DXP DVI Pro Series

HDCP-COMPLIANT DVI MATRIX SWITCHERS

- **Available in 4x4, 4x8, 8x4, and 8x8 I/O sizes**
- **Supports computer-video to 1920x1200, including HDTV 1080p/60**
- **Supports HDMI specification features including data rates up to 6.75 Gbps, Deep Color up to 12-bit, 3D, and HD lossless audio formats**
- **HDCP compliant**
- **SpeedSwitch™ Technology provides exceptional switching speed for HDCP-encrypted content**
- **Key Minder®**
- **EDID Minder®**
- **Automatic cable equalization for each input to 100 feet (30 meters) at 1920x1200**
- **Automatic output reclocking**
- **Provides +5VDC, 250mA power on the DVI outputs for peripheral devices**

The Extron DXP DVI Pro Series are HDCP compliant DVI matrix switchers designed for applications where routing of high resolution, digital video signals is required. They are available in sizes of 4x4, 4x8, 8x4, and 8x8, and offer several proprietary features to optimize performance and reliability of DVI transmission to and from the matrix switcher. The DXP DVI Pro Series also offers the same convenience features common to Extron matrix switchers, such as the QS-FPC front panel controller with tri-color backlit buttons, global presets, Ethernet control, and RS-232/RS-422 serial control.

DESCRIPTION

The Extron **DXP DVI Pro** Series are high performance, digital matrix switchers for single link DVI-D signals. They are HDCP compliant, and support resolutions up to 1920x1200 and HDTV 1080p/60, enabling simultaneous distribution of content-protected DVI and HDMI signal sources to one or more compliant displays. The matrix switchers also support HDMI specification features, including data rates up to 6.75 Gbps, Deep Color up to 12-bit, 3D, and HD lossless audio formats. The DXP DVI Pro Series incorporates a number of intelligent technologies that help integrators ensure reliable system operation and compatibility between digital devices, including SpeedSwitch™ Technology, Key Minder®, HDCP Visual Confirmation, EDID Minder®, and Automatic Input Cable Equalization and Output Reclocking. Available in I/O sizes from 4x4 to 8x8, the DXP DVI Pro Series is ideal for use in applications that require reliable, high performance routing of DVI and HDMI digital signals between multiple sources and displays.

The DXP DVI Pro Series features two key Extron technologies: EDID Minder and Key Minder. EDID Minder automatically manages EDID communications for each input/output tie. By maintaining continuous EDID communication with all sources, EDID Minder ensures that all DVI sources power up properly and maintain their video outputs whether or not they are actively connected to the digital display devices through the matrix switcher's outputs. For DVI signals with protected content, Key Minder continuously authenticates HDCP-compliant input and output devices to ensure quick and reliable switching in professional AV environments while enabling simultaneous distribution of a single source signal to one or more displays. If a signal from an HDCP-compliant source is routed to a non-compliant display, the switcher outputs a full-screen green signal, providing immediate visual confirmation that the protected content cannot be viewed on the selected display.

DXP DVI Pro matrix switchers also feature automatic cable equalization for all inputs and output reclocking for each output. This reduces the need for additional signal conditioning equipment by compensating for weak source signals or signal loss when using long input cable assemblies. Automatic output reclocking restores signal integrity for improved performance. Signals are reshaped and timing restored to allow for transmission over long DVI cables. Additionally, all models offer +5VDC, 250mA on the DVI outputs for powering peripheral devices.

The DXP DVI Pro Series matrix switchers are ideal for use in commercial, medical, government, residential, and other environments where a fully digital pathway is essential to maintain image quality of high resolution, digital video signals from multiple sources to multiple displays.

FEATURES

- **Supports computer-video to 1920x1200, including HDTV 1080p/60**
- **Supports HDMI specification features including data rates up to 6.75 Gbps, Deep Color up to 12-bit, 3D, and HD lossless audio formats**
- **HDCP compliant**
- **SpeedSwitch Technology provides exceptional switching speed for HDCP-encrypted content**

FEATURES

- **Key Minder continuously verifies HDCP compliance for quick, reliable switching** – Key Minder authenticates and maintains continuous HDCP encryption between input and output devices to ensure quick and reliable switching in professional AV environments, while enabling simultaneous distribution of a single source signal to one or more displays.
- **HDCP Visual Confirmation provides a green signal when encrypted content is sent to a non-compliant display** – A full-screen green signal is sent when HDCP-encrypted content is transmitted to a non-HDCP compliant display, providing immediate visual confirmation that protected content cannot be viewed on the display.
- **EDID Minder automatically manages EDID communication between connected devices** – EDID Minder ensures that all sources power up properly and reliably output content for display.
- **Automatic color bit depth management** – The switcher automatically adjusts color bit depth based on display EDID, preventing color compatibility conflicts between source and display.
- **Automatic cable equalization for each input to 100 feet (30 meters) at 1920x1200/8-bit color when used with Extron DVI Pro cables**
- **Automatic output reclocking** – Reshapes and restores timing of DVI signals at each output, enabling transmission over long DVI cables.
- **Provides +5VDC, 250mA power on the DVI outputs for peripheral devices**
- **Audio breakaway** – Provides the capability to separate an embedded audio signal, allowing the audio and video signals from one source to be switched to different destinations.
- **Global presets** – Up to 32 frequently used I/O configurations may be saved and recalled from the front panel, Ethernet, or serial control.
- **Rooming** – The matrix switchers can be configured to group selected outputs into specific "rooms," each with its own set of unique presets. A total of 10 rooms, with 10 presets per room, are available.
- **I/O Grouping** – Allows the matrix switcher to be virtually divided into smaller sub-switchers, making installation and control easier.
- **Tri-color, backlit buttons** – Can be custom labeled for easy identification. The backlit buttons illuminate red, green, or amber, depending on function, for ease of use in low-light environments.
- **Ethernet monitoring and control** – DXP DVI Pro matrix switchers can be proactively monitored and managed over a LAN, WAN, or the Internet, using standard TCP/IP protocols.
- **RS-232 and RS-422 control port** – Using serial commands, DXP DVI Pro matrix switchers can be controlled and configured via the included Windows®-based control software, or integrated into a control system.
- **Control software** – Provides a graphical, drag-and-drop interface for I/O configuration and other customization functions via RS-232 and RS-422 remote control. This software also offers an emulation mode for configuration of an offsite matrix switcher; the I/O configuration may be saved for future downloading to the matrix switcher.
- **Front panel security lockout** – Prevents unauthorized use in non-secure environments.
- **Rack-mountable 2U, full rack width metal enclosure**
- **Internal universal power supply**

SPECIFICATIONS

NOTE: *Appropriate DVI-D to HDMI cables or adapters are required for HDMI signal input/output.

VIDEO

Routing	
DXP 44 DVI PRO	4 x 4 matrix
DXP 48 DVI PRO	4 x 8 matrix
DXP 84 DVI PRO	8 x 4 matrix
DXP 88 DVI PRO	8 x 8 matrix
Signal type	Single-link DVI digital video signals are supported
Digital video	RGB digital video (DVI and HDMI standards) or Y, Cr, Cb digital component video (HDMI), actively buffered (supports all single-link DVI and HDMI (if using an optional adapter) standards from 640x480 @ 60 Hz to 1600x1200 @ 60 Hz computer video)

NOTE: The DXP DVI Pro Series switchers support TMDS data rates up to 6.75 Gbps, Deep Color up to 12-bit, 3D, HD lossless audio, and other HDMI specification features.

Digital audio	Supports HDMI audio (if using an HDMI to DVI adapter) transmitted through the RGB and Y, Cr, Cb lines, actively buffered.
EDID and DDC	Supports Extended Display Identification Data (EDID) and Display Data Channel (DDC) data using DVI and HDMI standards. EDID and DDC signals are actively buffered.
HDCP	Compliant with High-bandwidth Digital Content Protection (HDCP) using DVI and HDMI standards
HPD	Supports hot plug detection (HPD) of display as a pass-through signal.
Gain	Unity
Resolution range	Up to 1080p (HDTV) or 1920x1200 (the highest resolution of the single-link DVI standard) @ 60 Hz
Maximum data rate	6.75 Gbps (2.25 Gbps per color)
Maximum pixel clock	225 MHz
Standards	DVI 1.0, HDMI

VIDEO INPUT

Number/signal type	4 or 8 (depending on model) digital RGB (TMDS) single-link DVI-D (or HDMI*)
Connectors	4 or 8 female DVI-I (digital only)
Nominal level	
Digital video	1.2 Vp-p
DDC (Display Data Channel)	5.0 Vp-p (TTL)
Minimum/maximum level	0.5 V to 1.0 Vp-p with no offset
Impedance	100 ohms
Return loss	<-15 dB @ 1 MHz to 1.5 GHz
TDR rise time (10%-90%)	75 ps
Equalization	Automatic
Input cable length	>100' (30 m) at 1920x1200 @ 48, 50, or 60 Hz; or 1080p; 8 bit color

NOTE: The transmission distance varies depending on the signal resolution and on the type of cable, graphic card, and display used in the system.

VIDEO OUTPUT

Number/signal type	4 or 8 (depending on model) digital RGB
Connectors	4 or 8 female DVI-I
Nominal level	1.2 Vp-p
Minimum/maximum level(s)	0.5 V to 1.0 Vp-p with no offset (follows input)
Impedance	100 ohms
Return loss	<-15 dB @ 1 MHz to 1.5 GHz
DC offset	±500 mV maximum with input at 0 offset
Rise and fall time (20-80%)	0.6 ns
Re-clocking	Automatic
Peripheral device power	250 mA per output

CONTROL/REMOTE — SWITCHER

Serial control port	(1) RS-232, 9-pin female D connector (1) RS-232, front panel 2.5 mm mini stereo jack
Baud rate and protocol	9600 to 115200 baud, 9600 baud (default), 8 data bits, 1 stop bit, no parity
Serial control pin configurations	
9-pin D connector	2 = Tx, 3 = Rx, 5 = GND
Mini stereo jack	Tip = Tx, ring = Rx, sleeve = GND
Ethernet control port	(1) RJ-45 female connector
Ethernet data rate	10/100Base-T, half/full duplex with autodetect
Ethernet protocol	ARP, ICMP (ping), IP, TCP, DHCP, HTTP, Telnet
Default settings	Link speed and duplex level = autodetected IP address = 192.168.254.254 Subnet mask = 255.255.0.0 Gateway = 0.0.0.0 DHCP = off
Program control	Extron control/configuration program for Windows® Extron Simple Instruction Set (SIS™) Microsoft® Internet Explorer® ver. 6 or higher, Telnet

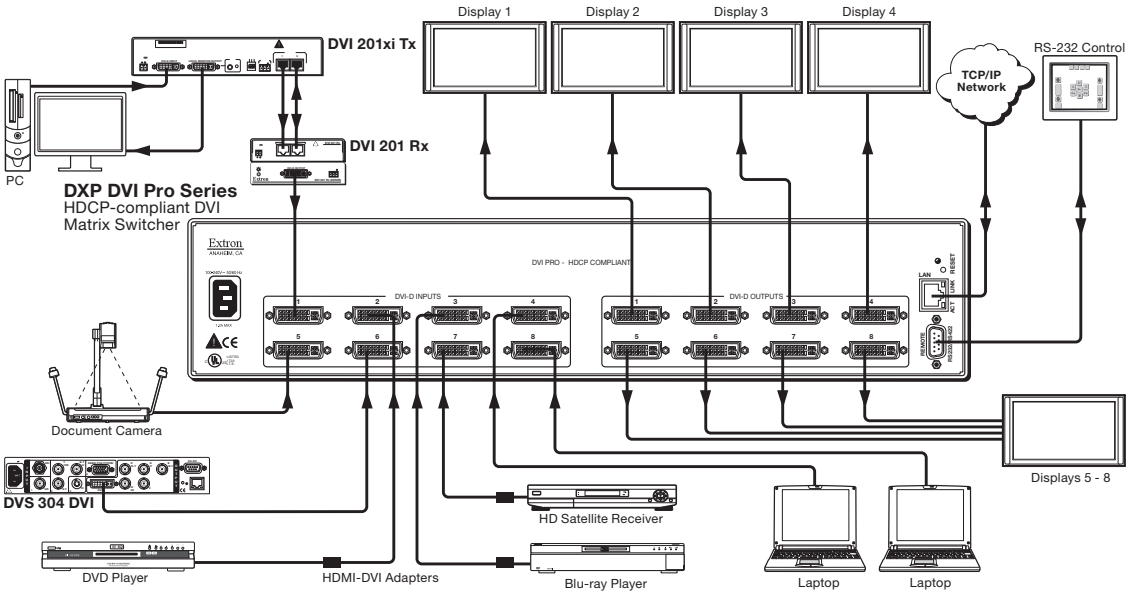
GENERAL

Power	Internal Input: 100-240 VAC, 50-60 Hz, fully loaded 8 x 8 unit Output: 48 watts
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Cooling	Fan, air flows right to left (as viewed from front)
Thermal dissipation, full load	
115 VAC, 60 Hz	163.8 BTU/hr
240 VAC, 50 Hz	163.8 BTU/hr
Mounting	
Rack mount	Yes, 2U high
Enclosure type	Metal
Enclosure dimensions	3.5" H x 17.5" W x 12.0" D (2U high, full rack wide) (8.9 cm H x 44.4 cm W x 30.5 cm D) (Depth excludes connectors. Width excludes integrated rack ears.)
Product weight	10.0 lbs (4.5 kg)
Shipping weight	15 lbs (7 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Regulatory compliance	
Safety	CE, c-UL, UL
Compliances	CE, C-tick, FCC Class A, ICES, VCCI
MTBF	30,000 hours
Warranty	3 years parts and labor

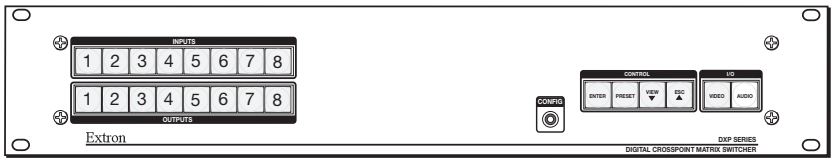
NOTE: All nominal levels are at ±10%.

Model	Version Description	Part number
DXP 44 DVI Pro	4x4 DVI Matrix Switcher	60-875-01
DXP 48 DVI Pro	4x8 DVI Matrix Switcher	60-1009-01
DXP 84 DVI Pro	8x4 DVI Matrix Switcher	60-876-01
DXP 88 DVI Pro	8x8 DVI Matrix Switcher	60-877-01

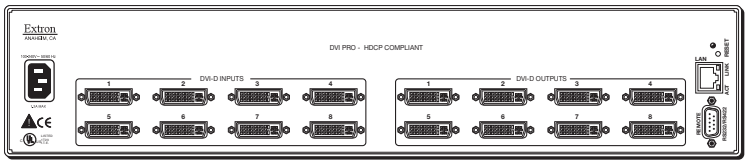
APPLICATION DIAGRAM



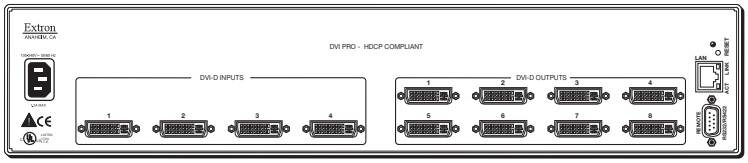
PANEL DRAWINGS



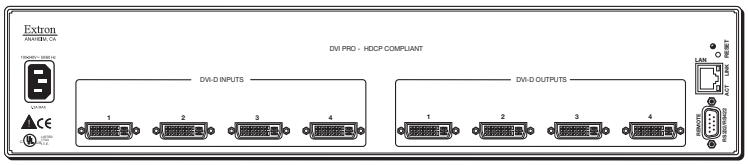
DXP DVI Pro - Front



DXP DVI Pro 8x8 - Back



DXP DVI Pro 4x8 - Back



DXP DVI Pro 4x4 - Back

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