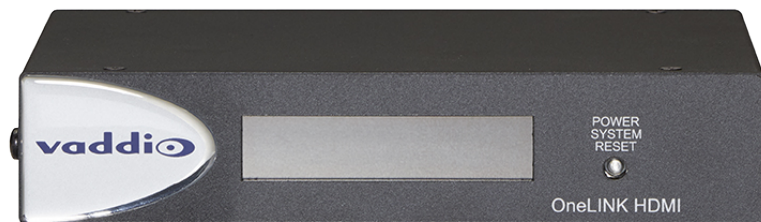Installation Guide for the

OneLINK HDMI Camera Extension

Overview

This guide covers the OneLINK™ HDMI camera extension, which is available in several kit configurations for use with Vaddio or third-party cameras, with or without third-party codecs. It is also available as a component of several Vaddio camera systems.

If the OneLINK device is sold for use with an HDMI camera, it is shipped with a OneLINK EZCamera Interface Module (EZIM).

Note
OneLINK devices are not compatible with PoE+ powered HDMI cameras such as RoboSHOT® 12E HDMI and RoboSHOT 30E HDMI. OneLINK devices are compatible with the discontinued RoboSHOT 12 HDMI and RoboSHOT 30 HDMI cameras.

What's in this Guide

This guide provides information about:
- The OneLINK device's physical features
- Installing the OneLINK device with Vaddio cameras
- Initial power-on

Find complete product information and connection diagrams for all OneLINK HDMI kits in the **Complete Manual for the OneLINK HDMI Camera Extension**.

Features

- Simple, fast, clutter-free camera installation – power, control, video, and network connectivity over a single cable
- Extends installation distance for HDMI and HDBaseT™ cameras up to 100 m (328 ft.) using Cat-6 cable; 230 ft (70 m) using Cat-5e
- Administrative control via web interface; passes web, Telnet, and RS-232 serial control to connected devices
- Passes uncompressed HDMI® video up to 2160p/29.97
- Compatible with Vaddio HDBaseT cameras – no EZCamera Interface Module (EZIM) needed
- Compatible with legacy RoboSHOT HDMI and other HDMI cameras
- Kits available for use with Polycom and Cisco codecs

A Quick Look at the OneLINK Device

This section covers the physical features of the OneLINK HDMI camera extension.

All OneLINK kits include a receiver, which is typically co-located with other equipment, up to 328 ft (100 m) away from the camera. OneLINK kits for use with HDMI cameras also include an EZCamera Interface Module (EZIM) HDBaseT converter, which is mounted adjacent to the camera.

Front Panel of the Receiver
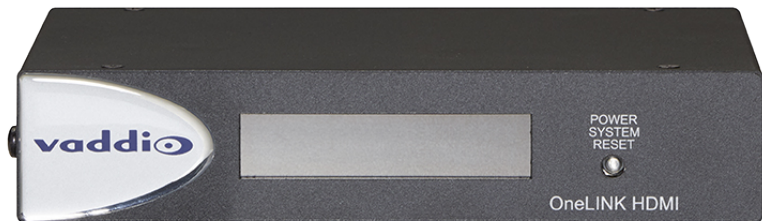
- **Data Display** – Shows the IP and MAC addresses for the OneLINK HDMI camera extension.
- **Power System Reset** button (illuminated red) – reboots the device. This does not affect the connected camera.

Connector Panel of the Receiver
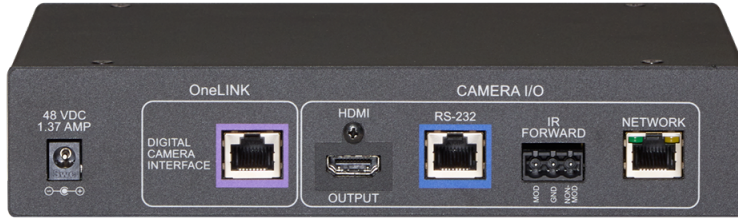
From the left:
- **Power input jack** – Connect the supplied 48 VDC, 1.36 A power supply.
- **OneLINK interface port** – Connection to the HDBaseT camera or to the EZIM. This bidirectional connection carries video, network connectivity including H.264 IP streaming from the camera (if available), RS-232 control, and 12 VDC power.
- **HDMI output** – Connection for a display.
- **RS-232 port** – Connection for a camera controller.
- **IR forwarding port** – IR signal from the camera, if available. Modulated and non-modulated outputs provided.
- **Network port** – Web interface access, H.264 IP streaming (if available from the camera), and third-party IP control via Telnet API.

Connector Panel of the EZCamera Interface Module (EZIM)

If the OneLINK device is used with an HDMI camera, the EZIM HDBaseT converter is required.
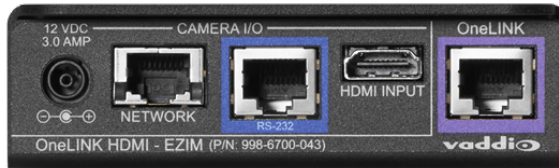
From the left:
- **Power output jack** – Supplies power to the camera.
- **Network port** – Provides network connectivity to the camera for H.264 IP streaming (if available from the camera), web interface access, and third-party control via Telnet API.
- **RS-232 port** – Provides RS-232 connectivity to the camera, for third-party control.
- **HDMI input** – Receives HDMI video from the camera.
- **OneLINK port** – Single-cable connection to the OneLINK receiver. This bidirectional connection carries all video, power, and control.

Installing the OneLINK Device

This section covers:
- Things to know before you start the installation
- Basic connection examples

For information about using the OneLINK device with third-party cameras or codecs, see the Complete Manual for the OneLINK HDMI Camera Extension.

Don't Void Your Warranty!

Caution
Use only the power supply included with this product. Using a different one will void the warranty, and could create unsafe operating conditions or damage the product.
Do not connect the OneLINK power supply to a Vaddio camera. It does not provide the correct voltage for Vaddio cameras, and will damage the camera and void the camera's warranty.

This product is for indoor use only. Do not install it outdoors or in a humid environment. Do not allow it to come into contact with any liquid. Do not install or operate this product if it has been dropped, damaged, or exposed to liquids. If any of these things happen, return it to Vaddio for safety and functional testing.

Note
Disassembling this product will void the warranty.

Cabling Notes

- Maximum cable distance between the OneLINK device and the camera or EZIM is 328 ft (100 m) using Cat-6 or Cat-7 cable, or 230 ft (70 m) using Cat-5e cable.
- Cat-6 or Cat-7 cabling allows longer maximum cabling distance, and may provide better performance in noisier RF or EMF environments.
- We recommend shielded cabling if the cables will be coiled, run tightly with other cables, or routed near sources of electromagnetic interference such as power lines or fluorescent light fixtures. When in doubt, use shielded Cat-6 cable.

Caution
When making cables for Vaddio products, do not use pass-through RJ-45 connectors. If they are crimped incorrectly, they can damage the connectors on the product, cause intermittent connections, and degrade signal quality. Physical damage to the connectors will void your warranty.
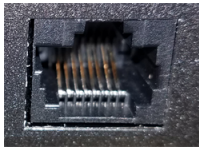
Intact
Contact fingers will make reliable contact with the cable connector
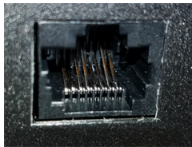
Damaged
Some contact fingers are bent and will NOT make reliable contact with the cable connector

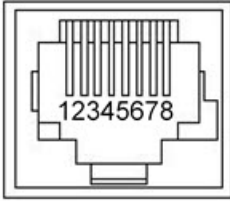We recommend using high-quality connectors and a high-quality crimping tool.

Pro Tip
To prevent tragic mishaps, label both ends of every cable.

RS-232 Connector Pin-Outs

The OneLINK device passes signals from a third-party device to the connected camera.

OneLINK Receiver - RS-232 Control Port
1. Unused
2. Unused
3. Unused
4. Unused
5. Unused
6. GND
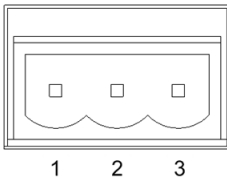7. RX (from TX of controller)
8. TX (to RX of controller)

OneLINK EZIM - RS-232 Control Port
1. Unused
2. Unused
3. Unused
4. IR GND
5. IR (non-modulated)
6. GND
7. TX (to RX of camera)
8. RX (from TX of camera)

Note
Vaddio recommends following the 568B cabling standard for Cat-5 cabling.

IR Forwarding Connector Pin-Out

1. Modulated IR Output
2. Common Ground
3. Non-modulated IR Output

Mounting the OneLINK Device

If you are installing the OneLINK device with a OneLINK EZIM, mount the EZIM with or near the camera. The Thin Profile Wall Mount for the camera may include mounting holes to attach the EZIM to the underside of the mount using two 6-32 screws. Connect all required cables during camera installation.

Rack and under-table mounting kits are available for the receiver. Follow the mounting instructions supplied with the kit.

## About Installations Using the Half-Recessed Ceiling Mount

If the connected camera is mounted in Vaddio's Half-Recessed Ceiling Mount, the camera's IR receiver may have trouble receiving signals from the remote. The mount has an IR receiver that can forward commands to the camera; this must be powered separately using Power Extension Module 999-1005-021. Cameras powered by OneLINK devices cannot supply power to the mount's IR receiver.

Connections for HDBaseT Cameras

The OneLINK HDMI extends network connectivity, power, and control to an HDBaseT camera, and sends HDMI video from the camera to a display.

The camera can optionally be controlled by a camera controller via the OneLINK connection. Depending on the equipment, the camera controller may connect directly to the OneLINK device's RS-232 port, or it may control the camera over the network. In either case the OneLINK device passes communication between the controller and the camera.
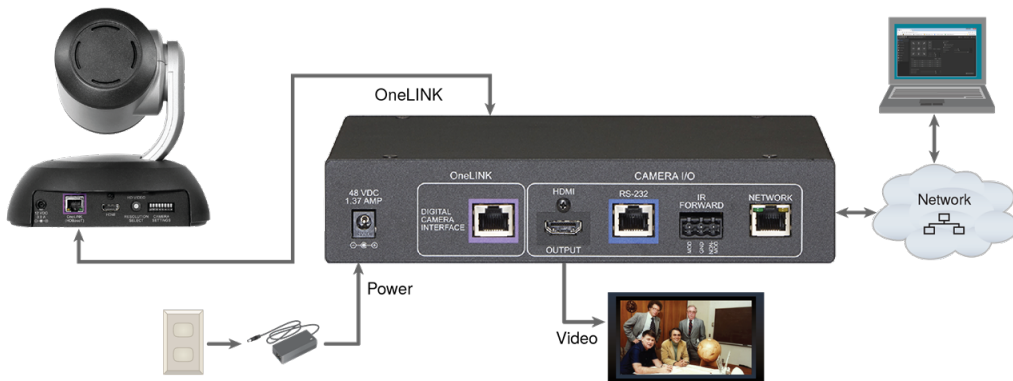
If an IP stream is available from the camera, the OneLINK device passes it to the network. Ethernet pass-through is limited to 100 Mb/s. HDMI output resolution and streaming parameters (including resolution) are configured on the camera, not the OneLINK device.
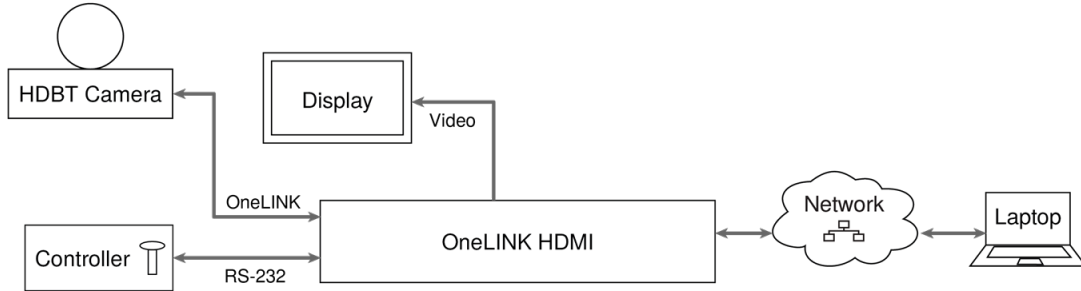
Vaddio HDBaseT cameras include RoboSHOT HDBT, RoboSHOT UHD, RoboFLIP, and RoboSHOT In-Wall.

Connecting a Vaddio HDBaseT Camera

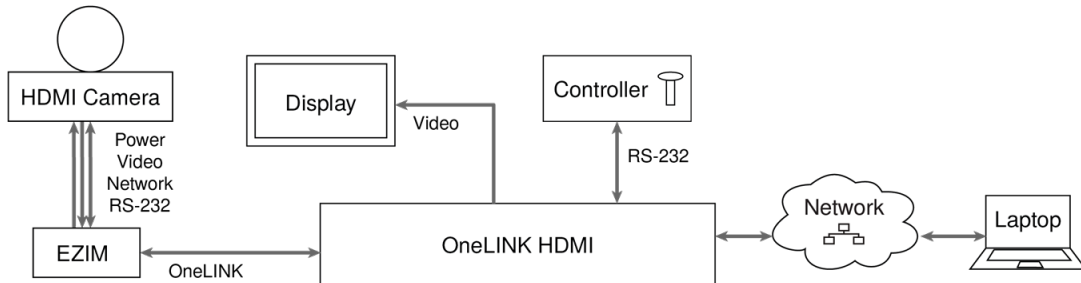This diagram shows a RoboSHOT HDBT camera. Other Vaddio HDBaseT cameras connect in the same way.

Connections for HDMI Cameras

The OneLINK HDMI extends network connectivity, power, and control to an HDMI camera via the EZ Camera Interface Module (EZIM), and sends HDMI video from the camera to a display.

The camera can optionally be controlled by a camera controller via the OneLINK connection. Depending on the equipment, the camera controller may connect directly to the OneLINK device's RS-232 port, or it may control the camera over the network. In either case the OneLINK device passes communication between the controller and the camera.

If an IP stream is available from the camera, the OneLINK device passes it to the network. Ethernet pass-through is limited to 100 Mb/s. HDMI output resolution and streaming parameters (including resolution) are configured on the camera, not the OneLINK device.


Note
OneLINK devices are not compatible with PoE+ powered HDMI cameras such as RoboSHOT 12E HDMI and RoboSHOT 30E HDMI. OneLINK devices are compatible with the discontinued RoboSHOT 12 HDMI and RoboSHOT 30 HDMI cameras.

Connecting a RoboSHOT HDMI Camera

This diagram shows a RoboSHOT HDMI camera.
The RoboSHOT 12 HDMI and RoboSHOT 30 HDMI cameras are discontinued. OneLINK devices are not compatible with RoboSHOT 12E HDMI and RoboSHOT 30E HDMI cameras, as these cameras are PoE+ powered.
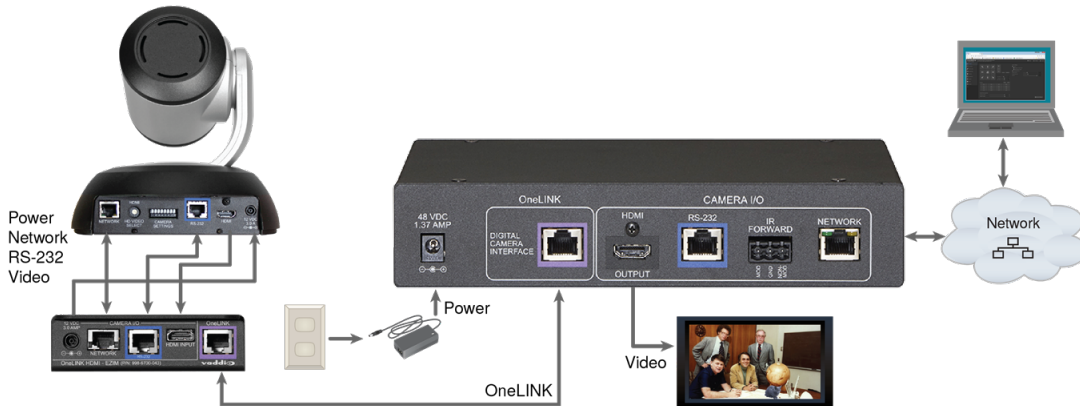
Powering Up the Equipment

Power up the connected equipment that is not powered by the OneLINK device (such as displays and third-party control devices), then connect power to the OneLINK device. The connected camera and the OneLINK device power up together.

Next Steps

The OneLINK device is now ready to configure and use. This information is available in the **Complete Manual for the OneLINK HDMI Camera Extension**.

Operation, Storage, and Care

For smears or smudges on the product, wipe with a clean, soft cloth. Use a lens cleaner on the lens. Do not use any abrasive chemicals.

Keep this device away from food and liquids.

Do not operate or store the device under any of the following conditions:
- Temperatures above 40°C (104°F) or below 0°C (32°F)
- High humidity, condensing or wet environments
- Inclement weather
- Severe vibration
- In a plasma chamber
- Dry environments with an excess of static discharge

Do not attempt to take this product apart. There are no user-serviceable components inside.