

## DVI Transmitters and Receivers



StarTech.com  
DVIEXTFIBLC

Long-distance video signal transmission for go-anywhere capability.

The StarTech.com DVIEXTFIBLC DVI extender can operate in either of its two modes to convey DVI video resolutions up to 1600x1200 at 60Hz. When DDC is required, the transmitter and receiver are linked using four fiber-optic cables on duplex LC connections carrying red, blue, green, and clock signals, and a Cat-5 cable is run between the two for the DDC link to carry EDID information from the monitor to the transmitter for a distance up to 330ft. When the DDC link is not required, the fiber-optic cables may be used alone, and the distance can be extended to a maximum of 1,640ft. Each unit has a red LED power indicator and a green LED status light that will activate as soon as the included power adapter is connected.

A logical step in the progression of digital video signals and displays is the same one that followed the introduction of analog—particularly VGA, computer output, and its display devices. The many benefits of long-distance video signal transmission resulted in an explosive market for analog transmission devices, and now the digital visual interface (DVI) has brought its need for go-anywhere capability. The need for these signal transmitter/receiver pairs has arisen as a result of the inherent distance limitation of the DVI signal. A few meters from the transmission point, a DVI signal begins to exhibit stuck pixels or jitter, and beyond this, simply disappears.

Increasingly large displays, particularly those used in video signage, requiring more bandwidth than the 165MHz of a single-link DVI signal, have resulted in the use of dual-link DVI transmission for display resolution up to 2048x1536 pixels. While there are single-unit

signal boosters available in many forms and sizes to increase and extend the DVI signal,

we will look closely here at those DVI extender products that are composed of two individual hardware units—a transmitter and receiver—intended to carry the video signal over different media. These may use Cat-5 cable for the run or employ fiber-optic means to carry single- or dual-link DVI display signals over greater distances.

### VERSATILE TECHNOLOGY

The term Extended Display Identification Data (EDID) will be encountered often in a discussion of DVI-extension technology, and in practice, it has proven to be somewhat confusing. EDID is part of the VESA standard enabling monitors to communicate their operational capabilities to the device generating the display. This information can include the manufacturer, product type, phosphor or filter type, timing supported, display size, luminance data, and pixel-mapping data. EDID is also used in analog transmission from computers to monitors and data projectors. The EDID is typically stored on a chip inside the monitor, and it is output on the DDC link back to the transmitter. Most of the products listed here make use of the DDC link in one way or another.