ETC Installation Guide

ColorSource® Spot v1.7

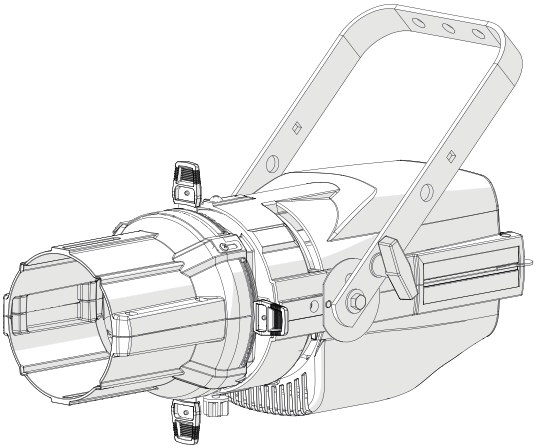
Overview

The ColorSource Spot is an affordable LED fixture that uses the RGB-L (red, green, blue, and lime) color system to provide a rich, bright light.

The ColorSource Spot is available in both original and Deep Blue variants. The Deep Blue uses an array that offers richer, more saturated blues and stronger magentas in exchange for the more jewel-toned blues like sky or turquoise. For more information, see the ETC website at etcconnect.com.

The ColorSource Spot is UL924 listed as a Directly Controlled Luminaire for use in emergency lighting systems when used with the ETC DMX Emergency Bypass Controller (DEBC).

This light engine can be used with standard ETC shutter barrels, lens tubes, Fresnel and CYC Adapters, and accessories.



Note: *Features described in this document require the latest version of software. For information on updating fixture software, see* *Updating the fixture software on page 10*.

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Web: etcconnect.com ■ © 2018 Electronic Theatre Controls, Inc. ■ Product information and specifications subject to change. ■ ETC intends this document to be provided in its entirety.
■ **US Patents** 7,901,089 . 8,384,294 . 8,403,523 . 8,593,074 . 8,633,649 . 8,723,450 . 8,878,455 . 9,041,308 ■ **EU Patents** 2150746 . 2638781 . 6020110157302 ■ All other patents pending.
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Safety

Read the entire manual before using this equipment.

CAUTION:
- *Risk of eye injury. Do not stare directly into the light.*
- *Do not operate in proximity to flammable materials.*

WARNING: **Disconnect the fixture from power and DMX and allow it to cool before performing any cleaning and maintenance.**

WARNING: **The ColorSource Spot is a Directly Controlled Luminaire suitable for use in emergency lighting applications in accordance with 2017 National Electrical Code section 700.24 when used with an ETC DMX Emergency Bypass Controller. Equipment intended for this purpose must be properly selected, installed, and maintained so that facility conformance can be obtained. Installation and servicing shall be performed by qualified service personnel.**

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed including the following:

- READ AND FOLLOW ALL SAFETY INSTRUCTIONS.
- Do not use outdoors.
- Do not let power supply cords touch hot surfaces.
- Do not mount near gas or electric heaters.
- Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- Do not use this equipment for other than intended use.
- SAVE THESE INSTRUCTIONS

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Environment

The ColorSource Spot operates in ambient temperatures of 0°C–40°C and comes with a variable-speed fan.

Note: *The ColorSource Spot is for indoor use only.*

Note:
- *Maximum recommended ambient operating temperature: Ta = 40°C (104°F)*
- *Maximum anticipated external surface temperature at 40°C ambient: Tmax = 80°C (176°F)*
- *External temperatures after 5 minutes of full-brightness operation at 25°C (77°F) ambient: 30°C (86°F)*
- *External Temperature (steady state achieved) at 25°C (77°F): 36°C (97°F)*

Electrical

- Operates between 100V and 240VAC at a frequency of 50/60Hz.
- Maximum power consumption is 185W.
- Up to 9 luminaires (15A max) may be linked via power thru connector (10 luminaires total per circuit) when used with an R20 Relay Module or Unison Echo® Relay Panel. Consult breaker trip curves when used with other equipment. Requires power from a non-dimmable source.
- Inrush:
  - 120V: 28A (first half-cycle)
  - 240V: 46A (first half-cycle)

Typical power consumption

	100V	120V	230V
Idle Power/Current	1.19W/0.05A	2.07W/0.05A	1.5W/0.05A
Direct at Full/Current	168W/1.69A	166W/1.39A	166W/0.72A

Installation

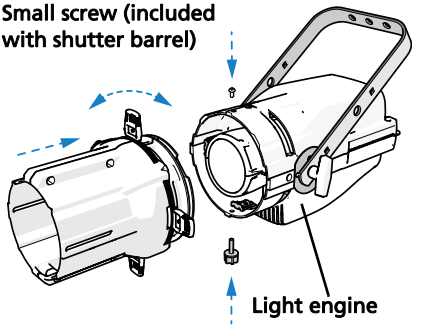
Emergency lighting considerations

Luminaires that are used in emergency lighting applications must provide a minimum illumination level over the identified means of egress path in accordance with the Life Safety Code®, NFPA 101. A luminaire that is intended to serve this purpose must be mounted at a height where it will not readily be subjected to tampering by unauthorized personnel and where the minimum required illumination level over the egress path can be achieved. The ETC DMX Emergency Bypass Controller that is driving the luminaire upon loss of utility power must be programmed to drive the ColorSource Spot to full illumination.

Installing a shutter barrel

The ColorSouce Spot can be purchased with or without a shutter barrel. To install a shutter barrel you will need a #2 Phillips screwdriver (not provided).

The ColorSource light engine includes a barrel screw. The small screw used to secure the top of the shutter barrel is included with the shutter barrel.



1: Align the barrel to the front of the ColorSource Spot and rotate it one quarter turn counter-clockwise.
2: Insert the shutter barrel into the front of the light engine and rotate clockwise until it is fully threaded onto the light engine.
3: Insert the barrel screw at the bottom of the light engine and tighten.
4: Insert the small screw into the top of the light engine and tighten using the Phillips screwdriver.

Mounting

The ColorSource Spot ships with a standard yoke for mounting with a C-clamp.

Safety cable

The safety cable (or other approved safety device) must be attached to the fixture. Attachment loops are provided on the rear of the fixture housing. Take care to leave as little slack as possible in the safety cable to avoid catching the yoke of the fixture.

Connectors

- **Power:** Two powerCON® connectors for power in and thru
- **Data (DMX512/RDM):** Two five-pin XLR connectors *OR* two RJ45 connectors for data in and thru

Conversion cables are available from ETC. Please contact your ETC customer service representative and request part number W6538 for RJ45 to female XLR or part number W6539 for RJ45 to male XLR.

Note: *This fixture is not Ethernet/data network compatible.*

Note: *The ColorSource Spot is not self terminating. You must terminate the last fixture in line with a 120 Ohm resistor. XLR terminators are not available from ETC.*

To purchase an RJ45 terminator, please contact ETC customer service and request part number N4086.

Setting up the fixture

1: Plug power cord into the powerCON In connector on the rear of the fixture.
2: Make any power-thru cable connections prior to applying a power source.
3: Make any DMX connections, and if the fixture is the last in a DMX line, terminate the fixture. See *Connectors* on *page 5*.
4: Plug power cord into power source.

Powering up

1: Press any button to wake the display. The display shows the DMX address. See *Setting the DMX address* on *page 6*.
2: Press the Mode button to access the Presets/Sequences menu. See *Setting presets and sequences* on *page 8*.

Adjusting the tilt

The fixture can be tilted up and down and rotated (panned) as needed.

1: Loosen, but **do not remove** the yoke locking knobs.
2: Tilt the fixture to the desired angle.
3: Tighten the yoke locking knobs.

User interface

The user interface allows you to set the start address of the fixture, access the stand-alone presets and sequences, and set the DMX control mode.

- After 5 seconds of inactivity when DMX is present, the display goes dark.
- The DMX address will blink when no DMX is present and a preset or sequence is not active. The inactivity time-out is disabled while in a data loss state.

Mode button

Pressing the Mode button activates the Presets/Sequences menu; the last active preset or sequence plays automatically. Pressing the Mode button a second time deactivates the selected preset or sequence. The display will revert to show the DMX start address.

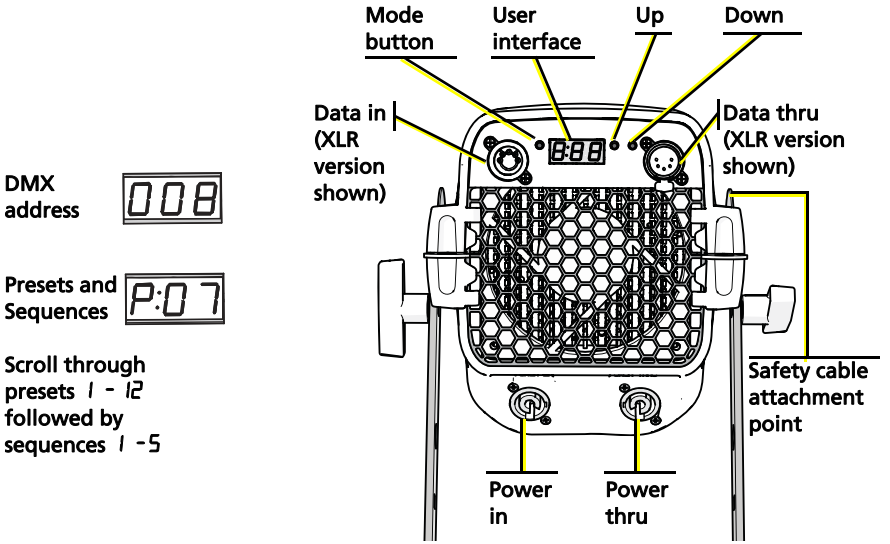
- If DMX data is present, the current preset or sequence plays in the background and DMX data continues to take priority.
- If DMX data is lost and a preset is active in the background, the last selected preset or sequence automatically plays.

Setting the DMX address

1: Press any button to wake the display. The display shows the DMX address.

2: Use the Up and Down buttons to select the DMX address for the fixture.

You can also use RDM for DMX addressing. See *RDM values* on *page 11*.



Changing the DMX control mode

You can set the DMX control mode for the fixture to one of four available mode options.

1: Press any button to wake the display. The display shows the DMX address.

2: Press and hold the Mode button for 3 seconds. The display shows the current DMX control mode.

3: Press the Up and Down buttons to change the DMX control mode.
- **5ch**: 5-channel mode (intensity, red, green, blue, and strobe). This is the default mode.
- **d ir**: Direct emitter control (intensity, red, green, blue, indigo, lime, and strobe).
- **1ch**: 1-channel mode controls the intensity of preset 1 (defaults to 3200K White).
- **rgb**: RGB mode (red, green, and blue).

4: Press the Mode button to confirm your selection.

The display will automatically return to the DMX address after 10 seconds of inactivity, and edits to the DMX control mode will not be saved. This cancels unsaved changes.

DMX control channels

DMX Channel	5ch (5 Channel)	d ir (Direct)	1ch (1 Channel)	rgb (RGB)
1	Intensity	Intensity	Intensity	Red
2	Red	Red		Green
3	Green	Green		Blue
4	Blue	Blue/Indigo*		
5	Strobe**	Lime		
6		Strobe**		

*Original ColorSource Spot fixture uses blue in channel 4; Deep Blue fixture uses indigo in channel 4.

**Use DMX values of 0 or 255 for no strobe. Use values of 1–254 to increase the strobe rate from 1 per second up to 33 per second.

Setting presets and sequences

There are twelve factory-configured presets followed by five factory-configured sequences built into the fixture. From the Presets/Sequences menu, press the Up and Down buttons to scroll through the list. The sequence or preset plays immediately upon selection. All presets and sequences can be re-recorded through an RDM device.

Re-recording a preset

1: Using DMX, set the desired levels.
2: Press the Mode button to access the Presets/Sequences menu.
3: Using the Up and Down buttons, navigate to the preset number that you want to re-record.
4: Press and hold the Mode button for 3 seconds to confirm the preset selection. The user interface will show a 3-second countdown. The preset number blinks once to confirm that the preset has been recorded.

Note: *When the fixture is in Direct mode (d ir) or 1-channel mode (1ch), you cannot re-record presets.*

When you re-record presets with the fixture in RGB mode (rgb), the intensity is set to full and the strobe is turned off.

See Changing the DMX control mode on page 7.

It is possible to activate a known preset or sequence from a connected fixture when DMX is not present. If a connected fixture activates a preset or sequence that is not recognized by the fixture, the fixture will hold its last look. When DMX is restored, the DMX takes priority.

Pre-configured presets

Preset	Name	Preset	Name
1	3200K White	7	Magenta
2	5600K White	8	Yellow
3	Red	9	Orange
4	Green	10	Light Yellow
5	Blue	11	Light Blue
6	Cyan	12	Light Pink

Pre-configured sequences

Sequence	Name
1	Rainbow Fast
2	Rainbow Slow
3	Warm Colors Fast
4	Cool Colors Fast
5	Random

Adjusting the intensity of presets

1: Ensure that DMX data is not present.
2: Press the Mode button to access the Presets/Sequences menu, and then press the Up and Down buttons to select the preset that you want to edit.
3: Press and hold the Mode button for 3 seconds. The display shows L: ## where the number is an intensity level from 0-99, or FL.
4: Press the Up and Down buttons to change the intensity level of the preset in real time.
5: Press the Mode button to confirm your selection and return to the Presets/Sequences menu.

The display will automatically return to the Presets/Sequences menu after 10 seconds of inactivity, and edits to the preset intensity will not be saved.

Locking the user interface

After you have set up the fixture, you can lock the user interface to prevent additional changes.

1: Press and hold the Up and Down buttons simultaneously for 3 seconds. The display will show Loc to indicate that the user interface is locked.
2: To unlock the user interface, press and hold the Up and Down buttons simultaneously for 3 seconds.

Updating the fixture software

ETC recommends using UpdaterAtor software to manage software updates. For more information on UpdaterAtor, see the *UpdaterAtor Software Quick Guide*, which you can download for free from etcconnect.com.

When you add a ColorSource fixture running a newer software version or update a ColorSource fixture to a newer software version using UpdaterAtor, you can use that fixture to push the newer software version to all connected ColorSource fixtures.

You can push newer software versions from a connected fixture only on ColorSource fixtures running software v1.3.0 or newer. Use UpdaterAtor to update individual fixtures running versions older than v1.3.0.

1: Remove power and DMX from the master fixture that is running the software version that you want to push to other fixtures.
2: Press and hold the Up and Down buttons simultaneously while restoring power.
3: The display will show **Udt rdy** to indicate the update mode is selected.
4: Press the Mode button to start the update process.
   - The display will alternate between **Udt** and the percentage complete while updating.
   - The master fixture will reboot once the update is complete.

Restoring factory defaults

Press and hold the Mode, Up, and Down buttons simultaneously for 5 seconds. The DMX start address will blink once to confirm that defaults have been restored.

Error codes

There are three error codes that may be shown on the user interface.

- **CAL**: Screen toggles between **CAL** and **Err** to indicate a problem with the color calibration. The fixture will need to be returned to the ETC factory; contact your local dealer to set up a repair.
- **OtP**: Screen toggles between **OtP** and **Err** to indicate that the fixture has gone into over-temperature protection mode to avoid damaging the fixture. Once the fixture has self-cooled, the error will automatically clear.
- **no APP**: Screen toggles between **no** and **APP** to indicate that the upgraded fixtures have a software issue. Reload software to clear the error. If the error persists, contact ETC.

RDM values

Manufacturer ID: 0x6574 (Electronic Theatre Controls)

Model ID: 0x0205 (ETC ColorSource Spot) or
0x0206 (ETC ColorSource Spot Deep Blue)

Parameter	RDM PID	Value
DMX Start Address	0x00F0	Range = 1–512
Personality ID	0x00E0	1 = 5 Channel 2 = Direct 3 = 1 Channel 4 = RGB
Output Frequency	0x8123	0 = Standard (1.2 kHz) 1 = High (25 kHz)

Quick reference

DMX control channels

DMX Channel	5ch (5 Channel)	dir (Direct)	1ch (1 Channel)	rgb (RGB)
1	Intensity	Intensity	Intensity	Red
2	Red	Red		Green
3	Green	Green		Blue
4	Blue	Blue/Indigo*		
5	Strobe**	Lime		
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