

Fiber XV (eXtreme Velocity) range of extender units



Introduction

The high bandwidth requirements of Dual Link HD and the newer 4K (UHD) video resolutions make it increasingly more difficult to transmit images at the highest possible quality over standard Cat X and fiber extensions. There is, of necessity, a requirement to reduce the massive bitrates of video data to allow it to be sent between devices using today's technology.

IHSE KVM extenders and switches are developed to achieve the highest possible image quality for transmitted signals. Standard products are renowned for their quality and low transmission latency and in the majority of installations will provide the level of performance sought by integrators and users.

However in some cases, for example in applications in broadcast, air traffic control and medical high resolution imaging, the pictures presented must be pixel accurate, even at the high video resolutions in use today. This calls for a superior level of image processing and higher-than-normal transmission rates.

Purpose of this document

This technology briefing describes the fiber XV (eXtreme Velocity) range of extender units and the capability of the Draco tera KVM matrix switch to handle extremely high-quality video at 4K resolution and beyond.

Overview of features

The fiber XV range features accelerated data transmission with 3G bandwidth, so that it can meet the highest requirements of video signal transmission. Both Single-Head and Dual-Head monitors can be supported.

Standard fiber XV extenders are suited to HD signal transmission using Single Link DVI connections and will handle resolutions up to 2048 x 1152 pixels.

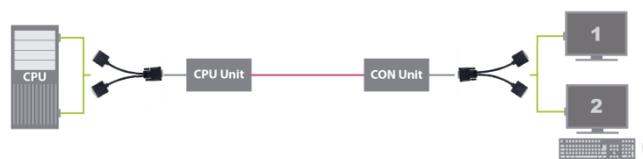
The higher bandwidth requirement of 4K video requires the use of DVI-D Dual Link or DisplayPort interfaces. Both types are supported by the fiber XV range.

All IHSE fiber XV range CON (console) and CPU Units can be directly connected together to achieve extension of signals up to 1 km with multi-mode fiber and 10 km with single-mode fiber. They can also be incorporated into a system built around a Draco tera enterprise KVM matrix switch.

The fiber XV range is compatible with:

- all Draco vario upgrade modules
- all chassis of the Draco vario extenders series
- Draco tera KVM matrix hardware fitted with compatible XV I/O cards.

Both Single-Head and Dual-Head systems are supported. Dual Link devices use an industry-standard DMS-59 (Dual Monitor Solution) port combined with a DMS-59 to DVI-D interface cable supporting one or two monitors in Single-Head and Dual-Head formats.



Functional Diagram: Dual-Head / Single Link



Functional Diagram: Dual Link

Formats supported

Fiber XV extenders can transmit all common video signals up to 4096 x 2160 (4K).

Common screen resolutions supported by the fiber XV range include:

| | | |
|-----------------|----------------------------|------------------------------------|
| DVI-Single Link | 1920 x 1200 @ 60Hz, 24 bit | HD TV |
| | 2048 x 1152 @ 60Hz, 24 bit | |
| DVI-Dual Link | 2048 x 2048 @ 60Hz, 24 bit | Air traffic control displays |
| | 2560 x 1440 @ 60Hz, 24 bit | Apple cinema display |
| | 2560 x 2048 @ 60Hz, 24 bit | |
| | 3840 x 2160 @ 30Hz, 24 bit | Ultra HD |
| | 4096 x 2160 @ 30Hz, 24 bit | 4K DCI (Digital Cinema Initiative) |

Availability

A wide range of CPU and CON units is currently available in XV version, including:

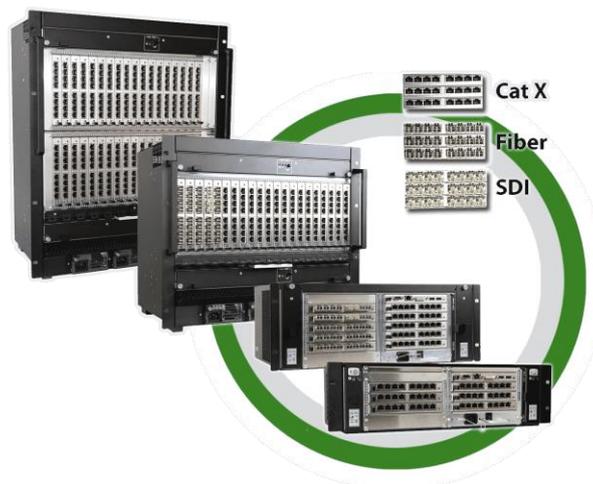
- Series 474 – Draco vario Single Link DVI
- Series 482 – Draco vario Dual-Head/Dual Link DVI
- Series 483 – Draco vario DisplayPort
- Series 477 – Draco compact

The Draco tera range

The highly successful Draco tera family has opened a new chapter in the world of enterprise-scale digital video and matrix switching of up to 288 ports in a single system. Based on well-established multiple Gigabit technology, Draco tera enables a cost-effective, modular switching and extension solution supporting DVI video, together with USB, serial, and analogue or digital audio options. The Draco tera KVM switch is available in a range of formats to suit every application.

All common DVI Single Link resolutions up to 1920 x 1200, including High-Definition 1080p are supported and Dual Link, including 2560 x 2048 pixels and up to 4K. Support for even higher resolutions will be added as a future interface option. To enhance its application in broadcast and video editing environments the Draco tera also supports seamless switching of full-rate HD and 3G-SDI video.

The Draco tera solution has been designed for the utmost level of performance and flexibility and to provide scalability for application and future growth. Its non-blocking, high-speed video switch delivers instant millisecond switching between sources and displays, making it ideal for mission-critical control room applications. It can handle the most complex KVM and video routing installations including demanding broadcast and post-production environments, allowing multiple studios and edit suites to access common equipment thereby delivering greater productivity and efficiency.



Connections to source computers and display devices are made through CPU and CON Units. A wide variety of these units is available to support all common audio, video USB-HID and USB 2.0/3.0 signal types.

Please consult individual product brochures for detailed specifications.

Technical Contact

IHSE GmbH
Maybachstraße 11
88094 Oberteuringen
Germany

Sales & ConsultingTeam

Phone +49 (7546) 9248 42
Fax +49 (7546) 9248 48
E-mail info@ihse.de
Web www.ihse.de