

Tech Note - 02

Surveillance Systems that Work!™



PTZ Camera Wiring – Zooming in on the Basics

With exception of the RS-232 control wiring, PTZ cameras wire the same as any other typical CCTV camera.

PT and PTZ Camera Wiring

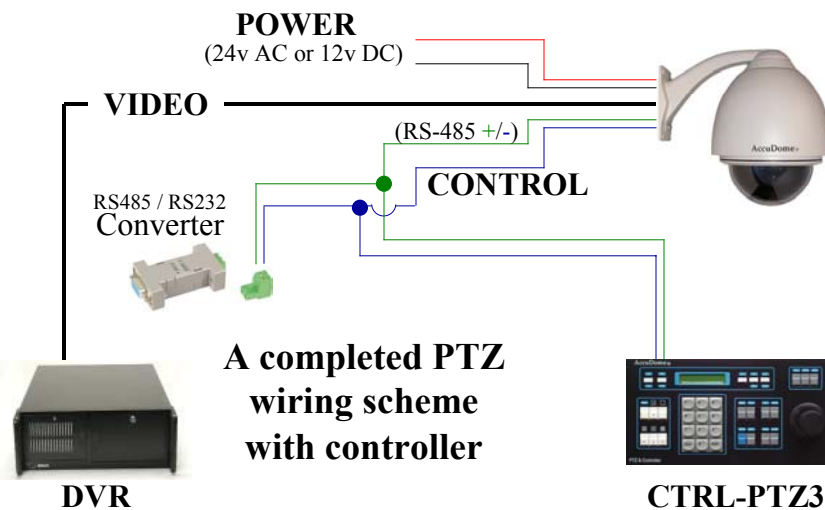


Figure - 1

Depending upon camera, power is either 12vdc or 24vac. This may come from (in the case of 24VAC wiring) a single 115VAC to 24VAC transformer that plugs into an outlet or from a dedicated multi-channel 24VAC power supply.

The controller (CTRL-PTZ3 in the above example) has a one-line LCD display – that communicates programming information. Since different PTZ cameras communicate using different protocols (Pelco-D, Honeywell Ao1, etc.), generally, the controllers are equipped (via dip switch settings) to communicate with most popular protocols.

NOT SHOWN, connected to the DVR is a monitor. When programming the camera, the control LCD displays one line of position info and the same information is also displayed on the monitor.

The controller is used to position (Pan – Tilt and Zoom) to the desired view (shown on the screen) the camera then the controller is used to “assign” the position to a memory location in the camera.

Most GuardDog Surveillance built DVR's are equipped with a built-in RS232 / 485 converter, however, if the DVR software is to be used (in place of or in addition to the hardware controller) it will be necessary to add an RS232 / 485 converter to the circuit.

Simple Wiring Diagram

A quick review of a PTZ camera's wiring (Figure-2) concludes there are three (3) pairs of wires to be concerned about.

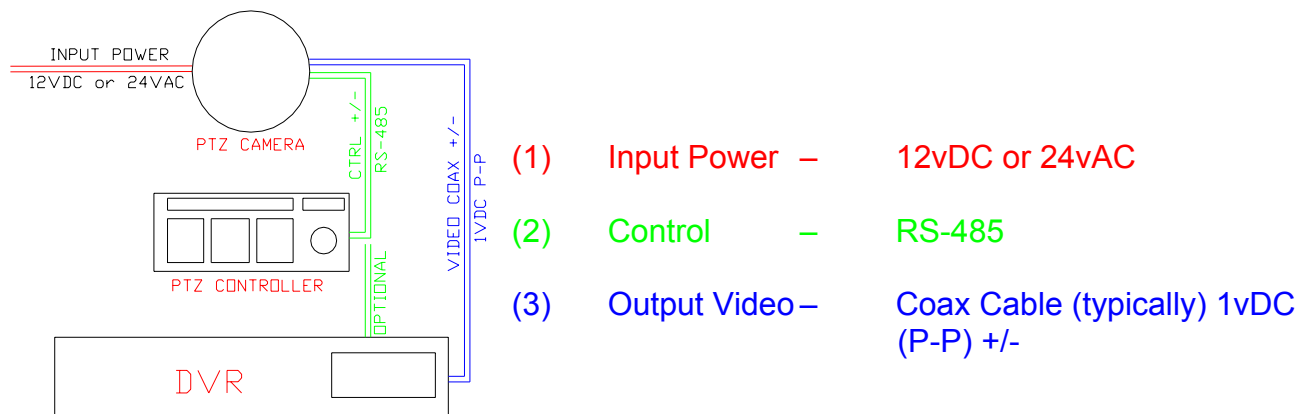


Figure - 2

Generally, “best practice” is to run the video and the control on a single “Siamese” (Coax wire bonded to a single pair of 18-2 wire) run while running the power wiring (12vDC or 24vAC) on a separate 18-2 insulated wire. The reason for this is two fold...

1. Since both video and control are low voltage they tend not to interfere with each other, and,
2. Generally the control wiring (like the video) is run all the way back to the DVR. Running these two pairs together on Siamese cable is simpler.

Alternatively, for a variety of reasons...

- The distance from the PTZ camera to the DVR is significant (greater than 700'),
- It's necessary to run aerial or direct burial cable...

it is sometimes desirable to run a single PTZ camera on Cat-5e or Cat-6 cable. To facilitate this a variety of video baluns are available.

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