Orion XTender

Orion XTender: 2/4/6 card chassis

- ➢ DVI-D Input/Output with USB-HID
- ➢ CATx or Fiber Interface
- ➢ Supports resolutions up to 4096*2160 (4K)
- ➢ Extend distances up to 450ft (140metres) over CATx cable, or 6.2 miles (10Km) over fiber
- ➢ x2, x4, x6, x21 card chassis available
- ➢ Modular design for custom applications
- ➢ Options include USB2.0, Audio, Digital Audio, Serial, PS2, HDMI, Display Port, Dual-Link, Dual-Head, redundant channel and redundant power.

Orion XTender Product Features

- Extend your KVM stations and computers;
  - Up to 33,000ft (10km) using single-mode fiber
  - Up to 3,300ft (1,000m) using multi-mode fiber
  - Up to 450ft (140m) using CATx cable
- Supports USB HID (Keyboard/Mouse) and other USB pointing devices.
- Supports single link resolutions up to 1920*1200@60Hz, and High-Definition 1080p
- Supports VGA input via DVI-I interface
- Modular chassis design allows you to add specific cards to match your system configurations.
- Chassis Cards include the following interfaces;
  - Single-Link DVI-D video (1920*1200@60Hz)
  - Dual-Link DVI video (2560*2048@60Hz)
  - DVI-I (VGA) video (1920*1200)
  - DVI-D and Display Port (4096*2160@30Hz)
  - HDMI (2K-HD) video (20048*1152)
  - USB-HID for Keyboard/Mouse
  - Transparent high-speed USB2.0
  - Embedded USB2.0 and USB-HID
  - PS2 at Input and Output
  - Serial (DB9)
  - Analog Audio
  - Digital Audio (Mini-XLR, Coaxial, Optical)
  - Redundant CATx or Fiber link
  - Redundant PSU
- All interface connections are on one side.
- Supports all operating systems.
- Rack-mount option (19" rack or shelf)

Product Overview

The modular design of the *Orion XTender* allows users to extend desktop control of remote PC's, or to relocate PC's in a safe and clean environment, away from the desktop or control desk environment.

Whether you need single, dual-head or quad-head video monitors with PC/Server control by a single USB or PS2 keyboard/mouse, the modular *Orion XTender* can be configured as required. The standard chassis format includes 1*DVI and 2*USB-HID ports. For other options including additional DVI ports, USB2.0, digital audio or serial, simply select the interfaces required and the chassis will be configured to match.

For the link cable extension interface, choose from either CATx or SM fiber at 1Gbp/s. High performance 2.5Gbp/s fiber supports frame rates of 55-60fps.

Connection status LED's are located on the front panel to indicate the operating status of the unit.

Applications

The *Orion XTender* is suitable for any application requiring DVI/USB/Audio extension over either CATx or Fiber, with single, dual-head or quad-head video. Common applications include industrial control desk environment, broadcast studios, AV distribution, medical imaging and other industrial/military applications.

Typical Operating Modes
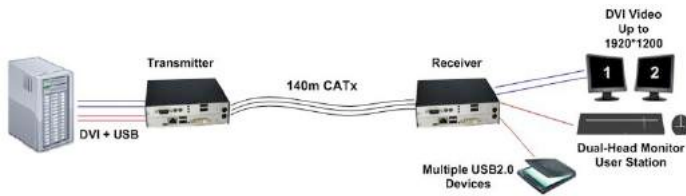
Modular Chassis   The *Orion XTender* is a modular chassis system comprising one Transmitter and one Receiver unit. Configuration options are for 2-card, 4-card, 6-card and 21-card chassis. The number of cards configured depends on the different interfaces required for a particular application. All connectors are on the same side of the chassis for convenience and ease of access when the chassis are rack-mounted.

USB2.0 The *Orion XTender* supports transparent USB2.0, and allows connection of all types of USB1.1 (12Mbps) and 2.0 (480Mbps) peripherals.

Each USB2.0 port provides a maximum current of 500mA. A USB powered hub can be added to expand the number of supported USB2.0 devices.

USB-HID Most USB-HID devices, including keyboards and mice, bar-code scanners and touch screens are compatible. USB-HID (and other) devices that are not supported as standard HID will operate under transparent USB support.
Only two USB-HID devices can operate concurrently.

Audio and Serial A range of analog and digital audio cards are available for the *Orion XTender*. The analog audio option supports bi-directional stereo audio transmission with 'line-level' interface.
The digital audio option supports the unidirectional transmission of digital audio using Mini-XLR, Coaxial and Optical interfaces.
The serial interface RS422 (D-Sub 9) card supports a differential full duplex transmission up to 115,200 baud

DDC The default DDC settings are normally satisfactory for most monitor connections. If needed, the DDC information can be obtained from the monitors or loaded to the unit from a binary file. Generally, no configuration is needed.

Specifications

Resolution **DVI-D & DVI-I** **Single Link** **Dual-Link** **DVI-D and DP**	1920 x 1200@60Hz, Full HD - 1080p 2K HD - 2048 x 1152@60Hz, 40-45fps 2560 x 2048 @30Hz (4K), 55-60fps 4096 x 2160 @30Hz (4K)
Data Rate	Single-link. Up to 165 MPixel/second (24-bit) Dual-link. Up to 330 MPixel/s (24-bit)
Distance	CATx Solid Core - 450ft (140 meters) Cat Patch Cable - 200ft (70 meters) M/M fiber (OM3) - 3,280ft (1km) M/M fiber (50μm) - 650ft (200m) M/M fiber (62.5μm) - 1,300ft (400m) S/M fiber (9μm) - 32,800ft (10km)
Link Cable	Link: CATx (RJ45), Fiber (LC)

Connectors	Interface - RJ45 or LC fiber
	Video - DVI-I / VGA (Single Link)
	        DVI-D (Dual Link)
	        HDMI and Display Port 1.1
	USB - Type-B (TX) and Type-A (RX)
	PS2 - keyboard and mouse
	Serial - DB9, RS232/RS422
	Audio - Analog with 3.5mm audio jack
	Digital - Mini XLR, RCA, TOSLINK

Cable Type	CATx - Solid Core, 24AWG, STP/UTP
	       EIA/TIA568-B, 1000BASE-T
	CATx - Patch Cable, 26/28AWG
	Fiber - Multimode 50μm, 62.5μm, OM3
	       Singlemode 9μm (2 fibers)
	Fiber at 2.5Gbp/s, use standard SM fiber cable

USB Specification	USB-HID - current up to 100mA per port
	USB2.0 - Transparent high-speed (480Mbps)
	       or full-speed (up to 30Mbps).
	       Elec Current up to 500mA per port

Audio Specification	**Analog** Format - 16 bit, 38.4Khz Signal level - Line level, 5volt Pk-Pk Impedance - 47K Ohm Input/Output - 2 x 3.5mm stereo jacks **Analog on USB2.0** Format - 16 bit, 8, 11.025, 16, 22.05 32, 44.1, 48Khz Signal level - Line level, 5volt Pk-Pk Impedance - 20K Ohm Input/Output – 1 x USB-B, 2 x 3.5mm stereo
Environmental	Operating temp - 41°-113°(F) 5°-45° (C) Storage temp - -13°-140°(F) -25°-60° (C) Relative Humidity - Max 80% non-condensing
Approvals	FCC, CE, RoHS, RoHS-2, WEEE
Power	2-port - 100/240VAC, 50/60Hz, 5VDC, 3A 4-port - 100/240VAC, 50/60Hz, 5VDC, 5A 6-port - 100/240VAC, 50/60Hz, 5VDC, 8A 21-port - 2 x 100/240VAC, 50/60Hz (Note: Redundant PSU's and DC are optional)

KVM Modules (CATx, Fiber and Fiber-2.5G) for standard chassis configuration

CPU Card (Transmitter unit)	User Card (Receiver unit)

Link Port, USB-HID, DVI-D (includes fiber 2.5)

Link Port, USB-HID, DVI-I/VGA (limited video scaling)

Link Port, USB-HID, DVI-I/VGA (full video scaling). (Includes fiber 2.5G)

Link Port, USB-HID, DMS59 (DVI-D Dual-Link. 4K). (Includes fiber 2.5G)

Link Port, USB-HID, DMS59 (DVI-D Dual-Head "Y" cable) . (fiber 2.5G)

Link + Redundant Link, USB-HID, DVI-D

Link + Redundant Link, USB-HID, DVI-I/VGA (limited video scaling)

Link + Redundant Link, USB-HID, DMS59 (Dual-Link. 4K) (fiber 2.5G)

Link + Redundant Link, USB-HID, DMS59 (DVI-D Dual-Head, "Y" cable)

Link, USB-HID, HDMI

Link, USB-HID. Local unit = HDMI out. Remote unit = PC support

Link + Redundant Link, USB-HID, HDMI

Link + Redundant Link, USB-HID, Local HDMI out. Remote PC support

Link, HDMI

Link, USB-HID, Display Port (4K video). (Includes fiber 2.5)

Link + Redundant Link, USB-HID, Display Port (4K Video). (fiber 2.5G)

CPU Card (Transmitter unit)	User Card (Receiver unit)

Link, USB2.0 (High-Speed, 480Mbps)

The following cards are upgrade modules, with no CATx or Fiber link port

USB2.0 embedded (USB2.0 full-speed at up to 30Mbps)

USB-HID

DB9 RS-232 Serial, Analog Audio

DB9 RS-422 Serial, Analog Audio

DB9 RS-232 Serial, Analog Audio, PS2

DB9 RS-232 Serial, Analog Audio, USB-HID

DB9 RS-422 Serial, Analog Audio, USB-HID

DB9 RS-232 Serial, Audio, USB2.0 embedded (USB2.0 full-speed)

DB9 RS-422 Serial, Audio, USB2.0 embedded (USB2.0 full-speed)

Digital Audio

Digital Audio, USB-HID

Digital Audio, USB2.0 embedded (USB2.0 full-speed)

Dual Digital Audio

Digital Audio, RS-232 Serial, Analog Audio

Note: * (E) USB Embedded. The USB is full-speed and is combined on the same CATx/Fiber cable as the primary DVI video signal.

Dual-Link and Dual-Head DVI Video

Orion XTender cards can support DVI dual-link and dual-head video using the same combination of TX/RX cards. The DVI connector on these cards is a DVI-DMS-59 pin connector. A short 0.3 meter (1ft) DVI-D to DMS-59 pigtail cable is used at each end to interface the DMS59 to standard DVI-D format.
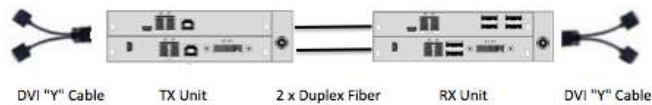
Dual-link video resolution on a single-head connector, up to 2560 x 2048 @60Hz, at 330MPixels/s. For dual-head DVI video, a DMS59 to 2xDVI-D "Y Cable" is included. Dual-head video output is at 1920x1200 on each port. Data rate is limited to 165 MPixels/s. The link cable can be CATx, or Fiber at 1Gbp/s or 2.5Gbp/s.

Dual-Link Video

DVI Cable   TX Unit   2 x Duplex Fiber   RX Unit   DVI Cable
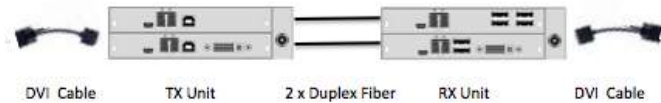
Dual-Link video (DMS59) + USB2.0 over fiber optic cable extension

Dual-Head Video

DVI "Y" Cable   TX Unit   2 x Duplex Fiber   RX Unit   DVI "Y" Cable

Dual-Head video (Y cable) + USB2.0 over fiber optic cable extension

HDMI Video

Many applications require the relocation of expensive computing equipment to a secure location, and the widespread location of user consoles throughout a location. When combined with Singlemode fiber cable, users can be located up to 10km (33,000ft) from the host computing resource. The *Orion HDMI XTender* cards can transmit and display images without delay, brilliantly clear and at the highest resolutions, including HD (1080p) 2K (2048x1152) and even 3D. Audio format PCM can be transmitted up to 96kHz via the HDMI interface. The HDMI cards include options for local HDMI monitoring at the host computer end, and also the connection of a host computer with HDMI monitor at the remote end.

Display Port Video

The *Orion Display Port XTender* enables the transmission of high definition video and audio signals over both CATx and Fiber cables. The transfer of fully digital video signals includes full-HD, 3D and digital video/audio at resolutions from 2560x2048 @60Hz (2K) up to 4096x2160@30Hz (4K).

USB2.0 transparent, and additional analog or digital audio can be added to the Display Port assembly and transmitted over the same CATx or fiber cables.

Orion Digital KVM Switch and Orion XTender

In addition to supporting the configuration of multiple different video, USB and peripheral combinations over CATx and Fiber cabling, the *Orion XTender* products can be used as Transmitter (TX) and Receiver(RX) modules together with the *Orion Digital KVM Matrix Switch*. The Orion KVM switch is available in flexible port configurations, with 8, 16, 32, 64, 80, 160 and 288 ports, including a mix of CATx and Fiber in the same chassis.
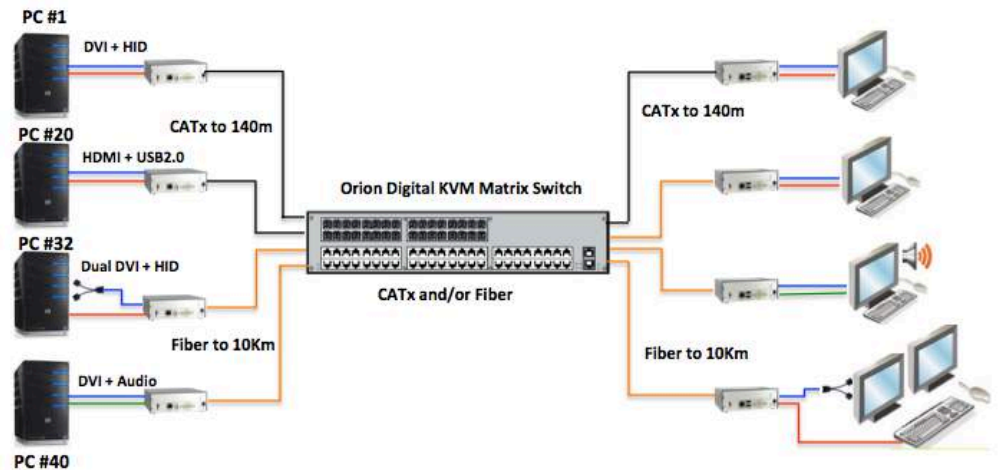
Featuring high performance digital video quality, full-HD, 3D, 2K and 4K video resolutions, with backup and fully redundant switch configurations, the *Orion KVM/XTender* is a premium quality product for digital video, audio and USB distribution and switching applications.

Cards insert in to the chassis or rack. Optional cards must be combined with the main card that has a CATx or Fiber link.
Cable connections can be for CATx, single-mode fiber, multimode-fiber.
High-Speed USB2.0 (480Mbps) interface requires a separate CATx/Fiber cable.
Embedded USB2.0 is full speed and does not require a separate CATx/Fiber cable.

Orion XTender Chassis Power Supply Options

Chassis Type	Chassis (Note:Redundant PSU is an optional item)
2card chassis(1U) Standard or redundant (optional)powersupply	
4card chassis (1U) Standard or redundant (optional)powersupply	
6card chassis (1U) Standard power supply (1xIEC standard) (1x5VDC or 1xIEC optional)	
21card chassis (4U) 2 IEC power supplies (1 standard, 1 optional)	

Chassis Type	Description	Dims: Std PSU	Dims: with 2nd PSU	Weight!
2 card chassis(1U)	1=External 5V PSU, 2=External 5V + redundancy 3=12V IEC + 5V redundancy. 4=12/24/48 DC power strip +5V	145 x 147 x 41mm	221 x 147 x 41mm	0.4Kg
4 card chassis(1U)	5=External 5V PSU. 6=External 5V +redundancy	293 x 147 x 41mm		0.9Kg
6 card chassis(1U)	7=12V IEC +5V redundancyatq. 8=Dual 12V IEC integrated/reverseside 9=Dual 12V IEC integrated. 10=12/24/48 DC power strip +5V	442 x 147 x 41mm	442 x 250 x41mm	1.4Kg
21 card chassis(4U)	11=Integrated dual redundant PSU. 12=Blanking Plates	482 x 462 x 176mm		10.0Kg

Part Numbers

OT2-SLDTXUD1D	**Transmitter chassis, 2-slot. Single DVI video and USB-HID. CATx**
OR2-SLDTXUD1D	**Receiver chassis, 2-slot. Single DVI video and USB-HID. CATx**
OT2-SLDFSUD1D/1E	**Transmitter chassis, 2-slot. Single DVI video, USB-HID and USB2.0 embedded. Fiber**
OR2-SRDFSUD1D/1E	**Receiver chassis, 2-slot. Single DVI video, USB-HID and USB2.0 embedded. Fiber**
OT2-SLDTXUSL1/1T	**Transmitter chassis, 2-slot. Dual-Head DVI video, USB-HID and USB2.0. CATx**
OT2-SLDTXUSL1/1T	**Receiver chassis, 2-slot. Dual-Head DVI video, USB-HID and USB2.0. CATx**
OT4-SLDTXUD2D/1AS	**Transmitter chassis, 4-slot. Dual DVI video, USB-HID and Audio/Serial. CATx**
OT4-SLDTXUD2D/1AS	**Receiver chassis, 4-slot. Dual DVI video, USB-HID and Audio/Serial. CATx**
OT4-SLDTXUD1D/1T+AS	**Transmitter chassis, 4-slot. Single DVI video, USBEHID, USB2.0, Audio, Serial**
OR4-SLDTXUD1D/1T+AS	**Receiver chassis, 4-slot. Single DVI video,!USB-HID, USB2.0, Audio, Serial**

Note:Rack-mount shelf, rack-mount brackets and blanking plates are also available.