



# COLR

## Operation Guide

Version 2.0, December 2016

## Document Revision History

Revision	Date	Description
v1.0	January 8, 2016	Initial release of COLR Operation Manual, based on firmware version 1.0.1

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# COLR



- A. USB Port (top)
- B. 6-28V DC Input
- C. 10/100/1000 Ethernet port
- D. SD/HD/3G-SDI output
- E. Reset button
- F. SD/HD/3G-SDI input
- G. Wi-Fi antennas (top)
- H. Mini-B USB port
- I. HDMI output
- J. HDMI input
- K. Warning indicator
- L. Network status
- M. 3D LUT status
- N. Video Status
- O. Menu joystick
- P. Status joystick

# COLR DUO



- A. USB Port (top)
- B. 6-28V DC Input
- C. 10/100/1000 Ethernet port
- D. SD/HD/3G-SDI input
- E. Wi-Fi antennas (top)
- F. Mini-B USB port
- G. SD/HD/3G-SDI output B
- H. Reset button
- I. SD/HD/3G-SDI output A
- J. Warning indicator
- K. Network status
- L. 3D LUT status
- M. Video Status
- N. Menu joystick
- O. Status joystick

## BUTTON OPERATION

### STATUS JOYSTICK

● (button press): Cycle through status screens: Video, Wi-Fi, Ethernet, USB, and system info

### MENU JOYSTICK

▲, ▼, ◀, ▶: Select menu items, change status screen on main display, select characters

▶, ● (button press): Confirm selection, open selected menu

### RESET BUTTON

Hold for 3-6 seconds: Reset all network settings

Hold for 10+ seconds: Perform complete factory reset

## POWER

COLR uses an OB 302 series LEMO connector (FGG.0B.302.CLADxx)

Pin	Description
1 (Closest to the red dot)	GND
2	+DC (6-28V)

## CUSTOM / 3RD PARTY CABLES

- Test the power cable polarity with ONLY the power cable connected to COLR. Do not connect video cables.
- Check the power cable for shorts and proper grounding.
- CAUTION: Using a reverse polarity or improperly-constructed power cable can damage the product and is not covered under warranty.

## SPECIFICATIONS

### AUDIO/VIDEO INPUTS

- HDMI: Full Size in/out
- 3G-SDI, HD-SDI, SD-SDI: BNC in/out
- Embedded HDMI/SDI audio input
- Embedded HDMI/SDI audio output

### SUPPORTED RESOLUTIONS

- 1080p23.98/24/25/29.97/30/50/59.94/60
- 1080i50/59.94/60
- 1080PsF23.98/24/25
- 720p50/59.94/60
- 480p59.94, 576p50 (HDMI only)
- 480i59.94, 576i50
- HDMI input supports 8-bit RGB 4:4:4, 8-bit YCrCb 4:4:4, 12-bit YCrCb 4:2:2

- HDMI output is 8-bit RGB 4:4:4
- SDI input/output is 10-bit YCrCb 4:2:2

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## PHYSICAL

- Dimensions: 2"W x 1"D x 4"H
- Weight: 6oz

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## VIDEO PROCESSING

- CDL/1024 1D LUT (supports 10-bit color)
- 33x33x33 3D LUT (supports 10-bit color)
- HDMI/SDI cross conversion

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## PROTOCOL SUPPORT

- Network Protocols: TCP/IP, UDP, HTTP, DHCP, MDNS/Bonjour

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## USER INTERFACES

- WebUI for look management, camera control, network configuration
- OLED LCD Display with joystick navigation buttons
- Integration with Pomfort LiveGrade

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## NETWORK

- Ethernet: 10/100/1000BASE-T
- WiFi: 2.4/5GHz 802.11 ac/a/b/g/n MiMO
- Mini-B USB

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## POWER

- 2 Pin Lemo Power input
- Nominal Power Consumption: 5W - 8W
- Auxiliary Power Input: 6-28V DC

## GETTING STARTED

### POWER & VIDEO

1. Connect power to COLR using the included A/C adapter.
2. Connect the SDI or HDMI output from your video source to one of COLR's video input connectors. Connect the SD/HD/3G-SDI or HDMI output to your monitor. Both HDMI and SDI outputs are active regardless of the input signal.

### CONNECT TO COLR

COLR has a built in web interface for managing color presets and device settings. Access the interface via Wi-Fi, Ethernet, or a direct USB connection.

## CONNECT VIA WI-FI

1. Connect to COLR's Wi-Fi network: **COLR-XXXXX** (serial number of the device).
2. Open a web browser and navigate to <http://172.16.1.1>, or find COLR using Bonjour.
3. See CONTROL COLR for information on configuring COLR's Wi-Fi interface.

## CONNECT TO A WIRED NETWORK

1. Plug an Ethernet cable into COLR's 10/100 Ethernet port and connect it to an Ethernet switch or router. Use the front panel's **Network Mode** menu to check that Ethernet is enabled and set to **DHCP Client**.
2. Connect your computer to the same network. COLR's IP address is displayed on the front panel's Ethernet Status menu, access it by cycling through the status screens with the Status joystick.
3. Open a web browser and navigate to COLR's IP address, or find COLR using Bonjour.

## CONNECT VIA USB

1. Connect a USB cable (included) between your computer and COLR's mini-USB port. COLR's USB port acts like a network interface.
2. Open a web browser and navigate to <http://192.168.100.1>, or find COLR using Bonjour.

## CONTROL COLR

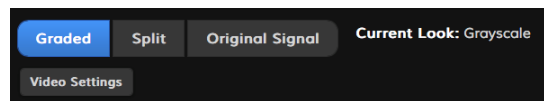
### WEB UI

COLR has a built-in Web User Interface (UI) for configuration and control. Access it by opening a web browser and navigating to the IP address of the interface used to connect to COLR. The Web UI contains Preset Management, Camera Control, Network Configuration, and System Settings pages.

## COLOR MANAGEMENT

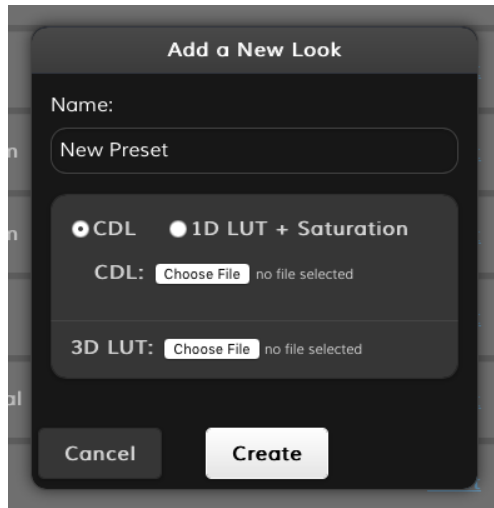
COLR's Color Management menu allows you to select 3D LUT and CDL files stored on your computer and save them to the device. These presets can be applied to COLR's video output by using this menu or the device's front panel. Up to 32 looks can be stored on the device. When using COLR Duo, there are 2 selectable color processing channels. NOTE: COLR assumes that custom 3D LUT files loaded into the unit are generated for extended range input and output signals.

- **Controlling looks**



Buttons at the top of the Color Management page allow you to select a channel (COLR Duo only) enable a preset (**Graded**), disable it (**Original Signal**), or display a **Split** screen view. The Video Settings menu contains configuration for input and output signal range, Legal or Extended. Input and output options can be set individually based on your camera and monitor settings.

- **Adding a look** – Look presets can be created from a 3D LUT and either an ASC CDL file or 1D LUT and Saturation files.

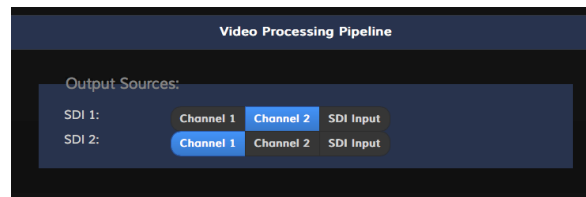


1. Enter a name for your look under the name field. If no name is entered, the look will use the same name as the 3D LUT filename. Names can be up to 32 characters long.
  2. Select whether you would like to load a CDL file, or a 1D LUT plus Saturation. Then click **Choose File** to pick the files from your computer. If the look will only contain a 3D LUT, skip this step.
  3. Click **Choose File** under the 3D LUT section and pick the 3D LUT file you wish to use. The following file formats are supported:
    - .dat (DaVinci Resolve)
    - .3dl (Assimilate Scratch)
    - .cube (DaVinci Resolve)
    - .lut (Pomfort LiveGrade)
    - .mga (Final Cut)
- **Organizing looks** – Arrange look presets by dragging the desired preset up and down in the list. Alternately, look presets can be moved up or down by clicking the ^ and v buttons, respectively.
  - **Deleting looks** – Look presets can be deleted by clicking the X button located in the look’s listing. You will be asked to confirm before deleting the look.

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## VIDEO SETTINGS (COLR DUO ONLY)

The Video Settings menu allows you to individually configure COLR Duo’s two SDI outputs. The outputs can be set connected to one of two color processing channels, or to the original SDI input signal. Each color processing channel is configured on the **Color Management** page or by a remote grading app.





## CAMERA CONTROL

When Camera Link mode is enabled for the Ethernet interface, COLR acts as a wireless bridge for controlling Ethernet-enabled cameras such as the RED DSMC line, ARRI Alexa, Alexa Mini, and Amira, Vision Research Phantom, and more.

- A. **RED EPIC, SCARLET** – After enabling Camera Link mode on COLR, there are a few settings on the camera that must be checked. These can all be found under **Settings > Setup > Communication > Ethernet**. Once configured, external control applications such as FOOLCONTROL can be used wirelessly.
  1. Ensure **DHCP Enable** is Checked (box will be marked with an X).
  2. Ensure **Enable External Control** is checked.
- B. **ARRI Alexa, Alexa Mini, Amira** – No additional camera configuration is required, just enable Camera Link. Once enabled, your ARRI camera's web UI can be accessed by opening the Camera Link page. If the camera does not show up when the page loads, click **Browse** and select your camera.
- C. **Phantom** – No additional camera configuration is required, just enable Camera Link. Once enabled, the Phantom Camera Control application can be used wirelessly.
- D. **Panasonic Varicam** – Requires COLR firmware version 1.2.5 or later. If a computer with LiveGrade is connected to COLR's network it will detect the Varicam at COLR's IP address. The following must be set on the camera:
  1. Set **Menu > Peripheral > Network Sel** to **LAN**
  2. Set **Menu > Peripheral > LAN Property > DHCP** to **ENABLE**
  3. Configure a user account under **Menu > Peripheral > Network Func**

## NETWORK CONFIGURATION

Use the network configuration menu to configure COLR's Wi-Fi and Ethernet network interfaces.

**Wi-Fi** – COLR can be configured to work as an access point or connected to another network using client mode.

To Configure COLR's WiFi, click the Edit button underneath the current status. Wi-Fi mode can be switched from the front panel.

- **Access Point mode** – By default, COLR acts a Wi-Fi Access point. Network security, channel, and SSID are configurable from the Network Configuration page.
- **Infrastructure** – COLR can connect to existing networks using Infrastructure mode. After selecting Infrastructure for the Wi-Fi mode, click **Browse**. Select your network, enter the password (if configured), and click **Apply**.

**Ethernet** – Configure COLR's Ethernet interface to use DHCP (default), or enter a static IP address configuration. In addition, Camera Link Ethernet mode can be enabled here, see above for more details.

## SYSTEM SETTINGS

The System Settings menu is used for performing firmware upgrades, system reboots, or for resetting the device to its factory default settings.

## FRONT PANEL

Operate COLR's front panel menu using the black *Menu Joystick*.

## 3D LUT SETTINGS

- **3D LUT Presets** – Use this menu to select from COLR’s look presets. Looks can be managed from COLR’s web UI.
- **3D LUT Mode** – Select from full screen or split screen. When split screen is selected, the original/colored regions can be shifted using the joystick.
- **Input/Output Signal Range** – Independently configure the SDI input and output signal ranges between legal and extended.

## NETWORK MODE

- **Wi-Fi Mode** – Select between Access point and Client Wi-Fi modes.
- **Ethernet Mode** – Select between DHCP Client, Static IP, and Camera Link IP address modes, or disable the Ethernet to reduce power consumption.

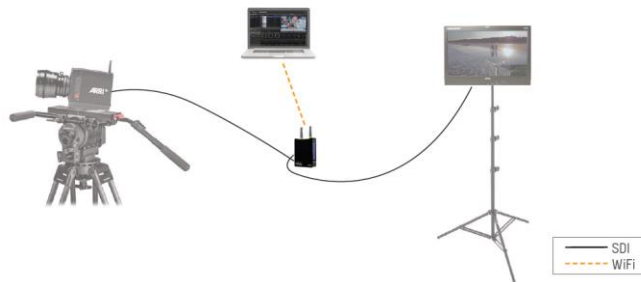
## OTHER MENUS

- **Display Settings** – Contains various options for adjusting COLR’s front panel display behavior.
- **Reset All Settings** – Performs a full factory reset, but does not modify 3D LUT presets.
- **About Device** – Displays COLR’s serial number.

## LIVEGRADE INTEGRATION

LiveGrade is an application developed by Pomfort for on-set look creation and color management. LiveGrade has integrated support for remote control of multiple COLR devices. Use the following instructions to prepare LiveGrade for use with COLR. For the most up-to-date information about COLR’s functionality with LiveGrade, consult their guide:

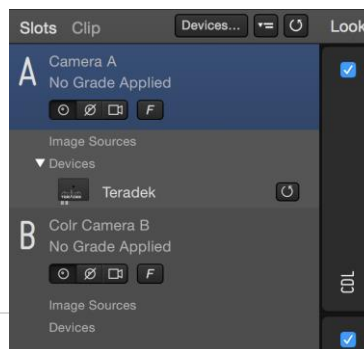
[http://kb.pomfort.com/livegrade/hd-sdi\\_devices/teradek-colr-support-in-livegrade/](http://kb.pomfort.com/livegrade/hd-sdi_devices/teradek-colr-support-in-livegrade/)



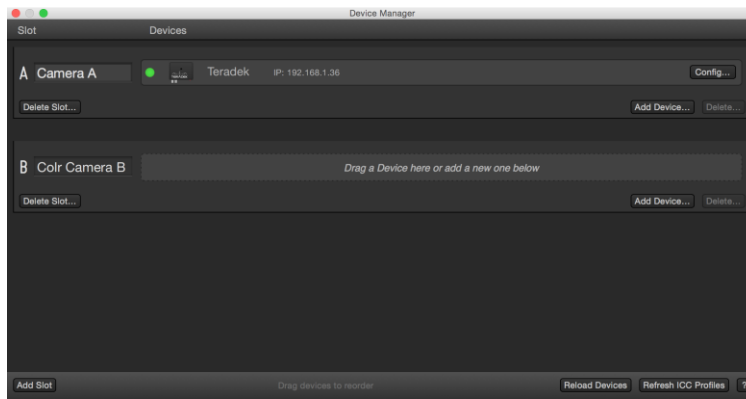
## ADDING COLR TO LIVEGRADE

To use COLR with LiveGrade, you will first need to connect your LiveGrade-equipped computer to COLR via Wi-Fi, Ethernet, or USB.

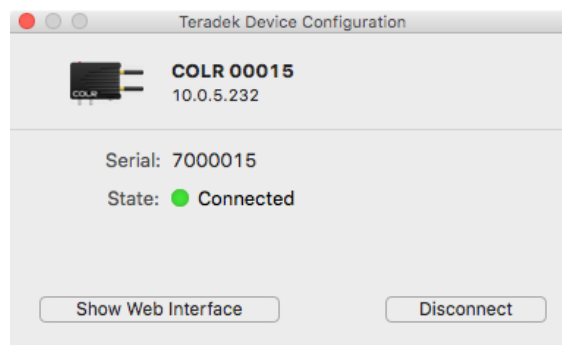
1. Click **Devices...** next to the Slots menu.



2. Click **Add Device...** under the slot you want to use, select **Add Teradek Device...**



3. Select your COLR or enter its IP address. Once connected, a green icon will appear next to the device listing.



Close the Configuration and Devices menus. COLR is now associated with your chosen slot and any look adjustments will be applied directly to COLR's video outputs.

## USING COLR WITH LIVEGRADE

### LIVE COLOR

Once COLR is associated with a LiveGrade slot, any adjustments made to that slot will be immediately applied to COLR's SDI and HDMI outputs.

COLR adjustments are made using a combination 33x33x33 3D LUT and CDL. Because LiveGrade converts all looks to a 3D LUT and CDL before sending to COLR, response time will be slower in some of the advanced grading modes. **CDL and LUT** mode does not require conversion.

### STORING PRESETS

In addition to Live color grading, LiveGrade looks can also be saved directly to COLR from within the app. To do so, right click a look in the Clips and Looks window and select **Permanently Store Look on > Teradek Device at x** (depends on which slots have associated COLR devices). You can choose to store the look as a new preset or overwrite an existing one.

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## SAVING THE CURRENT LOOK

To quickly store the active look on COLR, select **Device > Permanently Store Looks on Devices** from the top menu. Your look will be saved as a preset named **Last Permanent**, which becomes active as soon as the look is saved.

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## LAUNCH WEB UI

LiveGrade also allows you to launch COLR's web UI without leaving the app. To do so, open the **Devices** window, click **Config...** next to the COLR you wish to configure, and then click **Show Web Interface**.