TECHNIQUES™
Application Notes From Communications Specialties

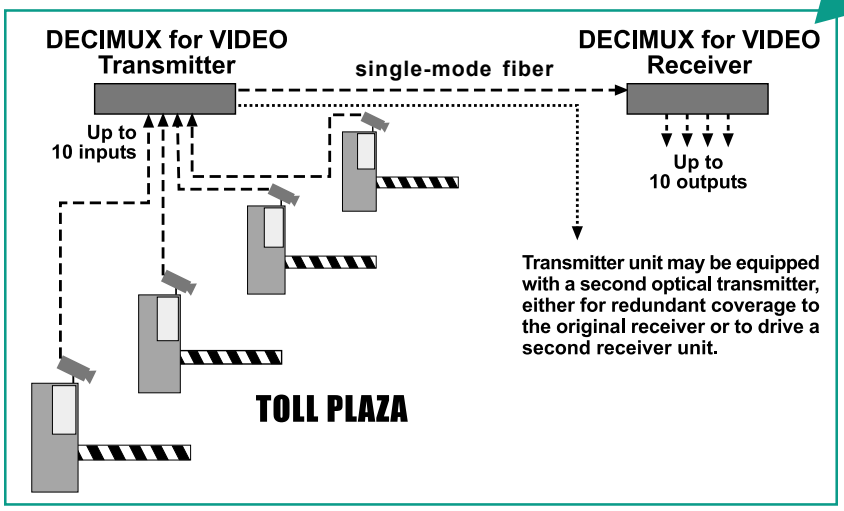
USING PURE DIGITAL FIBERLINK® 10-CHANNEL VIDEO MULTIPLEXER IN ITS INSTALLATIONS

MARKET: ITS, Security **DOC. NUMBER: T-15**

Overview:

In Intelligent Transportation environments, there is often a need to transmit multiple video signals from one location to another distant location in a reliable and cost-effective manner. For example, clusters of cameras may be located at intersections, toll plazas, exits and weigh stations, and video from these cameras must be transmitted to a distant control center or centers for monitoring purporses.

This TECHnique explains the benefits of using Pure Digital Fiberlink 10-Channel Video Multiplexer in ITS applications. By using all digital processing and transmission to send up to 10 video signals and two-way PTZ data over one or two fiber optic cables, this multiplexer offers many advantages over competitive analog-basedmodels in both performance and cost efficiency.



Details:

The Pure Digital Fiberlink 10-Channel Video Multiplexer converts 10 channels of standard analog video into a high-speed serial digital bit stream for transmission over a single fiber optic cable. By employing true, digital transmission techniques, this product offers the highest quality, cleanest, clearest transmission of any multiplexer of its kind. There are no FM carriers that need to be tuned or that can drift over time and no degradation of signal over extended distances, eliminating the need for automatic gain control. The result is consistent and reliable fiber optic transmission of 10 video signals simultaneously, over extended distances - at the lowest cost-per-channel of any multiplexer on the market.

In addition to the 10 channels of video, the product also offers the option of transmitting two-way PTZ data, in RS-232, RS-422 or RS-485 formats. The data may be transmitted over the same fiber as the video channels or the unit may be purchased in a two-fiber version, in which the return data signal is transmitted over the second fiber.

Pure Digital Fiberlink 10-Channel Video Multiplexer is designed to work with either standard single mode or multimode cable and supports systems with up to a 17dB loss budget. Diagnostic LEDs for each channel and a loss of signal/broken fiber alarm assist in immediately identifying and isolating any problems during installation or operation. Only one rack unit high, the unit can be used as a free standing unit or rackmounted.

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Suggestions:

Even if an ITS installation requires transmission of less than 10 video signals, Pure Digital Fiberlink 10-Channel Video Multiplexer still provides an economical alternative to conventional transmission systems. Its superior performance and the advantage of transmitting over a single fiber still pertain, and the potential for transmitting up to 10 video signals allows for potential immediate, virtually free system expansion when needed.

CSI Products Used In This TECHnique:

Part numbers are configured based upon product specifications. Units are offered in single mode or multimode versions available as follows:

- Transmitter - video only.....3132
- Receiver - video only.....3133
- Transmitter - video with PTZ - one fiber.....3332
- Receiver - video with PTZ - one fiber.....3333
- Transmitter - video with PTZ - two fibers.....3232
- Receiver - video with PTZ - two fibers.....3233

Communications Specialties also sells fiber optic cable for use with Pure Digital Fiberlink 10-Channel Video Multiplexer:

- Single-mode Cable 6121
- Single-mode Plenum Cable 6131

Related TECHniques:

- Educational Guide: *Introduction to Fiber Optics*
- Educational Guide: *Advantages of Digital Transmission Over Fiber*

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