

## **eBridge1ST - EoC and PoE/PoE+ Transceiver**

### **Overview:**

eBridge1ST EoC transceiver transmits data at 25Mbps over Coax cable to a paired eBridge receiver, and provides power in a PoE+ compliant format to an enabled device/camera. The eBridge receiver is available in various options (see compatibility list below/Altronix.com), including built-in mid-span, or for use with an external midspan, such as the Altronix Netway series to facilitate network applications. The receiver passes PoE+ power over the same coax cable to the eBridge1ST transceiver, which, in turn passes this power to an enabled IP camera/device. These plug and play units facilitate cost-effective solutions for IP devices. They can be installed at distances greater than 500m. They provide a simple way to replace legacy analog products with new IP devices over existing coax.

### **Features:**

#### **Agency Listings:**

- CE approved.

#### **Input:**

- PoE compliant to IEEE 802.3af (15W) and PoE+ compliant to IEEE 802.3at (30W) from eBridge receivers.

#### **Compatible Receivers:**

- eBridge1PCRM, eBridge4PCRM, eBridge8PCRM, eBridge16PCRM, eBridge1PCR, eBridge1PCR, eBridge4PCR, eBridge8PCR, eBridge16PCR.

Visit [www.altronix.com](http://www.altronix.com) for the latest compatibility list.

#### **Ethernet:**

- Connectivity: RJ45, auto-crossover.
- Wire type: 4-pair CAT5.
- Distance: up to 500m.
- Speed: 10/100BaseT, auto negotiation. PoE compliant to IEEE 802.3af (15W) and PoE+ compliant to IEEE 802.3at (30W) Delivered to camera by eBridge1ST. Power provided by eBridge receiver to eBridge1ST by PoE protocol.\*
- Throughput is rated to pass 25Mbps of data at distances up to 500m.

#### **Coax Link:**

- Distance: Coax 500m (*Maximum Length of Coax Type vs. Camera Power/PoE Class, pg. 4*) for power delivery.
- Connectivity: BNC, RG-59/U or similar.

#### **LED Indicators:**

- Yellow - PoE ON (by respective RJ45 jack).
- Yellow and Green LED (RJ45) IP Link status, 10/100Base-T/active.
- Blue: Coax Link is active.

#### **Environmental:**

- **Operating Temperature:**  
For 15W -40°F to 167°F (-40°C to 75°C).  
For 25W -40°F to 140°F (-40°C to 60°C).
- **Storage Temperature:**  
-40°F to 167°F (-40°C to 75°C).
- Humidity: 20 to 85%, non-condensing.

#### **Functions:**

- Auto detection and protection of legacy non-PoE cameras/devices.

#### **Applications:**

- Retrofit digital IP cameras in an analog CCTV installation.
- Works with IP Megapixel and non-Megapixel cameras (*see note, pg. 2*).
- Extend Network link distance in an industrial environment over 610m (*see note, pg. 2*).
- Upgrade deployed CCTV Coax to a digital network in Retail, Casinos, Airports, Schools, Hospitals, etc.

#### **Mechanical:**

- Dimensions (W x L x H approx.):  
2.27" x 2.645" x 1.12"  
(57.66mm x 67.18mm x 28.44mm).

\*See note on page 3.

## Installation Instructions:

Wiring methods shall be in accordance with the National Electrical Code/NFPA 70/ANSI, and with all local codes and authorities having jurisdiction. Wiring should be UL Listed and/or Recognized wire suitable for the application.

eBridge1ST is not intended to be connected to outside plant leads and should be installed indoors within the protected premises. eBridge1ST is intended for indoor use only.

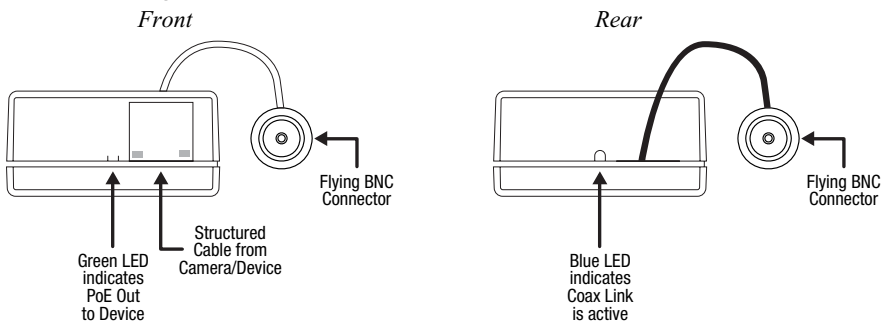
1. Secure unit to the desired mounting surface with a proper fastening device utilizing the case's mounting hole (*Fig. 2a, pg. 3*). Unit should be mounted in proximity of camera/device.
2. Connect structured cable from IP camera/device to RJ45 jack marked [PoE Out] (*Fig. 2 and 3, pg. 3*).
3. Connect Coax cable from eBridgePlus receiver (please refer to the list of compatible receivers on page 1) to BNC tether cable marked [Coax] (*Fig. 2 and 3, pg. 3*).

**Note:** This unit is designed to accommodate Megapixel, HD720, HD1080, and VGA (SD) cameras. It is important to note that some high resolution and high frame rate cameras may demand faster headend processing ability, such as a PC graphics card, to present a quality image. If the headend processing equipment's speed is insufficient, the image may show pixelation and latency. It is advisable to pretest system if unsure. Alternatively, frame rate and resolution may be reduced to accommodate system equipment.

## Technical Specifications:

Parameter	Description
Connections	BNC for Coax link, RJ45 for camera/device.
Input power requirements	PoE compliant to IEEE 802.3af (15W) and PoE+ compliant to IEEE 802.3at (30W). Please refer to the list of compatible receivers on page 1
Indicators	Yellow (RJ45 connector): On - Link, Off - No Link, Blinking - Activity. Green (RJ45 connector): On - 100Base-TX, Off - 10Base-T. Yellow: PoE Active. Blue: Coax Link is active.
Environmental Conditions	Operating Ambient Temperature: UL60950-1 <b>eBridge1ST:</b> For 15W: -40°F to 167°F (-40°C to 75°C). For 25W: -40°F to 140°F (-40°C to 60°C). Relative humidity: 85%, +/- 5% Storage Temperature: -40°F to 167°F (-40°C to 75°C). Operating Altitude: -1000 to 6,561.679 ft. (-304.8 to 2000m).
Regulatory Compliance	CE approved.
Weights (approx.)	Product: 3.53 oz. (0.1 kg), Shipping: 6.35 oz. (0.18 kg)

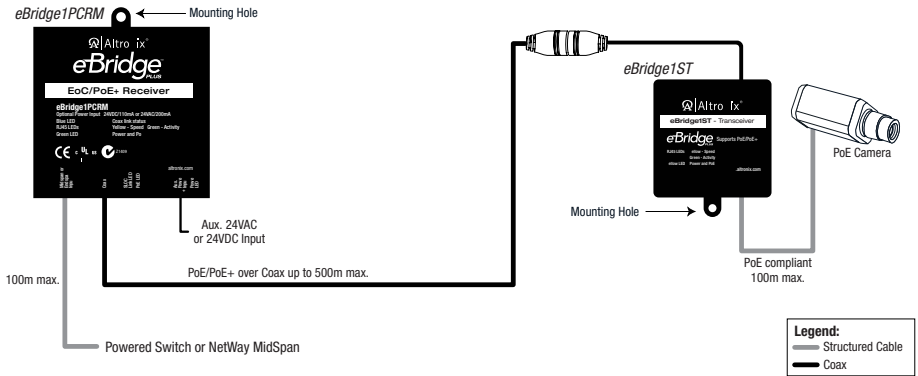
Fig. 1 eBridge1ST



## Single PoE Camera Connection:

Fig. 2

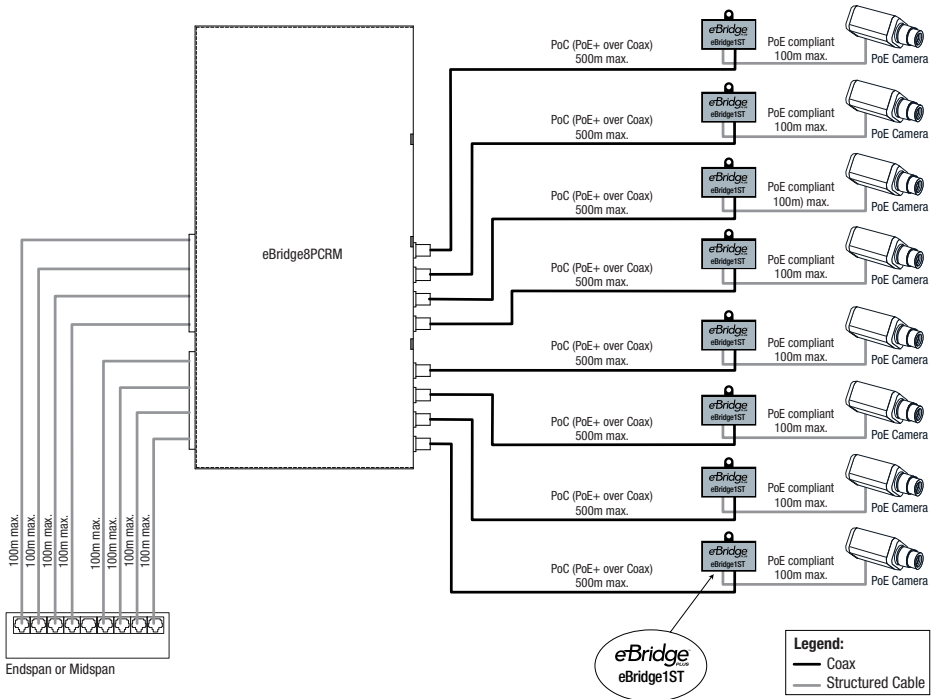
Fig. 2a



**\*Note:** Caution: once PoE connection is established between eBridgePlus receiver and eBridge1ST, disconnecting the eBridge1ST will not disable the PoE output voltage from the eBridgePlus receiver. Although the eBridge1ST can be reconnected, caution should be taken not to connect coax wiring from eBridgePlus receiver to any non-PoE device.

## Multiple PoE Cameras Connection:

Fig. 3



### **Maximum Length of Coax Type vs. Camera Power/PoE Class:**

Cable Type	Total Power Consumption	Max Data Distance	Max Power Distance
RG59u/23awg	15W	500m	264m
RG59u/23awg	30W		132m
RG59U/22awg	15W		334m
RG59U/22awg	30W		167m
RG59U/20awg	15W		532m
RG59U/20awg	30W		266m
RG59U/18awg	15W		846m
RG59U/18awg	30W		423m

### **Notes:**

Altronix is not responsible for any typographical errors.

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