

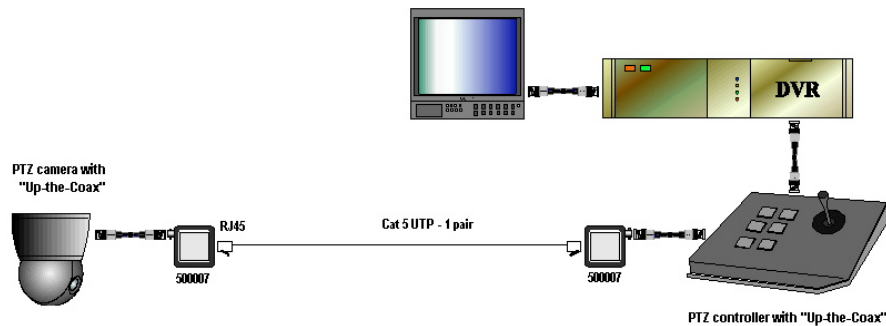
## Application Note

**Product:** VideoEase PTZ Balun (MuxLab # 500007)  
**Subject:** Eliminating Coaxial Cable in the Pelco Coaxitron Environment  
**Date:** June 1 1999

In the security and surveillance market, close-circuit TV cameras are deployed in strategic locations to monitor activity. Some of these locations require systems that allow the camera to be panned, tilted or zoomed via remote control. Certain systems combine the video and pan, tilt, zoom control signals under a single coaxial cable. One such system is known as Coaxitron and one of the primary vendors is Pelco.

In a structured cabling system, it is often desirable to eliminate the costly and bulky coaxial cable in favor of less expensive and more flexible unshielded twisted pair (UTP) cable. In order to eliminate the coaxial cable, CCTV Video Baluns must be used. Traditional CCTV baluns are not designed for the Coaxitron environment due to the more complex signal travelling through the cable. In this case a special CCTV balun is needed to support Coaxitron and other similar signals via UTP. This Application Note explains how the VideoEase PTZ Balun is used in a Pelco Coaxitron Pan, Tilt, Zoom system to eliminate coaxial cable. The Application Note is based on live testing in the MuxLab R&D lab.

In the test application, the Pelco MPT9500-PZ Pan, Tilt, Zoom Controller is connected to a Pelco Spectra SD5AC Dome Color Camera via UTP. The VideoEase PTZ Balun (NHC# 500007) is used to eliminate the coaxial cable between the PTZ Controller and the Dome Camera (see diagram).



The results of the test application were as follows:

1. The maximum length of Cat 5 UTP supported is 1330 feet (405m).
2. The VideoEase PTZ Balun meets or exceeds the performance of the AT&T Video Balun.
3. The degradation in picture quality (i.e.; contrast, resolution and distortions) was insignificant at the maximum length.
4. The system proved stable performance even when the camera was left fixed on a target overnight.
5. There was no visible picture distortion due to crosstalk when four camera signals were transmitted under the same 4-pair Cat 5 cable jacket.
6. Either pair of wires under the UTP cable jacket may be used.

For a copy of the MuxLab test Report please contact MuxLab and request document RD-TR0031-A or for more information about the above application, please contact MuxLab at 1-800-361-1965.