

Facts On DVI Cables

The official DVI specification mandates that all DVI equipment must maintain a signal at 5 meters (16 feet) in length. But many manufacturers are putting out much stronger cards and bigger monitors, so the maximum length possible is never exact.

Despite common belief, there is such thing as signal loss in digital pictures. When a DVI run is unstable, you may see artifacts and "stuck" pixels on your display; further degradation tends to flicker out or shake, and the ultimate sign of loss is a blank display. In-house tests on varying equipment have produced strong signals up to 9 and 10 meters long. Tests at 12 meters generally resulted in signal loss and an unusable image on the display, and anything longer rendered no image at all.

Keep in mind that when using DVI-I cables at extensive lengths, you may not be seeing a digitally-clear image on your screen. Because analog has a much longer run, your display may auto-switch once the digital signal is too weak. For this reason, long runs are best done with VGA (for analog) or HDMI (for digital). If you have no option other than DVI, make sure you're getting the best image by using DVI-D cables and verifying that your display is set to digital input.

DVI-D - True Digital Video

DVI-D cables are used for direct digital connections between source video (namely, video cards) and digital LCD (or rare CRT) monitors. This provides a faster, higher-quality image than with analog, due to the nature of the digital format. All video cards initially produce a digital video signal, which is converted into analog at the VGA output. The analog signal travels to the monitor and is re-converted back into a digital signal. DVI-D eliminates the analog conversion process and improves the connection between source and display.

DVI-A - High-Res Analog

DVI-A cables are used to carry a DVI signal to an analog display, such as a CRT monitor or budget LCD. The most common use of DVI-A is connecting to a VGA device, since DVI-A and VGA carry the same signal. There is some quality loss involved in the digital to analog conversion, which is why a digital signal is recommended whenever possible.

DVI-I - The Best of Both Worlds

DVI-I cables are integrated cables which are capable of transmitting either a digital-to-digital signal or an analog-to-analog signal. This makes it a more versatile cable, being usable in either digital or analog situations.