

Application Note

Using RoboSHOT Series Cameras with Cisco Codecs

This note applies to the following products and kits:

- RoboSHOT 12E HDBT OneLINK Bridge system for Cisco codecs, part number 999-96750-400/400W/401/401W
- RoboSHOT 12E HDBT OneLINK HDMI system for Cisco codecs, part number 999-95750-400/400W/401/401W
- RoboSHOT 12E HDMI for Cisco codecs, part number 999-99400-400/400W/401/401W
- Cisco Codec Kit for OneLINK Bridge to RoboSHOT HDBT Cameras, part number 999-9675-000/001/009
- Cisco Codec Kit for OneLINK HDMI to RoboSHOT HDBT Cameras, part number 999-9575-000/001/009
- Cisco Codec Kit for OneLINK Bridge to RoboSHOT HDMI Cameras, part number 999-9670-000/001/009
- Cisco Codec Kit for OneLINK HDMI to RoboSHOT HDMI Cameras, part number 999-9570-000/001/009

It also applies to the following discontinued kits:

- RoboSHOT 12 HDBT OneLINK Bridge system for Cisco codecs, part number 999-9675-400/401
- RoboSHOT 12 HDBT OneLINK HDMI system for Cisco codecs, part number 999-9575-400/401
- RoboSHOT 12 HDMI for Cisco codecs, part number 999-9940-400/401

Application

For customers wishing to use a RoboSHOT series camera with a Cisco codec, Vaddio offers several options including:

- The **RoboSHOT 12E HDMI for Cisco SX Codecs** camera bundle includes a RoboSHOT 12E HDMI camera and the appropriate cables to connect directly to a Cisco codec.
- **RoboSHOT-OneLINK systems for Cisco SX Codecs** include a RoboSHOT 12E HDBT camera, the specified OneLINK device, and the appropriate cables to connect the camera to a Cisco codec via the OneLINK device, extending camera installation distance and introducing additional flexibility into the room design.
- **Cisco Codec Kits for OneLINK Bridge and for OneLINK HDMI** include the specified OneLINK device and appropriate cables to connect a *customer-provided* camera to a Cisco codec via the OneLINK device, offering the same advantages as camera-OneLINK systems. OneLINK HDMI and OneLINK Bridge kits are available for Vaddio HDBaseT cameras.

OneLINK kits for Vaddio HDBaseT cameras can be used with the following cameras and camera series:

- RoboSHOT HDBT
- RoboSHOT UHD
- DocCAM 20 HDBT
- RoboSHOT IW

They are also expected to support any HDBaseT cameras that Vaddio may introduce in the future.

What's in the Box

RoboSHOT 12E HDMI camera for Cisco codecs, part number 999-99400-400/400W/401/401W

Includes:

- RoboSHOT 12E HDMI camera, black or white
- PoE+ mid-span power injector with AC cord set(s)
- Vaddio IR Remote Commander
- Thin Profile Wall Mount, black or white, with mounting hardware kit
- EZCamera RS-232 control adapter 998-1002-232
- Cat-5e patch cable, 3 ft (0.9 m)
- HDMI cable, 3 ft. (0.9 m)
- Directional Cat-5e cable for Cisco SX20, 3 ft (0.9m)
- Quick-Start Guide, RoboSHOT 12E HDMI and RoboSHOT 30E HDMI Cameras
- App Note, Using RoboSHOT Cameras with Cisco Codecs

You will need to provide:

- Cisco codec (SX-20, SX-80, or C-series)
- Display(s)
- Audio peripherals and related cables to connect to the codec

If using a Cisco SX-20 codec, you will also need to provide the Cisco SX-20 split cable CAB-PHD4XS2-SPLIT.

RoboSHOT 12E HDBT OneLINK Bridge system for Cisco codecs, part number 999-96750-400/400W/401/401W

Includes:

- RoboSHOT 12E HDBT camera, black or white
- PoE+ mid-span power injector, with AC cord set(s)
- Vaddio IR Remote Commander
- Thin Profile Wall Mount, black or white, with mounting hardware kit
- OneLINK Bridge AV interface
- Power supply, 48VDC/1.36A, with AC cord set(s)
- 3-position Phoenix-style connectors, 3.5 mm, qty 4
- USB 3.0 cable, type A to B, 6 ft. (1.8 m)
- EZCamera RS-232 control adapter 998-1001-232
- EZCamera RS-232 control adapter 998-1002-232
- Cat-5e patch cable, 3 ft (0.9 m)
- HDMI cable, 3 ft. (0.9 m)
- Directional Cat-5e cable for Cisco SX20, 3 ft (0.9 m)
- Quick-Start Guide, RoboSHOT 12E HDBT and RoboSHOT 30E HDBT Cameras
- Quick-Start Guide, OneLINK Bridge for Vaddio HDBaseT Cameras
- App Note, Using RoboSHOT Cameras with Cisco Codecs

You will need to provide:

- A Cisco codec (SX-20, SX-80, or C-series)
- Display(s)
- Audio peripherals and related cables to connect to the codec or the OneLINK device

If using a Cisco SX-20 codec, you will also need to provide the Cisco SX-20 split cable CAB-PHD4XS2-SPLIT.

RoboSHOT 12E HDBT OneLINK HDMI system for Cisco codecs, part number 999-95750-400/400W/401/401W

Includes:

- RoboSHOT 12E HDBT camera, black or white
- PoE+ mid-span power injector, with AC cord set(s)
- Vaddio IR Remote Commander
- Thin Profile Wall Mount, black or white, with mounting hardware kit
- OneLINK HDMI receiver
- Power supply, 48VDC/1.36A, with AC cord set(s)
- EZCamera RS-232 control adapter 998-1001-232
- EZCamera RS-232 control adapter 998-1002-232
- Cat-5e patch cable, 3 ft (0.9 m)
- HDMI cable, 3 ft. (0.9 m)
- Directional Cat-5e cable for Cisco SX20, 3 ft (0.9 m)
- Quick-Start Guide, RoboSHOT 12E HDBT and RoboSHOT 30E HDBT Cameras
- Quick-Start Guide, OneLINK HDMI for Vaddio HDBaseT Cameras
- App Note, Using RoboSHOT Cameras with Cisco Codecs

You will need to provide:

- A Cisco codec (SX-20, SX-80, or C-series)
- Display(s)
- Audio peripherals and related cables to connect to the codec

If using a Cisco SX-20 codec, you will also need to provide the Cisco SX-20 split cable CAB-PHD4XS2-SPLIT.

Cisco codec kit for OneLINK Bridge to Vaddio HDBaseT Cameras, part number 999-9675-000/001/009

Includes:

- OneLINK Bridge AV interface
- Power supply, 48VDC/1.36A, with AC cord set(s)
- 3-position Phoenix-style connectors, 3.5 mm, qty 4
- USB 3.0 cable, type A to B 6 ft. (1.8 m)
- EZCamera RS-232 control adapter 998-1001-232
- EZCamera RS-232 control adapter 998-1002-232
- Cat-5e patch cable, 3 ft (0.9 m)
- HDMI cable, 3 ft. (0.9 m)
- Directional Cat-5e cable for Cisco SX20, 3 ft (0.9 m)
- Quick-Start Guide, OneLINK Bridge for Vaddio HDBaseT Cameras
- App Note, Using RoboSHOT Cameras with Cisco Codecs

You will need to provide:

- A RoboSHOT 12 HDBT, RoboSHOT 30 HDBT, or other Vaddio HDBaseT camera
- A Cisco codec (SX-20, SX-80, or C-series)
- Display(s)
- Audio peripherals and related cables to connect to the codec or the OneLINK device

If using a Cisco SX-20 codec, you will also need to provide the Cisco SX-20 split cable CAB-PHD4XS2-SPLIT.

Cisco codec kit for OneLINK HDMI to Vaddio HDBaseT Cameras, part number 999-9575-000/001/009

Includes:

- OneLINK HDMI receiver
- Power supply, 48VDC/1.36A, with AC cord set(s)
- EZCamera RS-232 control adapter 998-1001-232
- EZCamera RS-232 control adapter 998-1002-232
- Cat-5e patch cable, 3 ft (0.9 m)
- HDMI cable, 3 ft. (0.9 m)
- Directional Cat-5e cable for Cisco SX20, 3 ft (0.9 m)
- Quick-Start Guide, OneLINK HDMI for Vaddio HDBaseT Cameras
- App Note, Using RoboSHOT Cameras with Cisco Codecs

You will need to provide:

- A Vaddio HDBaseT camera such as RoboSHOT HDBT, RoboSHOT UHD, or an architectural camera
- A Cisco codec (SX-20, SX-80, or C-series)
- Display(s)
- Audio peripherals and related cables to connect to the codec

If using a Cisco SX-20 codec, you will also need to provide the Cisco SX-20 split cable CAB-PHD4XS2-SPLIT.

Cisco codec kit for OneLINK Bridge to RoboSHOT HDMI Cameras, part number 999-9670-000/001/009

Includes:

- OneLINK Bridge AV interface
- OneLINK HDMI EZIM (EZCamera Interface Module)
- Power supply, 48VDC/1.36A, with AC cord set(s)
- 3-position Phoenix-style connectors, 3.5 mm, qty 4
- USB 3.0 cable, type A to B 6 ft. (1.8 m)
- EZCamera RS-232 control adapter 998-1001-232
- EZCamera RS-232 control adapter 998-1002-232
- HDMI cable, 3 ft. (0.9 m)
- Directional Cat-5e cable for Cisco SX20, 3 ft (0.9 m)
- Quick-Start Guide, OneLINK Bridge for HDMI Cameras
- App Note, Using RoboSHOT Cameras with Cisco Codecs

You will need to provide:

- A RoboSHOT 12 HDMI or RoboSHOT 30 HDMI camera
- A Cisco codec (SX-20, SX-80, or C-series)
- Display(s)
- Audio peripherals and related cables to connect to the codec or the OneLINK device

If using a Cisco SX-20 codec, you will also need to provide the Cisco SX-20 split cable CAB-PHD4XS2-SPLIT.

Cisco codec kit for OneLINK HDMI to RoboSHOT HDMI Cameras, part number 999-9570-000/001/009

Includes:

- OneLINK HDMI receiver
- OneLINK HDMI EZIM (EZCamera Interface Module)
- Power supply, 48VDC/1.36A, with AC cord set(s)
- EZCamera RS-232 control adapter 998-1001-232
- EZCamera RS-232 control adapter 998-1002-232
- Quick-Start Guide, OneLINK HDMI for RoboSHOT HDMI
- HDMI cable, 3 ft. (0.9 m)
- Directional Cat-5e cable for Cisco SX20, 3 ft (0.9 m)

You will need to provide:

- A RoboSHOT 12 HDMI or RoboSHOT 30 HDMI camera
- A Cisco codec (SX-20, SX-80, or C-series)
- Display(s)
- Audio peripherals and related cables to connect to the codec

If using a Cisco SX-20 codec, you will also need to provide the Cisco SX-20 split cable CAB-PHD4XS2-SPLIT.

Before You Install the Camera

This section covers items and information you need before you start the installation.

RS-232 Control Connections

Be sure the camera is set for the same baud rate as the codec. DIP switch 6 on the back of the camera sets the baud rate at 9600 (up) or 38400 (down).

Note

For most codecs, the default is 9600 baud. Check the documentation for your codec.

If the codec has additional RS-232 communication settings, be sure they match the camera's settings:

- 8 bits
- 1 stop bit
- No parity
- No flow control

These cannot be changed on the camera.

Use the directional Cat-5 cable for the RS-232 control connection from the OneLINK device to the codec, following the instructions printed on the colored bands on the ends of the cable. When connecting to an SX-20 codec, use this cable to connect the split cable to the OneLINK device's RS-232 port.

This is not a straight-through cable. It will not work if it is connected incorrectly.

Connecting to an SX-20 Codec

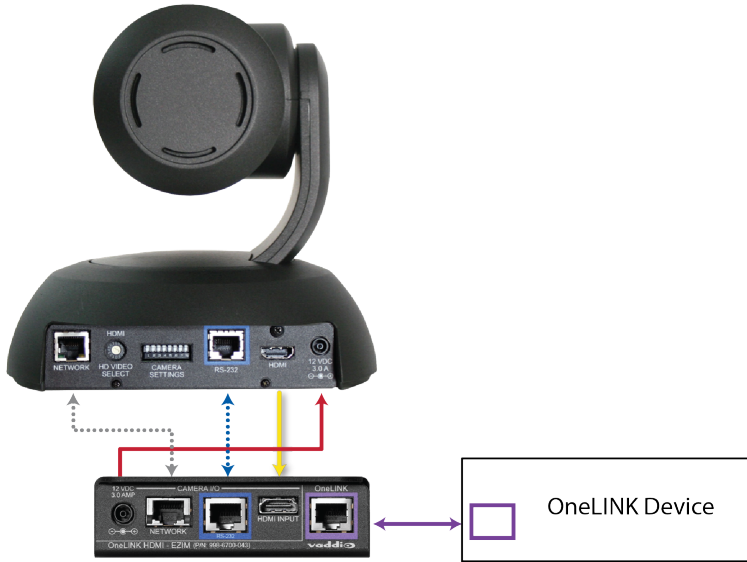
The SX-20 codec uses the Cisco split cable CAB-PHD4XS2-SPLIT. You will need to provide this cable.

Using HDMI Cameras with OneLINK devices

If you use a OneLINK device between an HDMI camera and the codec, you must connect the camera using the OneLINK HDMI EZIM (EZCamera interface module), which is an HDBaseT converter. This diagram shows a legacy RoboSHOT HDMI camera connected to the EZIM.

Note

RoboSHOT 12E and 30E HDMI cameras are not compatible with OneLINK devices.

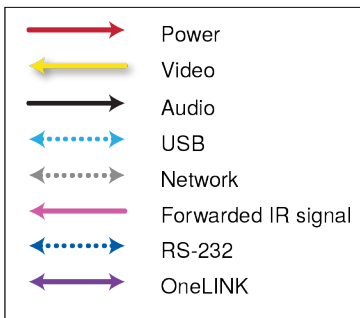


Basic Connections

The diagrams in this section provide guidance for these connection scenarios:

- Connecting a camera directly to a Cisco codec
- Connecting an HDBaseT camera to a Cisco codec using a OneLINK device
- Connecting an HDMI camera to a Cisco codec using a OneLINK device

Connection diagrams use the following conventions for line/signal type:



Note

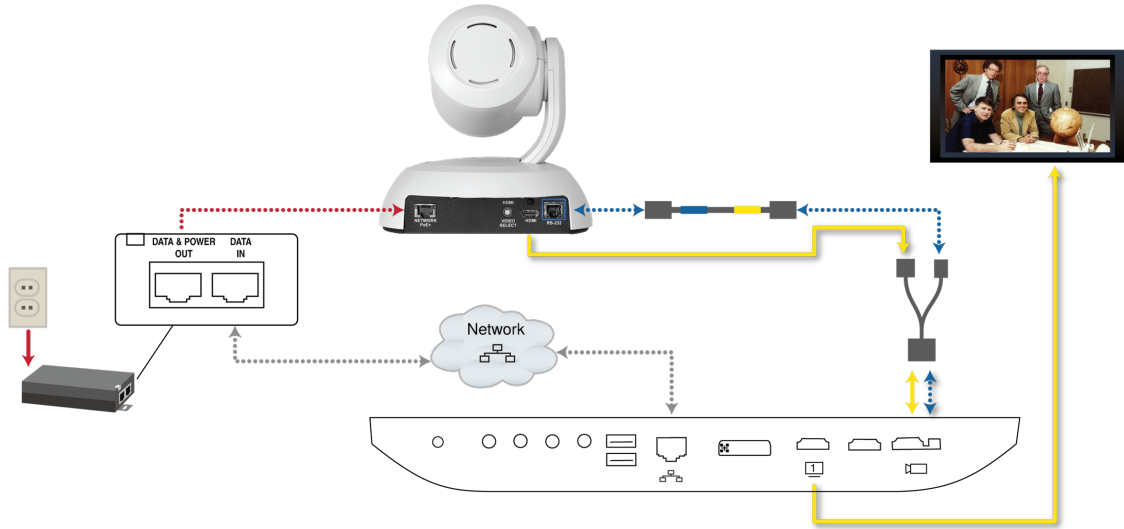
In cases where special cables are used, the connection diagram depicts the cable itself as well as the signal type(s) that it carries.

Connecting a Camera Directly to a Cisco Codec

In this scenario, the camera and codec are physically sited relatively close to the displays, audio peripherals, and other elements of the room system. The codec provides connectivity for the camera and all peripheral devices.

Kit for this scenario: RoboSHOT 12E HDMI for Cisco SX Codecs, 999-99400-400/400W/401/401W

The diagram depicts the required directional Cat-5 cable and the Cisco split cable CAB-PHD4XS2-SPLIT, along with the signal types they carry. When connecting to Cisco codecs other than the SX20, the split cable is not required. The diagram shows details for connecting the camera and associated display. Refer to the codec documentation for information on completing the installation.



Legacy RoboSHOT HDMI cameras can also be connected in a similar way.

Connecting an HDBaseT Camera to a Cisco Codec Using a OneLINK Device

In this scenario, the camera may be sited up to 328 ft. (100 m) from the codec. Both OneLINK devices provide additional video outputs; the OneLINK Bridge also provides audio connectivity, and the OneLINK HDMI provides IR forwarding capability if supported by the camera.

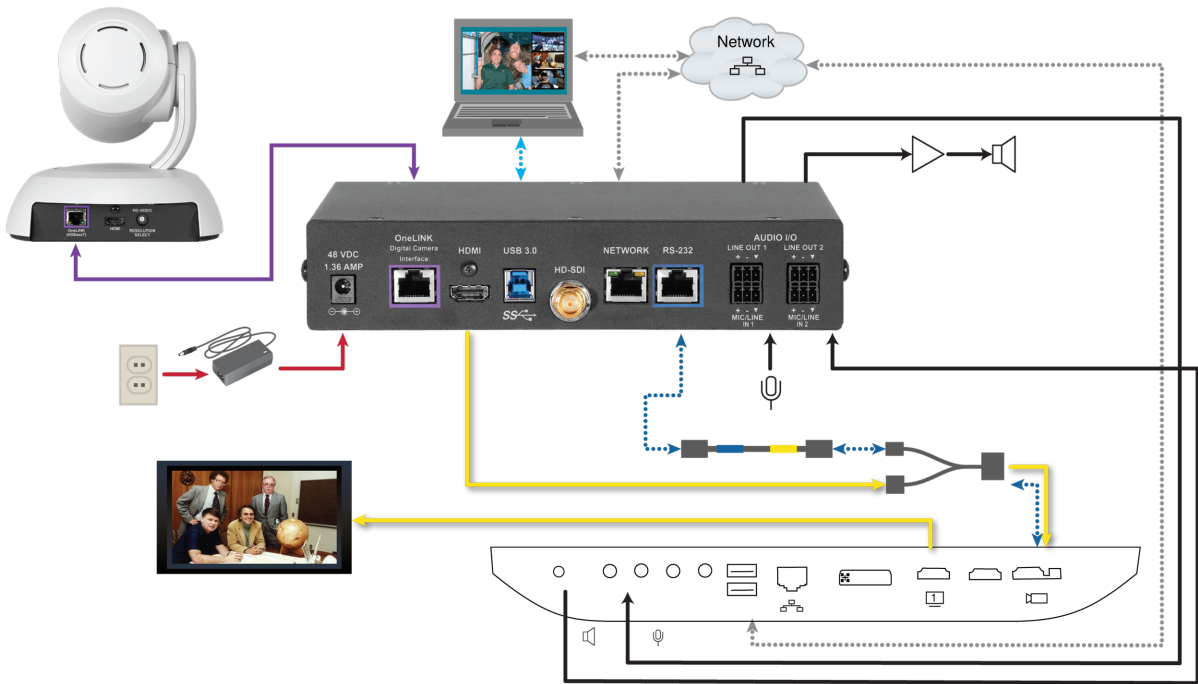
Kits for this scenario:

- RoboSHOT HDBT OneLINK Bridge System for Cisco Codecs, 999-96750-500/501/509
- RoboSHOT HDBT OneLINK HDMI System for Cisco Codecs, 999-95750-500/501/509
- Cisco codec kit for OneLINK Bridge to Vaddio HDBT Cameras, 999-9675-000/001/009
- Cisco codec kit for OneLINK HDMI to Vaddio HDBT Cameras, 999-9575-000/001/009

The diagrams in this section show connections to the SX-20 codec. They show detailed information for the camera and associated display. Refer to the codec documentation for information on completing the installation.

This diagram shows the camera and OneLINK Bridge AV interface in a conferencing set-up. The diagram depicts the required directional Cat-5 cable and the Cisco split cable CAB-PHD4XS2-SPLIT, along with the signal types they carry. When connecting to other Cisco codecs, the split cable is not required.

For additional connection diagrams and other information, refer to the Complete Manual for the OneLINK Bridge AV Interface.



Connecting an HDMI Camera to a Cisco Codec Using a OneLINK Device

In this scenario, the camera may be sited up to 328 ft. (100 m) from the codec.

Both OneLINK devices provide additional video outputs; the OneLINK Bridge also provides audio and USB connectivity, and the OneLINK HDMI provides IR forwarding capability if supported by the camera.

Kits for this scenario:

- Cisco codec kit for OneLINK Bridge to RoboSHOT HDMI Cameras, 999-9670-000/001/009
- Cisco codec kit for OneLINK HDMI for RoboSHOT HDMI Cameras, 999-9570-000/001/009

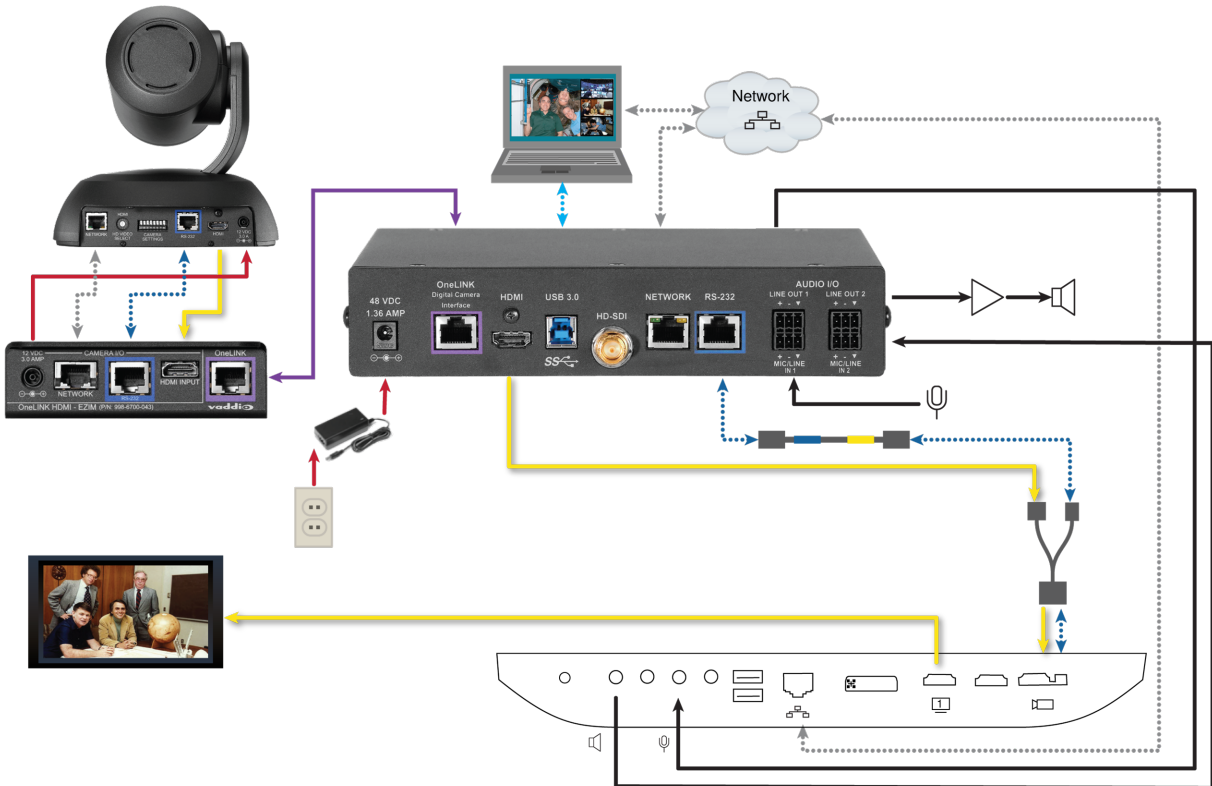
Note

These kits are compatible with legacy RoboSHOT HDMI cameras. They are not compatible with RoboSHOT 12E HDMI or RoboSHOT 30E HDMI cameras.

In these diagrams, an EZCamera Interface Module (EZIM) is installed with the camera for the required HDBaseT connectivity to the OneLINK device. The diagrams in this section show connections to the SX-20 codec. They show detailed information for the camera and associated display. Refer to the codec documentation for information on completing the installation.

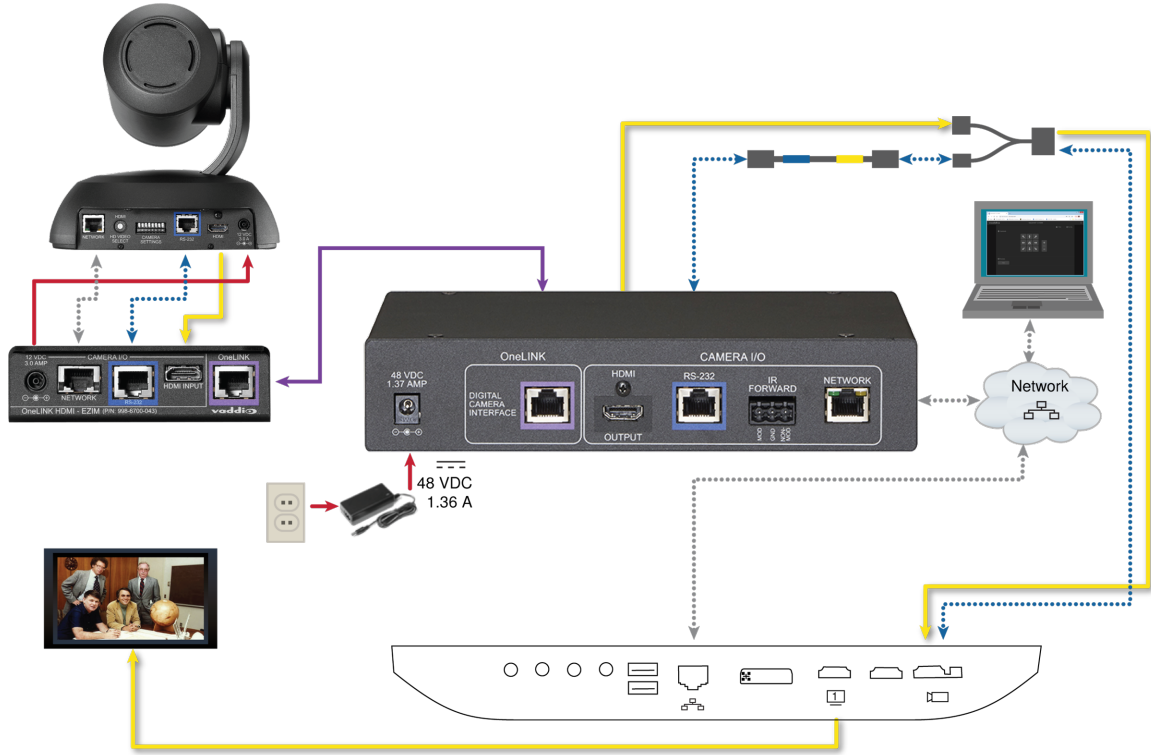
This diagram shows the camera and OneLINK Bridge AV interface in a conferencing set-up. It depicts the required directional Cat-5 cable and the Cisco split cable CAB-PHD4XS2-SPLIT, along with the signal types they carry. When connecting to other Cisco codecs, the split cable is not required.

For additional connection diagrams and other information about the OneLINK Bridge, refer to the Complete Manual for the OneLINK Bridge AV Interface.



This diagram shows the camera and OneLINK HDMI extension connected to the codec and separately providing an IP video stream. The OneLINK HDMI extension also provides IR forwarding. The diagram depicts the required directional Cat-5 cable and the Cisco split cable CAB-PHD4XS2-SPLIT, along with the signal types they carry. When connecting to other Cisco codecs, the split cable is not required.

For additional connection diagrams and other information, refer to the Complete Manual for the OneLINK HDMI Camera Extension.



Configuring the Camera for Use with the Codec

When the camera is installed and powered on, you will need to configure it for use with the codec.

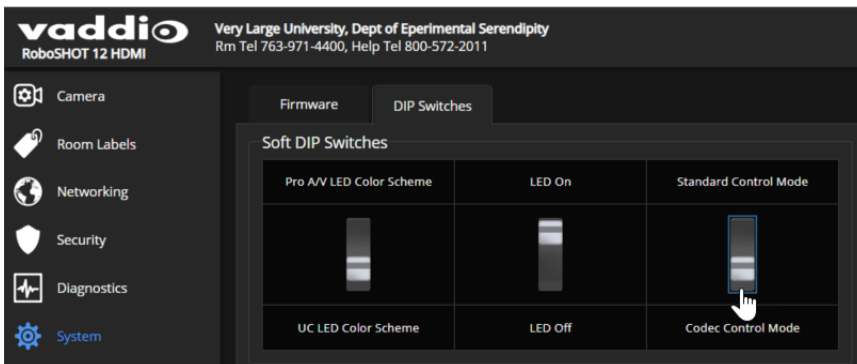
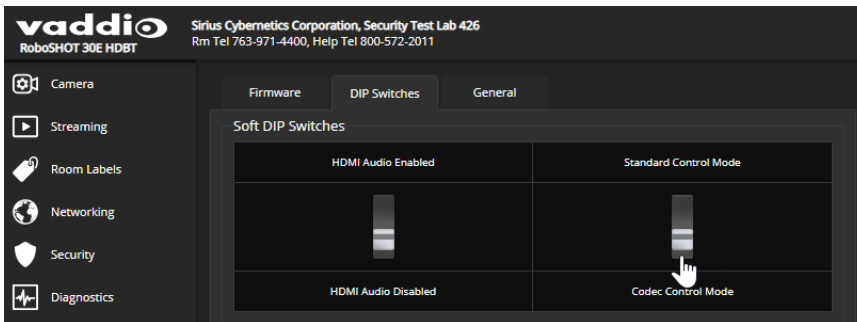
Note

If you are connecting a camera that you did not purchase as part of a kit for use with Cisco codecs, you may need to update the firmware.

RoboSHOT 12E HDBT and RoboSHOT 30E HDBT support these kits and do not require a firmware update. Legacy RoboSHOT HDMI cameras require version 2.3.0 firmware or later.

1. Access the camera's web interface and log in as **admin**. Refer to the camera's documentation for detailed instructions.
2. Update the camera's firmware if necessary. Refer to the camera's documentation for detailed instructions.
3. On the DIP Switches tab of the System page, select Codec Control Mode using the appropriate soft DIP switch.

The camera is now ready for operation.



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