

sPDS-480ca 7.5V

USER GUIDE



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INTRODUCTION

Color Kinetics® sPDS-480ca 7.5V is a rack-mountable, Ethernet power/data supply. sPDS-480ca 7.5V provides power and data to Color Kinetics 7.5V Chromatic® driven products.

This guide contains important information on installing and using your new sPDS-480ca 7.5V. Please read it carefully and save for future reference.

Included in This Box

- Power/data supply
- US IEC power cable
- Four right angle mounting brackets with hardware (eight screws - M4 pan head Phillips)
- Two stainless steel Rack Mount handle with hardware (four screws M4 flat head Phillips screws)
- User Guide

Additional Items Needed

- Rack Mount hardware
- Surface Mount hardware – eight screws suitable to the mounting surface
- Compatible Color Kinetics controller(s)
- Ethernet Switch
- Dedicated Ethernet Network
- CAT5 Ethernet cable

Scope of this User Guide

The goal of this user guide is to explain the steps necessary to install sPDS-480ca 7.5V with Ethernet control and assure peak performance. Its intended use is for reference only, by persons who are fully qualified. This document should never be considered a substitute for any provisions of a regulation or state and/or local code.

Identification and Warnings of Safety Hazards

In accordance with ANSI Z535.4-2002 the following system of identifying the severity of the hazards associated with the products is used:

“**DANGER**” Imminently hazardous situation which, if not avoided, will result in death or serious injury.

“**WARNING**” Potentially hazardous situation which, if not avoided, could result in death or serious injury.

“**CAUTION**” Potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage. Also used to alert against unsafe practices.

IGNORING A HAZARD WILL VOID ANY WARRANTY.

WARNING: Ensure that power is disconnected before installing, wiring, or servicing sPDS-480ca 7.5V.

WARNING: sPDS-480ca 7.5V must be installed by a qualified professional in accordance with NEC and relevant local codes.

WARNING: Do not attempt to install or use sPDS-480ca 7.5V until you read and understand the installation instructions and safety labels.

WARNING: Do not use sPDS-480ca 7.5V if power cables are damaged.

WARNING: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to take adequate measures.

CAUTION: Ensure that sPDS-480ca 7.5V is securely attached, properly mounted, and free of excessive vibration.

CAUTION: Do not hot swap. Ensure the power supply is off before connecting or disconnecting fixtures.

CAUTION: Do not modify or alter sPDS-480ca 7.5V.

NOTE: The instructions and precautions set forth in this user guide are not necessarily all-inclusive, all conceivable, or relevant to all applications as Color Kinetics cannot anticipate all conceivable or unique situations.

Owner/User Responsibilities

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate sPDS-480ca 7.5V in such a manner as to comply with all state and local laws, ordinances, regulations, and the American National Standards Institute Safety Code.

NOTE: sPDS-480ca 7.5V is shipped with a US IEC power cable. For international customers, use a country-specific IEC cable meeting the following specifications: 3-conductor, 16 AWG (1.00mm²), HAR rating for Europe, and JET rating for Japan.

MAXIMUM FIXTURE SPECIFICATION

Refer to the following table for maximum fixture specifications.

Fixture	Max. per Power Supply	Best Wiring Method(s)
iColor Flex SL	16 strings	Direct Connect
iColor Tile FX: 2:2	8 pieces	Direct Connect
iColor Module FX 6:9	128 pieces	Daisy Chain w/Color Kinetics Jumpers
iColor Module FX 6:36	32 pieces	Daisy Chain w/Color Kinetics Jumpers

INSTALLING sPDS-480ca 7.5V

sPDS-480ca 7.5V shall be installed by a qualified electrician/technician in accordance with NEC and relevant local codes for power supplies. A power screwdriver is recommended for mounting the unit.

CAUTION: sPDS-480ca 7.5V must be installed in a location that allows air to move freely at the front and rear of the housing. Failure to do so may result in minor or moderate injury or property damage and will void the warranty.

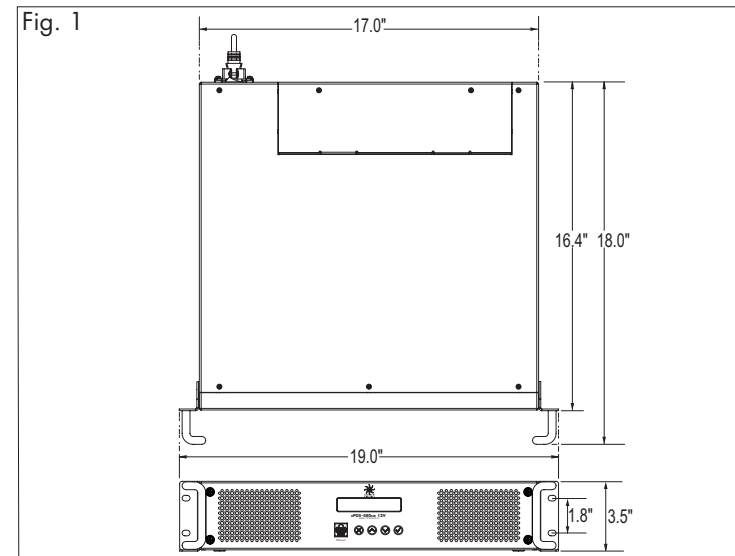
Mounting the Housing

- sPDS-480ca 7.5V can be rack-mounted or surface-mounted (mounted on a horizontal or vertical surface). Select the location of the rack or the mounting surface, keeping sPDS-480ca 7.5V within the maximum distance specified for your fixture. Refer to your fixture user guide for the cable run information.

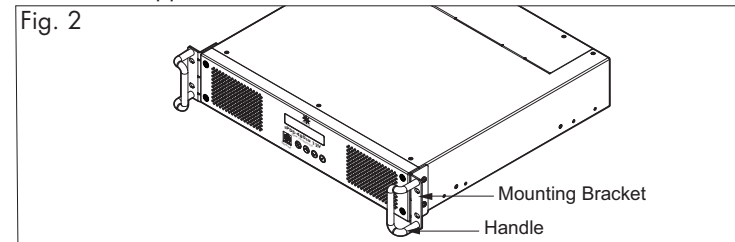
NOTE: Ensure that there is adequate space to make all connections to the front and rear of the unit.

Rack Mount

sPDS-480ca 7.5V can be mounted into a standard EIA-310 compliant rack. Fig. 1 shows the dimensions for rack mounting.



- Attach one stainless steel handle to each of the mounting brackets using the mounting screws provided (two for each handle). (See Fig. 2.)
- Attach two mounting brackets to the front of the unit. (See Fig. 2.) using the mounting screws provided (two for each bracket).
- Mount the housing to a rack using four #10 or #12 screws and lock washers supplied with rack.



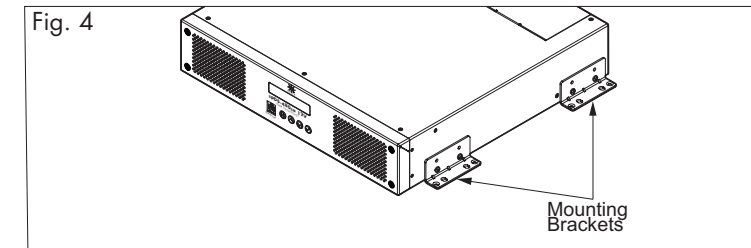
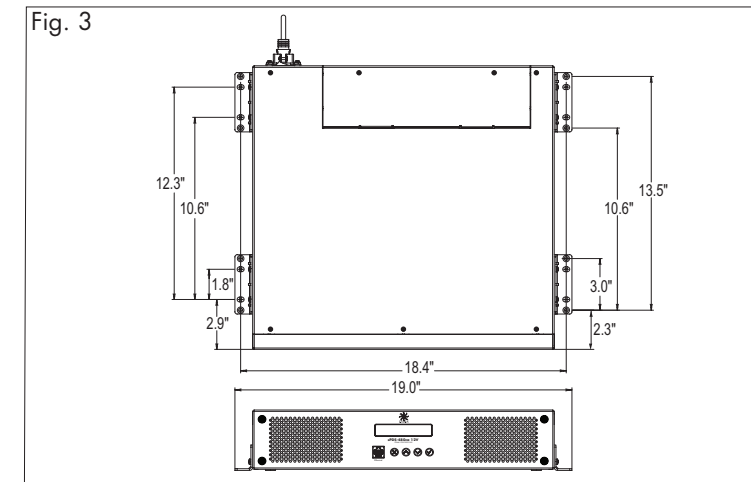
NOTE: Multiple sPDS-480ca 7.5V units can be installed in a single rack. Do not mount units directly on top of each other.

CAUTION: If your application is temporary and may be moved, it is recommended that sPDS-480ca 7.5V is installed on a rack tray. Failure to do so may result in minor or moderate injury or property damage and will void the warranty.

Surface Mount

Fig. 3 shows the dimensions for surface mounting.

- Attach two mounting brackets to each side of the sPDS-480ca 7.5V using the mounting screws provided (two for each bracket). (See Fig. 4.)



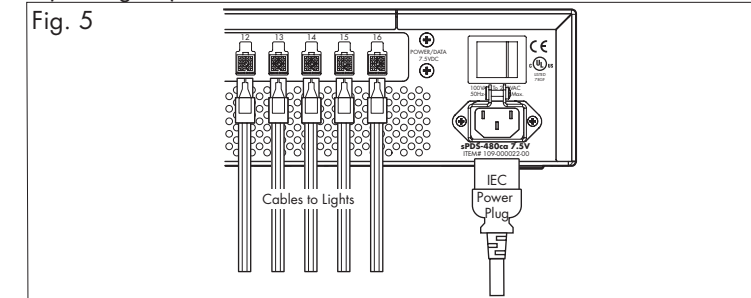
- Mount the housing to the surface using eight screws (two for each bracket) suitable for the mounting surface.

WIRING sPDS-480ca 7.5V

After mounting sPDS-480ca 7.5V, you are ready to connect power, lights, and data to sPDS-480ca 7.5V.

Connecting Power to sPDS-480ca 7.5V

- Connect the IEC power cable to the back of sPDS-480ca 7.5V. (See Fig. 5.)



Connecting Lights to sPDS-480ca 7.5V

WARNING: Ensure power is off before connecting lights. Disconnect power using the power switch on the back of sPDS-480ca 7.5V. Failure to do so may result in death or serious injury and will void the warranty.

- Plug a fixture connector into a power output port on the back of sPDS-480ca 7.5V. Ports are labeled 1 through 16. (See Fig. 5.)
- Refer to the user guide for your lights to determine maximum number of lights per power/data supply and specific wiring requirements.

Connecting Ethernet Data to sPDS-480ca 7.5V

sPDS-480ca 7.5V receives data from, and is controlled by, Color Kinetics Light System Manager (LSM) or Video System Manager (VSM). LSM consists of Light System Composer software and Light System Engine hardware and VSM consists of Video Management Tool software and Video System Engine hardware.

A dedicated network comprised of one or more Ethernet switches are required for your installation. Refer to the LSM User Guide or the VSM User Guide for setup and configuration information.

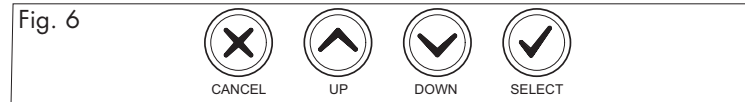
- Use a CAT5e cable to connect the Ethernet switch into the Ethernet IN port on the front of sPDS-480ca 7.5V.

sPDS-480ca 7.5V FUNCTIONS

sPDS-480ca 7.5V features on-board configuration and monitoring functions. Using the control buttons and LCD display located on the front of the supply, you can configure the unit's behavior, monitor its status, and test attached lights.

Button Functions

The four front panel buttons (CANCEL, UP, DOWN, and SELECT) let you navigate through the menu tree and select functions. (See Fig. 6.)



UP

- Pressing the UP button scrolls up through the menus and increments numeric options.

DOWN

- Pressing the DOWN button scrolls down through the menus and decrements numeric options.

SELECT

- Press the SELECT button to choose a menu option, performance action, or to save a setting.

CANCEL

- Press the CANCEL button to return to the previous screen.

Menu Structure of the LCD Display

This section details the various menu options available on the front panel of sPDS-480ca 7.5V. Use the control buttons to navigate through the menus. The main menu tree consists of five main menus: VIEW STATUS, CONFIGURE, TEST, RESET SYSTEM, and ABOUT.

- VIEW STATUS: From the View Status menu, you can review the unit's network configuration and performance, thermal conditions, and the number of lights detected on each port.
- CONFIGURE: From the Configure menu, you can set the IP Address, discover how many lights are attached, configure thermal properties, adjust the brightness of the LCD backlight, and restore certain settings to factory defaults.
- TEST: From the Test menu, you can perform basic tests of the attached lights without the need for an external controller.
- RESET SYSTEM: The Reset System command reboots the unit as if you had turned the power off and back on.
- ABOUT: The About menu displays system information, including model number and revision.

VIEW STATUS

Command	Options	Description
NETWORK	NET: IP ADDRESS 0.0.0.0	Displays IP address of the sPDS-480ca 7.5V.
	MAC ADDRESS	Displays MAC address of the sPDS-480ca 7.5V.
	DATA RATE	Displays an estimate of network bandwidth being used, in kilobytes per second.
	SERIAL NUMBER	Displays the unit's unique serial number.
LIGHTS	LIGHTS PER PORT (1-16)	Displays the number of lights detected per port. NOTE: The message "(not yet scanned)" indicates that you must choose the Scan Lights option from the Configure menu first.

Command	Options	Description
TEMPERATURE	INTERNAL TEMP	Displays an estimate of the unit's internal temperature.
	MIN/MAX TEMP	Displays minimum and maximum temperature recorded since power was turned on.
	FAN STATUS	Displays whether the fan is off or on, and how fast it is running (as a percentage of max speed).

CONFIGURE

Command	Options	Description
SET IP ADDRESS	10.0.0.0 (Last three segments can be 0-255).	Allows you to set the IP address (see <i>Setting the IP Address</i> .)
SCAN LIGHTS	Press the Select button to start scanning.	Counts how many lights are attached to each port. Results are then shown in the Lights Per Port section of the Status menu.
FAN SETTINGS	Low Medium High Auto	Low or Medium: Fan runs continuously at low or medium speed, unless a temperature rise is detected which forces the fan to High. High: The fan runs continuously at high speed at all times. Auto: The fan turns on and the speed modulates based on internal temperature.
THERMAL SETTINGS	WHEN I OVERHEAT: - Turn off lights (default) - Ramp down lights - Stay on	Allows you to select the action to be taken if the unit overheats. Press Select to save your choice.
LCD BACKLIGHT	Bright (default) Medium Dim Auto-Dim	Allows you to select the brightness of the LCD backlight. Auto-Dim dims the backlight when no buttons have been pressed for 15 seconds. Press Select to save your choice.
RESTORE DEFAULTS	Press the Select button to restore defaults.	Restores factory default settings for backlight and thermals. Network configuration remains unchanged.

TEST/RESET SYSTEM/ABOUT

Command	Options	Description
TEST LIGHTS	All Off All Red All Green All Blue All White Rainbow	Allows you to test the selected lights or effect. If you choose a Single Port or Single Light, press the Select button, then use the Up and Down buttons to choose the desired port or light.
TEST	Fans on full	Allows you to test the fans. Press the Select button to start test. Fans run on full for a short time, then turn off automatically.
RESET SYSTEM	Press the Select button to restart.	Resets the unit, as if you had turned the power off and back on.
ABOUT	Press the Down button to scroll through the information.	Displays system information, including model number and revision of the firmware.

Setting the IP Address

1. Use the control buttons (up and down arrows) to scroll through and set the values for the IP Address fields. Press the Select button to accept the value and jump to the next segment. Use the Cancel button to return to the previous field.

2. After setting all values, press the Select button. The system prompts you to press the Select button to confirm. The system indicates the IP address was saved.

NOTE: If you do not confirm the IP address, it will not be saved.

NOTE: The first field (10) cannot be changed and the address should not be set to 10.1.3.100 or 10.1.3.101.

Over-temperature Detection

The sPDS-480ca 7.5V includes an over-temperature detection circuit. You can choose what the unit does when an over-temperature condition is detected: Turn off lights, Ramp down lights, or Stay on. "Turn off lights" sets the lights to black, and resumes normal operation if temperatures drop. "Ramp down lights" smoothly reduces brightness, in an attempt to bring temperature under control without an abrupt cutoff. "Stay on" keeps the lights operating regardless of temperature.

CAUTION: If an over-temperature condition is detected, the unit will flash the LCD backlight. Navigate to the Startup screen (by pressing the Cancel button one or more times) to see the relevant message. An over-temperature condition ALWAYS indicates that the unit is operating beyond its rated specifications, regardless of what you have configured the unit to do in response. The over-temperature feature is intended to detect and mitigate exceptional conditions, like blocked air intakes, that may cause catastrophic failure. In a properly operating installation, an sPDS-480ca 7.5V should never go over-temperature. Failure to comply may result in minor or moderate injury or property damage and will void the warranty.

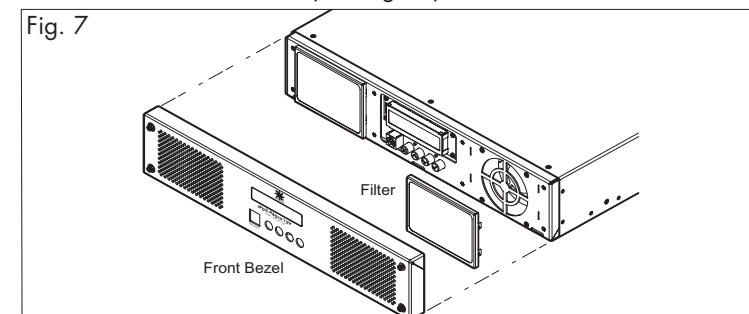
MAPPING THE LIGHTS USING SPDS-480CA 7.5V

- Once sPDS-480ca 7.5V installation is complete, use Color Kinetics Light System Manager or Video System Manager to map the light installation.
- Once the power/data supplies and lights have been mapped, then you are ready to begin designing shows or playing video. No addressing is required.

Refer to the Light System Manager User Guide or Video System Manager User guide for complete instructions.

CLEANING AIR INTAKE FILTER

To prevent overheating, inspect the air intake filter regularly and clean as needed. The air intake filters are located behind the front bezel of sPDS-480ca 7.5V. (See Fig. 7.)



1. Disconnect power.

WARNING: Ensure power is off before cleaning the filter. Failure to do so could result in death or serious injury and will void the warranty.

2. Using a Phillips head screwdriver, loosen the four captive screws on the front of the bezel, and then remove the bezel by pulling it straight out from sPDS-480ca 7.5V.
3. Remove the filters by lifting up and out.
4. Clean the filters with water, and then air dry completely.
5. Replace the filter in the filter cover, and then replace the front bezel. Never operate sPDS-480ca 7.5V with the front bezel off. (See Fig. 7.)

REPLACING FUSES

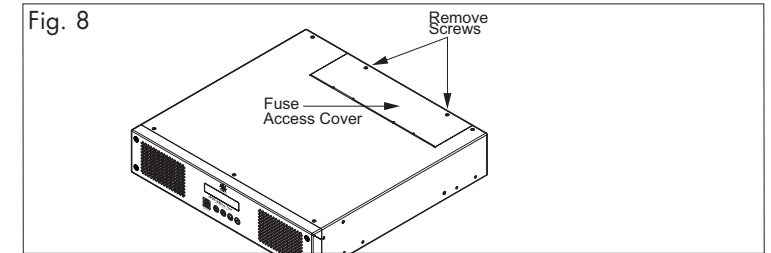
sPDS-480ca 7.5V contains sixteen 5A, 125V, 5x20 Fast Blow fuses. In the event that a fuse blows, it must be replaced.

When a fuse blows, the background on the LCD display flashes to alert you of a problem. Navigate to the Startup screen (by pressing the Cancel button one or more times) to see that message. An example of the message is as follows: *Check Port 13 Fuse*. That message continues to flash until the fuse is replaced.

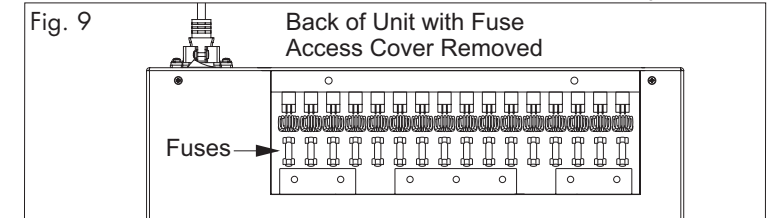
1. Disconnect power to sPDS-480ca 7.5V.

WARNING: Ensure power is off before replacing fuses. Failure to do so could result in death or serious injury and will void the warranty.

2. Remove the two screws on the Fuse Access Cover using a Phillips head screwdriver. (See Fig. 8.)



The fuses are located beneath that access cover. (See Fig. 9.)



3. Remove the blown fuse and replace it with a new 5A, 125V, 5x20 Fast Blow fuse.
4. Replace the Fuse Access Cover and tighten the two screws.
5. Power on sPDS-480ca 7.5V.

sPDS-480ca 7.5V SPECIFICATIONS

POWER INPUT	100VAC to 240VAC auto ranging (50Hz–60Hz)
MAX. INPUT CURRENT	8.4A at 100VAC, 7A at 120VAC, 3.5A at 240VAC
POWER OUTPUT	7.5VDC, 480W
HEAT DISSIPATION	25 percent of total power input
AMBIENT OPERATING TEMP	14°F to 122°F (-10°C to 50°C)
HOUSING	Overall dimensions: 19" x 18" x 3.5" (48.3 cm x 45.7 cm x 8.9 cm)
CONNECTORS	Data: RJ45 input connector Power Output: 16 4-pin output connectors Power Input: IEC 320 receptacle type C13 with locking clamp
DATA INPUT INTERFACE	Ethernet using Color Kinetics Light System Manager or Video System Manager
DATA OUTPUT INTERFACE	Chromatic 7.5V
CLASSIFICATION	Class 2
LISTINGS	UL/cUL, CE

Warranty

This product is sold pursuant to CK's Standard Terms and Conditions (the "T&Cs") which may be found at <http://colorkinetics.com/howtobuy/buy/> terms and which contain important provisions, including, among others, Limited Warranty, exclusions and limitations on CK's liability for damages, and restrictions on the remedies that are available to you.