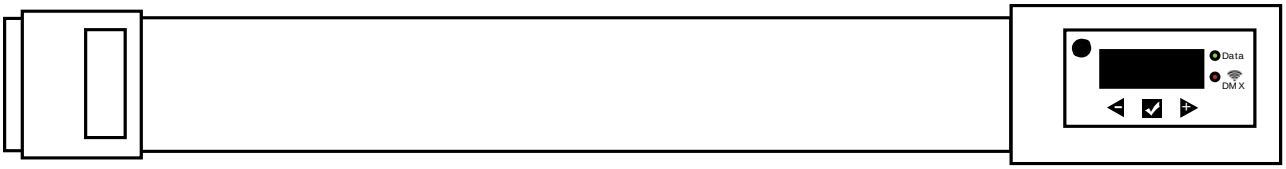
QUASAR SCIENCE

Q-Rainbow RGBX

Linear LED



V1.0 Firmware - V 0.82

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Table of Contents

TABLE OF CONTENTS 2

FEATURES 5

INTRODUCTION 6

UNPACKING 7

OVERVIEW 8

BASIC OPERATION 9

STATUS LIGHTS 10
MANUAL MENU 10
MENU SHORT CUTS 12
CONFIG MENU 12
DEFAULT VALUES 13

MODES 14

MODE: MANUAL MODE 14
MODE: WIRED DMX 14
MODE: WIRELESS DMX 14
WIRELESS PAIRING 15
MODE: LEAD / FOLLOW 15

CONTROL OVER DMX 16

DMX PROFILES 16

DMX STANDARD PROFILES 16

8BIT VS. 16BIT 16
1: HSIC – 8 BIT – 5 CHANNELS 17
2: HSIC – 16 BIT – 7 CHANNELS 17
3: HSI – 8 BIT – 3 CHANNELS 17
4: CROSSFADE WITH +/- GREEN – 8 BIT - 3 CHANNELS 17
5: CROSSFADE – 8 BIT – 2 CHANNELS 17
6: CCT & RGB – 8 BIT – 7 CHANNELS 17
7: CCT & RGB – 16 BIT – 9 CHANNELS 17
8: RGB – 8 BIT – 3 CHANNELS 17
DMX FX PROFILES **21**
9: HSIC + FX – 8 BIT – 8 CHANNELS 21
10: HSIC + FX – 16 BIT – 10 CHANNELS 21
11: CCT & RGB + FX – 8 BIT – 10 CHANNELS 21
12: CCT & RGB + FX – 16 BIT – 12 CHANNELS 21

EFFECTS **26**

EFFECT TYPES **26**
RAINBOW EFFECT 26
SHORT CIRCUIT EFFECT 26
PAPARAZZI EFFECT 26
FIRE 1 EFFECT 26
FIRE 2 EFFECT 26
FIRE 3 EFFECT 26
COP LIGHT 1 EFFECT 26
COP LIGHT 2 EFFECT 26
DEMO EFFECT 26
MANUAL EFFECTS **27**
DMX EFFECTS **27**

INVISIBLE GREEN **28**

RDM **28**

DISCOVERY/IDENTIFY **28**
RDM OPTIONS **28**

SHORTCUTS **29**

POWER 30

AC POWER 30
DC POWER 30
BATTERY USAGE 30

UPDATING FIRMWARE 31

TROUBLESHOOTING 31

WARRANTY 32

CONTACT 33

Q-Rainbow RGBX

Linear LED

Features

2000k-6000k Crossfade White Light with RGB Color Mixing (RGBX)

Wireless by lumenradio

DMX over Cat5

Manual Interface with OLED Screen

Universal AC Power 90v-256v

DC Battery Option 10v-26v

Lead / Follow Mode

On Board Effects

RDM Compatible

Lengths: 2’ 4’ 8’

Q-Rainbow RGBX

Linear LED

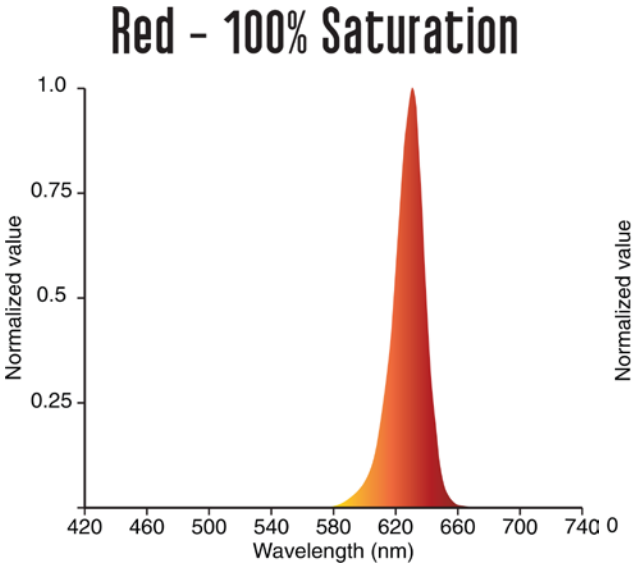
Introduction

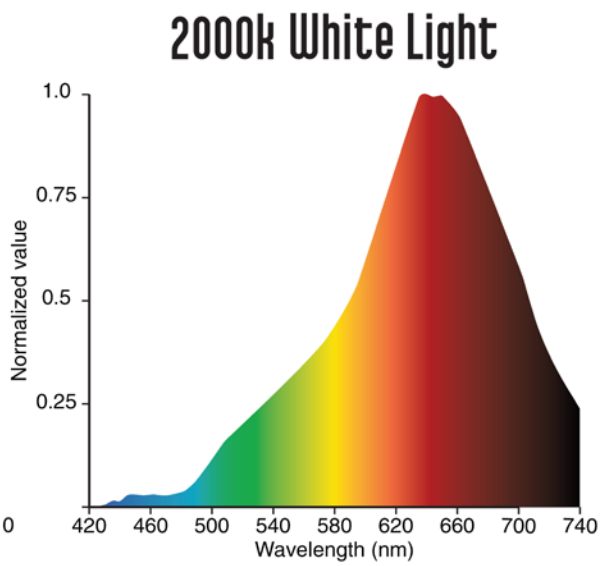
Based on the Crossfade Linear LED (X) which utilizes our 2000k and 6000k diodes to create variable broad spectrum white light, the Rainbow adds red, green and blue (RGB) diodes to the mix.

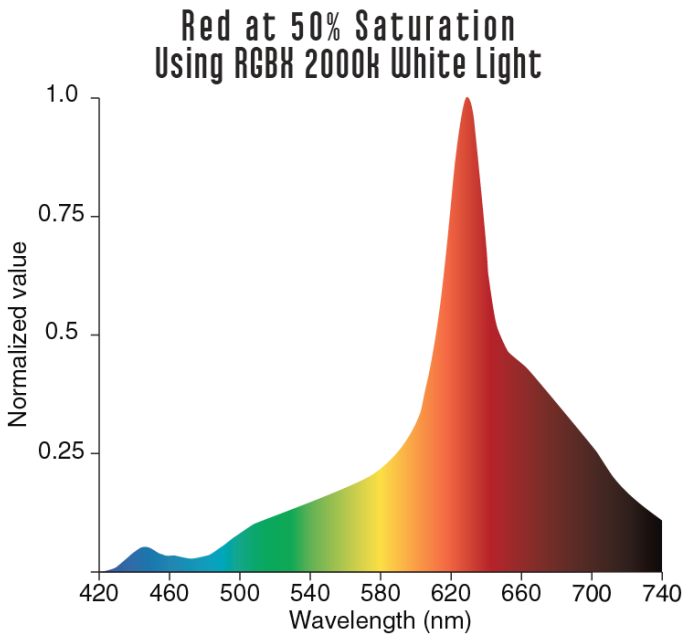
RGB + Crossfade = RGBX

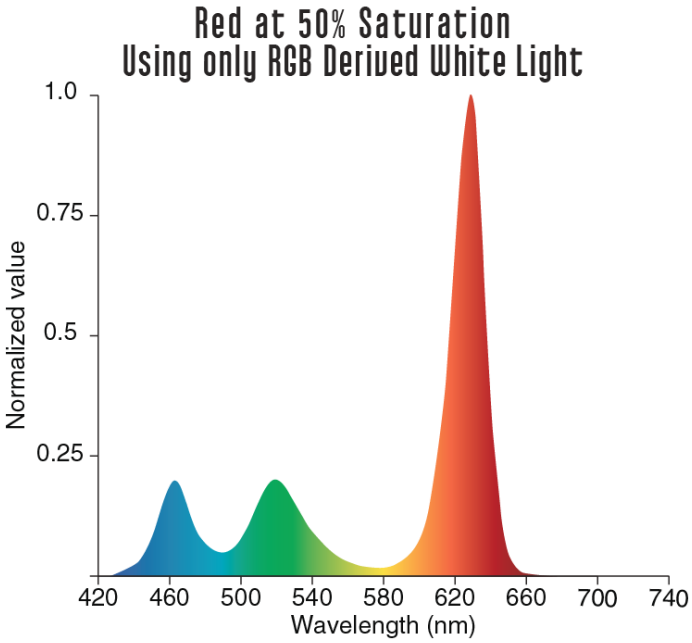
When desaturating a color, such as red, using only RGB systems, the desired light level is achieved by mixing in the green and blue diodes.

With RGBX, the Crossfade broad spectrum light manages the saturation level at a preselected color temperature, such as 2000 kelvin, by washing the red with independent white light.









As illustrated above with RGB derived white light, wide gaps in the spectral distribution compromise color response.

With the RGBX system, the broad spectral curve provides a more balanced distribution, leveling the peaks and valleys, which more accurately renders natural colors and skin tones.

Unpacking

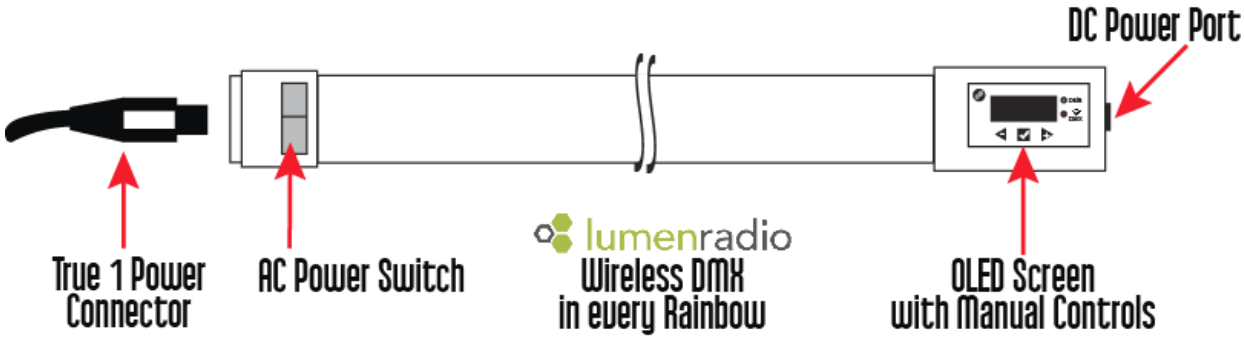
Each Rainbow comes with an 8” True 1 Power Cable, 2 Rubber Q-Boots, a Quick Start Guide, and a Q-Upgrade Cable.

Q-Rainbow RGBX

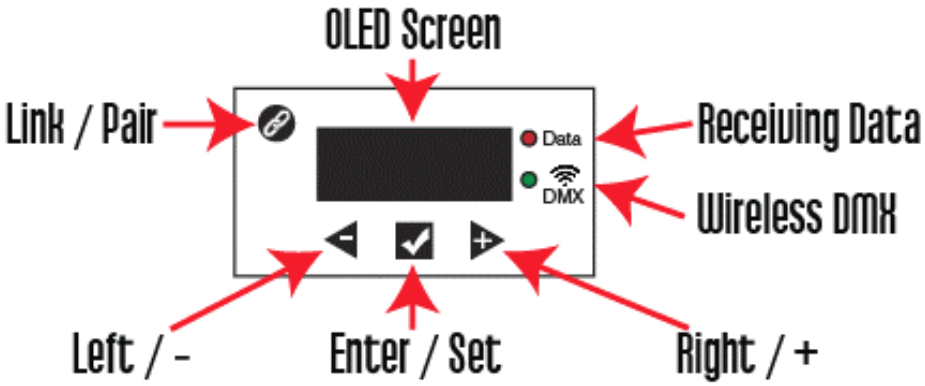
Linear LED

Overview

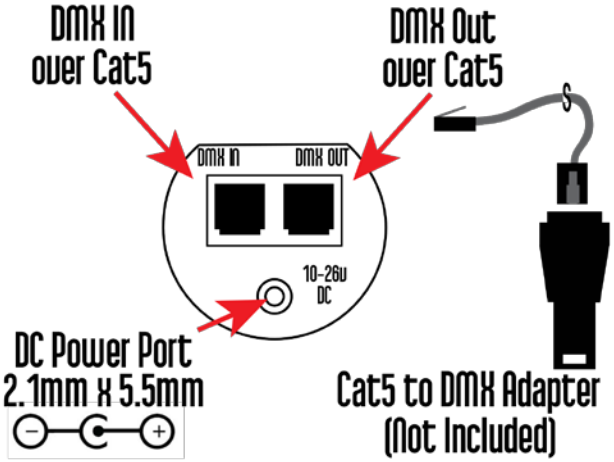
The Rainbow Layout



The Control Screen



Controller Endcap



Basic Operation

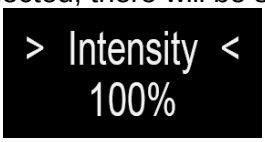
The menu system is design to be easy an intuitive.

☑ Select a Parameter:

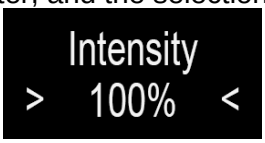
Press the ◄ Left and ► Right arrows until desired function is selected.

☑ Edit a Parameter:

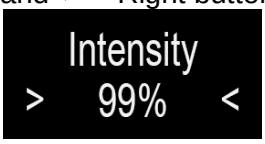
When a Parameter is selected, there will be selection carets next to it.



To edit the Parameter, Press ☑ Enter, and the selection carets will move down to the Value.



Press the ◄ Left and ► Right buttons to set the value.



Press ☑ Enter to Save.

The selection carets will then return to the parameter.

Status Lights

The Rainbow Status Lights

Solid Red Light - Data Received
No Red Light - No Data Received or Wireless/Status Lights are turned off.

Solid Green Light - Lamp is paired and receiving transmission.
Slow Flashing Green Light - Wireless DMX is paired but transmitter not found.
Fast Flashing Green Light - Wireless DMX is pairing.
No Green Light - Lamp is unpaired and ready to pair or Wireless/Status Lights are turned off.

Manual Menu

> Intensity 0% to 100% by 1% increments

> Color Temp
Using our Crossfade Clean Color 2000k and 6000k diodes, we color mix to achieve desired color temperature through the range.
2000K to 6000K by 100k increments

> +/- Green Adds Green and Magenta to balance the White Level as desired.
100M to 0G to 100G

> Saturation 0 to 100% by 1% increments

> Hue 0° to 360°

> CT Preset (Color Temperature Presets – Automatically changes the Color temperature to desired setting and sets the saturation at 0%).

- 3200k
- 4000k
- 5000k
- 5600k
- 6000k
- 2000k
- 2800k

> Color Preset (Hue Color Presets – Automatically changes the Hue to desire setting and sets the saturation at 1000%)

- Blue
- Cyan
- Green
- Red
- Yellow
- Orange
- Magenta

> Effects **(See Effects Page 31)**

- Rainbow
- Short Circuit
- Paparazzi
- Fire 1
- Fire 2
- Fire 3
- Cop light 1
- Cop light 2
- Demo

> Config

- DMX Address
- DMX Profile
- Lead/Follow
- Wireless On/Off
- Status Lights On/Off
- RDM On/Off
- Firmware Version
- Lamp Hours
- Reset to Default
- BACK to Main Menu

Menu Short Cuts

See Short Cuts Page 34.

Config Menu

DMX Address 001 to 508 (Does not allow address to be outside of 512)

DMX Profiles

1. HSIC – 8bit,
2. HSIC - 16 bit
3. HSI - 8bit
4. XFade with CC - 8bit
5. XFade - 8 bit
6. CCT & RGB - 8 bit
7. CCT & RGB - 16 bit
8. RGB - 8 bit

9. 9: HSIC + FX – 8bit
10. HSIC + FX - 16 bit
11. CCT & RGB + FX - 8 bit
12. CCT & RGB + FX - 16 bit

Lead/Follow **(See Mode: Lead / Follow Page 15)**

Lead
Follow1
Follow2
Follow3
Follow4
Follow5

Wireless On/Off - Disables the wireless transceiver

Status Lights On/Off - Turns off the status lights for use on camera

Invisible Green On/Off
Automatically uses the RGB diodes to achieve white light at 0CCI.
(see Invisible Green Page 28)

RDM Enabled/Disabled
Turns off the ability for the Rainbow to send/receive RDM
(see RDM Page 28)

Terminate On/Off – Adds termination to the Out of the DMX if needed

Firmware Displays the Firmware Version of the Rainbow

Lamp Hours Displays the Hours the Rainbow has been powered on

Reset to Default Sets the Rainbow back to all its default values

Default Values

Parameters

Intensity:100%
Color Temp: 3200k
+/- Green: 0G
Hue: 0 degree
Saturation: 0%
CT Preset: None
Color Preset: None
Effect: None

Config

DMX Profile: 01 – HSIC – 8 bit
DMX Address: 001
Lead / Follow: Off
Wireless DMX: Off
Status Lights: On
RDM: Off
Terminate: Off

Modes

The Rainbow can operate in several modes.

- Manual mode with on screen controls
- DMX through the Cat5 ports
- Wireless DMX with on board Lumen Radio chip
- Lead / Follow Mode for controlling many Rainbows from one.

Mode: Manual Mode

When the Rainbow is running in Manual mode, parameters can be changed directly on each unit with the on board controls and OLED screen. No need for a controller to be present.

Mode: Wired DMX

Rainbow has 2 - RJ45 ports for control over 512 DMX. Conventional DMX 5 pin to RJ45 converters can be used. The pinout of the RJ45 is Pin 1: DMX +, Pin 2: DMX – Pin 3: Ground.

When the Rainbow is controlled with DMX, the screen displays the address set in the Config for the Rainbow.

Each Rainbow has a DMX IN port and DMX out port, which allows daisy chaining of Rainbows.

Mode: Wireless DMX

Each Rainbow is equipped with an Lumen Radio Timo chip for wireless connectivity.

All Rainbows are backwards compatible with W-DMX Transmitters.

For wireless operation, go to Config->Wireless ON

Wireless Pairing

To Link a Rainbow lamp to a transmitter,

Go to Config->Wireless, Set to ON, Config->Status Lights to ON

If the Wireless DMX is flashing, press and hold the Link button to Unpair.

On the DMX Transmitter, tap the Link button to Pair.

The Wireless DMX Light will start to Flash and turn solid once paired.

Mode: Lead / Follow

Lead/Follow Mode allows one Rainbow lamp to control many lamps at once. The Lead transmits DMX data wired or wirelessly to the followers. When the Lead changes levels, the follows will change as well. Applies to on board FX as well.

To use Lead/Follow Mode, go to Config->Lead/Follow. Set the Leader to Lead and set all the Followers to Follow 1 to match the leader. Follow 2-6 is used with effects to do the same effect with different timings. This will run the same effects, intensities and levels but not in sync.

To use wired, plug Cat5 cable into the Out of the Leader into the In of the Followers. Repeat out of the Followers and into the next. The data light should be illuminated on all the followers.

To use wirelessly, on the Followers, press and hold the Link button to Unpair the lamp. Next tap the Link button on the Leader. On all the Followers, the Wireless signal light should begin flashing and then remain solid.

When in Lead / Follow mode, the lamp is set to the following config:

Lead / Follow: Lead
DMX Profile: 10 – HSIC + Effects – 16 bit

Lead / Follow: Follow 1
DMX Profile: 10 – HSIC + Effects – 16 bit
DMX Address: 001

Lead / Follow: Follow 2
DMX Profile: 10 – HSIC + Effects – 16 bit
DMX Address: 011

Setting the lamp into Follow mode will turn off any effects running.

Control Over DMX

The Rainbow can be controlled through DMX with standard DMX protocol control.

DMX Profiles

The Rainbow has 3 types of DMX Profiles

1. DMX Standard Profiles
2. DMX Profiles with DMX Control of Built in FX
3. DMX Profiles with Extended DMX Control of Built in FX

DMX Standard Profiles

8bit vs. 16bit

With 8 bit profiles, each parameter is given 1 DMX channel.

With 16 bit profiles, Intensity and Hue/Crossfade are given an additional DMX channel to allow for smoother dimming and finer control of the Rainbow.

1: HSIC – 8 Bit – 5 Channels

HSIC – Hue, Saturation, Intensity, Color Temperature and +/- Green Control. This mode is great if all you have are sliders.

2: HSIC – 16 Bit – 7 Channels

Hue, Saturation, Intensity, Color Temperature and +/- Green Control.
Intensity and Hue are 2 channels each.

3: HSI – 8 bit – 3 channels

HSI – Hue, Saturation, Intensity
White Light is locked at 4000K.

4: Crossfade with +/ Green – 8 Bit 3 channels

Intensity, Color Temperature and +/- Green Control.

5: Crossfade – 8 bit – 2 Channels

Intensity and Color Temperature.

6: CCT & RGB – 8 bit – 7 Channels

Intensity, Color Temperature and +/- Green Control,
Crossfade from White to Color, Red, Green Blue.

7: CCT & RGB – 16 bit – 9 Channels

Intensity, Color Temperature and +/- Green Control, Crossfade from White to Color, Red, Green Blue.
Intensity and Crossfade are 2 channels each.
This mode is preferred for lighting consoles

8: RGB – 8 bit – 3 Channels

Red, Green Blue
White Light is locked at 4000K.

Profile 1					
HSIC – 8 Bit					
5 DMX Channels					
Channel	**Function**	**Value**	**Percentage**	**Description**	**Default % / DMX**
1	Intensity	0-255	0-100		0
2	Color Temp	0-255	0-100	2000K to 6000K	0
3	G +/-			Plus and Minus Green	50% / 128
		0-10	0-4	No Effect	
		11-20	5-8	Full Minus Green	
		21-119	8-46	-99% to -1%	
		120-145	47-57	Neutral	
		146-244	57-96	1% to 99%	
		245-255	96-100	Full Plus Green	
4	Hue	0-255	0 to 360	0° to 360°	0
5	Saturation	0-255	0-100	White Light to RGB	0
Profile 2					
HSIC – 16 Bit					
7 DMX Channels					
Channel	**Function**	**Value**	**Percentage**	**Description**	**Default % / DMX**
1/2	Intensity	0-65,535	0-100		0
3	Color Temp	0-255	0-100	2000K to 6000K	0
4	G +/-			Plus and Minus Green	50% / 128
		0-10	0-4	No Effect	
		11-20	5-8	Full Minus Green	
		21-119	8-46	-99% to -1%	
		120-145	47-57	Neutral	
		146-244	57-96	1% to 99%	
		245-255	96-100	Full Plus Green	
5/6	Hue	0-65,535	0 to 360	0° to 360°	0
7	Saturation	0-255	0-100	White Light to RGB	0
Profile 3					
HSI 8 bit					
3 DMX Channels					
Channel	**Function**	**Value**	**Percentage**		**Default % / DMX**
1	Intensity	0-255	0-100		0
2	Hue	0-255	0 to 360	0° to 360°	0
3	Saturation	0-255	0-100	4000K to RGB	0
*The white light value in this mode is 4000K					

Profile 4					
Crossfade & CC - 8 bit					
3 DMX Channels					
Channel	**Function**	**Value**	**Percentage**	**Description**	**Default % / DMX**
1	Intensity	0-255	0-100		0
2	Color Temp	0-255	0-100	2000K to 6000K	0
3	G +/-			Plus and Minus Green	50% / 128
		0-10	0-4	No Effect	
		11-20	5-8	Full Minus Green	
		21-119	8-46	-99% to -1%	
		120-145	47-57	Neutral	
		146-244	57-96	1% to 99%	
		245-255	96-100	Full Plus Green	
Profile 5					
Crossfade - 8 bit					
2 DMX Channels					
Channel	**Function**	**Value**	**Percentage**	**Description**	**Default % / DMX**
1	Intensity	0-255	0-100		0
2	Color Temp	0-255	0-100	2000K to 6000K	0
Profile 6					
CCT & RGB – 8 Bit					
7 DMX Channels					
Channel	**Function**	**Value**	**Percentage**	**Description**	**Default % / DMX**
1	Intensity	0-255	0-100		0
2	Color Temp	0-255	0-100	2000K to 6000K	0
3	G +/-			Plus and Minus Green	50% / 128
		0-10	0-4	No Effect	
		11-20	5-8	Full Minus Green	
		21-119	8-46	-99% to -1%	
		120-145	47-57	Neutral	
		146-244	57-96	1% to 99%	
		245-255	96-100	Full Plus Green	
4	Crossfade	0-255	0-100	White Light to RGB	0
5	Red	0-255	0-100		0
6	Green	0-255	0-100		0
7	Blue	0-255	0-100		0

Profile 7					
CCT & RGB – 16 Bit					
9 DMX Channels					
Channel	**Function**	**Value**	**Percentage**	**Description**	**Default % / DMX**
1/2	Intensity	0-65.535	0-100		0
3	Color Temp	0-255	0-100	2000K to 6000K	0
4	G +/-			Plus and Minus Green	50% / 128
		0-10	0-4	No Effect	
		11-20	5-8	Full Minus Green	
		21-119	8-46	-99% to -1%	
		120-145	47-57	Neutral	
		146-244	57-96	1% to 99%	
		245-255	96-100	Full Plus Green	
5/6	Crossfade	0-65,535	0-100	White Light to RGB	0
7	Red	0-255	0-100		0
8	Green	0-255	0-100		0
9	Blue	0-255	0-100		0

Profile 8					
RGB 8 bit					
3 DMX Channels					
Channel	**Function**	**Value**	**Percentage**	**Description**	**Default % / DMX**
1	Red	0-255	0-100		0
2	Green	0-255	0-100		0
3	Blue	0-255	0-100		0
*The white light value in this mode is 4000k					

DMX FX Profiles

The Rainbow allows for direct access to the Built in FX from with the DMX Parameters. Through DMX, the user can set the effect and parameters of the effect.

9: HSIC + FX – 8 Bit – 8 Channels

Hue, Saturation, Intensity, Color Temperature and +/- Green Control, FX Selection, FX Rate, FX Size.
This mode is great if all you have are sliders.

10: HSIC + FX – 16 Bit – 10 Channels

Hue, Saturation, Intensity, Color Temperature and +/- Green Control,
FX Selection, FX Rate, FX Size.
Intensity and Hue are 2 channels each.

11: CCT & RGB + FX – 8 bit – 10 Channels

Intensity, Color Temperature and +/- Green Control,
Crossfade from White to Color, Red, Green Blue,
FX Selection, FX Rate, FX Size.

12: CCT & RGB + FX – 16 bit – 12 Channels

Intensity, Color Temperature and +/- Green Control,
Crossfade from White to Color, Red, Green Blue,
FX Selection, FX Rate, FX Size.
Intensity and Hue are 2 channels each.

FX Profile 9					
HSIC+FX – 8 Bit					
8 DMX Channels					
Channel	**Function**	**Value**	**Percentage**	**Description**	**Default % / DMX**
1	Intensity	0-255	0-100		0
2	Color Temp	0-255	0-100	2000K to 6000K	0
3	G +/-			Plus and Minus Green	50% / 128
		0-10	0-4	No Effect	
		11-20	5-8	Full Minus Green	
		21-119	8-46	-99% to -1%	
		120-145	47-57	Neutral	
		146-244	57-96	1% to 99%	
		245-255	96-100	Full Plus Green	
4	Hue	0-255	0 to 360	0° to 360°	0
5	Saturation	0-255	0-100	White Light to RGB	0
6	FX				0
		0-27	0-10	OFF	
		28-40	11-15	Rainbow	
		41-53	16-20	Short Circuit	
		54-68	21-25	Paparazzi	
		69-78	26-30	Fire 1	
		79-91	31-35	Fire 2	
		92-104	36-40	Fire 3	
		105-116	41-45	Cop Light 1	
		117-129	46-50	Cop Light 2	
		130-142	51-55	Demo	
		143-255	56-100	No Effect	
7	FX Rate	0-255	0-100		100%/128
		0-10	0-4	No Effect	
		11-20	5-8	0%	
		21-119	8-46	1% to 99%	
		120-145	47-57	100% Default	
		146-244	57-96	101% to 199%	
		245-255	96-100	200%	
8	FX Size	0-255	0-100%		0

FX Profile 10					
HSIC+FX – 16 Bit					
10 DMX Channels					
Channel	**Function**	**Value**	**Percentage**	**Description**	**Default % / DMX**
1/2	Intensity	0-65,535	0-100		0
3	Color Temp	0-255	0-100	2000K to 6000K	0
4	G +/-			Plus and Minus Green	50% / 128
		0-10	0-4	No Effect	
		11-20	5-8	Full Minus Green	
		21-119	8-46	-99% to -1%	
		120-145	47-57	Neutral	
		146-244	57-96	1% to 99%	
		245-255	96-100	Full Plus Green	
5/6	Hue	0-65,535	0 to 360	0° to 360°	0
7	Saturation	0-255	0-100	White Light to RGB	0
8	FX				0
		0-27	0-10	OFF	
		28-40	11-15	Rainbow	
		41-53	16-20	Short Circuit	
		54-68	21-25	Paparazzi	
		69-78	26-30	Fire 1	
		79-91	31-35	Fire 2	
		92-104	36-40	Fire 3	
		105-116	41-45	Cop Light 1	
		117-129	46-50	Cop Light 2	
		130-142	51-55	Demo	
		143-255	56-100	No Effect	
9	FX Rate	0-255	0-100		100%/128
		0-10	0-4	No Effect	
		11-20	5-8	0%	
		21-119	8-46	1% to 99%	
		120-145	47-57	100% Default	
		146-244	57-96	101% to 199%	
		245-255	96-100	200%	
10	FX Size	0-255	0-100%		0

FX Profile 11					
CCT & RGB+FX – 8 Bit					
10 DMX Channels					
Channel	**Function**	**Value**	**Percentage**	**Description**	**Default % / DMX**
1	Intensity	0-255	0-100		0
2	Color Temp	0-255	0-100	2000K to 6000K	0
3	G +/-			Plus and Minus Green	50% / 128
		0-10	0-4	No Effect	
		11-20	5-8	Full Minus Green	
		21-119	8-46	-99% to -1%	
		120-145	47-57	Neutral	
		146-244	57-96	1% to 99%	
		245-255	96-100	Full Plus Green	
4	Crossfade	0-255	0-100	White Light to RGB	0
5	Red	0-255	0-100		0
6	Green	0-255	0-100		0
7	Blue	0-255	0-100		0
8	FX				0
		0-27	0-10	OFF	
		28-40	11-15	Rainbow	
		41-53	16-20	Short Circuit	
		54-68	21-25	Paparazzi	
		69-78	26-30	Fire 1	
		79-91	31-35	Fire 2	
		92-104	36-40	Fire 3	
		105-116	41-45	Cop Light 1	
		117-129	46-50	Cop Light 2	
		130-142	51-55	Demo	
		143-255	56-100	No Effect	
9	FX Rate	0-255	0-100		100%/128
		0-10	0-4	No Effect	
		11-20	5-8	0%	
		21-119	8-46	1% to 99%	
		120-145	47-57	100%	
		146-244	57-96	101% to 199%	
		245-255	96-100	200%	
10	FX Size	0-255	0-100%		0

FX Profile 12					
CCT & RGB + FX – 16 Bit					
12 DMX Channels					
Channel	**Function**	**Value**	**Percentage**	**Description**	**Default % / DMX**
1/2	Intensity	0-65.535	0-100		0
3	Color Temp	0-255	0-100	2000K to 6000K	0
4	G +/-			Plus and Minus Green	50% / 128
		0-10	0-4	No Effect	
		11-20	5-8	Full Minus Green	
		21-119	8-46	-99% to -1%	
		120-145	47-57	Neutral	
		146-244	57-96	1% to 99%	
		245-255	96-100	Full Plus Green	
5/6	Crossfade	0-65.535	0-100	White Light to RGB	0
7	Red	0-255	0-100		0
8	Green	0-255	0-100		0
9	Blue	0-255	0-100		0
10	FX				0
		0-27	0-10	OFF	
		28-40	11-15	Rainbow	
		41-53	16-20	Short Circuit	
		54-68	21-25	Paparazzi	
		69-78	26-30	Fire 1	
		79-91	31-35	Fire 2	
		92-104	36-40	Fire 3	
		105-116	41-45	Cop Light 1	
		117-129	46-50	Cop Light 2	
		130-142	51-55	Demo	
		143-255	56-100	No Effect	
11	FX Rate	0-255	0-100		100%/128
		0-10	0-4	No Effect	
		11-20	5-8	0%	
		21-119	8-46	1% to 99%	
		120-145	47-57	100% Default	
		146-244	57-96	101% to 199%	
		245-255	96-100	200%	
12	FX Size	0-255	0-100		0

Effects

The Rainbow LED has built in effects with control of the options.

Effect Types

Rainbow Effect

The Rainbow Effect Scrolls through all the colors. The Rate at 100% will scroll though all the saturated colors in 6 seconds. The Rate at 0% will be 36 seconds. The Rate at 200% will be 1 second.

Short Circuit Effect

Rainbow is on with bursts of turning off.

Paparazzi Effect

Rainbow is off with flashes of turning on

Fire 1 Effect

A fire flicker effect with a low-weighted center

Fire 2 Effect

A fire flicker effect with a middle-weighted center

Fire 3 Effect

A fire flicker effect with a high weighted center

Cop Light 1 Effect

Solid Red and Blue colors. Manual Rate at 100% will be 1 second intervals.

Cop Light 2 Effect

3 Flashes Red, 3 Flashes Blue.

Demo Effect

Scroll through the Hue from 0° at varying Saturation at 2000k and 6000k. Showcasing the Rainbow effect at Varying Saturation Levels.

Manual Effects

Intensity: Control the Intensity of the Effect from 0% to 100%

Rate: Rate is the speed that the effect is running. 100% is normal speed. It can go from 0% to 200%

For Fire Effects:
Maximum: This is the highest value the fire effect will reach
Minimum: This is the lowest value the fire effect will reach

All Effects are compatible with Lead/Follow mode

Coming Soon in a firmware update, selectable effects colors.

DMX Effects

All On board effects Can be controlled over DMX when selecting an FX profile. When the FX is selected, it over rides any color value to run the effect. When the effects are running, there are 2 additional parameters used: Rate and Size.

FX Selection:

DMX Value	%	Effect
0-27	0-10	OFF
28-40	11-15	Rainbow
41-53	16-20	Short Circuit
54-68	21-25	Paparazzi
69-78	26-30	Fire 1
79-91	31-35	Fire 2
92-104	36-40	Fire 3
105-116	41-45	Cop Light 1
117-129	46-50	Cop Light 2
130-142	51-55	Demo
143-255	56-100	No Effect

FX Rate: Used to control the speed of the running effect
0-200% for the speed of the effect.
100% is normal speed.

FX Size: Used to control the minimum and maximum values for Fire Effect.
It is the plus and minus variation of Intensity.

Ex. Intensity 50% with Size of 10 will be an effect from 40% to 60%

Coming Soon in a firmware update, selectable effects colors.

Invisible Green

Integrated into our Rainbows is a feature called “Invisible Green.” Invisible Green automatically manages the White Light CCI with any Green or Magenta bumps while traveling across the black body curve between 2000k and 6000k This ensures a clean white light output at all times. When Invisible Green is on, the user does not have to adjust the green it get to 0 CCI. The adding of the green is “invisible” to the user as far as Manual Mode and DMX mode control. Invisible Green is applied to the White Color mix. Additional + Green and – Green can be added to the White Light mix as well.

Invisible Green can be turned On or Off in the Config menu of the Rainbow.

RDM

The Rainbow works with Basic RDM parameters: Identify, Address and Profile.

With an RDM enabled device, these parameters can be set.

Discovery/Identify

Press Discover on your device and it will find the Rainbow. Once selected, press Identify on your device and the selected Rainbows will start flashing 100% Red so that it can be seen which Rainbow’s settings are being adjusted.

RDM Options

The DMX Address of the Rainbow can be set with RDM Commands. Select the desired address of the Rainbow.

DMX Profile for the Rainbow can be set with RDM commands. See the page 10 for list of DMX Profiles.

Shortcuts

1. On parameter menus such as intensity, saturation, and hue, when pressing and holding the button to increase the value, tap the button will jump to the next value or max value.

2. On parameter menus such as intensity, saturation, and hue, when pressing and holding the button to decrease the value, tap the button will jump to the next value or min value.

3. Press and hold the Enter for 5 seconds to disable the status lights. The Status Lights will flash briefly before turning off.

4. Press and hold Minus and Plus simultaneously for 6 seconds to Reset the Rainbow to default. **(See Default Values Page 13)**

Power

AC Power

The Rainbow can be powered from AC power through a True 1 Power connector. The AC side has a power switch. It accepts Universal Power from 90 to 265 volts for all power systems throughout the world.

DC Power

The Rainbow can be powered from DC power through a 2.1mm locking barrel connector. It accepts 10 volts to 26volts DC.

Battery Usage

When running the lamps off of batteries, the following chart can be used for batter life. Many factors contribute to the length of time a battery will last, like age of battery, intensity of Rainbows and more. The following can be used as a guide only. At 24 volts in the same capacity expect double the runtime. Please ensure the battery/cable can handle the amperage.

Battery Size:		3200 mAh	6000 mAh	7200 mAh	10,000 mAh
Voltage:		12v	12v	12v	12v
Q25R Runtime:	1.9 amps	60 minutes	90 minutes	160 minutes	240 minutes
Q50R Runtime:	3.8 amps	30 minutes	60 minutes	90 minutes	120 minutes
Q100R Runtime:	7.6 amps	-	-	30 minutes	60 minutes

NOTE: When on battery power, when the battery is below operating voltage, the Rainbow will begin to flash.

Updating Firmware

To Update the Firmware on the Q-Rainbow LED, you will need to use our Q-Upgrade Cable and the Quasar Science Update Utility.

1. Download the Update Utility for your computer PC or Mac at **www.QuasarScience.com/rainbow**
2. Run the Program. If a popup opens and asks you to confirm running the program, press yes.
3. Plus your Q-Upgrade USB cable into your computer. Additional drivers may be required based on your computer.
4. Download the latest firmware from within the utility.
5. On the Rainbow, press and hold the enter button, and turn the Rainbow on. The red data light will flash to indicate the Rainbow is in Update mode.
6. Plug the Q-Upgrade cable Cat5 end into the DMX IN port of the Rainbows.
7. Press update in the utility.
8. The software will detect the Rainbow and begin update.
9. If it is successful, the Rainbow will turn back on.
10. If there is an error, it will ask you which port you are trying to use. If no port is available or you do not see the Serial USB port, the drivers may be required.

Troubleshooting

When my Rainbow is on battery power, the light is flashing.
This indicates that the battery is below operating voltage and must be charged

When running off a DMXit or Enntec node, I am not able to control the Rainbow
Some DMX devices do not send full 512 channels of DMX data resulting in very high refresh rates. Prior to software version 0.80, Rainbows could not read the high refresh rate of some devices. Please upgrade to version 0.80 or beyond to resolve the problem. The Rainbow has been tested to read DMX as fast as 80 Hz.

Alternatively, if you set the DMXit to channel 501, the device will send a full packet of data and the Rainbow will work properly.

Warranty

3 Year warranty from date of purchase.
Customer must provide proof of purchase.
This warranty is transferable.

Quasar Science will pay for:
The replacement parts, repair and/or labor costs to correct defects in materials and workmanship.
Service must be provided by Quasar Science or an Authorized Quasar Science Service Center

Quasar Science will not pay for:
Damage resulting from accident, misuse or abuse. Acts of God. Any failure that occurs for any other reason than materials and workmanship. Any shipping or handling costs.

Disclaimer of implied warranties / limitations of remedies:
Implied warranties, including the extent applicable warranties of merchantability or fitness for a particular purpose are excluded to the extent legally permissible. Any implied warranties that may be imposed by law are limited to 3 years or the shortest period allowed by law. Some states, provinces or countries do not allow limitations or exclusions on how long an implied warranty of merchantability or fitness lasts, the above limitations or exclusions may not apply to you.

If this product fails to work as warranted, customer's sole and exclusive remedy shall be repair or replacement according to the terms of this limited warranty. Quasar Science, LLC does not assume any responsibility for incidental or consequential damages. This warranty gives you specific legal rights and you may also have other rights which vary from state to state, province to province or country to country.

Contact

Please do not return your Rainbow to your retailer.

Please contact Quasar Science with any questions, problems or concerns.

Please Register your Rainbow at QuasarScience.com

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