DMPS3-4K-150-C

3-Series® 4K DigitalMedia™ Presentation System 150

Supplemental Guide

Crestron Electronics, Inc.

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DMPS3-4K-150-C: 3-Series® 4K DigitalMedia™ Presentation System 150

Introduction

The Crestron® DMPS3-4K-150-C is an ultra high-definition presentation switcher that integrates a control system, multiformat switcher, 4K video scaler, mic preamp, and audio DSP. The DMPS3-4K-150-C provides out-of-the-box Crestron Connect It™ collaboration and also includes built-in .AV Framework™ technology.

This guide provides information about the following:

- Physical description of the front and rear panels of the DMPS3-4K-150-C
- .AV Framework technology, Crestron Connect It functionality, and 3-Series Control System® integration supported by the DMPS3-4K-150-C
- Configuration of some of the capabilities of the DMPS3-4K-150-C, for example, adjustable underscan
- Troubleshooting
- Pin assignments

For installation information, refer to the DMPS3-4K-150-C DO Guide (Doc. 7654) at www.crestron.com/manuals.

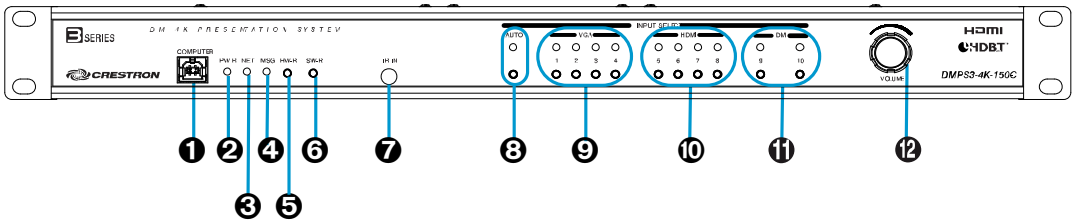
Physical Description

This section provides information about the connectors, controls, and indicators on the front and rear panels of the DMPS3-4K-150-C.

Front Panel

The following illustration shows the front panel of the DMPS3-4K-150-C.

DMPS3-4K-150-C Front Panel



❶ **COMPUTER:** USB Type B female;
USB computer console port;
For setup only

❷ **PWR:** Bicolor green/amber LED, indicates operating power supplied from ac line power, turns amber while booting and green when operating

❸ **NET:** Yellow LED, indicates Cresnet® bus activity

❹ **MSG:** Red LED, indicates internal control system has generated an error message

❺ **HW-R:** Recessed push button for hardware reset, reboots the control system

❻ **SW-R:** Recessed push button for software reset, restarts the software program

❼ **IR IN:** Infrared sensor;
IR Frequency: 36 to 38 kHz;
IR Formats: Crestron format, RC5;
Allows control from IR wireless remotes using the Crestron or RC-5 command sets

❽ **AUTO INPUT SELECT:** Push button and bicolor green/amber LED, selects automatic switching mode

❾ **VGA INPUT SELECT 1-4:** Push buttons for manual input selection and corresponding bicolor green/amber LEDs that indicate the current active input and signal presence at each corresponding VGA input

❿ **HDMI INPUT SELECT 1-4:** Push buttons for manual input selection and corresponding bicolor green/amber LEDs that indicate the current active input and signal presence at each corresponding HDMI® input

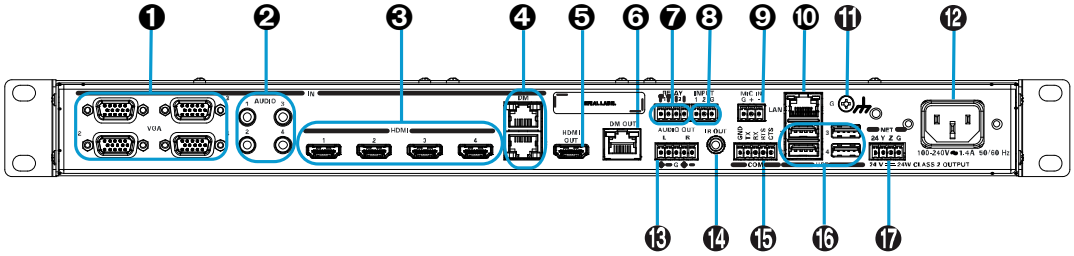
⓫ **DM INPUT SELECT 1-2:** Push buttons for manual input selection and corresponding bicolor green/amber LEDs that indicate the current active input and signal presence at each corresponding DM® input

⓬ **VOLUME:** Continuous turn rotary encoder, adjusts the analog audio output volume

Rear Panel

The following illustration shows the rear panel of the DMPS3-4K-150-C.

DMPS3-4K-150-C Rear Panel



❶ VGA IN 1-4: HD15 female;
Analog VGA/RGB/video inputs;
Signal Types: VGA, RGB, component, S-video, or composite;
Formats: RGBHV, RGBS, RGsB, YPbPr, Y/C, NTSC or PAL;
Input Level: 0.5 to 1.5 Vp-p with built-in DC restoration;
Input Impedance: 75 Ohms nominal;
Sync Detection: RGBHV, RGBS, RGsB, YPbPr;
Sync Input Level: 3 to 5 Vp-p;
Sync Input Impedance: 2.2k Ohms

NOTE: The VGA inputs can accept component, composite, and S-video signals using an appropriate adapter (not included). However, input sync detection is not provided for composite or S-video signal types.

❷ AUDIO IN 1-4: 3.5 mm TRS mini phone jacks;
Unbalanced stereo line-level analog audio inputs;
Input Impedance: 32k Ohms unbalanced;
Maximum Input Level: 2.8 Vrms unbalanced

NOTE: If an HDMI input is selected but no digital audio signal is detected, the corresponding analog audio input is activated (AUDIO 1 for HDMI 1, AUDIO 2 for HDMI 2, and so on). The analog audio inputs do not pass audio if the HDMI video input resolution is higher than 1920 x 1200.

❸ HDMI 1-4: 19-pin Type A HDMI female;
Digital video/audio inputs;
Signal Types: HDMI, DVI, or Dual-Mode DisplayPort

NOTE: The HDMI inputs require an appropriate adapter or interface cable to accommodate a DVI signal or Dual-Mode DisplayPort signal. The CBL-HD-DVI interface cable is sold separately.

❹ **DM IN 1-2:** 8-pin RJ-45 female, shielded;
DM 8G+® inputs, HDBaseT® standard compliant;
PoDM PSE (Power Sourcing Equipment) ports (HDBaseT PoE compatible);
Each connects to the DM 8G+ output of a DigitalMedia transmitter or other DM device or to an HDBaseT device via CAT5e, Crestron DM-CBL-8G, or Crestron DM-CBL-ULTRA cable;
Green LED indicates DM link status;
Solid amber LED indicates HDCP video;
Blinking amber LED indicates non-HDCP video

NOTE: Any wiring that is connected to a PoDM or HDBaseT PoE PSE port is for intrabuilding use only and should not be connected to a line that runs outside of the building in which the PSE is located.

❺ **HDMI OUT:** 19-pin Type A HDMI female;
Digital video/audio output;
Signal Types: HDMI, DVI

NOTE: The HDMI output requires an appropriate adapter or interface cable to accommodate a DVI signal or Dual-Mode DisplayPort signal. The CBL-HD-DVI interface cable is sold separately.

❻ **DM OUT:** 8-pin RJ-45 female, shielded;
DM 8G+ output, HDBaseT standard compliant;
PoDM PSE (Power Sourcing Equipment) port (HDBaseT PoE compatible);
Connects to the DM 8G+ input of a DigitalMedia receiver or other DM device or to an HDBaseT device via CAT5e, Crestron DM-CBL-8G, or Crestron DM-CBL-ULTRA cable;
Green LED indicates DM link status;
Solid amber LED indicates HDCP video;
Blinking amber LED indicates non-HDCP video

❼ **RELAY 1-2:** 4-pin 3.5 mm detachable terminal block;
Comprises 2 normally open, isolated relays;
Rated 1 Amp, 30 volts ac/dc;
MOV arc suppression across contacts

❽ **INPUT 1-2:** 3-pin 3.5 mm detachable terminal block;
Comprises 2 programmable digital inputs;
Input Voltage Range: 0 to 24 Vdc, referenced to GND;
Logic Threshold: 2.5 Vdc nominal with 1 Volt hysteresis band;
Input Impedance: 10k Ohms at >5 volts, 1M Ohms at <5 volts;
Pull-up Resistor: 2.2k Ohms per input

❾ **MIC IN:** 3-pin 3.5 mm detachable terminal block;
Balanced microphone audio input;
Input Level: -60 to 0 dBV, 1 Vrms maximum;
Input Impedance: 6.5k Ohms balanced;
Phantom Power: 48 Vdc, software enabled/disabled

❿ **LAN:** 8-pin RJ45 female;
10BASE-T/100BASE-TX Ethernet port

⓫ **Ground (⏚):** 6-32 screw, chassis ground lug

⓬ **100-240 V~1.4 A 50/60 Hz:** IEC 60320 C14 mains power inlet;
Mates with removable power cord, included

⓭ **AUDIO OUT:** 5-pin 3.5 mm detachable terminal block;
Balanced/unbalanced stereo line-level audio output;
Output Impedance: 200 Ohms balanced, 100 Ohms unbalanced;
Maximum Output Level: 4 Vrms balanced, 2 Vrms unbalanced

⓮ **IR OUT:** 3.5 mm mini-phone jack;
IR/serial output port;
IR output up to 1.2 MHz;
1-way serial TTL/RS-232 (0-5 volts) up to 115.2k baud

⓯ **COM:** 5-pin 3.5 mm detachable terminal block;
Bidirectional RS-232 port;
Up to 115.2k baud, hardware and software handshaking support

⓰ **USB 1-4:** USB Type A female;
USB 2.0 host ports for TT-100 series Crestron Connect It cable caddies (sold separately);
Also enable firmware update via USB flash drive

⓱ **NET:** 4-pin 3.5 mm detachable terminal block;
Cresnet master port;
Available Cresnet Power: 24 watts

For pin assignment information, refer to the Appendix on page 14.

.AV Framework Technology

Built-in .AV Framework technology allows a fully functional DMPS3-4K-150-C presentation system without the need for additional programming. The .AV Framework setup and management tool allows simplified configuration of the DMPS3-4K-150-C.
For additional information, refer to the .AV Framework™ Software for DMPS3 Operations Guide (Doc. 7887) at www.crestron.com\manuals.

Crestron Connect It Functionality

The DMPS3-4K-150-C provides built-in Crestron Connect It functionality, allowing USB connections of up to four TT-100 series Crestron Connect It cable caddies (sold separately). The auto-switching inputs of the DMPS3-4K-150-C support individual HDMI, VGA, and analog audio connections at each cable caddy.

Integrated 3-Series Control System

The DMPS3-4K-150-C includes an integrated 3-Series Control System that allows programmable room control. The built-in control system enables the DMPS3-4K-150-C to provide customizable control of every AV device as well as room lighting, window shades, and projection screens. The control ports of the DMPS3-4K-150-C include one IR port, one RS-232 COM port, two relay ports, and two digital input ports. In addition, Cresnet and Ethernet ports are also provided.

Configuration

In addition to the .AV Framework setup and management tool, the DMPS3-4K-150-C can be configured using the web interface, which can be accessed from a web browser by entering the IP address or hostname of the DMPS3-4K-150-C. SIMPL Windows can also be used to configure the DMPS3-4K-150-C.

This section provides information about configuration of the following items using the web interface or SIMPL Windows:

- Adjustable underscan
- User-selectable output resolution
- Standby timeout
- Display mode
- EDID
- Connection to third-party HDBaseT equipment

Adjustable Underscan

If content does not fit properly on a display, adjustments to underscan may be desired. Adjustments can be made up to 7.5%. Adjusting the underscan reduces the image size by the specified percentage so that the entire video frame is displayed.

To adjust underscan, use the DMPS3-4K-150-C web interface or SIMPL Windows as discussed in the following sections.

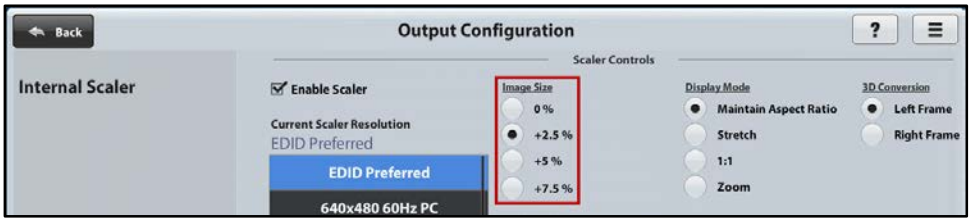
Configuration Using the Web Interface

An overview of the steps necessary to adjust the underscan setting is as follows:

NOTE: For detailed information, refer to the online help of the web interface.

1. On the Main Setup page, click the INTERNAL SCALER Settings button. The Output Configuration page for the internal scaler opens.
2. In the Image Size list, click the radio button that corresponds to the desired underscan setting.

Output Configuration Page for Internal Scaler—Image Size (Underscan) Configuration



Configuration Using SIMPL Windows

Using SIMPL Windows, adjust underscan in subslot 02 of the Outputs slot for the DMPS3-4K-150-C. Set the **<Scaler_Underscan_Mode>** analog input join to the desired value.

NOTE: For detailed information, refer to the SIMPL Windows help file.

User-Selectable Output Resolution

The output resolution of the scaler is user selectable. To select the output resolution, use the web interface or SIMPL Windows as discussed in the following sections.

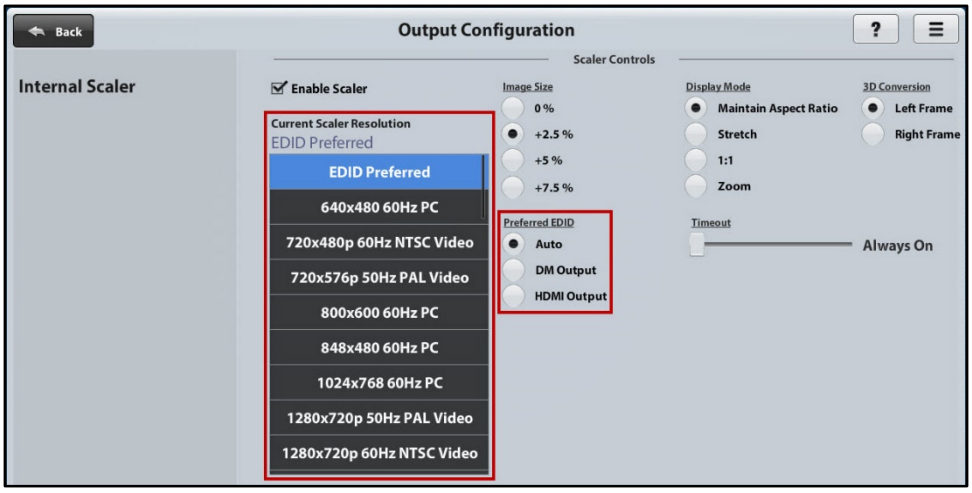
Configuration Using the Web Interface

An overview of the steps necessary to select the output resolution of the scaler is as follows:

NOTE: For detailed information, refer to the online help of the web interface.

1. On the Main Setup page, click the **INTERNAL SCALER Settings** button. The Output Configuration page for the internal scaler opens.
2. In the **Current Scaler Resolution** list, click the desired setting.
3. (Applicable only when **EDID Preferred** is selected in the **Current Scaler Resolution** list) In the **Preferred EDID** list, click the radio button that corresponds to the preferred EDID setting.

Output Configuration Page for Internal Scaler—Current Scaler Resolution Configuration



Configuration Using SIMPL Windows

Using SIMPL Windows, set the output resolution in subslot 02 of the Outputs slot for the DMPS3-4K-150-C. To do so, set the **<Scaler_User_Resolution_Index>** analog input join to the desired value.

NOTE: For detailed information, refer to the SIMPL Windows help file.

Standby Timeout

Standby timeout sets the period of time after which the output will shut down if no video is detected on the input.

To configure Standby Timeout settings, use the web interface or SIMPL Windows as discussed in the following sections.

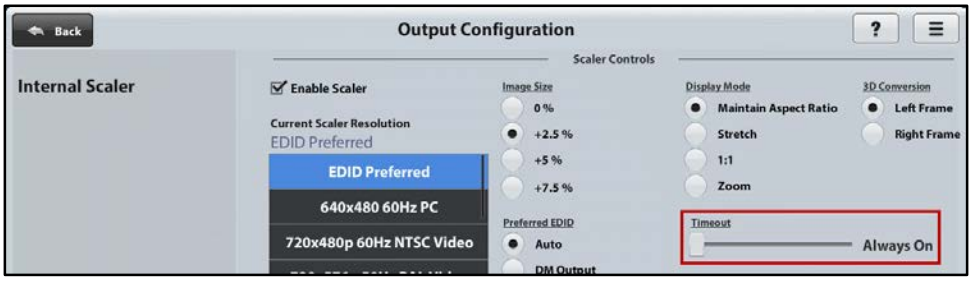
Configuration Using the Web Interface

An overview of the steps necessary to configure the Standby Timeout setting is as follows:

NOTE: For detailed information, refer to the online help of the web interface.

1. On the Main Setup page, click the **INTERNAL SCALER Settings** button. The Output Configuration page for the internal scaler opens.
2. Adjust the **Timeout** slider to the desired value.

Output Configuration Page for Internal Scaler—Timeout Configuration



Configuration Using SIMPL Windows

Using SIMPL Windows, set the standby timeout in subslot 02 of the Outputs slot for the DMPS3-4K-150-C. To do so, set the **<Scaler_Out_Standby_Timeout>** analog input join to the desired value.

NOTE: For detailed information, refer to the SIMPL Windows help file.

Display Mode

The display mode of an image can be set to one of the following:

- Maintain aspect ratio
- Stretch to fit
- 1:1 pixel mapping
- Zoom

To configure Display Mode settings, use the web interface or SIMPL Windows as discussed in the following sections.

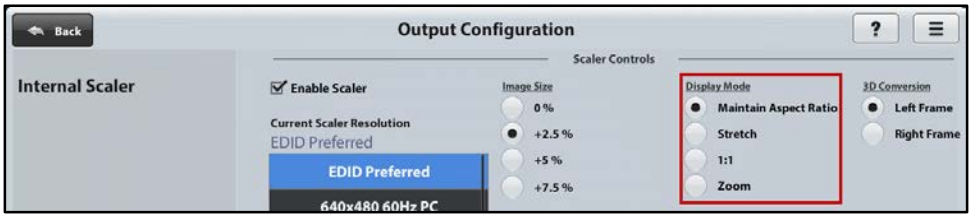
Configuration Using the Web Interface

An overview of the steps necessary to configure the display mode is as follows:

NOTE: For detailed information, refer to the online help of the web interface.

1. On the Main Setup page, click the **INTERNAL SCALER Settings** button. The Output Configuration page for the internal scaler opens.
2. In the **Display Mode** list, click the radio button that corresponds to the desired setting.

Output Configuration Page for Internal Scaler—Display Mode Configuration



Configuration Using SIMPL Windows

Using SIMPL Windows, set the display mode in subslot 02 of the Outputs slot for the DMPS3-4K-150-C. To do so, set the **<Scaler_Display_Mode>** analog input join to the desired value.

NOTE: For detailed information, refer to the SIMPL Windows help file.

EDID

EDID (Extended Display Identification Data) configuration allows management of the EDID that is to be sent to the upstream device connected to a VGA, HDMI, or DM 8G+ input of the DMPS3-4K-150-C. If an EDID other than the default EDID is desired, use the web interface to configure the EDID. An overview of the steps necessary to configure the EDID is as follows:

NOTE: For detailed information, refer to the online help of the web interface.

1. On the Main Setup page, click the input whose EDID is to be configured. The Input Configuration page for the selected input opens.
2. Click the **Configure EDID** button. The EDID Setup page opens.
3. Configure the EDID as desired.

EDID Setup Page

Connection to Third-Party HDBaseT Equipment

The DMPS3-4K-150-C is HDBaseT certified, enabling direct connection to other HDBaseT certified equipment. Via DM 8G+ technology, the DMPS3-4K-150-C can be connected to a third-party HDBaseT transmitter or receiver device without requiring a DM 8G+ transmitter or receiver.

To add a third-party HDBaseT transmitter or receiver to the DMPS3-4K-150-C, use SIMPL Windows. An overview of the necessary steps for adding an HDBaseT transmitter or receiver follows.

NOTE: For detailed information, refer to the SIMPL Windows help file.

Adding a Third-Party HDBaseT Transmitter

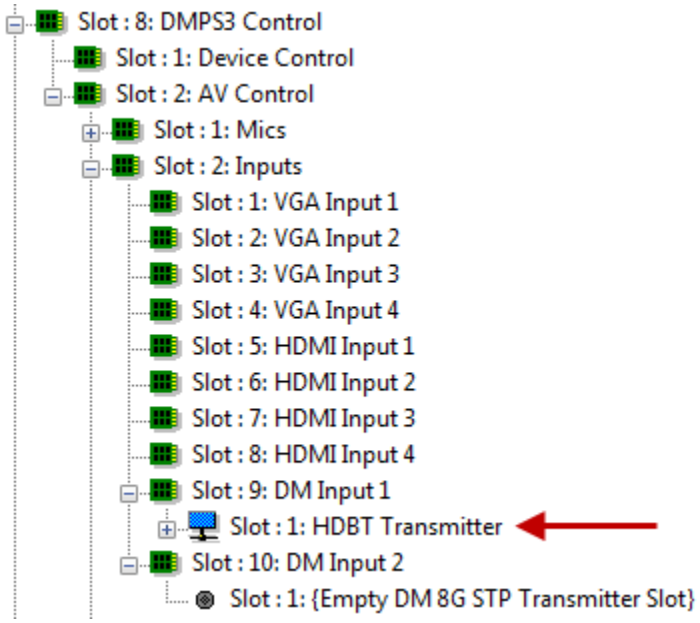
In the Configure View of SIMPL Windows, add a third-party HDBaseT transmitter to the DMPS3-4K-150-C by doing the following:

1. Follow the menu path:

   Slot:8:DMPS3 Control >> Slot:2:AV Control >> Slot:2:Inputs >> Slot:9:DM Input 1 or **Slot:10:DM Input 2**

2. Add the HDBaseT transmitter to an empty transmitter slot.

   Addition of HDBaseT Transmitter



Adding a Third-Party HDBaseT Receiver

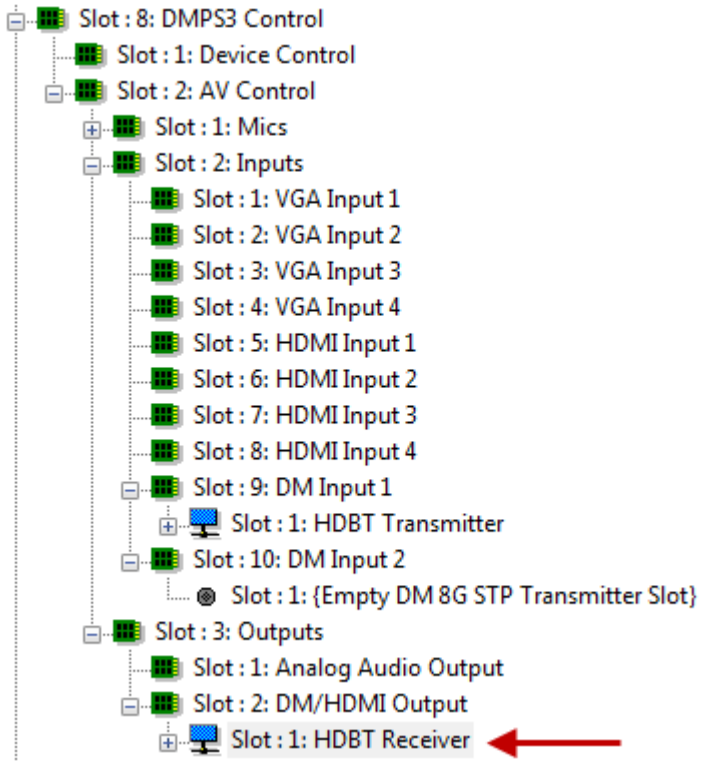
In the Configure View of SIMPL Windows, add a third-party HDBaseT receiver to the DMPS3-4K-150-C by doing the following:

1. Follow the menu path:

   Slot:8:DMPS3 Control >> Slot:2:AV Control >> Slot:3:Outputs >> Slot:2:DM/HDMI Output

2. Add the HDBaseT receiver to an empty receiver slot.

Addition of HDBaseT Receiver



Troubleshooting

The following table provides troubleshooting information. If further assistance is required, contact a Crestron customer service representative.

DMPS3-4K-150-C Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
The video is not being displayed but the audio may be heard.	The HDCP settings of one or more DigitalMedia devices in the signal path do not support the HDCP level of the source.	Ensure that the HDCP settings of all DigitalMedia devices in the signal path support the HDCP level of the source.
	The display does not support the HDCP level of the source.	Ensure that the display supports the HDCP level of the source.
The video is intermittent.	The HDMI cable connections are faulty.	Verify that each end of the cable is connected properly.
A message indicating that the resolution is unsupported appears on the display.	The scaler is not set to a resolution that the display can support.	Change the scaler resolution setting to a resolution that the display can support.
The DMPS3-4K-150-C cannot establish a link to the device that is connected to the DM IN or DM OUT port. The DM link status LED is off.	The cable connections are faulty.	Verify that each end of the cable is properly connected. If necessary, check the cable terminations.
Analog audio is not being heard from the device connected to the AUDIO OUT port of the DMPS3-4K-150-C.	The EDID is not set to 2-channel audio in the web interface.	Set the EDID to 2-channel audio.
	The analog audio output is not programmed properly in SIMPL Windows.	Ensure that the analog audio output is programmed properly.
	The volume is not set properly in web interface or in SIMPL Windows.	Verify that the volume is set properly.
	The mixer is not enabled on the selected input in the web interface.	Ensure that the mixer is enabled on the selected input.
The video flickers or drops when the DMPS3-4K-150-C is touched or when metal in the vicinity of the device is touched.	The DMPS3-4K-150-C is not properly grounded.	Ensure that the DMPS3-4K-150-C is properly grounded.

NOTE: If, for any reason, the factory default settings of the DMPS3-4K-150-C must be restored, do the following: From the **Tools** menu in the Crestron Toolbox application, select **Text Console** and enter the following command:

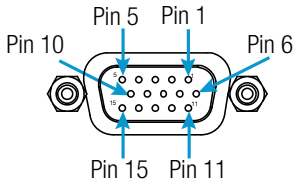
```
restore
```

Appendix: Pin Assignments

This section provides information about pin assignments and wiring for the following DMPS3-4K-150-C connectors:

- VGA IN
- DM IN and DM OUT
- AUDIO OUT
- LAN

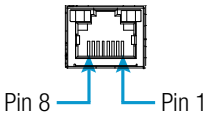
VGA IN Pin Assignments



PIN NUMBER	RGB	YPbPr	S-Video	Composite
1	R	Pr	C	
2	G	Y	Y	
3	B	Pb		COMP
5	GND	GND	GND	GND
6	RED_GND	Pr_GND	C_GND	
7	GRN_GND	Y_GND	Y_GND	
8	BLU_GND	Pb_GND		
13	H			
14	V			

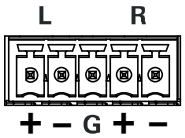
NOTE: For best video performance, ground connections should be kept separate. Do not connect ground wires to the connector shell. The connector shell is reserved for the cable shield.

DM IN and DM OUT Pin Assignments and Wiring



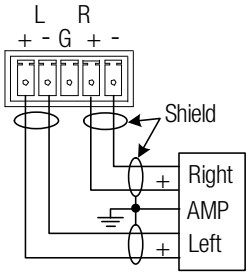
PIN NUMBER	WIRE COLOR	PIN NUMBER	WIRE COLOR
1	Orange/White	5	Blue/White
2	Orange	6	Green
3	Green/White	7	Brown/White
4	Blue	8	Brown

AUDIO OUT Pin Assignments and Wiring

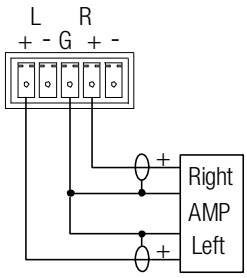


SIGNAL NAME	BALANCED AUDIO OUTPUT	UNBALANCED AUDIO OUTPUT
+	L+	L+ Out
–	L–	Open
G	Shield/Ground	Common Ground
+	R+	R+ Out
–	R–	Open

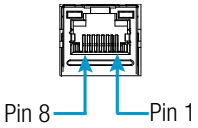
Balanced Output



Unbalanced Output



LAN Pin Assignments



PIN NUMBER	SIGNAL	PIN NUMBER	SIGNAL
1	TX+	5	N/C
2	TX–	6	RX–
3	RX+	7	N/C
4	N/C	8	N/C

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Specifications subject to
change without notice.