DTP CrossPoint 84

8X4 SCALING PRESENTATION MATRIX SWITCHER WITH DTP EXTENSION

Full Featured, 4K Presentation Matrix Switcher for Complete AV System Integration

- All-in-one 8x4 matrix switcher, scaler, audio DSP, and audio power amplifier
- 4K/UHD matrix switching
- DTP and XTP® signal extension
- Integrated audio amplifier with Pro Audio performance
- Advanced DSP with expansion capabilities
- Two, built-in high performance video scalers
- Compatible with DTP 230 Series and DTP 330 Series, plus XTP Systems®
Introduction

The new, industry-leading Extron DTP CrossPoint® 84 is a definitive game-changer for presentation systems. This highly versatile, compact 2U presentation switcher delivers all of the technologically advanced capabilities necessary to design and integrate a complete AV system in one box, including a 4K matrix switcher, two built-in independent scalers, integrated DTP and XTP transmitters and receivers, a high performance mono or stereo amplifier, and comprehensive audio DSP capabilities unmatched in the industry. The internal DSP can be linked to one or more Extron digital signal processors for unprecedented audio system scalability. The DTP CrossPoint 84 is the new industry standard for fully integrated AV systems, greatly simplifying system design and installation, and dramatically reducing total cost of ownership.

The DTP CrossPoint 84 delivers all of the core functionality required for a conventional AV system, in a single 2U enclosure that replaces as many as nine separate components. In addition to saving substantial space in a rack, the compact size also makes it easy to standardize on a common system design throughout a facility. The DTP CrossPoint 84 adapts to many different environments where equipment space may be limited. This full-featured presentation matrix switcher is highly versatile and is ideal for applications where content must be presented on multiple displays. The DTP CrossPoint 84 is also extremely well-suited for multi-purpose rooms and divisible rooms that require flexible system configuration.

HDMI Inputs and Outputs, Plus Integrated DTP Transmitters and Receivers

The DTP CrossPoint 84 includes six HDMI inputs and two HDMI outputs. Two DTP twisted pair inputs and two DTP outputs offer extraordinary flexibility in how and where AV and control signals need to be distributed. They are compatible with the industry’s most complete offering of digital twisted pair transmitters and receivers. A wide variety of single and multi-input models are available for furniture and wall-mount applications. These endpoint devices are ideal for installation on a wall, in a lectern, under a table, in a floor box, or near a display. The breadth of DTP endpoints allows great versatility in specifying the appropriate transmitters and receivers to suit the exact needs of the application.

DTP endpoints can be powered by the DTP CrossPoint 84 over the same CATx cable for extending video, audio, and control signals. This convenience streamlines system design and installation.

Compatible with DTP 230 and DTP 330 Series Extenders

When the DTP CrossPoint 84 is paired with a DTP 330 transmitter or receiver, HDMI, control, and analog audio can be extended up to 330 feet (100 m) over a single CATx cable. With a DTP 230 endpoint, the same signals can be extended up to 230 feet (70 m).

HDBaseT-Compatible Outputs

The DTP outputs on the DTP CrossPoint 84 can be configured for compatibility with HDBaseT-enabled displays to send digital video and embedded audio up to 330 feet over a single CATx cable.

Compatible with XTP Systems

In addition to supporting DTP endpoints, the DTP CrossPoint 84 can be integrated into an XTP System with the ability to extend digital video and embedded audio up to 330 feet. This is ideal for providing connectivity between presentation spaces and a larger, facility-wide system. A DTP CrossPoint 84 in a room can connect into an XTP System in a central equipment rack or closet for accessing shared AV resources, or sending a local presentation to several destinations in a facility.

4K Matrix Switching

The DTP CrossPoint 84 is a true 4K-capable switcher for integration with computers equipped with compatible graphics cards, 4K media players, 4K cameras, and displays at 4K or UHD native resolution. All HDMI and DTP inputs accept high resolution signals up to 4K and UHD. These signals can be passed to both HDMI outputs.
Included with the DTP CrossPoint 84 are all the standard convenience features common to Extron matrix switchers, including a user-friendly front panel interface with tri-color backlight buttons, I/O memory presets, and more. Matrix switching between the HDMI and DTP inputs and outputs enables a wide range of design possibilities to meet the audio and video requirements of boardrooms, lecture halls, or other applications with multiple sources and displays. Flexible signal routing and reliable digital video switching with the DTP CrossPoint 84 allows support for multiple applications in one installation.

**Extron Exclusive Digital Video Technologies for Reliable, High Performance Operation**

The DTP CrossPoint 84 is HDCP compliant and delivers highly reliable digital switching of HDMI signals. For integration of HDMI sources and displays with plug-and-play simplicity, and to help ensure optimal system performance and dependability, the DTP CrossPoint 84 features three Extron-exclusive technologies: EDID Minder®, Key Minder®, and SpeedSwitch®. EDID Minder manages EDID communication between the display devices and input sources to ensure that the correct video formats are displayed reliably. For HDMI signals with protected content, Key Minder authenticates and maintains continuous HDCP encryption between input and output devices to ensure quick and reliable switching. With SpeedSwitch Technology, the DTP CrossPoint 84 delivers virtually instantaneous switching speeds for HDCP-encrypted content.

**Two Independent Scalers for DTP Outputs**

The DTP CrossPoint 84 includes two independent scalers for the two DTP outputs. Selectable rates up to 1920x1200 or 2048x1080 are available for converting and optimizing source signals, to ensure the highest quality image content for display. Two individually scaled DTP outputs enable content from two sources to be shown simultaneously on two remote displays. When connecting a guest device, independent scaling also optimizes the video output for a confidence monitor and a main display, where each may have a different resolution and aspect ratio. In addition, the matrix switcher provides 1080i deinterlacing and Deep Color processing. The DTP CrossPoint 84 also provides selectable FILL and FOLLOW modes on the DTP outputs to ensure the proper aspect ratio of the output. FILL mode provides full screen output, while the FOLLOW mode preserves the original aspect ratio of the input signal.

**Designed for Full Audio System Integration**

In addition to video matrix switching and scaling, the DTP CrossPoint 84 can serve as the central component for full audio system integration. It includes audio switching and breakaway for all eight video sources, four mic/line inputs that can be matrix mixed into any output, as well as HDMI audio embedding and de-embedding. The DTP CrossPoint 84 also provides highly flexible configuration and processing options for the audio inputs and outputs, and for distributing the audio in a system. Each video input, including the DTP endpoints, can be accompanied by embedded digital audio or separate analog audio.

Audio from the DTP CrossPoint 84 can be output with or without processing, as HDMI embedded audio, two-channel analog audio, S/PDIF digital audio, or amplified with the matrix switcher's integrated mono 70 volt or two-channel stereo power amplifier. Multi-channel bitstream formats are routed directly to the outputs, without de-embedding or processing.

**Integrated XTRA Series Audio Amplifier**

The DTP CrossPoint 84 SA delivers stereo power amplification with 50 watts rms per channel into 4 ohms and 25 watts rms per channel into 8 ohms, while the DTP CrossPoint 84 MA 70 provides mono 70 volt amplification with 100 watts rms output. Both models feature an Extron exclusive, highly efficient Class D amplifier design and patented CDRS™ - Class D Ripple Suppression, the same core amplifier technologies found in the renowned, ENERGY STAR® qualified XTRA™ Series amplifiers. CDRS provides a smooth, clean audio waveform as well as a dramatic improvement in signal fidelity over conventional Class D amplifier designs. The DTP CrossPoint 84 completes a sound reinforcement system with absolutely no compromises in audio performance or power efficiency.
Built-In Extron ProDSP for Complete Audio System Design and Optimization

The DTP CrossPoint 84 features Extron ProDSP, the same full-featured, high performance audio signal processing found in the Extron DMP 128 and DMP 64 digital signal processors. Extron’s exclusive ProDSP is engineered from the ground up using a powerful 64-bit floating point DSP engine to provide very wide dynamic range and reduce the potential for clipping. ProDSP also utilizes studio grade 24-bit audio converters with 48 kHz sampling to maintain audio signal transparency. ProDSP is loaded with a comprehensive selection of powerful, easy-to-configure tools to control level, dynamics, filters, delay, ducking, loudness, and feedback suppression.

Truly professional grade DSP allows full audio system design, precise optimization and fine tuning, and proper gain structure. The four mic/line inputs can be matrix mixed into any of the four stereo output buses to create finely tuned audio zones for the corresponding outputs. These inputs can also be routed to any of the eight “virtual” buses to allow inputs to be processed together as a group, before routing into the output buses. The flexible routing and mixing capabilities of the DTP CrossPoint 84 allow system designers to create simple or complex signal management schemes to accommodate a wide variety of system application requirements.

Setup and optimization is easy with the intuitive DSP Configurator™ Software. The flexible on-screen layout offers fast access to all digital audio signal processing tools for the DTP CrossPoint 84, including level control, dynamics, filters, delay, ducking, loudness, feedback suppression, and matrix mixing.

Easily Expand with Extron DMP 128 Audio Processors for Larger Systems and AEC

The DTP CrossPoint 84 allows unprecedented audio system expansion possibilities with an Extron digital audio expansion port that links the internal DSP to an Extron DMP 128 Digital Matrix Processor. This allows 16x8 channel transport between devices, and the DMP 128 provides an additional 12 inputs and eight outputs for microphones, multiple speaker zones, recording, assistive listening, and more. A linked DMP 128 offers additional capabilities such as automixing, AEC - acoustic echo cancellation with DMP 128 C models, and POTS analog phone interfacing with the DMP 128 C P. Many unique and scalable system designs are possible when linking a DTP CrossPoint 84 to a DMP 128 AT in a Dante™ network. This capability is ideal for supporting applications such as a large number of microphones in a city council meeting chamber, or in a lecture hall for distance learning.

Control and Configuration

The DTP CrossPoint 84 can be controlled via the front panel, Ethernet, USB, or RS-232. The matrix switcher can be configured using Extron’s PCS - Product Configuration Software with a user-friendly GUI that is very easy to navigate. This software application allows for expedited setup and configuration, real-time operation and monitoring, plus the ability to configure several DTP CrossPoint 84 units in the same session. These advantages result in time and cost savings for the integrator and the end user.

With the capability to transmit control signals over the same CATx cabling as for AV, the DTP CrossPoint 84 provides considerable flexibility for controlling the entire system, including devices connected to DTP transmitters and receivers. Bidirectional RS-232 and IR signals can be inserted from a control system via dedicated control ports on the matrix switcher. Bidirectional RS-232 signals can also be inserted via the Ethernet port. This simplifies the wiring infrastructure, and reduces costs and labor.

Reliable, Energy Efficient, and Low Total Cost of Ownership

The unique features and capabilities of the DTP CrossPoint 84 help reduce a client’s total cost of ownership with a compact, 2U enclosure that houses all essential AV system functions, powers all DTP endpoints, and significantly reduces rack space and power requirements. With the energy efficient, highly reliable power supply and Class D amplifier, the DTP CrossPoint 84 runs cool to maximize reliability and significantly enhance operating life.
Features

All-in-one 8x4 matrix switcher, scaler, audio DSP, and audio power amplifier
The DTP CrossPoint 84 delivers all of the core functionality of a conventional AV system in a single enclosure, making it ideal for presentation environments that require multiple displays and sound reinforcement.

Two DTP inputs and six HDMI inputs

Two HDMI outputs and two independently scaled DTP outputs

Integrated DTP inputs and outputs support transmission of video, control, and audio up to 330 feet (100 m) over a single CATx cable
Two DTP inputs and two DTP outputs support twisted signal transmission of HDMI or DVI, analog audio, and control up to 330 feet over a single shielded CATx cable. DTP endpoints can be remotely powered over each twisted pair connection. The DTP CrossPoint 84 is compatible with CATx shielded twisted pair cable.

Supports 4K and UHD signals at all inputs and on both HDMI outputs
Incoming 4K and UHD signals are supported at all HDMI and DTP inputs, and can be passed only to the HDMI outputs.

Selectably scaled DTP output rates from 640x480 to 1920x1200, including HDTV 1080p/60 and 2K
The output rate can be individually selected for each of the two scaled DTP outputs. Available output rates include computer-video up to 1920x1200, HDTV rates up to 1080p/60, and 2048x1080.

Compatible with DTP 230 Series and DTP 330 Series, plus XTP Systems
This enables mixing and matching with desktop and wallplate transmitters and receivers, as well as other DTP-enabled products. The DTP CrossPoint 84 can also be integrated into an XTP System to provide connectivity between presentation spaces and a larger, facility-wide system.

DTP outputs are compatible with HDBaseT-enabled devices
The DTP outputs can be configured to send video and embedded audio signals to HDBaseT-enabled displays.

Extron XTP DTP 24 shielded twisted pair cable strongly recommended
XTP DTP 24 cable is highly recommended for optimal signal transmission between the DTP CrossPoint 84 and DTP transmitters and receivers.

Bidirectional RS-232 and IR insertion for AV device control
Bidirectional RS-232 and IR signals can be inserted from a control system via dedicated control ports on the matrix switcher. Bidirectional RS-232 signals can also be inserted via the Ethernet port. This simplifies the wiring infrastructure, and reduces costs and labor.

HDMI audio embedding and de-embedding
Two channel audio signals can be embedded onto the HDMI and DTP outputs. Embedded HDMI two-channel PCM audio can be extracted for routing and further processing. Embedded multi-channel bitstream formats are routed with the video to the HDMI and DTP outputs.

Output volume control
Master volume control is provided for the variable line level and amplified audio outputs. A separate control is provided for mic volume.

Audio input gain and attenuation, plus audio breakaway
Gain or attenuation can be adjusted for each two-channel audio input to eliminate noticeable differences when switching between sources. Audio breakaway provides the capability to break the two-channel audio away from its corresponding video signal and route to the audio outputs.

S/PDIF audio output
The DTP CrossPoint 84 includes an S/PDIF output for two-channel PCM audio or encoded bitstream audio for Dolby® or DTS® multi-channel surround sound.

Integrated digital audio matrix processor with ProDSP™ 32/64-bit signal processing
The DTP CrossPoint 84 features 32/64-bit floating point audio DSP processing, which maintains very wide dynamic range and audio signal transparency, to simplify management of gain staging while reducing the possibility of DSP signal clipping.

Digital audio expansion port provides interfacing to an Extron DMP 128 processor for AEC and audio system scalability
An expansion port allows the DTP CrossPoint 84 and any DMP 128 model to be linked together via a single shielded CAT 6 cable for 16x8 channel transport between devices. This allows for audio system scalability with expanded audio processing and signal routing capabilities.

Four mic/line inputs with 48 volt phantom power
Four mic or line level audio sources can be independently mixed with program audio. Selectable 48 volt phantom power allows the use of condenser microphones.

Mic ducking
Automatically reduces program audio when a microphone or other incoming audio signal is detected, replacing the need for a separate audio ducking processor.

Studio grade 24-bit/48 kHz analog-to-digital and digital-to-analog converters
Professional converters fully preserve the integrity of the original audio signal.

Fixed, low latency DSP processing
Input to output latency is a constant 4.5 ms within the DTP CrossPoint 84, regardless of the number of active channels or processes. Fixed, low latency processing keeps audio in sync with video, and prevents distractions to the presenter resulting from delayed live audio.
DSP Configurator Software
A powerful yet user-friendly PC-based software tool for managing all audio operations of the DTP CrossPoint 84. It enables complete setup and configuration of digital audio processing tools on the ProDSP platform, as well as routing and mixing.

32 DSP Configurator presets
Using the DSP Configurator Software, any or all parameters for DSP processing, levels, AV matrix switching ties, and audio matrix mixing can be saved as presets.

Flexible matrix design provides output, virtual, and expansion routing options
The DSP architecture employs an intuitive matrix design that offers substantial flexibility in routing, mixing, and processing audio input sources.

Integrated energy efficient Class D audio amplifier
The DTP CrossPoint 84 SA includes a stereo power amplifier with 50 watts per channel into 4 ohms and 25 watts per channel into 8 ohms. The DTP CrossPoint 84 MA 70 has a mono 70 volt amplifier with 100 watts rms output.

Professional grade signal-to-noise and THD+N performance
The integrated amplifier delivers the same professional grade performance as the Extron XTRA Series standalone amplifiers.

Extron Patented CDRS - Class D Ripple Suppression
CDRS is an Extron patented technology that provides a smooth, clean audio waveform and an improvement in signal fidelity over conventional Class D amplifier designs. CDRS eliminates the high frequency switching ripple characteristic of Class D amplifiers, a source of RF emissions which can interfere with sensitive AV equipment such as wireless microphones.

Supported HDMI specification features include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, and HD lossless audio formats

HDCP compliant
The DTP CrossPoint 84 fully supports HDCP-encrypted sources, with selectable authorization for unencrypted content.

Extron-exclusive digital video technologies
The DTP CrossPoint 84 includes EDID Minder, Key Minder, and SpeedSwitch to simplify integration of HDMI sources and displays, and to help ensure optimal system performance and dependability.

HDCP Visual Confirmation
When processing HDCP-encrypted content, the DTP CrossPoint 84 outputs a full-screen green signal on any video output connected to a non-HDCP compliant display, providing immediate visual confirmation that protected content cannot be viewed on the display.

QS-FPC - QuickSwitch Front Panel Controller
Provides a discrete button for each input and output, allowing for simple, intuitive operation. Buttons can be custom labeled for easy identification. The buttons illuminate red, green, or amber depending on function, for ease of use in low-light environments.

View I/O mode
Users can easily view which inputs and outputs are actively connected.

Global presets
Frequently used I/O configurations may be recalled either from the QuickSwitch Front Panel Controller, Ethernet, USB, or RS-232 serial control.

Output muting control
One or all outputs can be muted at any time. This allows, for example, content to be viewed on a local monitor prior to appearing on the main presentation display.

Aspect ratio control
For the scaled DTP outputs, the aspect ratio of the video can be controlled by selecting a FILL mode, which provides a full screen output, or a FOLLOW mode, which preserves the original aspect ratio of the input signal.

Auto Input Memory for scaled DTP outputs
When activated for the scaled DTP outputs, the unit automatically stores, size, position, and picture settings based on the incoming signal. When the same signal is detected again, these image settings are automatically recalled from memory.

Output Standby Mode
The unit can be set to automatically mute video and sync output to the display device when no active input signal is detected. This allows the projector or flat-panel display to automatically enter into standby mode to save energy and enhance lamp or panel life.

Automatic HDMI output reclocking
Reshapes and restores timing of digital video signals at each HDMI output, eliminating high frequency jitter to ensure reliable transmission over long cables.

Multiple options for control, configuration, and monitoring
In addition to front panel controls, the DTP CrossPoint 84 offers Ethernet monitoring and control, built-in Web pages, RS-232 control, plus a front panel USB configuration port.

Easy setup and commissioning with Extron’s PCS - Product Configuration Software
Conveniently configure multiple products, including the DTP CrossPoint 84, using a single software application.

Rack-mountable 2U, full rack width metal enclosure
Overview

Tri-color, backlit buttons
The QS-FPC - QuickSwitch Front Panel Controller allows for simple, intuitive matrix switcher operation.

Flexible video and audio routing options
AV signals can be routed together or independently, including embedded HDMI stereo audio signals.

Complete AV system integration in one box
The DTP CrossPoint 84 is an all-in-one 8x4 matrix switcher, scaler, audio DSP, and audio amplifier.

HDCP compliant
The DTP CrossPoint 84 is fully HDCP compliant at all inputs and outputs.

USB configuration port
Provides convenient user access for configuring, controlling, and monitoring the matrix switcher.

Volume controls
Allow for adjustment of master volume and microphone level, with accompanying LEDs to indicate volume level.

Two independently scaled DTP outputs
The DTP CrossPoint 84 provides individual scaling up to 1920x1200 or 2048x1080 for each DTP output.

Compatible with HDBaseT-enabled displays
The DTP outputs can be configured to send video and embedded audio to projectors and flat-panel displays equipped with HDBaseT inputs.

Ethernet and RS-232 control
The DTP CrossPoint 84 can be controlled and monitored using serial commands or over Ethernet.

DMP digital audio expansion port
Allows the matrix switcher and any DMP 128 model to be linked together via a shielded CAT 6 cable for AEC and system expansion.

XTRA Series audio amplifier with pro audio performance
DTP CrossPoint 84 models are available with an integrated stereo or mono amplifier.

Two DTP inputs and two DTP outputs
The DTP inputs and outputs are compatible with DTP Systems, including DTP 230 and DTP 330 products, or XTP Systems. They support digital signal transmission up to 330 feet (100 meters) over a single shielded CATx cable.

Extron ProDSP
Provides full control of audio input and output levels, plus a wide array of audio processing tools and matrix mixing options for program and microphone signals.

Mic/line inputs with 48 volt phantom power and ducking
Four mic/line inputs are available for mixing microphones or line level sources into the audio outputs.
Product Configuration Software

**INTUITIVE SYSTEM SETUP AND OPERATION**

The DTP CrossPoint 84 can be easily configured using Extron’s PCS - Product Configuration Software via the front panel USB port or over Ethernet. The user-friendly GUI of the configuration software allows for expedited audio and video setup. You are able to use the DTP CrossPoint 84 out of the box, in just a few steps. Users can view details about the current input and output such as video signal presence, HDCP status, and audio format. In addition to creating AV matrix switching ties, picture settings are available for the two independently scaled DTP outputs. These include resolution selection, image brightness, contrast, positioning, sizing, and more. PCS offers preset management and provides the ability to configure multiple DTP CrossPoint 84 units in the same session, making it easy for AV integrators to quickly set up systems across different rooms in a facility.

AV integrators and technicians can adjust audio levels in PCS using the graphical sliders available for each input. Real-time meters are available at all inputs and outputs to set proper gain structure for the audio system. For full audio system optimization and fine-tuning, integrators can take advantage of the DSP Configurator Software which is conveniently accessible from PCS.
EASY-TO-USE DSP CONFIGURATOR SOFTWARE FOR FAST SETUP

The DSP Configurator Software allows AV integrators and technicians to take advantage of the professional grade DSP in the DTP CrossPoint 84 for full audio system design, precise optimization and fine tuning, and proper gain structure. The intuitive Graphical User Environment offers fast access to all digital audio signal processing tools for the DTP CrossPoint 84, including level control, dynamics, filters, delay, loudness, feedback suppression, and matrix mixing. Designers can quickly get a snapshot of the entire audio system, including all processing blocks, AV matrix switching ties, and audio matrix mixing, without having to access multiple windows or menus.

Using the DSP Configurator Software, users can matrix mix any of the mic/line inputs into any of the four stereo output buses to create finely tuned audio zones for the corresponding outputs. With virtual buses, the inputs can be processed together as a group, before routing into the output buses. These flexible routing and mixing capabilities allow designers to create simple or complex signal management schemes to accommodate a wide variety of system application requirements. For added convenience, the DSP Configurator Software offers an Emulate mode, in addition to a Live mode, so that settings can be configured and saved offline. The configuration file can then be uploaded to the DTP CrossPoint 84 when you are ready to install the unit into a system. Available Building Blocks processor settings and the ability to save presets of any or all DSP parameters provide additional ease when setting up a fully optimized audio system.
The DTP CrossPoint 84 works in conjunction with all Extron DTP 230 and DTP 330 transmitters and receivers to extend video, audio, and control signals in AV switching applications. When the DTP CrossPoint 84 is paired with a DTP 330 transmitter or receiver, HDMI, control, and analog audio signals can be extended up to 330 feet (100 meters). With a DTP 230 endpoint, signals can be extended up to 230 feet (70 meters). The ability to extend these signals and provide remote power to each DTP endpoint with just one CATx cable greatly streamlines system designs and installation.

Designed for rack mount and architectural applications, the DTP transmitters and receivers provide convenient connection points at remote source and display locations. Decora models are available for placement in walls, lecterns, floor boxes, or behind flat-panel displays. Compact, low-profile versions can be discreetly installed beneath tables, in lecterns, above ceiling-mounted projectors, or behind flat-panel displays.

DTP transmitters and receivers are HDCP compliant and support computer-video to 1920x1200, including HDTV 1080p/60 Deep Color and 2K. Single input transmitters and receivers also support 4K and UHD resolutions. In addition, DDC communication of EDID and HDCP is continuously maintained between a source and display, ensuring direct compatibility and optimal signal transmission between devices. Multi-input transmitter models allow convenient sub-switching at a wall location, in a lectern, or under a conference room table. In addition, the multi-input transmitters offer auto-switching between inputs, plus contact closure and RS-232 control, for simplified operation. DTP 230 and DTP 330 transmitters also accept direct analog stereo audio connections from Blu-ray Disc players, laptops, or other devices for simultaneous transmission over the CATx cable to the DTP CrossPoint 84, eliminating the need for separate cable runs.
DTP 230 AND DTP 330 SERIES TRANSMITTERS AND RECEIVERS

COMMON FEATURES
- Transmits video, control, and analog audio up to 230 feet (70 m) or 330 feet (100 m) over a single shielded CATx cable
- Supports computer-video to 1920x1200, including HDTV 1080p/60 Deep Color and 2K
- Compatible with CATx shielded twisted pair cable
- Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance
- Accepts additional analog stereo audio signals
- Bidirectional RS-232 and IR pass-through for AV device control
- Remote power capability
- HDCP compliant
- Supports EDID and HDCP transmission

DTP HDMI 230 Tx and DTP HDMI 330 Tx
DTP Transmitter for HDMI

UNIQUE FEATURES
- Inputs: HDMI, 3.5 mm stereo mini jack for audio pass-through
- Outputs: One DTP twisted pair output
- Supports 4K and UHD resolutions
- Supported HDMI specification features include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, HD lossless audio formats, and CEC pass-through
- 1” (2.5 cm) high, quarter rack width metal enclosure

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DTP HDMI 330 Tx

DTP HDMI 230 Rx and DTP HDMI 330 Rx
DTP Receiver for HDMI

UNIQUE FEATURES
- Inputs: One DTP twisted pair
- Outputs: HDMI, captive screw connector for audio pass-through
- Supports 4K and UHD resolutions
- Supported HDMI specification features include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, HD lossless audio formats, and CEC pass-through
- 1” (2.5 cm) high, quarter rack width metal enclosure

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DTP T HWP 232 D and DTP T HWP 332 D
Two Input DTP Transmitter for HDMI - Decora® Wallplate

**UNIQUE FEATURES**
- **Inputs:** Two HDMI, two 3.5 mm stereo mini jacks for audio pass-through
- **Outputs:** One DTP twisted pair output
- **Auto-switching between inputs**
- **Independent analog audio inputs**
- **EDID Minder automatically manages EDID communication between connected devices**
- **RS-232 and contact closure ports**

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DTP T UWP 232 D and DTP T UWP 332 D
Two Input DTP Transmitter for HDMI and VGA - Decora® Wallplate

**UNIQUE FEATURES**
- **Inputs:** One HDMI, one RGBHV or component video on 15-pin HD, two 3.5 mm stereo mini jacks for audio pass-through
- **Outputs:** One DTP twisted pair output
- **Auto-switching between inputs**
- **Independent analog audio inputs**
- **EDID Minder automatically manages EDID communication between connected devices**
- **RS-232 and contact closure ports**

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DTP T USW 233 and DTP T USW 333
Three Input Switcher with Integrated DTP Transmitter

**UNIQUE FEATURES**
- **Inputs:** Two HDMI, one RGBHV or component video on 15-pin HD, one 3.5 mm stereo mini jack for audio pass-through
- **Outputs:** One DTP twisted pair output
- **Auto-switching between inputs**
- **Audio input assignment**
- **EDID Minder automatically manages EDID communication between connected devices**
- **RS-232 port**
- **Contact closure port with tally output**
- **1" (2.5 cm) high, half rack width metal enclosure**

<table>
<thead>
<tr>
<th>Model</th>
<th>Version Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTP T USW 233</td>
<td>Three Input Transmitter - Up to 230 ft (70 m)</td>
<td>60-1329-12</td>
</tr>
<tr>
<td>DTP T USW 333</td>
<td>Three Input Transmitter - Up to 330 ft (100 m)</td>
<td>60-1329-52</td>
</tr>
</tbody>
</table>
Compatible with all DTP Products

DTP HDMI 230 D Tx and DTP HDMI 330 D Tx
DTP Transmitter for HDMI - Decora® Wallplate

**UNIQUE FEATURES**
- **Inputs:** HDMI, 3.5 mm stereo mini jack for audio pass-through
- **Outputs:** One DTP twisted pair output
- **Supports:** 4K and UHD resolutions
- Supported HDMI specification features include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, HD lossless audio formats, and CEC pass-through

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</tr>
</thead>
<tbody>
<tr>
<td>DTP HDMI 230 D Tx</td>
<td>Transmitter - Black - Up to 230 ft (70 m)</td>
<td>60-1215-12</td>
</tr>
<tr>
<td>DTP HDMI 230 D Tx</td>
<td>Transmitter - White - Up to 230 ft (70 m)</td>
<td>60-1215-13</td>
</tr>
<tr>
<td>DTP HDMI 330 D Tx</td>
<td>Transmitter - Black - Up to 330 ft (100 m)</td>
<td>60-1464-12</td>
</tr>
<tr>
<td>DTP HDMI 330 D Tx</td>
<td>Transmitter - White - Up to 330 ft (100 m)</td>
<td>60-1464-13</td>
</tr>
</tbody>
</table>

DTP HDMI 230 D Rx and DTP HDMI 330 D Rx
DTP Receiver for HDMI - Decora® Wallplate

**UNIQUE FEATURES**
- **Inputs:** One DTP twisted pair
- **Outputs:** HDMI, 3.5 mm stereo mini jack for audio pass-through
- **Supports:** 4K and UHD resolutions
- Supported HDMI specification features include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, HD lossless audio formats, and CEC pass-through

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<tr>
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</thead>
<tbody>
<tr>
<td>DTP HDMI 230 D Rx</td>
<td>Receiver - Black - Up to 230 ft (70 m)</td>
<td>60-1215-22</td>
</tr>
<tr>
<td>DTP HDMI 230 D Rx</td>
<td>Receiver - White - Up to 230 ft (70 m)</td>
<td>60-1215-23</td>
</tr>
<tr>
<td>DTP HDMI 330 D Rx</td>
<td>Receiver - Black - Up to 330 ft (100 m)</td>
<td>60-1464-22</td>
</tr>
<tr>
<td>DTP HDMI 330 D Rx</td>
<td>Receiver - White - Up to 330 ft (100 m)</td>
<td>60-1464-23</td>
</tr>
</tbody>
</table>

XTP DTP 24
Shielded Twisted Pair Cable for XTP Systems and DTP Series

**FEATURES**
- Engineered for superior performance with Extron XTP Systems and DTP Series products
- Provides added protection from outside interference and ensures high quality signal transmission
- Certified to 475 MHz bandwidth at distances up to 330 feet (100 m)
- Independently tested and verified to meet performance requirements set by HDBaseT Alliance
- SF/UTP design with four unshielded twisted pairs inside an overall braid and foil
- 24 AWG solid copper construction
- XTP DTP 24 Plugs, Punch Down Jacks, and Couplers available separately

<table>
<thead>
<tr>
<th>Model</th>
<th>Version Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>XTP DTP 24/1000</td>
<td>Non-Plenum 1000 ft (305 m) spool</td>
<td>22-236-03</td>
</tr>
<tr>
<td>XTP DTP 24P/1000</td>
<td>Plenum 1000 ft (305 m) spool</td>
<td>22-235-03</td>
</tr>
</tbody>
</table>
AUDIO SYSTEM EXPANSION FOR SCALABILITY AND AEC

The DTP CrossPoint 84 enables complete audio system integration in one box. It accepts mic/line inputs, analog stereo inputs, additional analog stereo inputs from DTP transmitters, and HDMI embedded audio. A comprehensive selection of outputs is available including analog stereo, S/PDIF digital audio, HDMI embedded audio, stereo outputs transmitted to DTP receivers, and amplified mono or stereo audio.

The DTP CrossPoint 84 features Extron 64-bit ProDSP technology with fully configurable EQ, filters, dynamics, delay, ducking, feedback suppression, mic/line matrix mixing options, and much more.

The DTP CrossPoint 84 is easily scalable for integrating large system applications with numerous microphones or audio destinations, or to add AEC - acoustic echo cancellation for conferencing applications. An Extron-exclusive audio expansion port is provided for linking the internal DSP of the DTP CrossPoint 84 to an Extron DMP 128 ProDSP audio matrix processor. This allows audio channels to be exchanged between the two audio processors, with the DMP 128 providing an additional 12 input channels and 8 output channels. Several DMP 128 models are available, including the DMP 128 C with eight channels of AEC processing. Even greater system scalability is possible when linked to a DMP 128 AT processor on a Dante network of DMP 128 AT or Extron AXP 50 C AT units.
INTEGRATE WITH EXTRON XTP SYSTEMS IN FACILITY-WIDE APPLICATIONS

Many large-scale applications call for centralized AV distribution plus several localized AV systems in presentation spaces such as meeting rooms, training rooms, or classrooms. A facility-wide AV infrastructure may be needed for sharing resources such as videoconferencing codecs and digital signage players, and to broadcast a local AV presentation to common areas. At the same time, a dedicated AV system for each presentation space allows dedicated switching and processing functions specific to the devices in the room, including guest laptops and tablets.

A DTP CrossPoint 84 can easily be integrated into an XTP System with the ability to extend video and embedded audio. A DTP input or output is connected over CATx cable into an XTP CrossPoint 1600 or XTP CrossPoint 3200 matrix switcher at the central rack location. Each DTP output includes a dedicated scaler, so that graphics or video can be optimized as necessary for a codec, or a specific display resolution or aspect ratio.
### Specifications

#### VIDEO
- **Routing**: 8 x 4 matrix
- **Maximum data rate**: 10.2 Gbps (3.4 Gbps per color)
- **Maximum pixel clock**: 300 Hz
- **Resolution**: 1920x1200 or 1080p @ 80 Hz, 8, 10, or 12 bit color depth; 4K (4096x2160) @ 30 Hz, UHD (3840x2160) @ 30 Hz

#### VIDEO INPUT
- **Number/signal type**: 6 HDMI digital video (HDCP compliant), 2 DTP 330 or XTP (configurable)

#### MATRIX VIDEO OUTPUTS (NON SCALED)
- **Number/signal type**: 2 HDMI digital video (HDCP compliant)

#### SCALED TP OUTPUTS
- **Number/signal type**: 2 DTP 330, XTP, or HDBase T (configurable)
- **Video processing**: Digital pixel data bit depth 8, 10, or 12 bits per channel; 165 MHz pixel clock (HDMI)

#### SHIELDED TWISTED PAIR INTERCONNECTION
- **Signal transmission distance**: Up to 330' (100 m) using shielded twisted pair cable or XTP DTP 24 TP cable
- **Cable requirements**: Solid conductor, 24 AWG or better
- **Cable recommendations**: 400 MHz bandwidth, STP (shielded twisted pair)
- **NOTE**: Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance.

#### AUDIO SYSTEM (MIC/LINE INPUT TO LINE OUTPUT)
- **Gain**: Unbalanced output: -6 dB; balanced output: 0 dB

#### AUDIO
- **Routing**: 8 x 4 stereo switching matrix, 4 x 4 microphone mixing matrix
- **Number/signal type**: 6 stereo, analog line level, balanced or unbalanced, 6 stereo, de-embedded from HDMI (PCM only), 2 DTP 330 (de-embedded from HDMI [PCM only]) and remote balanced/unalbalanced analog, or XTP (embedded digital)

#### MIC/LINE INPUT
- **Number/signal type**: 4 mono, mic/line, balanced/unbalanced (with phantom power)
- **DC phantom power**: +48 VDC, ±10% (inputs 1–4) switched on or off

#### AUDIO OUTPUT
- **Number/signal type**: 2 HDMI embedded, 2 DTP 330 (embedded digital and remote balanced/unbalanced analog), XTP (embedded digital), or HDBase T (embedded digital), 4 stereo balanced/unbalanced analog (variable)

#### EXP PORT
- **Inputs**: 8 channels Rx
- **Outputs**: 16 channels Tx

#### AUDIO OUTPUT — POWER AMPLIFIER
- **Number/signal type**: 1 stereo or mono (2 channels total)
- **Amplifier type**: Class D
- **Output power**: Stereo models 25 watts (rms) per channel, 8 ohms, 1 kHz, 0.1% THD
  50 watts per channel, 4 ohms, 1 kHz, 0.1% THD
- **70 V models**: 100 watts (rms) @ 70 V, 1 kHz, 0.1% THD

#### CONTROL/REMOTE — SWITCHER
- **Serial control port**: 1 bidirectional RS-232, 3.5 mm captive screw connector, 3 pole (rear panel)
- **USB control port**: 1 front panel female USB mini-B
- **Ethernet control port**: 1 female RJ-45 connector
- **Ethernet data rate**: 10/100Base-T, half/full duplex with autodetect

#### CONTROL/REMOTE
- **External device (pass-through, unidirectional or bidirectional) (RS-232/IR over DTP)**
- **Serial control pass-through ports**
  - DTP CrossPoint 84 input/DTP Tx: RS-232 via (2) 3.5 mm, 5 pole captive screw connectors (shared with IR ports)
  - DTP CrossPoint 84 output/DTP Rx: RS-232 via (2) 3.5 mm, 5 pole captive screw connectors (shared with IR ports)
- **IR pass-through control ports**
  - TTL level (0 to 5 V) modulated infrared control from 30 kHz up to 60 kHz
  - DTP CrossPoint 84 input/DTP Tx: (2) 3.5 mm captive screw connectors, 5 pole (shared with RS-232 port)
  - DTP CrossPoint 84 output/DTP Rx: (2) 3.5 mm captive screw connectors, 5 pole (shared with RS-232 port)

#### GENERAL
- **Power supply**: Internal
  - Input: 100-240 VAC, 50-60 Hz
- **Remote power capability**: Supports up to four endpoints (two DTP Tx, two DTP Rx) (remote power not available in XTP and HDBase T modes)
- **Enclosure dimensions**: 3.5" H x 17.4" W x 15.3" D (2U high, full rack width)
  - (8.9 cm H x 43.2 cm W x 38.9 cm D) (Depth excludes connectors and knobs. Width excludes rack ears.)

#### Regulatory compliance
- **Safety**: CE, c-UL, UL
- **EM/EMC**: CE, C-tick, FCC Class A, ICES, VCCI
- **Environmental**: Complies with the appropriate requirements of RoHS, WEEE.

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**For complete specifications, please go to www.extron.com**

Specifications are subject to change without notice.

### Worldwide Sales Offices

**UNITED STATES**
- +800.633.9876 (Inside USA/Canada)
- +1.714.491.1500

**EUROPE**
- +800.3987.6673 (Inside Europe)
- +31.33.453.4040

**ASIA**
- +800.7339.8766 (Inside Asia)
- +65.6383.4400

**MIDDLE EAST**
- +971.4.299.1800

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