

IPC-1



IP OVER COAX CONVERTER

INSTRUCTION BOOK

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DESCRIPTION

The IPC-1 allows IP camera signals to travel on existing RG59U or RG6 coaxial cables once used for analog cameras and will extend the operating range of an IP camera far beyond the 100 meter limitation of network cabling to over 300 meters or 1000 Feet.

This equipment operates in full duplex mode without reducing maximum network speed and requires very little installation time with absolutely no set up of IP or MAC addresses so no configuration time is required. You can use this equipment with 10 Mbps signals all the way up to 100Mbps standard Ethernet IP signals. The IPC-1 will pass all forms of error detection and parity signals without interference.

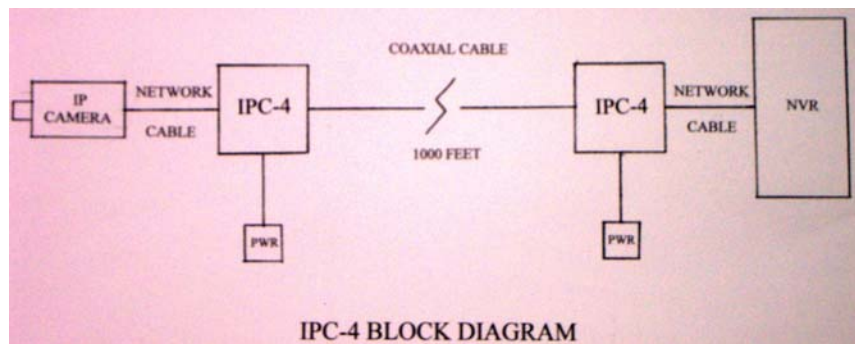
Using this equipment you can over come network cable distance limitations and reach out to areas and locations traditional networking does not allow. Both the 8P8C (RJ45) IP input and the BNC coaxial cable connections are auto-terminated to guarantee proper termination. A bi-colored LED monitors the power supply and the Data signal integrity.

Installation is a snap, just connect one unit at each end of the coaxial cable, then plug your network cables into a unit at each end, then apply power to the units. IP data will begin to automatically communicate and establish the link and then your video will appear at the other end. This unit has easy mounting and a small foot print that helps make it ideal for limited access and tight installations.

MOUNTING INSTRUCTIONS

The rugged one piece mounting structure allows you to mount the unit firmly in place with two screws. Select a place to mount the unit away from harsh or wet environments indoors is recommended. Do not use this product near water for example, near a sprinkler, or in a wet basement or near a swimming pool. These units are not waterproof, if mounted outdoors or near water provide a weatherproof enclosure to protect the units from damage.

The IPC-1 should be located near the coaxial cable you wish to use and the second IPC-1 near your monitors at the opposite end of the cable or the place you wish to bring the IP video signal to. Select a position that gives you the best access to your cable, to reduce the cost of labor in installation.



HOW TO CABLE THE IPC-1

Connect the 75 Ohm video cable you wish to use onto the BNC connector on the IPC-1. Next connect the IP data cable coming from the IP camera onto the IPC-1. This cable must be a standard straight through (T-568A) type network cable.

The normal reversal that occurs between a camera and the IP receiver equipment is done inside the pair of IPC-1 units. Both of these units should be wired the same way you would an IP router or bridge. The connections are just the same on the receiver end of the system. Just repeat the connection instructions at the other end of the system and units will be connected and ready to operate.

POWER SUPPLY INSTALLATION

Connect the power supply. Two 24 VAC power supplies are shipped with each UPC-1 set, however you can use any Voltage AC or DC from 12 volts up to 24 Volts. This way you can connect the unit at the camera to the existing power supply used by the camera.

OPERATION

When the power supply, data cable and coaxial cables are all connected and the power is turned on, the LED indicators will both come on and glow red at first. Then when the data begins to communicate you will see brief flashing from red to green.

Once the two units have established the link both LEDs will glow green indicating that the data link is working and IP video will be delivered. Since this product transmits data in both directions simultaneously (full duplex) there will be no latency or bandwidth reduction caused by time multiplexing.

EXTENDED RANGE SELECTION

If your coaxial cable run is longer than 1000 feet you can extend the operating range by engaging the pre-emphasis and level boost jumpers on the pc board inside the unit. These jumpers should be off and not used for normal cable lengths under 1000 feet.

To engage the pre-emphasis and level boost feature first disconnect the power source, then remove the four screws in the outer most corners of the unit top cover. This allows removal of the lid with its PC board and all the connectors. This can be done with the power and signals connected if necessary, but it is recommended that the power supply be turned off first to prevent accidental damage to the equipment.

Next locate the two jumpers J3 and J4 they should have two jumper jacks connected in the off position on one pin only. The J3 jumper is for level boost and the J4 jumper engages Pre-emphasis, both of these jumpers overcome cable slope loss due to long cable runs. Move both jumper jacks so that they are connected to both pins in the on position. Both J3 and J4 should be connected to both pins, this will engage the Pre-emphasis and level boost feature of the IPC-1. If you engage the Pre-emphasis and level boost on one unit, you must do the same on the unit at the other end of the system. Both units must be configured the same way. Note that these jumpers should only be engaged when the coaxial cable run exceeds 1000 feet. If they are used on shorter cable runs the data communication could be impaired.

CARE AND MAINTENANCE

There are no routine maintenance or calibration adjustments required with this equipment. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

APPLICATIONS (WHERE TO USE THE SYSTEM)

This system can be used anywhere that an IP video signal must use a coax cable. When ever you want to use the existing coaxial cable for two way IP data transmission this unit is a clear choice to get the job done.

The multitude of existing analog coaxial cable CCTV Camera systems just begs to be used to transmit the IP Camera signals when upgrading to higher quality IP picture transmission. All that is required, besides the IP Camera and IP Recorder, is a way of connecting the IP Camera to the coaxial cable and to connect that coaxial cable to the IP Recorder.

When retrofitting an existing Analog Picture Transmission system with digital Cameras and Recorders, the ability to re-use the existing coaxial cables between the cameras and the recorders can be a deciding factor in the total cost of the conversion, particularly when the cost of tearing up walls for cable and conduit or digging up buried cable are taken into account.

Another reason for using a 75 Ohm coaxial cable to deliver IP data is to attain a greater distance between the Camera and the Recorder. This greater transmission distance comes about because the Transmission Loss of the coaxial cable is less than that of a Network Cable of the same length. The IP video transmission System uses two twisted wire pairs to transmit a picture while the IPC-1 system only requires a single coaxial cable to transmit the digital picture information in both directions at the same time. In this way there is no "Latency" in this transmission system because it transmits data in both directions at the same time so it does not introduce additional delay in the transmission system.