How to upgrade your 60W Analog Camera to an IP Camera

OVERVIEW

Upgrading a high power analog camera on Coax cable with an IP camera can be challenging. Most PTZ cameras require power sources of 50W or more . Providing data and power will face the following issues.

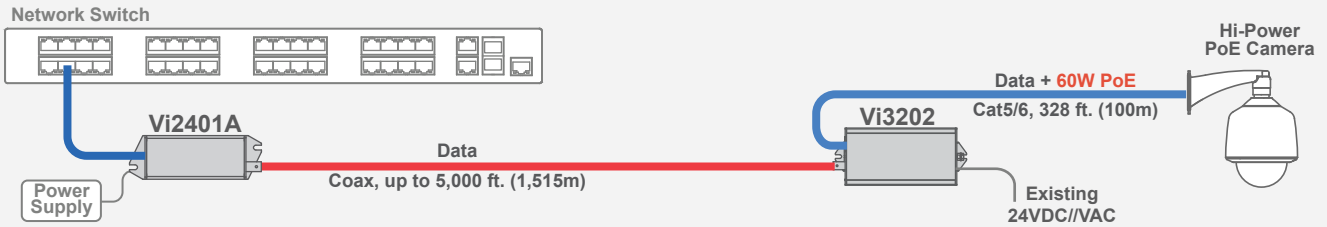
ISSUES

Data Issue: Running a new Cat5/6 cable can be very costly and in some cases impractical. A great saving can be achieved by keeping the existing Coax cable.

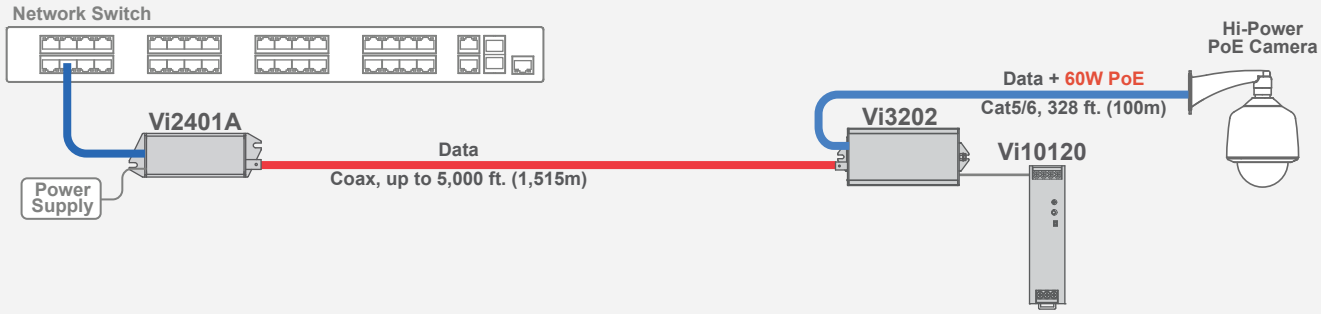
Power Issue:The new IP camera will very likely need PoE. However, Coax cables are not capable of providing more than 37W safely. Over long distances, power decreases and fails to provide the required PoE levels for most multi-stream and PTZ cameras that require more than 37W, some up to 60W. Depending on the distance, a Cat5/6 cable might be able to deliver enough PoE power to the camera but the system needs to be designed correctly and run Cat5/6 cables. Virtually all existing power sources for analog cameras are 24V AC/DC while most IP cameras require PoE.

SOLUTIONS

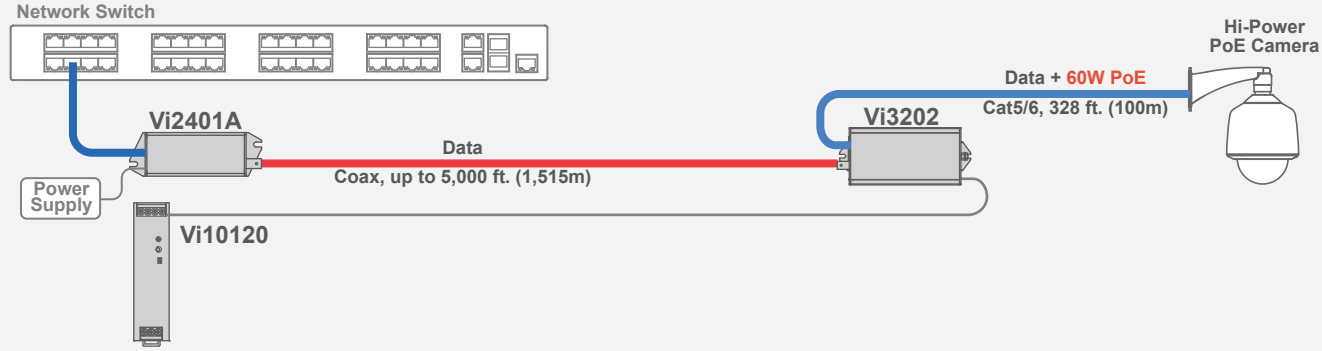
In order to use the existing Coax cable for your IP data you will need a Coax extender. The ideal solution in this case is Vigitron Vi3202, a Coax Ethernet extender with built in PoE Midspan. It can extend IP data up to 5000 feet over Coax cables. At the control side, a Vi2401A can be used to complete the link to a network switch. The Vi3202 accepts local 24VDC/AC power sources and provides up to 60W PoE and a coax extender.



If the existing 24V AC/DC power supply is usable then it can be connected to the Vi3202 to provide up to 60W PoE to the IP camera as above drawing.



If there is no AC power available at the camera location then the Vi10120 can be installed at the control side and the DC power can be connected to the Vi3202 via a suitable new or existing power cable. The cable should be able to handle enough power based on the distance.



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CONSIDERATIONS:

When running power over a long distance, we need to consider drop of voltage and loss of power over the wires and make sure that at the camera location there will be enough power and voltage to accommodate camera power needs.

The following table shows a rough estimate of PoE power over different types of wires and different distances. These distances will vary based on the power supply voltage.

Maximum PoE Power / Distance

Cable \ PoE	7W	13W	25W	40W	60W
24/2	800 ft.	500 ft.	NA	NA	NA
18/2	3000 ft.	2000 ft.	1100 ft.	700 ft.	550 ft.
16/2	3000 ft.	3000 ft.	1700 ft.	1100 ft.	750 ft.

SUGGESTED PRODUCTS' INFORMATION

Vi3202

MaxiiCopper™ High-Speed Ethernet Extender over Coax w/ Midspan

- Coax Ethernet extender for distances up to 5,000 feet (1,515m)
- Uses 24VDC or 24VAC input power to provide up to 60W of PoE power
- Hardened with wide range operating temperature of -40°C to +75°C
- Fully transparent to Ethernet networks and higher layer protocols

Vi2401A

MaxiiCopper™ High-Speed Ethernet Extender over Coax

- Transmit Ethernet and PoE PoE over coax cable up to 5,000 feet (1,515 m)
- MegaPixel Certified (MPC™) High data rate, ideal for high bandwidth requirements
- Hardened with wide range operating temperature of -40°C to +75°C
- Complies to major IEEE standards and RFC network protocols for UDP, TCP/IP, HTTP/HTTPS

Vi10120

MaxiiPower™ Hardened DIN Rail Power Supply

- 120W output at 48~56VDC with 150% (180W) peak load capacity
- High efficiency up to 92% with universal AC input range (85~264Vac)
- Hardened with wide operating temp -25°C~70°C
- Support 1+1 or N+1 redundant system

About Vigitron Inc.

Vigitron is a leading global manufacturer of innovative complete infrastructure transmission solutions for IP CCTV systems. Vigitron performance is supported by complete certified testing along with integration with world leading IP based security products. We offer free and without obligation Infrastructure Design Services by experienced system engineers. Vigitron provides the industry's longest warranty. Vigitron is based in San Diego, California along with additional sales and manufacturing facilities worldwide.

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