

Video Symptoms and Solutions

Faint or blurry picture with little or no color: This symptom most often indicates loss of signal strength. Check for excessive wire distance, incorrect equalization of adjustable UTP transmitter or receiver, improper camera adjustment or output level, the use of shielded wire or water damage to wire. Testing for possible water in the line involves measuring the capacitance between the conductors that have been disconnected from other equipment. Cat2 or 3 wires should read 19pf per foot or wire; Cat5 is 16pf per foot. (Example: 1000ft of Cat5 should read 16nf or .016µf).

Extremely faint picture with only shadows of an image: There is likely a wiring problem such as an open conductor or short between conductors. Verify using an ohmmeter.

Over-saturated colors, high-contrast, grainy, bright, wavy or torn image: This could indicate incorrect equalization of the transmitter or receiver, improper termination or a ground loop problem. To measure for a ground loop using an AC voltmeter, test between each UTP conductor and earth ground. The reading should be less than 200mV.

Image out of sync: This could indicate incorrect equalization or a ground loop. But it is also indicative of reversed polarity if the image appears scrambled or as a negative image.

Faint stripes or bars gliding up or down in the image: This usually indicates crosstalk, which occurs when nearby signals are induced as noise onto the transmission path. It most frequently occurs when untwisted wire, mis-wiring or inferior baluns are in use. Not all UTP devices are created equal. Noise can also easily be induced onto coax in the path. Horizontal, rolling bars indicate ground loops.

Random lines, noisy image or faint shadows from the image of another camera: Crosstalk is the most likely culprit.

Ghosting — faint shadows of original image shifted to the right: This is an indication of an impedance mismatch, most often the result of a bridge tap — an extraneous length of dangling, un-terminated cable connected to the transmission line. Locate and remove bridge taps, and check for extra conductors at punch-down connections. Ghosting can also indicate improper termination.

No video, flickering image or signal LED: This could indicate a poor UTP or BNC connection. It could also be the result of an intermittent signal originating from the camera. Verify the camera is not experiencing a brownout condition due to insufficient power.

While wiring problems, signal level issues, ground loops and improper termination are the most commonly identified culprits when troubleshooting UTP CCTV Transmission Systems, product failure periodically occurs. If you suspect a transmitter or receiver has failed, replace the device with a known good device or contact the manufacturer for support and any recommended testing procedures. Armed with the correct test equipment and the facts about common UTP transmission issues, don't be surprised if your troubleshooting hours are significantly reduced, leaving you more time to design and install new systems.