Orion Dual-Link/Dual-Head XTender

CATx or Fiber Video and USB Extender

➢ Extend DVI dual-link video (2K and 4K) or single-link dual head video plus USB-HID (keyboard & mouse)

➢ Uses a single CATx (400ft/140m) or duplex Fiber cable (10,000ft/10km) with no loss of video quality.

➢ USB keyboard and mouse is included as standard with this high performance KVM extender.

➢ Brilliantly clear real-time video quality including 1920x1200, HD 1080p and dual-link 2560x1600, 3840x2160 and 4096x2160 resolutions.

➢ Many options, including transparent USB2.0, analog and digital audio, PS2 and Serial.

Orion XTender - Product Introduction

The **Orion Dual-Link/Dual-Head XTender** is a Transmitter and Receiver Kit available with either CATx or Single Mode Fiber link interface.

The Transmitter unit connects directly to the DVI video output of a PC/Server or video host device. USB keyboard and mouse operation is included with the kit. At the receiver end, connect a USB keyboard and mouse and a DVI monitor directly to the Receiver unit. High quality DVI video and USB-HID signals are transmitted over a single CATx or duplex fiber cable.
The operation of the Orion XTender can be changed between dual-link and dual-head applications by the use of the appropriate adapter cable at each end.

Orion XTender and Orion Digital KVM Matrix Switch
The two XTender models can also be used as TX/RX devices connected to an Orion Digital KVM Matrix Switch. Multiple PC's and users are connected to a central Orion KVM switch using either CATx or Fiber interface cables.

Orion KVM Matrix Switch with Dual-Link TX/RX XTenders

Orion XTender - Product Features

High Performance Digital Video Quality
The **Orion Dual-Link XTender** enables high quality, near lossless DVI-D dual-link digital video (2K and 4K) with resolutions up to 4096x2160 at 30Hz frame rate. Other resolutions supported include 3840x2160/30Hz and 2560x2048/60Hz. Special monitor resolutions used in industries like Air Traffic Control (2048x2048) are also supported. The data rate is up to 330MPixels/sec.

The **DVI-I Dual-Head XTender** has a single-link interface, supporting DVI resolutions to 1920x1200@60Hz, 1080p or 2K HD (2048x1152). The data rate is up to 165Mpixels/sec.

The interface cable is a single CATx, a Single Mode or Multi Mode Fiber cable or Single Mode Fiber XV(2.5G module).

DVI Dual-Link and Dual-Head Interface
The **Orion Dual-Link and Dual-Head XTenders** have a DMS-59 connector on each chassis. The type of cable connected to the DMS-59 determines the functionality of the XTender.

Dual-Link DMS-59. This is a single cable, 1.8m length, with a DMS-59 and one dual-link DVI-D connector.


DMS59 to DVI Cable

Dual-Head DMS59. This is a single "Y" cable, 0.3m length, with a DMS-59 and two single-link DVI-D connectors.


DMS50 to dual DVI Cable

At the Computer end, the dual DVI-D connects to the PC. At the user end, the dual DVI-D connects to dual DVI monitors.

Orion Dual-Link/Dual-Head XTender - Special Features

- The standard product includes a special DMS-59 connector and cable that supports either dual-link DVI-D or dual-head DVI-D for two single-link connections.

- Modular chassis available include, 2-card, 4-card, 6-card and 21-card chassis with redundant PSU if required.

- Additional card modules can be added to the chassis as required, including USB-HID, USB2.0, analog and digital audio, PS2 and serial.

- The USB2.0 embedded card (up to 12Mbps) requires no additional CATx or Fiber link cable. The USB2.0 high-speed card (480Mbps) requires an additional link cable.

- By default, the Transmitter unit sends DDC information to the host CPU/Server on power-up. If required, the DDC data from the remote monitor can be downloaded to the Transmitter unit.

- USB-HID ghosting enables keyboard and mouse descriptors to be stored in the Orion XTender. This prevents the repeated enumeration of keyboard and mouse by the host computer system.

- The Configuration File, containing device and video information, can be accessed via the Mini-USB service port.

- The redundant data link option enables two remote users to access the same host CPU/Server.

- All connectors are mounted on one side of the chassis for cabling convenience and easy access.
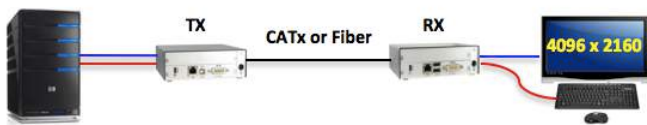
Typical Application - DVI-D Dual-Link XTender
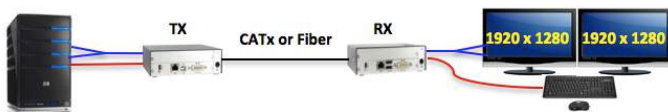
Typical Application - DVI-I Dual-Head XTender

Chassis Configuration Options

The Orion XTender product range has 4 different chassis variations, depending on the application requirements and available rack space. These chassis support 2, 4, 6 or 21 cards. All chassis configurations are 19" rackmountable and in addition, the 2/4/6 chassis can be mounted on a 19", 1U rack shelf.

USB-HID and USB2.0 Support

The **Orion Dual-Link/Dual-Head XTender** includes support for up to two USB-HID devices. A USB Hub can be added, but the maximum number of simultaneously supported USB-HID devices is two. Each USB-HID port provides a maximum current of 100mA. The XTender is compatible with most 2-button, 3-button and scroll mice, and most USB keyboards are supported.

For higher USB speeds, there are two USB2.0 option cards available. The USB2.0 (480Mbps) supports all USB2.0 devices and requires one additional data link cable. This option has 4xUSB-A ports on the RX unit. The Embedded USB2.0 (12Mbps) shares the same data link cable as the DVI video, and has 2xUSB-A ports on the RX unit.

Both cards utilize a single slot space in the Orion XTender chassis.

Redundant Data Link

The redundant data link option features twin CATx or Fiber link cables that can be used in two different ways:

a) For mission critical installations, provides a backup link should the primary data link fail.

b) Sharing PC access with 2 remote users. In this case, the TX unit would be equipped with a redundant link, and the two receivers would be standard DVI/USB chassis. The two users contend for control of the PC based on a keyboard/mouse timeout function, configurable up to 10 seconds.

The redundant data link is available for both Dual-Link and Dual-Head XTender chassis.
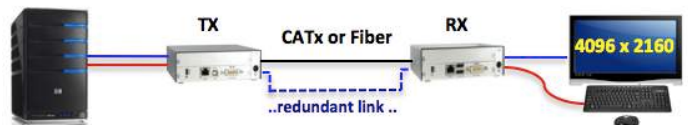
Typical Application – DVI-D Dual-Link XTender with redundant data link

Interconnect Link Cable

The interconnect cable can be either CATx or Fiber cable with LC-type connectors. CATx cable is the same as specified for Gigabit Ethernet (1000Base-T), 24AWG, solid core. CAT5e or better cable is recommended. The CATx cable bandwidth is limited to 1Gb/s. For dual-head video applications, the 1Gb/s bandwidth is shared between the 2 monitors.

Fiber Optic cable can be Single-Mode or Multi-Mode with LC connectors, operating at 1.25Gb/s. For higher speed applications, in particular for medical imaging, flight or battle-field simulators, video editing and animation, there is a 2.5Gb/s (x.v.) XTreme Velocity option available. The interconnect link cable cannot be routed across an active Ethernet network.
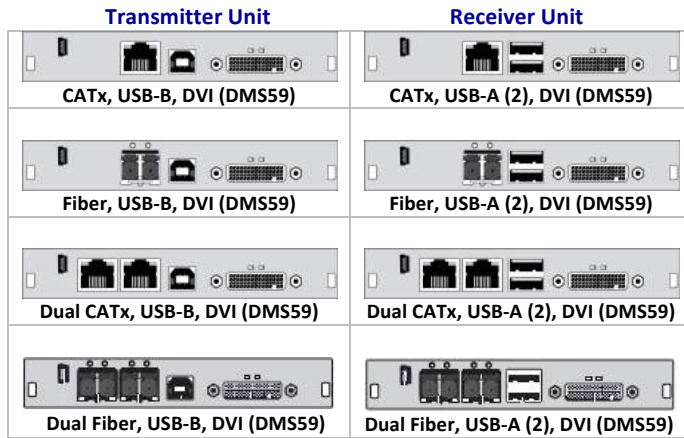

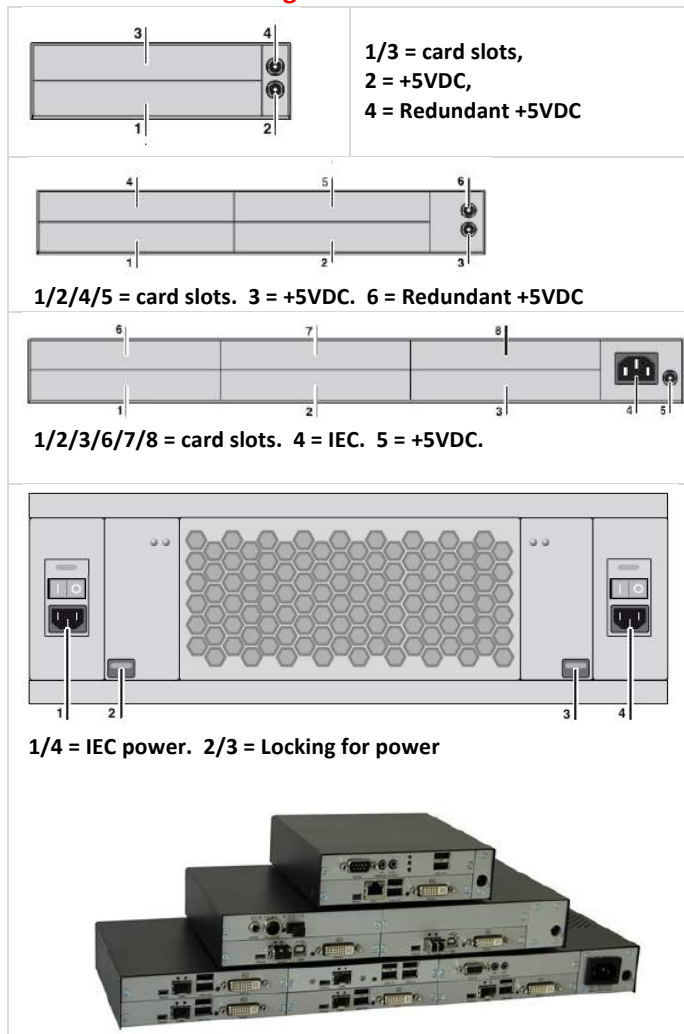
TX Unit
Dual-Link XTender with USB-HID

RX Unit
Dual Link XTender with USB-HID

Standard Card Configurations (Check with Rose Electronics for a full listing of all Orion-dual-link card options).

Transmitter Unit	Receiver Unit
CATx, USB-B, DVI (DMS59)	CATx, USB-A (2), DVI (DMS59)
Fiber, USB-B, DVI (DMS59)	Fiber, USB-A (2), DVI (DMS59)
Dual CATx, USB-B, DVI (DMS59)	Dual CATx, USB-A (2), DVI (DMS59)
Dual Fiber, USB-B, DVI (DMS59)	Dual Fiber, USB-A (2), DVI (DMS59)

Standard Chassis Configurations

1/3 = card slots,
2 = +5VDC,
4 = Redundant +5VDC

1/2/4/5 = card slots. 3 = +5VDC. 6 = Redundant +5VDC

1/2/3/6/7/8 = card slots. 4 = IEC. 5 = +5VDC.

1/4 = IEC power. 2/3 = Locking for power

Orion XTender Chassis, 2/4/6 Card

Specifications

Physical Dimensions (Chassis size) W x D x H	2-card. 145 x 147 x 41 mm (5.7" x 5.8" x 1.7") 4-card. 293 x 147 x 41 mm (11.5" x 5.8" x 1.7") 6-card. 442 x 147 x 41 mm (17.4" x 5.8" x 1.7") 21-card. 482 x 462 x 176 mm (19" x 18.2" x 6.9")
Weight	2-6 card chassis. 0.9 - 3.1lbs (0.4 - 1.4Kg) 21-card chassis. 22.1lbs (10.0Kg)

Connectors:	**Transmitter**	**Receiver**
Video Interface	DVI DMS-59 x1	DVI DMS-59 x 1
USB Interface	USB-B x1	USB-A (HID x 2)
Service Port	Mini USB	Mini USB
Interconnect Port	RJ45 or duplex Fiber-LC	RJ45 or duplex Fiber -LC

Optional Cards:	**Transmitter**	**Receiver**
Analog Audio/Serial	3.5mm x 2 + DB9(F)	3.5mm x 2 + DB9(M)
Digital Audio	RCA, Mini-XLR, Toslink	RCA, Mini-XLR, Toslink
USB2.0 (480Mbps)	USB-B x 1	USB-A x 4
USB2.0-embedded	USB-B x 1	USB-A x 2
PS2	PS2 x 2 or 2xIN/2xOut	PS2 x 2

Video Resolution	**Single-link**, digital (DVI) , 1920 x 1200/60Hz, 1080p, 2K (2048x1152) **Dual-link**, digital DVI, 2560x2048@60Hz, 3840x2160/30Hz, 4096x2160/30Hz (2K/4K)
Pixel Clock Speed	Single-link: 165 MPixels/sec and 24-bit Dual-link: 330MPixels/sec
LED Status	Link failure, Link Status, Video, USB

**USB   - HID
        - Embedded
        - USB2.0**
	Output 100mA each
	Output 500mA each, full speed 12Mbps
	Output 500mA each, high speed 480Mbps

CATx cable length	400ft (140 meters), CAT5e or better, 1000BASE-T, 24-AWG, EIA/TIA-568-B
Fiber cable length (Duplex LC Type)	Utilizes Gigabyte SFP's with LC connector Multi-mode 62.5μm 650ft (200m) Multi-mode 50μm 1300ft (400m) Multi-mode 50μm OM3 3280ft (1000m) Single-mode 9μm 32800ft (10km)
Analog Audio	2x 3.5mm stereo audio jacks, line level
Digital Audio	Unidirectional, RCS, Mini-XLR, Toslink
Serial (DB9M)	115,200bps, TX/RX, RTS/CTS/DTR/DSR RS422

**Power   - 2 card
        - 4 card
        - 6 card
        - 21 card**
	100-240VAC, 50/60Hz, +5V/5A
	100-240VAC, 50/60Hz, +5V/5A
	100-240VAC, 47/63Hz, +5V/8A
	100-240VAC, 50/60Hz (x 2)

Operating Temps Rel. Humidity	41°F to 113°F (5 °C to 45 °C) 80% non-condensing
Product Approvals	FCC-15 Class A, CE, WEEE, RoHS/RoHS-2

Part Numbers (contact Rose for a full part number listing)

OT2-SLDTXUSL1	CATx Transmitter, DVI Dual-Head, USB-HID
OR2-SRDTXUSL1	CATx Receiver, DVI Dual-Head, USB-HID
OT2-SLDFSUDL1	SM Fiber Transmitter, DVI Dual-Link, USB-HID
OR2-SRDFSUDL1	SM Fiber Receiver, DVI Dual-Link, USB-HID
/1T	Add USB2.0 (480Mbps) to part number
/1E	Add embedded USB2.0 (12Mbps)
/1AS	Add Analog Audio/Serial to part number
RM-BR3DV4/19	Rackmount shelf. 19" mount, 1U

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