone modes in Color, Daylight, Varywhite and PhosphorV systems with 3 grouping options (Single, Output and All). See menu options below. In Control Mode, scroll through and select from the options available then save.

PSU15 System: Color

Mode	Name	Group	Ch	Description
1	fxHSI	Single/ Output/All	52	7fx + 15 x HSI (Grouping, Colour Speed, Fan, Range, Step, Intensity Fx, Intensity Fan)
2	HSI	Single	45	15 x HSI
3	RGB	Single	45	15 x RGB (with *Magic Amber)
4	RGBA	Single	60	15 x RGBA
5	sRGBI	Single	61	1s + 15 x RGBI
6	fxHSI	Output	15	6fx + 3 x HSI
7	HSI	Output	9	3 x HSI
8	RGB	Output	9	3 x RGB (*with Magic Amber)
9	RGBA	Output	12	3 x RGBA
10	sRGBI	Output	13	1s + 3 x RGBI
11	fxHSI	All	9	6fx + HSI (Colour Speed, Fan, Range, Step, Intensity Fx, Intensity Fan)
12	HSI	All	3	HSI
13	RGB	All	3	RGB (with *Magic Amber)
14	RGBA	All	4	RGBA
15	sRGBI	All	5	1s + RGBI
16	Look sel	All	1	Look Select
17	Mastr StandAlon			Master Standalone
18	Slave StandAlon			Slave Standalone

PSU15 System: Daylight

Mode	Name	Group	Ch	Description
1	Dim4x	Single	60	15 x CW CW CW CW
2	Dim1x	Single	15	15 x CW
3	Dim1x	All	1	CW
4	FxDim	All	2	Int Fx + CW
16	Look sel	All	1	Look Select
17	Mastr StandAlon			Master Standalone
18	Slave StandAlon			Slave Standalone

PSU15 System: Varywhite

Mode	Name	Group	Ch	Description
1	WW/CW	Single	30	15 x WW + 15 x CW

2	CTI	Single	30	15 x CT + 15 x Int
3	WW/CW	All	2	WW + CW
4	CTI	All	2	CT + Int
16	Look sel	All	1	Look Select
17	Mastr StandAlon			Master Standalone
18	Slave StandAlon			Slave Standalone

PSU15 System: Phosphor V

Mode	Name	Group	Ch	Description
1	KHL	Single	45	15 x KHL
2	KHL	All	3	KHL
16	Look sel	All	1	Look Select
17	Mastr StandAlon			Master Standalone
18	Slave StandAlon			Slave Standalone

PSU-300 System: Color

Mode	Name	Group	Ch	Description
1	fxHSI	Single/ Output/All	22	7fx + 5 x HSI (Grouping, Colour Speed, Fan, Range, Step, Intensity Fx, Intensity Fan)
2	HSI	Single	15	5 x HSI
3	RGB	Single	15	5 x RGB (with *Magic Amber)
4	RGBA	Single	20	5 x RGBA
5	sRGBI	Single	21	1s + 5 x RGBI
6	fxHSI	All	9	6fx + HSI
7	HSI	All	3	HSI
8	RGB	All	3	RGB (*with Magic Amber)
9	RGBA	All	4	RGBA
10	sRGBI	All	5	1s + RGBI
16	Look sel	All	1	Look Select
17	Mastr StandAlon			Master Standalone
18	Slave StandAlon			Slave Standalone

PSU-300 System: Daylight

Mode	Name	Group	Ch	Description
1	Dim4x	Single	20	5 x CW CW CW CW
2	Dim1x	Single	5	5 x CW
3	Dim 1x	All	1	CW
4	FxDim	All	2	Int Fx + CW
16	Look sel	All	1	Look Select
17	Mastr StandAlon			Master Standalone
18	Slave StandAlon			Slave Standalone

PSU-300 System: Varywhite

Mode	Name	Group	Ch	Description
1	WW/CW	Single	10	5 x WW + 5 x CW
2	CTI	Single	10	5 x CT + 5 x Int
3	WW/CW	All	2	WW + CW
4	CTI	All	2	CT + Int
16	Look sel	All	1	Look Select

17	Mastr StandAlon			Master Standalone
18	Slave StandAlon			Slave Standalone

PSU-300 System: Phosphor V

Mode	Name	Group	Ch	Description
1	KHL	Single	15	5 x KHL
2	KHL	All	3	KHL
16	Look sel	All	1	Look Select
17	Mastr StandAlon			Master Standalone
18	Slave StandAlon			Slave Standalone



When DMX is Lost

If DMX is not detected various output options can be selected:

Off	Fixture snaps to off.
Hold	Fixture holds the last valid DMX state.
Look 1-31	Fixture snaps to the selected Look



Look Store

In this menu, 31 internal preset FX Looks are available for stand-alone operation, 1-23 are pre-programmed.

To replay a Look in stand-alone operation,

1. From the Main Menu, scroll and select **Look Store**
2. In **Look Store**, scroll and select the Look number
3. Press Enter for 2 seconds to save.

To replay a Look with a DMX console,

1. From the Main Menu, scroll and select **Control Mode**
2. In **Control Mode**, select Look Sel (Control Mode 16)
3. Press Enter for 2 seconds to save.

Use the DMX console with the assigned channel to playback the various looks stored. (1-31 looks in 1 single channel)

Note: DMX has priority over internal Looks.

Looks can be recorded to the internal flash memory by users and will be preserved on power down. However, looks will be returned to default setting if Reset is performed. There are two ways to record a look:

Simple, create and save a look with a DMX console:

1. Set the fixture to the desired Control Mode.
2. Use a DMX console to adjust channel levels and create the desired look or effect.
3. From the Main Menu, scroll and select **Look Store**.
4. Scroll and select the Look Store number.
5. Press Enter for 2 seconds to save the Look.

Advanced, create and save a look in standalone (DMX is unplugged):

1. From the Main Menu, scroll and select **Look Store**
2. Scroll and select a Look Store number
3. Press Enter to access the memory data. The data is presented as two numbers separated by a letter "c". The number to the left of the "c" is the channel number and to the right is the channel level. Pressing Up/Down up to the far end will show the Mode at which the selected Look was programmed.

To edit the Mode of a selected Look:

1. From the Main Menu, scroll and select **Look Store**

2. Scroll and select a Look Store number
3. Press Enter to access the memory data
4. Press the Up/Down buttons up to the far end until the Control Mode number is shown then press Enter.
5. Press the Up/Down buttons to adjust the Mode number
6. Press Enter to toggle back to the channel numbers

To edit the channel numbers and levels of a selected Look:

1. From the Main Menu, scroll and select **Look Store**
2. Scroll and select a Look Store number
3. Press Enter to access the memory data
4. Press the Up/Down buttons and select the channel number
5. To edit the channel level, press Enter and use the Up/Down buttons to adjust the level (shown as 0-255)
6. Press Enter to toggle back to the channel number. When the desired effect is created press Enter for 2 seconds to save the edited Look.



System

In this menu, the control system can be switched to control Color Force Compact, Studio Force D, V and Phosphor V Compact fixtures.

1. From the main menu, scroll and select System
2. In System, select between Color, Daylight, Varywhite or Phosphor V
3. Press Enter for 2 seconds to save



Wireless

In this menu, wireless DMX connection can be activated with the power supply unit assigned as a transmitter or receiver.

To create a new wireless network:

- set all Receivers and unlink from previous connections - **Unlink frm Trnsm**
- set the Transmitter and Add Receivers

1. From the main menu, scroll and select **Wireless**
 2. In **Wireless**, select from either **Off**, **Receiver** or **Transmitter**
- The display shows **W reset** when selecting between the options.

To activate the wireless DMX connection between generic transceiver unit as the Transmitter and the Compact PSU unit as the Receiver:

A. Setup the Compact PSU as the Receiver unit:

1. From the main menu, scroll and select **Wireless**
 2. In **Wireless**, select **Receiver**
 3. Press Enter for 2 seconds to save and display shows **Wireless**
 4. Press Enter, display shows **Receiver**
 5. Press Enter, display shows **Unlink frm Trnsm**
 6. Press Enter, **Unlink frm Trnsm** blinks for a few seconds until the display goes back to the previous menu and then the main menu. This will unlink previous signal connections.
- Proceed to setup transmitter unit.

Upon completion of a successful link with the transmitter unit, the main menu displays "w_" and the DMX signal level is indicated by the horizontal bars beside it. (5 bars maximum) The menu display will indicate "wx" if there is no signal connection.

B. Setup external Wireless DMX Transmitter/Transceiver:

Please refer to the User Manual of the external Transmitter/Transceiver unit for the steps to initiate signal/link with the Compact PSU receiver unit.

To activate the wireless DMX connection between a Compact PSU unit as the Transmitter and the next Compact PSU unit as the Receiver:

A. Setup the Compact PSU unit as the Receiver unit:

1. From the main menu, scroll and select **Wireless**
 2. In **Wireless**, select **Receiver**
 3. Press Enter for 2 seconds to save and display shows **Wireless**
 4. Press Enter, display shows **Receiver**
 5. Press Enter, display shows **Unlink frm Trnsm**
 6. Press Enter, **Unlink frm Trnsm** blinks for a few seconds until the display goes back to the previous menu and then the main menu. This will unlink previous signal connections.
- Proceed to setup next Compact PSU as the transmitter unit.

B. Setup the Compact PSU as the Transmitter unit:

Connect DMX control to the Compact PSU unit via XLR5 cable.

1. From the main menu, scroll and select **Wireless**
2. In **Wireless**, select **Transmitter**
3. Press Enter for 2 seconds to save and display will show **Wireless**
4. Press Enter, display shows **Transmitter**
5. Press Enter, display shows **Add Receivers**
6. Press Enter, **Add Receivers** blinks for a few seconds until the display goes back to the previous menu and then the main menu. The unit is initiating signal/link search.

Note:

The Compact PSU transmitter unit that is not connected to DMX control console continues to send wireless signal link to the Compact PSU receiver units.

C. To unlink receivers from the Compact PSU transmitter unit:

From the main menu of the Compact PSU transmitter unit,

1. From the main menu, scroll and select **Wireless**
2. In **Wireless**, select **Transmitter**
3. Press Enter and then select **Unlink Receivers**
4. Press Enter, **Unlink Receivers** blinks for a few seconds until the display goes back to the previous menu and then the main menu.



Technical

In this mode, the frequency settings of the unit can be changed, and addressing software for the Compact LED engines can be uploaded.

1. From the main menu, scroll and select **Technical**
2. In **Technical**, select either **Frequency** or **Upload Heads**

Frequency:

The power supply unit has four frequency settings available - 1200, 2400, 4800, 9600. This allows for the LED scan rate to be synchronised with the video camera and avoid a flickering effect. Press the Up/Down buttons to select the desired frequency, press Enter for 2 seconds to save.

Upload Heads:

The LED engine/s addressing software for the Compact fixture can be uploaded to the power supply unit from the Chroma-Q Uploader:

1. Connect the Compact fixture/s to the PSU.
2. In **Technical**, select **Upload Heads** then press Enter, and the display shows **Ready**
3. Connect an XLR 5-pin cable from the Uploader to the unit
4. Power-up the Uploader - display shows the file name, and **Ready**
5. Press the **GO** button once to execute the uploading - red indicator light on the **GO** button blinks
6. The Uploader display shows a simulated arrow moving from left to right indicating the uploading process
7. The Green LED circuit will light up (low intensity) to indicate completion of a successful Upload and the

Uploader display shows **DONE**

8. Power-cycle the unit
(See Quick Start Guide of the Chroma-Q Uploader)



Fan Speed (PSU15 only)

The Compact power supply units are built with internal fans with the following speed settings:

Live	fan speed is at high velocity
Live when Light	fan speed goes to high velocity when LEDs are turned on and remain at very low velocity when LEDs are off
Studio	fan speed is at low velocity
Quiet	fan is off

1. From the main menu, scroll and select **Fan Speed**
2. In **Fan Speed** select a speed setting
3. Press Enter for 2 seconds to save.



Reset to Default

The fixture can be reset to factory default settings:

1. From the main menu, scroll and select **Reset to Default**
 2. Press Enter, display shows **reset?**
 3. Press and hold Enter until the display shows **resetting** and **done** when complete
- All menu items are reset to factory defaults:

	PSU15	PSU-300
DMX address	001	001
Control Mode	14	9
When DMX is Lost	Hold	Hold
Looks	01	01
System	Color	Color
Frequency	1200	1200
Fan Speed	Live	

Software Uploads:

Control Software Upload:

The control software for the operation of the Compact fixtures can be uploaded directly from the Chroma-Q Uploader to the Compact power supply unit via the XLR 5-pin connection with both units powered and no need to access the control menu.

1. Power-up the Compact PSU.
2. Connect an XLR 5-pin cable (single pair is fine) from the Uploader to the Compact PSU.
3. Connect Uploader to an AC power supply. The Uploader display shows the software name and version, and 'Ready'.
4. Press the GO button once to execute the uploading. The Red indicator light on the GO button blinks.
5. The Uploader display shows a simulated arrow moving from left to right indicating the uploading process.
6. The external device resets automatically upon completion of a successful upload.
7. The Uploader display shows 'DONE' upon completion of the upload.
8. Power-cycle the Compact PSU to verify the new software version. The device display shows the new software version.
9. Repeat step 1 to step 9 if the uploading process is interrupted (power and/or data).

2.7 DMX Protocol

PSU15 DMX Personality Modes 1-4: Daylight

V1.7	Control Mode 1	Control Mode 2	Control Mode 3	Control Mode 4
------	----------------	----------------	----------------	----------------

	[60 ch] Dim4x	[15 ch] Dim1x	[1 ch] Dim1x	[2 ch] FxDim
Channel 1	Cold white for fixture 1	Cold white for fixture 1	Cold white for fixtures 1-15	Intensity Effects fixtures 1– 15 0 Static 1-63 Fade on, fade off . Variable range, 63 the fastest 64-127 Fade on, snap off. Variable range, 127 the fastest 128-191 Snap on, fade off. Variable range, 191 the fastest. 192-255 Snap on, snap off (strobe). Variable range, 255 the fastest.
Channel 2	Cold white for fixture 1	Cold white for fixture 2		Cold white for fixtures 1-15
Channel 3	Cold white for fixture 1	Cold white for fixture 3		
Channel 4	Cold white for fixture 1	Cold white for fixture 4		
Channel 5	Cold white for fixture 2	Cold white for fixture 5		
Channel 6	Cold white for fixture 2	Cold white for fixture 6		
Channel 7	Cold white for fixture 2	Cold white for fixture 7		
Channel 8	Cold white for fixture 2	Cold white for fixture 8		
	...and so on up to fixture 15	...and so on up to fixture 15		
Total DMX Channels	60 DMX channels	15 DMX channels	1 DMX channel	2 DMX channels

PSU15 DMX Personality Modes 1-4: Varywhite

V1.7	Control Mode 1 [30 ch] WW/CW	Control Mode 2 [30 ch] CTI	Control Mode 3 [2ch] WW/CW	Control Mode 4 [2 ch] CTI
Channel 1	Warm white for fixture 1	Colour Temp for fixture 1	Warm white for fixtures 1- 15	Colour Temp for fixtures 1 - 15
Channel 2	Cold white for fixture 1	Intensity for fixture 1	Cold white for fixtures 1 - 15	Intensity for fixtures 1 - 15
Channel 3	Warm white for fixture 2	Colour Temp for fixture 2		
Channel 4	Cold white for fixture 2	Intensity for fixture 2		

Channel 5	Warm white for fixture 3	Colour Temp for fixture 3		
Channel 6	Cold white for fixture 3	Intensity for fixture 3		
Channel 7	Warm white for fixture 4	Colour Temp for fixture 4		
Channel 8	Cold white for fixture 4	Intensity for fixture 4		
	...and so on up to fixture 15	...and so on up to fixture 15		
Total DMX Channels	30 DMX channels	30 DMX channels	2 DMX channel	2 DMX channel

PSU-300 DMX Personality Modes 1-4: Daylight

V1.7	Control Mode 1 [20 ch] Dim4x	Control Mode 2 [5 ch] Dim1x	Control Mode 3 [1 ch] Dim1x	Control Mode 4 [2 ch] FxDim
Channel 1	Cold white for fixture 1	Cold white for fixture 1	Cold white for fixtures 1-5	Intensity Effects fixtures 1– 15 0 Static 1-63 Fade on, fade off . Variable range, 63 the fastest 64-127 Fade on, snap off. Variable range, 127 the fastest 128-191 Snap on, fade off. Variable range, 191

				the fastest. 192-255 Snap on, snap off (strobe). Variable range, 255 the fastest.
Channel 2	Cold white for fixture 1	Cold white for fixture 2		Cold white for fixtures 1-5
Channel 3	Cold white for fixture 1	Cold white for fixture 3		
Channel 4	Cold white for fixture 1	Cold white for fixture 4		
Channel 5	Cold white for fixture 2	Cold white for fixture 5		
Channel 6	Cold white for fixture 2			
Channel 7	Cold white for fixture 2			
Channel 8	Cold white for fixture 2			
	...and so on up to fixture 5			
Total DMX Channels	20 DMX channels	5 DMX channels	1 DMX channel	2 DMX channels

PSU-300 DMX Personality Modes 1-4: Varywhite

V1.7	Control Mode 1 [10 ch] WW/CW	Control Mode 2 [10 ch] CTI	Control Mode 3 [2ch] WW/CW	Control Mode 4 [2 ch] CTI
Channel 1	Warm white for fixture 1	Colour Temp for fixture 1	Warm white for fixtures 1 - 5	Colour Temp for fixtures 1 - 5
Channel 2	Cold white for fixture 1	Intensity for fixture 1	Cold white for fixtures 1 - 5	Intensity for fixtures 1 - 5
Channel 3	Warm white for fixture 2	Colour Temp for fixture 2		
Channel 4	Cold white for fixture 2	Intensity for fixture 2		
Channel 5	Warm white for fixture 3	Colour Temp for fixture 3		
Channel 6	Cold white for fixture 3	Intensity for fixture 3		
Channel 7	Warm white for fixture 4	Colour Temp for fixture 4		
Channel 8	Cold white for fixture 4	Intensity for fixture 4		
Channel 9	Warm white for fixture 5	Colour Temp for fixture 5		
Channel 10	Cold white for fixture 5	Intensity for fixture 5		
Total DMX Channels	10 DMX channels	10 DMX channels	2 DMX channels	2 DMX channels

PSU15 & PSU-300 DMX Personality Mode 16: Daylight & Varywhite

V1.7	Mode 16 [1ch] Look Select
Channel 1	Look 1 - 31

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 connection between DMX control and PSU. Bad cable connection between PSU and Compact fixtures. Bad in/through connection between adjacent fixtures. Fixture malfunction.	Check DMX address and Mode settings. Check/replace DMX run from the console to the PSU. Check/replace extension cables between adjacent fixtures. Check/replace fixtures.
Noise from power supply unit.	Fan malfunction. Fan speed addressing.	Check fan. Check fan speed mode.
Low LED output from the fixture.	Internal temperature of the PSU unit is over the limit. Fans of the PSU unit are not working. Fixture malfunction.	Check "Fan Speed" mode of the PSU unit. Check the fans of the PSU unit. Check PSU unit for airflow - to and from the internal fans. Check PSU area ventilation. Check/replace fixture unit.

4. Specification

4.1 Technical specifications

Studio Force D & V Compact

Product Code	CHSFCD	CHSFCV
Net Dimensions - Width x Height x Depth	212mm x 196mm x 152mm / 8.4" x 7.7" x 6"	
Net Weight	4 kgs / 8.5 lbs	
Shipping Dimensions - Width x Height x Depth	267mm x 254mm x 241mm / 10.5" x 10" x 9.5"	
Shipping Weight	5.4kgs / 12 lbs	
Power & Connections:	Daisy-chained power & data connections	
Power Supply	External – PSU15	
Power Input Rating	48V DC	
Power Consumption	60W	
Typical Power & Current	Measurements done with all LEDs at max. intensity. Measurements made at nominal voltage. Allow for deviation +/-10%	
Power Connector In/Out	XLR 4-pin	
Data Connectors In/Out	XLR 4-pin	
Max Cable Run	~60m / 200ft (PSU to last unit)	
Control Protocol	ANSI E1.11 USITT DMX 512-A	
Cooling System	Convection	
Operating Temperature	0°C to 40°C	
Construction	Cast machined aluminium	
Colour	Black	
Built-In Hardware	Yoke assembly	

IP Rating	*IP65	
Approvals	CISPR 22:2006/EN55022:2006 & CISPR 24:1997/EN55024:1998, ICES-003:2004, FCC Part 15 Subpart B:2010	
Control & Photometric		
LED Engines	1	
LEDs Per Engine	28 Cold White	14 Cold White / 14 Warm White
Total LEDs	28	
Control Modes	60 channels Dim4x, 15 channels Dim1x, 1 channel Dim1x, 2 channels FxDim, 1 channel Look Select, Master Standalone, Slave Standalone	30 channels WW/CW, 30 channels CTI, 2 channels WW/CW, 2 channels CTI, 1 channel Look Select, Master Standalone, Slave Standalone
Dimming Curve	Theatrical	
Variable Effects Engine	Yes	
Effects Parameters	Intensity effects	
Hot Lumen Output (Combined)	2,800 hot lumens @ 6,200K	2,630 hot lumens @ 4,300K
Optics	Specialised close focus lens	
Beam Angle	14° (approx.)	
Beam Angle With Optional Frosted Optic	21° (approx.)	
Beam Distribution	Asymmetrical direct illumination	
CCT	6,200K (+/- 200K)	3,000K – 6,000K (+/- 200K)
Colour Gamut	Performance enhanced	
CRI	~ 75 @ 6,200K	~80 @ 4,300K
Lamp Life	L70 at 50,000 hours	
Accessories Part Codes & Ordering Descriptions	CHCFCTH Top Hat For Compact - Black CHCFCHTH ***Half Top Hat For Compact - Black CHCFCECL ***Egg Crate Louver For Compact - Black CHCFCBD ***Barn Door For Compact - Black CHCFCCL ***Clear Glass For Compact (Comes with fixture) CHCFCFL ***Frosted Glass For Compact (Comes with fixture) CHCFCAH ***Color Force Accessory Holder (Comes with fixture) CHCFCDMXOP ***W-DMX Wireless Option For PSU-15	

**As per IEC60529 ingress protection rating code.



15-way Power Supply Unit

Product Code	CHCFCPSU15
Net Dimensions (Without Fixings) - W x H x D	429mm / 16.9" x 132mm / 5.2" x 267mm / 10.5"
Weight	9.5kg /21lbs
Power input rating	100-120V~, 10A; 200-240V~, 5A; 50-60Hz
Power Factor	0.9
Power Consumption	900W (Maximum); 30W (Stand-by)
Power Connectors In/Out	IEC (Power input), 3 x XLR 4-pin (Power & data output)
Data connector In/Out	XLR 5-pin male in / XLR 5-pin female thru
Max cable run	~60m / 200ft (XLR 4-pin - PSU to last unit)
Control protocol	ANSI E1.11 DMX-512A
Cooling system	Forced – 3 x fans
Operating Temperature	0°C - 40°C
Construction	Powder coated aluminium
Built-in Hardware	Detachable rack-mounting brackets "Rack Ears" and M4 pem nut provision for optional bumper feet installation
Colour	Black
IP Rating	IP20
Operating temperature	0°C to 40°C
Approvals	CSA C22. No. 166-M1983: R2008 CAN/CSA-C22.2 No. 60950-1-07 UL 60950-1:2007, EN 60950-1/A1:2010

5-way Power Supply Unit

Product Code	CHPSU300
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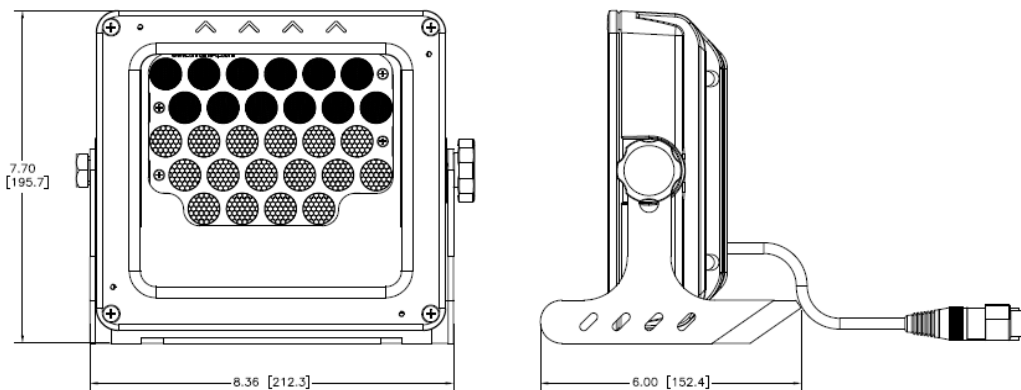
www.chroma-q.com

Net Dimensions (Without Fixings) – W x H x D	219mm / 8.6", 88mm / 3.5", 279mm / 11"
Net Weight (Without Fixings - delete if not appropriate)	3.8kg / 8.4lb
Power Input Rating	100-120VAC, 4A; 200-240VAC, 2A; 50-60Hz
Power Factor	0.9
Power Consumption	360W (Maximum); 12W (Stand-by)
Power Connectors In/Out	IEC (Power input), XLR 4-pin (Power & data output)
Data Connectors In/Out	XLR 5-pin male in / XLR 5-pin female thru
Max cable run	~60m/200ft (XLR 4-pin - PSU to last unit)
Control Protocol	ANSI E1.11 USITT DMX 512-A
Cooling System	Forced - 1 fan
Operating Temperature	0°C - 40°C
Construction	Powder coated steel
Colour	Black
Built-In Hardware	Nut insert for 1/2"-13UNC x 3/4" bolt
IP Rating	IP20
Approvals	CSA C22. No. 166-M1983: R2008 CAN/CSA-C22.2 No. 60950-1-07 UL 60950-1:2007, EN 60950-1/A1:2010



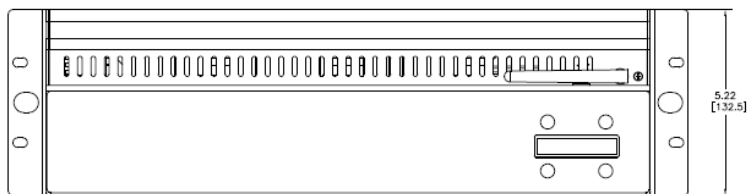
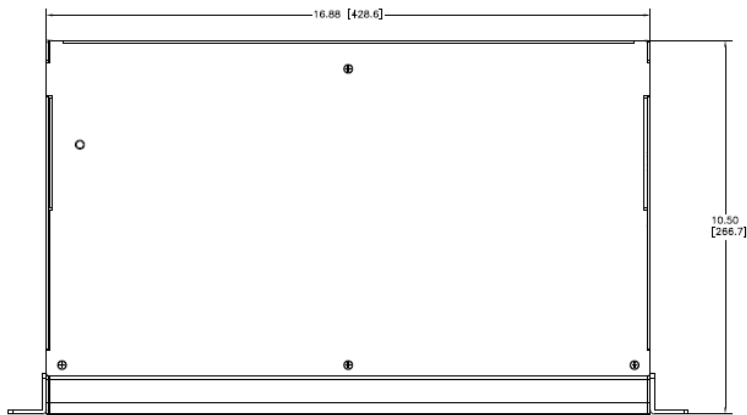
4.2 Drawings

Studio Force D & V Compact



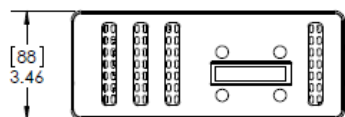
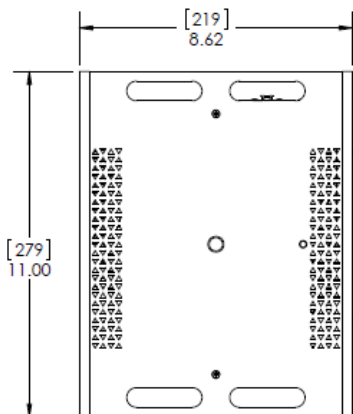
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PSU15



DISCLAIMER: Dimensions and illustrative drawings contained herein are accurate to the company's knowledge at the time of printing, however specifications are subject to change without notice

PSU-300



4.3 Wireless Card Installation

Instructions for installing W-DMX option on PSU15

When upgrading PSU15 with the W-DMX option please follow the steps below:

1. Open the unit by removing the M3x6 screws that hold the cover. Save the screws. Put the cover aside and make sure the ground harness is not damaged
2. Check if the addressing card has a standoff attached, if not use the standoff and lock washer provided to create the mounting point for the W-DMX card as shown in Figure 1

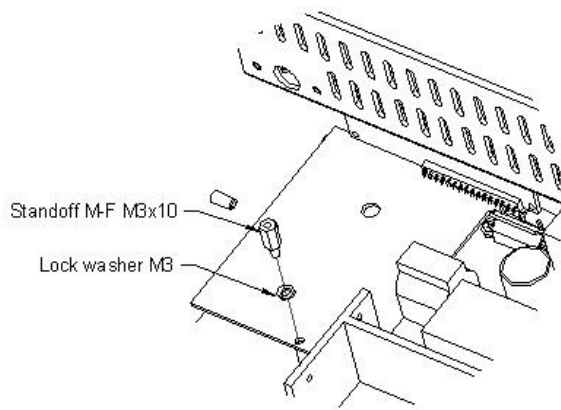


Figure 1

3. Before mounting the card in the unit, attach the antenna cable first in the mating connector on the card

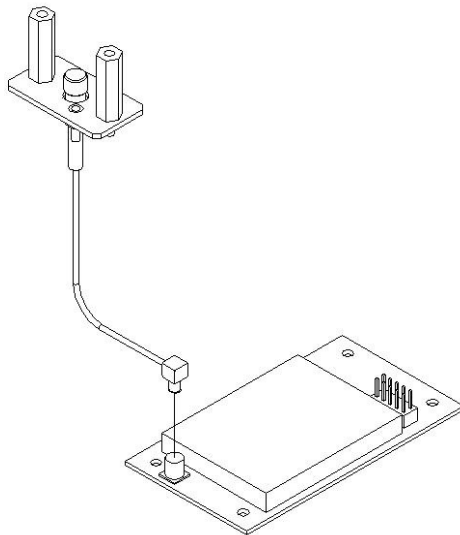


Figure 2

4. Attach the W-DMX card using the pan head M3x6 provided; make sure that the connector on the card fits nicely on the mating connector on the addressing PCB existing in the unit. Make sure that the antenna cable is routed opposite to the power supplies towards the wall of the unit.

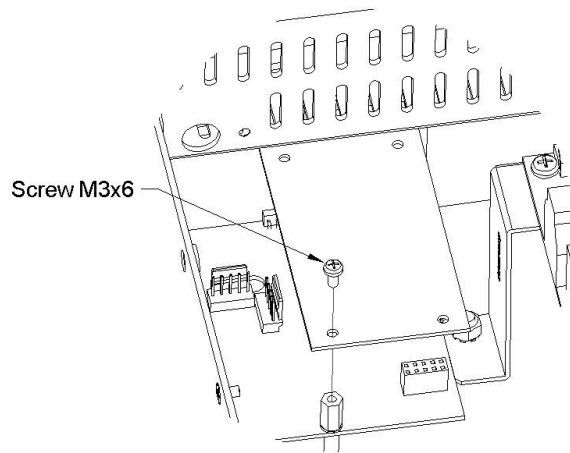


Figure 3

5. Take the Antenna bracket subassembly and attach it to the chassis using the M3x6 flat screws provided

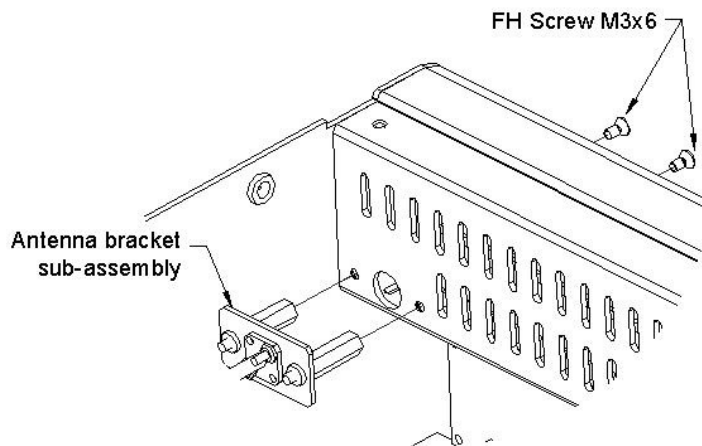


Figure 4

6. Screw in the antenna then fold it in the existing space so it doesn't get damaged. The antenna can be unfolded at any time when it needs to be used.

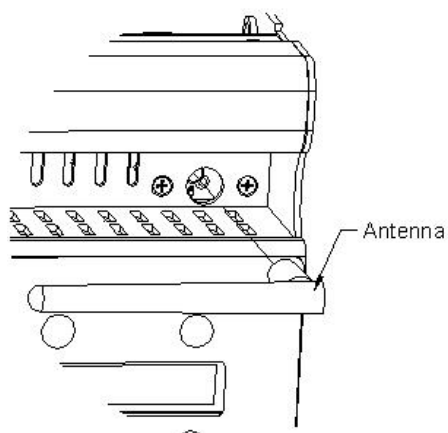


Figure 5

7. Reattach the cover using the screws saved

5. Maintenance

With care, the Studio Force Compact fixture and power supply unit will require 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.