

DTP2 CrossPoint 82

EIGHT INPUT 4K/60 SCALING PRESENTATION MATRIX SWITCHER



DTP
SYSTEMS

18 Gbps
4K/60 4:4:4

VECTOR 4K
SCALING

ProDSP

IP LINK PRO xi

EVERLAST
POWER SUPPLIES

The Industry's Most Advanced 4K/60 Matrix Switcher

- ▶ All-in-one 8x2 matrix switcher, scaler, audio DSP, audio power amplifier & control processor
- ▶ Advanced Extron Vector™ 4K scaling engine
- ▶ 4K/60 4:4:4 matrix switching
- ▶ Logo image keying and display
- ▶ Available with energy efficient 100-watt Class D stereo or mono amplifier
- ▶ Available with integrated Extron IPCP Pro xi control processor

Extron

DTP2 CrossPoint 82

The Extron DTP2 CrossPoint 82 is an all-in-one AV matrix switcher that sets a new benchmark standard for professional matrix switching environments. It supports video resolutions up to 4K/60 @ 4:4:4 for all video inputs and outputs. Built-in DTP2 input and output connections extend video, audio, and control signals up to 330 feet (100 meters) over CATx cable. Extron-patented Vector 4K scaling, ProDSP™ audio processing, integrated IPCP Pro xi control processor, and available 100-watt Class D power amplification make the DTP2 CrossPoint 82 the ideal, all-in-one matrix switcher for meeting rooms and classroom applications.



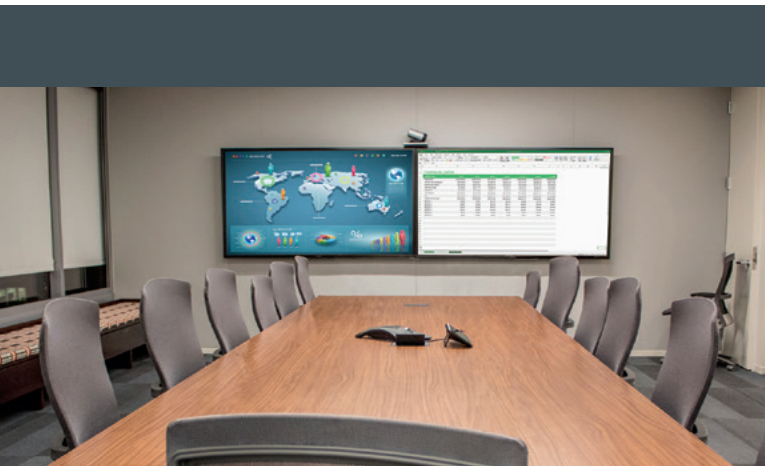
ProDSP utilizes studio grade 24-bit audio converters with 48 kHz sampling to maintain audio signal transparency. DTP2 CrossPoint 82 with ProDSP has comprehensive capabilities to control audio embedding/de-embedding, mic/line mixing with ducking and phantom power, feedback suppression, dynamics, equalization, and delay.



DTP2 CrossPoint 82 IPCP Q models feature a built-in Extron IP Link® Pro xi control processor with a secure, dedicated three-port AV LAN switch designed to control local AV devices and safeguard them from outside intrusion or interference. The DTP2 CrossPoint 82 IPCP Q delivers high-speed processing and abundant control port capacity for complete, customizable control of an entire AV system.



DTP2 CrossPoint 82 IPCP Q models feature stereo or mono 100-watt Class D power amplifiers with patented CDRS™ - Class D Ripple Suppression technology that provides a smooth, clean audio waveform and an improvement in signal fidelity over conventional Class D amplifier designs.



The DTP2 CrossPoint 82 is designed for a variety of rooms where reliability and superior quality presentations are crucial, including corporate boardrooms, lecture halls in higher education, government facilities, and public performance venues. In addition to pristine video performance, the DTP2 CrossPoint 82 incorporates logo keying and seamless switching transition effects to enhance the user experience. For larger installations, the DTP2 CrossPoint 82 IPCP Q, with a Class D amplifier and a control processor, is available to provide all-in-one AV matrix switching, signal processing, audio power amplification, and system control.

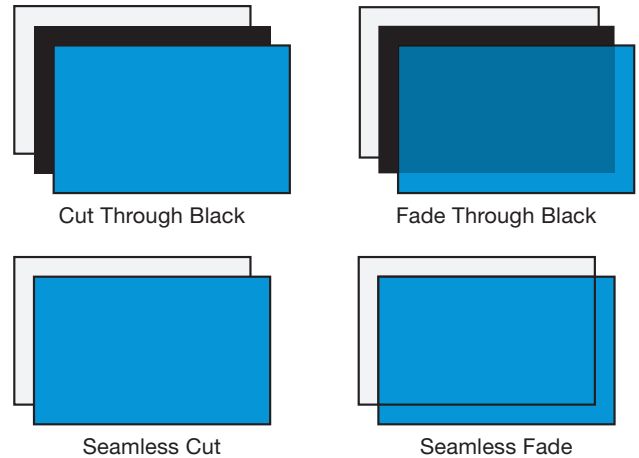
SEAMLESS SWITCHING AND LOGO KEYING

High-performance video scaling within the DTP2 CrossPoint 82 allows for uncompromised image quality. Powered by Vector 4K scaling technology, these presentation matrix switchers provide powerful processing capabilities, including selectable seamless switching transition effects and logo keying. These capabilities serve the needs of environments where superior presentation quality is crucial.

Seamless Switching Transitions

Critical presentations do not tolerate video glitches. To ensure glitch-free, professional quality presentations, several transition effects are available when switching between video sources. Effects include:

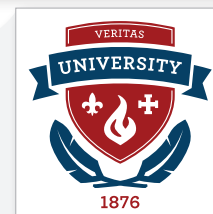
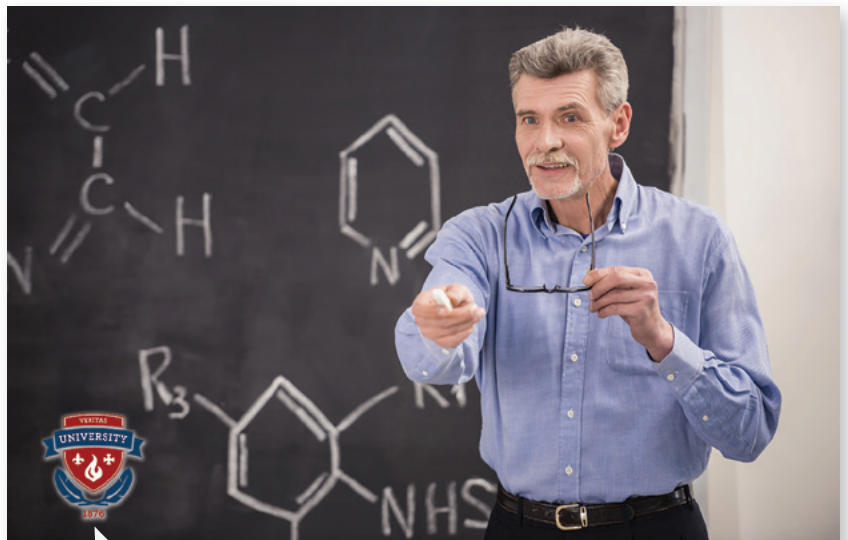
- **Cut through black** – Instantly cut the current input to black, then cut to the newly selected input.
- **Fade through black** – Fade the current input to black, then fade to the new input.
- **Seamless cut** – Freeze the current input video frame, then cut to the newly selected input.
- **Seamless fade** – Freeze the current input video frame, then fade to the new input.



Logo Keying

A graphic image such as a company or school logo can be uploaded and inserted on the DTP2 output to enhance branding and to identify the source of valuable video content. Custom images up to 4096x2400 resolution are supported and can be used at any point in the presentation.

- Logos can be placed anywhere on the active video.
- Uploaded logos can be inserted above live video using level keying, RGB color keying, or an alpha channel when supported by the graphic file format.
- Logo images in BMP, JPG, PNG, or TIFF graphic file formats are supported.
- 16 logo presets are available to store the logo file name, position, and key settings for quick recall and switching between multiple logo images.



EXTRON EXCLUSIVE VECTOR 4K SCALING ENGINE

VECTOR 4K SCALING

When it comes to delivering unsurpassed image quality, Extron has the proven technology and expertise to do it right. For over 20 years, Extron has been engineering and designing scaling and signal processing solutions, with 24 worldwide patents awarded to date.

Extron Vector 4K is the latest generation of our video scaling engines and is specifically engineered for critical-quality 4K imaging. Innovative applications utilizing 4K content and displays continue to emerge, with end users demanding sharp, detailed, and professionally crafted imagery from their systems. To meet this important criterion, Extron has created a series of signal processing technologies for upscaling, downscaling, and optimally converting 4K signals or any other source content.

Designing Scaling Technology from the Ground Up

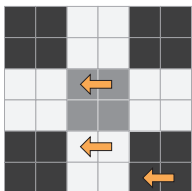
The Vector 4K scaling engine is the result of our extensive R&D operations with in-house engineering expertise in signal processing, image rendering, software engineering, and computing platform integration. With the vast knowledge we've acquired over the years through our research into high resolution video and graphics imaging, we're able to deliver patented image processing technologies that meet our exact specifications for visual performance.

In addition to high performance image processing, Vector 4K incorporates essential integration features that help address frequent AV system design and integration challenges while simplifying setup and commissioning. Having our own "home-grown" scaling and signal processing technology allows us to respond to specific AV integration needs in a timely manner.

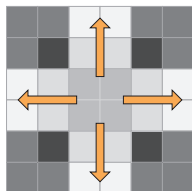


Unparalleled Scaling Quality

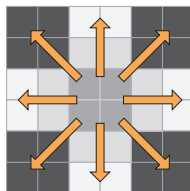
The Vector 4K scaling engine incorporates Extron-engineered, multi-tap, bicubic interpolation, which creates a new pixel by averaging adjacent pixels above, below, to the sides, and diagonally of the new pixel. This produces sharp, accurate output, preserving single-pixel detail as content is downsampled or upsampled.



Nearest Neighbor



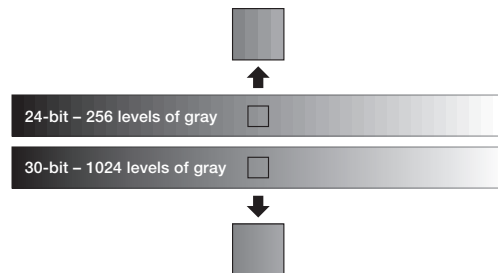
Bilinear Interpolation



Bicubic Interpolation

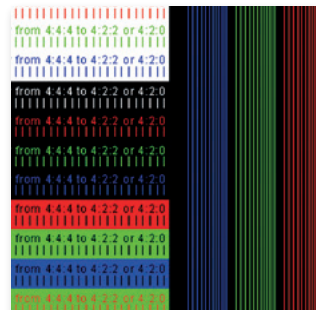
Color Bit Depth

Vector 4K scaling technology processes video at 30 bits per pixel to maximize grayscale and color accuracy. This maintains color fidelity and detail present in native 30-bit source content, while delivering better color accuracy for 24-bit sources.

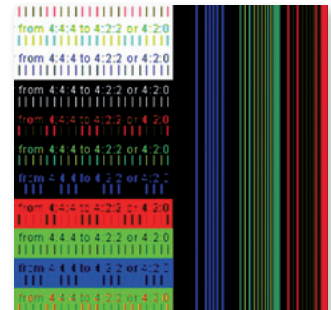


4:4:4 Color Processing

4:2:2 or 4:2:0 color subsampling may be acceptable for processing full-motion video, but can produce color smearing, missing lines, jagged lines, and other artifacts with computer-generated content. Vector 4K scaling processes video and computer graphics in the RGB domain with full 4:4:4 color, which is critical for processing fine image details such as single pixel, colored lines and text in computer content.



4:4:4



4:2:2

MODEL SUMMARY

DTP2 CrossPoint 82 features Vector 4K scaling up to 4K/60 4:4:4, seamless switching, logo keying, ProDSP 64-bit audio signal processing, and DTP2 signal extension over CATx cable. For complete functionality, models are available with an integrated 100-watt 70-volt mono or stereo Class D power amplifier and a built-in IPCP Pro xi control processor with isolated Gigabit Ethernet AV LAN switch.

DTP2 CrossPoint 82

Features

- DTP2, DisplayPort, and HDMI inputs
- Selectable HDMI loop-through
- DTP2 and HDMI outputs
- Selectable scaled DTP2 output rates from 640x480 to 4K/60 4:4:4
- ProDSP 64-bit audio digital signal processor

Model

DTP2 CrossPoint 82

Version Description

Standard Model

Part Number

60-1812-01



DTP2 CrossPoint 82 IPCP Q SA

Features

- DTP2, DisplayPort, and HDMI inputs
- Selectable HDMI loop-through
- DTP2 and HDMI outputs
- Selectable scaled DTP2 output rates from 640x480 to 4K/60 4:4:4
- ProDSP 64-bit audio digital signal processor
- Integrated IPCP Pro xi Control Processor
- 100-watt Class D stereo amplifier:
 - 2 x 50 watts @ 4 ohms
 - 2 x 25 watts @ 8 ohms

Model

DTP2 CrossPoint 82 IPCP Q SA

Version Description

Control Processor and Stereo Amp

Part Number

60-1812-92

DTP2 CrossPoint 82 IPCP Q SA

Control Processor and Stereo Amp, LL UI Upgrade

60-1812-92A



DTP2 CrossPoint 82 IPCP Q MA 70

Features

- DTP2, DisplayPort, and HDMI inputs
- Selectable HDMI loop-through
- DTP2 and HDMI outputs
- Selectable scaled DTP2 output rates from 640x480 to 4K/60 4:4:4
- ProDSP 64-bit audio digital signal processor
- Integrated IPCP Pro xi Control Processor
- 100-watt Class D 70 V mono amplifier

Model

DTP2 CrossPoint 82 IPCP Q MA 70

Version Description

Control Processor and 70 V mono Amp

Part Number

60-1812-93

DTP2 CrossPoint 82 IPCP Q MA 70

Control Processor and 70 V mono Amp, LL UI Upgrade

60-1812-93A



OVERVIEW

Extron Vector 4K scaling engine

The exclusive 4K scaling engine is specifically designed for critical-quality 4K imagery, providing best-in-class image upscaling and downscaling with selectable output resolutions up to 4K/60 4:4:4

HDCP 2.3 compliant

Ensures display of content-protected 4K video media and maintains interoperability with earlier versions of HDCP

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

Volume controls

Allow for adjustment of program volume and microphone level, with accompanying LEDs to indicate volume level



DTP2 CrossPoint 82 IPCP Q SA - Front

USB configuration port

Provides convenient user access for system setup and configuration

Dual color backlit input selection and LOGO buttons

LED indicators monitor signal presence and HDCP status for each video input and output

Menu navigation controls for on-screen display

Key parameters such as input and output video formats and resolutions are conveniently grouped on the initial Quick Setup screen to get up and running fast

DisplayPort input

Supports DisplayPort SST - Single Stream Transport data rates up to 21.6 Gbps

Five HDMI inputs

Supported HDMI 2.0 specification features include data rates up to 18 Gbps, Deep Color, and HD lossless audio formats

IPCP Pro xi Control

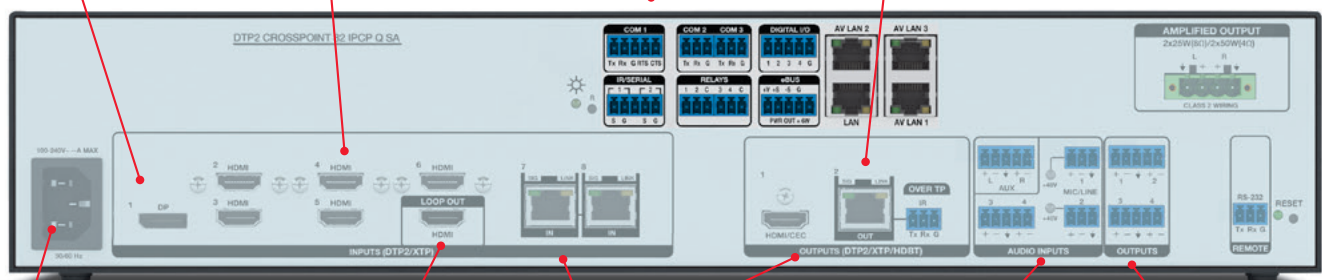
Available integrated IPCP Pro xi control processor with isolated three-port Gigabit Ethernet AV LAN switch

DTP2 and HDMI outputs

Features one scaled video DTP2 and one non-scaled HDMI output

Integrated XTRA Series audio amplifier

DTP2 CrossPoint 82 IPCP Q models are available with a 100-watt stereo or 70-volt mono amplifier



DTP2 CrossPoint 82 IPCP Q SA - Back

Internal Extron Everlast™ power supply

Provides worldwide power compatibility, with high demonstrated reliability and low power consumption for reduced operating cost

DTP2 connections extend 4K/60 video, audio, and control signals up to 330 feet (100 meters) over shielded CATx cable

Configurable to be compatible with all DTP2 and DTP-enabled products, XTP CrossPoint matrix switchers, and HDBaseT-enabled displays

Two mic/line inputs with ducking and 48-volt power

Can be independently mixed with program audio, and selectable 48 volt phantom power allows the use of condenser microphones

Audio de-embedding

Four analog outputs are configurable as mono or stereo and support balanced/unbalanced operation

HDMI loop-through output

May be switched independently to monitor any video input

FEATURES

All-in-one 8x2 matrix switcher, scaler, audio DSP, audio power amplifier, and control processor

DTP2 and HDMI outputs

Features one scaled DTP2 and one non-scaled HDMI output.

Supports signal resolutions up to 4K/60 with 4:4:4 color

Available with integrated IPCP Pro xi control processor

DTP2 CrossPoint 82 IPCP Q models include a built-in IPCP Pro xi control processor for complete AV system control.

Available with energy efficient Class D stereo or mono amplifier: 2 x 50 watts @ 4 ohms; 2 x 25 watts @ 8 ohms; 1 x 100 watts @ 70 volts

Supports DisplayPort SST - Single Stream Transport data rates up to 21.6 Gbps

Supported HDMI 2.0 specification features include data rates up to 18 Gbps, Deep Color, and HD lossless audio formats

HDMI loop-through output is selectable for any input

Selectable scaled DTP2 output rates from 640x480 to 4K/60 with 4:4:4 color sampling

Logo image keying and display

A logo graphic can be positioned and keyed over the live DTP2 video output. Full-screen images up to 4K resolution can be displayed to avoid showing a blank screen between presentations.

Stereo audio embedding and de-embedding

Analog audio signals can be embedded onto the DTP2 output, and embedded two-channel PCM audio can be extracted to the analog outputs.

Integrated audio digital signal processor with ProDSP™ 64-bit processing

The DTP2 CrossPoint 82 features 64-bit floating point audio DSP processing, which maintains very wide dynamic range and audio signal transparency to simplify gain stage management while reducing the possibility of DSP signal clipping.

Selectable seamless switching transitions

Seamless freeze/cut, freeze/fade, cut through black, and fade through black transition effects are available at the scaled DTP2 video output.

Comprehensive EDID control and management

Use PCS software to control EDID Minder® for setting video input EDID, capturing EDID from connected displays, or uploading custom EDID files. Freely downloadable EDID Manager 2.0 software is available for editing custom EDID tables.

Key Minder® continuously verifies HDCP compliance for quick, reliable switching

SpeedSwitch® Technology provides fast switching speeds for HDCP-encrypted content

HDCP 2.3 compliant

Supports custom EDID and output resolutions

User-defined output resolutions can be supported by uploading custom EDID files, or capturing EDID from a display or other destination device.

Internal video test patterns and pink noise generator for calibration and setup

Audio file playback

Up to 16 pre-recorded messages may be stored and played back over analog and embedded audio outputs.

Audio breakaway

Audio input gain and attenuation

Gain or attenuation can be adjusted for the audio input to eliminate noticeable differences when switching between sources.

Ethernet monitoring and control

CEC - Consumer Electronics Control Capability

Standard, built-in CEC commands can be triggered to control displays or other AV devices connected to the HDMI or DTP2 output.

DTP2 extension supports transmission of 4K/60 video, audio, and control up to 330' (100 m) over a shielded CATx cable

RS-232 insertion from the Ethernet control port

Saves system resources and simplifies installation by enabling a control processor to access remote RS-232 devices over Ethernet.

Compatible with CATx shielded twisted pair cable

Remote powering of select DTP transmitters and receivers

The DTP2 CrossPoint 82 can provide power to select DTP or DTP2 transmitters and receivers over the twisted pair connections, eliminating the need for separate power supplies at the remote units.

Accepts additional analog stereo audio signals

DTP2 CrossPoint 82 supports stereo analog audio signals for simultaneous transmission over the same shielded twisted pair cable.

Bidirectional RS-232 and IR pass-through for AV device control

Bidirectional RS-232 control and IR signals can be transmitted alongside the video signal over the DTP connection, allowing the remote device to be controlled without the need for additional cabling.

Compatible with all DTP-enabled products plus XTP CrossPoint matrix switchers

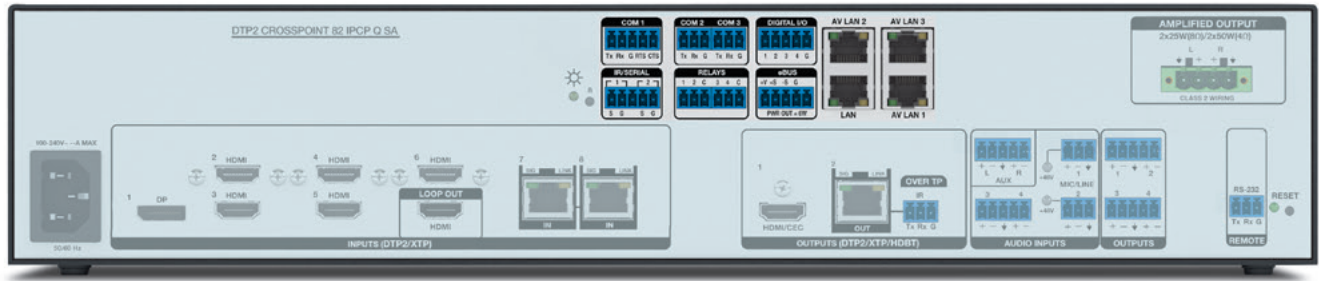
Enables mixing and matching with desktop and wallplate endpoints, as well as other DTP and DTP2-enabled products to meet application requirements.

DTP2 output is compatible with HDBaseT-enabled devices

The DTP2 CrossPoint 82 can be configured to send video and embedded audio, plus bidirectional RS-232 and IR signals to an HDBaseT-enabled display.

Supports TouchLink® Pro touchpanels, eBUS® button panels, and Network Button Panels

INTEGRATED CONTROL PROCESSOR



Built-In IP Link Pro xi Quad Core Control Processor

The integrated IPCP Pro xi control processor includes all of the same advanced features, processing power, and breakthrough technologies found in standalone Extron Pro xi Series control systems. It enables the DTP2 CrossPoint 82 IPCP Q to provide powerful AV and room control capabilities, including control of all sources and displays, lighting, window shades, projection screens, occupancy sensing, and much more. The DTP2 CrossPoint 82 IPCP Q can also be grouped with up to three additional IPCP Pro xi control processors using Global Configurator Professional software to create large, sophisticated control systems. This is ideal for controlling multiple systems, rooms, or even remote locations around the world.

Two bidirectional RS-232 serial ports with software handshaking

One bidirectional RS-232/RS-422/RS-485 serial port with hardware and software handshaking

Two IR/serial ports for one-way control of external devices

Four digital I/O ports and four relays
Provide control of various room functions.

Quad-core processor and four times more memory with 2 GB of RAM and 8 GB of Flash

For increased upload speeds, faster runtime performance, and more sophisticated projects

Integrated three-port AV LAN switch allows AV devices to be isolated from the corporate network

Supports secure industry standard communications protocols

Supports LinkLicense

Enhances the capabilities of Extron Pro Series control systems.

Multi-level password protection

Allows security to be set based on user roles.

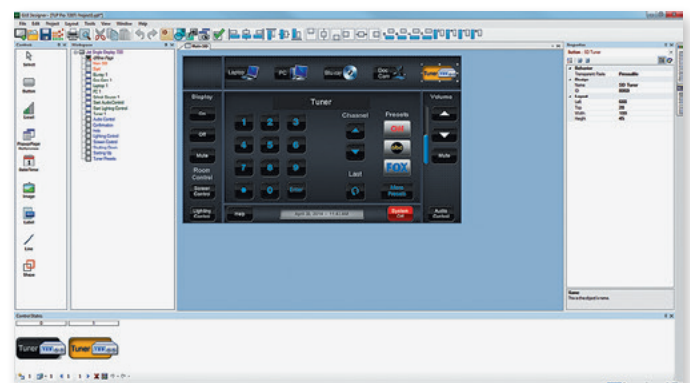
Fully customizable using Extron control system software

GUI Designer combined with Global Configurator Plus or Global Configurator Professional.

Pair with TouchLink Pro Touchpanels For a Powerful AV Control System

The DTP2 CrossPoint 82 IPCP Q supports direct connectivity with Extron TouchLink® Pro touchpanels through the Gigabit switch on the presentation switcher. TouchLink Pro touchpanels feature enhanced processing and memory, plus a capacitive touchscreen for select models. These touchpanels are available in a variety of form factors and sizes to suit a wide range of applications.





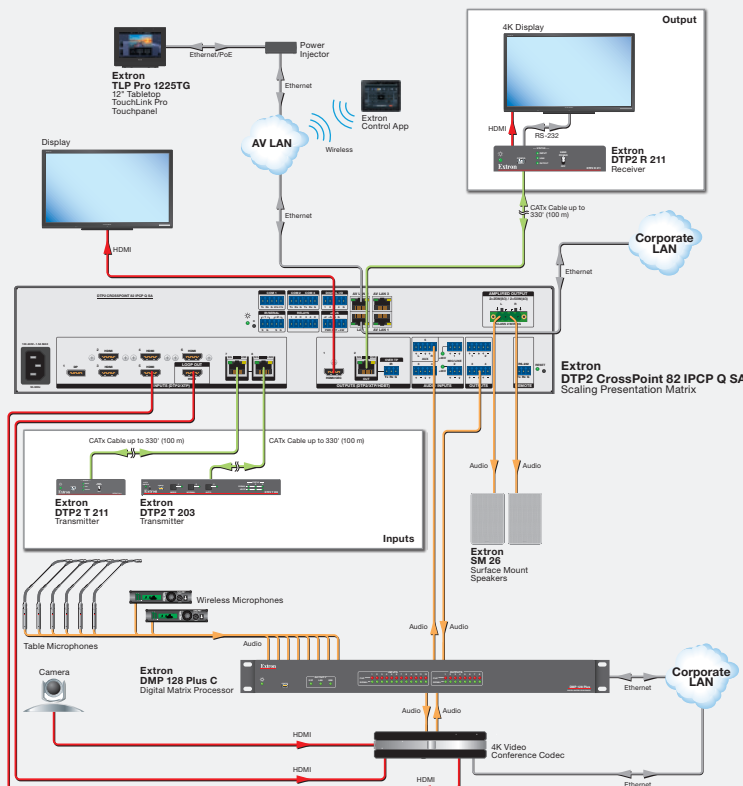
ADD POWERFUL CAPABILITIES WITH LINKLICENSE



Extron LinkLicense is an easy, cost-effective way to add even more powerful capabilities to Extron products. Purchasing a LinkLicense for User Interfaces upgrade for a DTP2 CrossPoint 82 IPCP Q model enables the use of a mobile device or computer as the primary control interface for the AV system. With the purchase of LinkLicense with the DTP2 CrossPoint 82 IPCP Q, integrators can create custom user interfaces for tablets or laptops, and duplicate them to additional devices with no per-user fees.



- Purchase LinkLicense and activate it with a single click to take immediate advantage of all the benefits
- Unlock features that add convenience, expand system options, and enhance the capabilities of your Extron products
- No central management of licenses required
- Use a mobile device or computer as the primary control interface in an Extron control system
- Simplify deployment of BYOD – Bring Your Own Device control designs
- Streamline support by standardizing on a consistent BYOD control approach across your organization
- Operate seamlessly with the Extron Control App

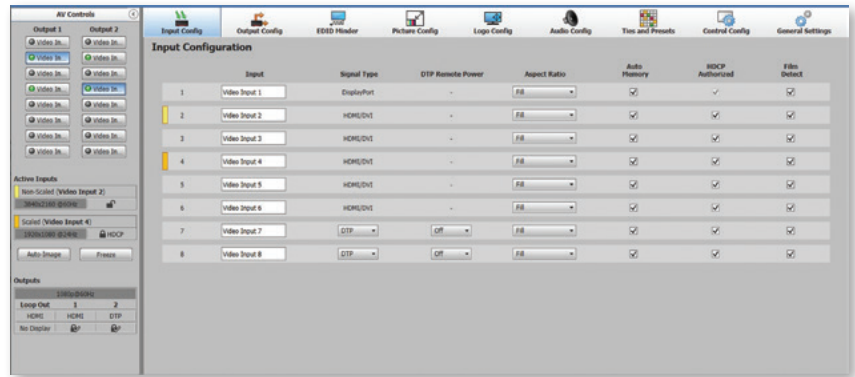


PRODUCT CONFIGURATION SOFTWARE

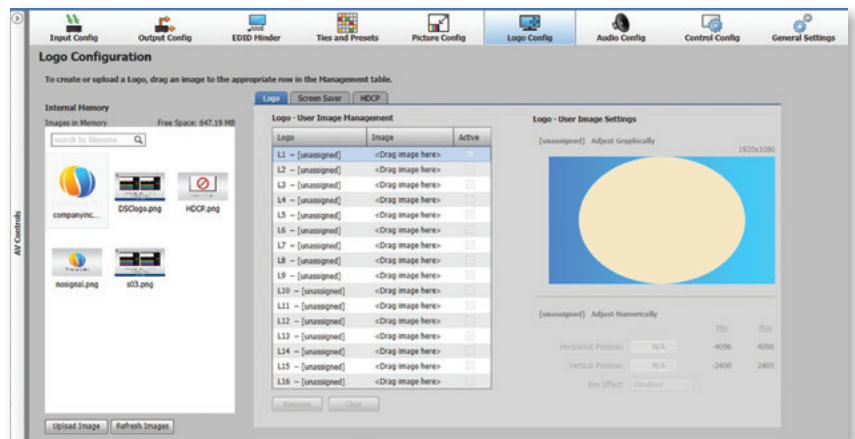
Intuitive System Setup and Operation

The DTP2 CrossPoint 82 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 DTP2 CrossPoint 82 out of the box, in just a few steps. In addition to creating matrix switching ties, users can view details about the current input and output, such as video signal presence, HDCP status, and audio format. Picture settings include resolution selection, image brightness, contrast, positioning, sizing, and more. PCS offers preset management and provides the capability to configure multiple DTP2 CrossPoint 82 units in the same session, making it easy for AV integrators to quickly set up systems across different rooms in a facility.

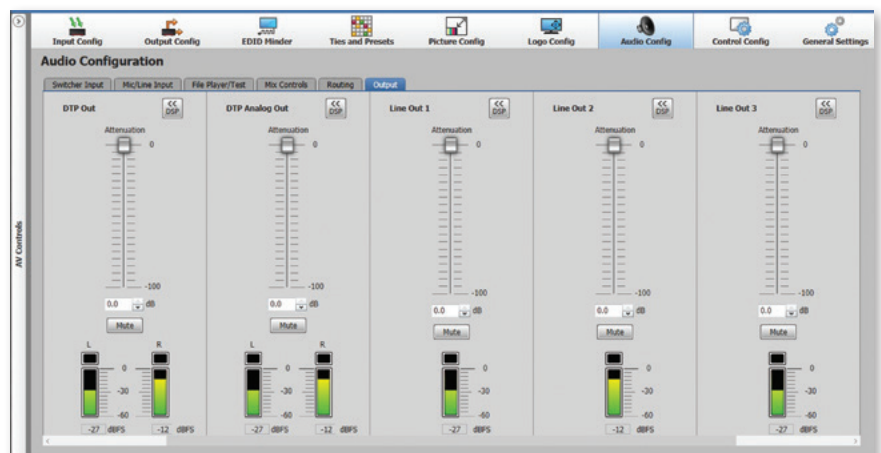
AV integrators and technicians can adjust audio levels in PCS using the graphical sliders available for each input. Real-time meters are available at all inputs and outputs to set proper gain structure for the audio system.



The intuitive user interface makes it easy to independently apply EDID settings to each input, allowing the user to select from EDID captured from connected output devices, factory default EDID, or custom EDID uploaded to the unit.



Logo placement, selection, and file management are easily configured with PCS.



PCS enables expedited audio system setup with convenient audio input format selection, level adjustment, and real-time meters for each input and output.

Compatible with Extron DTP-Enabled Products and XTP Matrix Switchers

The DTP2 CrossPoint 82 works in conjunction with all Extron DTP endpoints and DTP-enabled switching products to extend video, audio, and control signals. The ability to extend these signals and provide remote power to select DTP and DTP2 endpoints with just one, shielded CATx cable greatly simplifies system designs and installation. DTP2 products build upon the extensive DTP platform to reach new heights in professional AV integration. They incorporate advanced features and functions to let you create the sophisticated, yet simple to use systems that customers demand. All DTP2 products accommodate the full 18 Gbps data rate of HDMI 2.0 and support video signals up to 4K/60 with 4:4:4 color sampling. Analog audio inputs on all DTP2 products support audio embedding, and audio de-embedding is supported on analog audio outputs of all DTP2 products. The DTP2 CrossPoint 82 can also be integrated into XTP Systems® when working in tandem with XTP II CrossPoint matrix switchers, offering greater coverage for larger facilities already using facility-wide AV distribution.

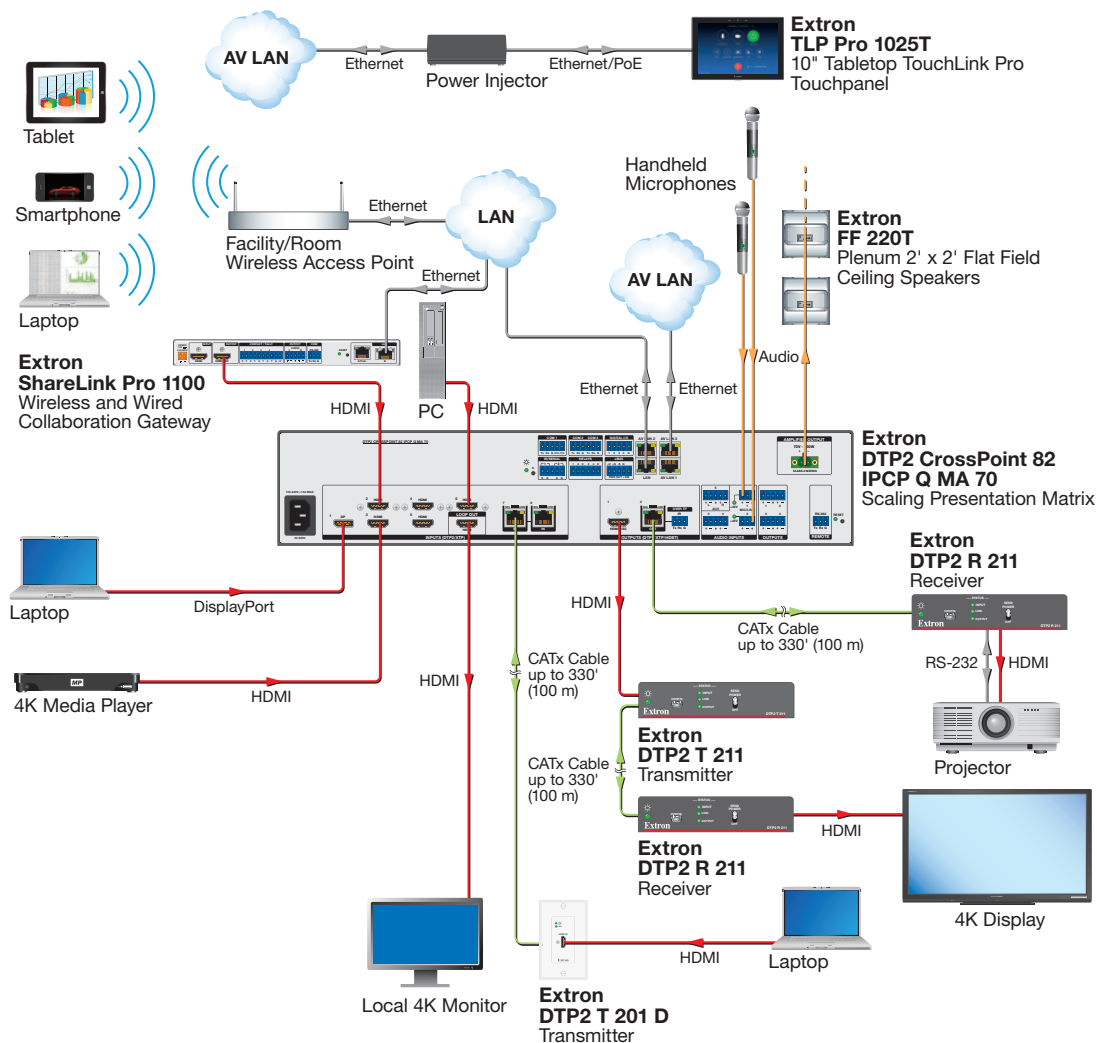


Training Room

Many training room applications require an AV system that supports a wide variety of resources, including 4K sources, wireless communication, and a projection system as well as a flat panel display. The DTP2 CrossPoint 82 provides highly reliable matrix switching and distribution to accommodate the various sources and displays.

The integrated DTP2 inputs and output on the DTP2 CrossPoint 82 are ideal for extending source signals from the lectern and to the projection system. Video content at 4K/60 4:4:4 resolution is sent to the wall-mounted display using the HDMI output and a DTP2 transmitter and receiver pair. This same content is sent to the projector connected to the matrix switcher's DTP2 output via a DTP2 receiver. While the same content is usually sent to both training room destinations, the independent HDMI and DTP2 outputs provide the flexibility to view separate source content on each display. The DTP2 output can also be configured for viewing content on an HDBaseT-enabled display, eliminating the need for a receiver and streamlining the design.

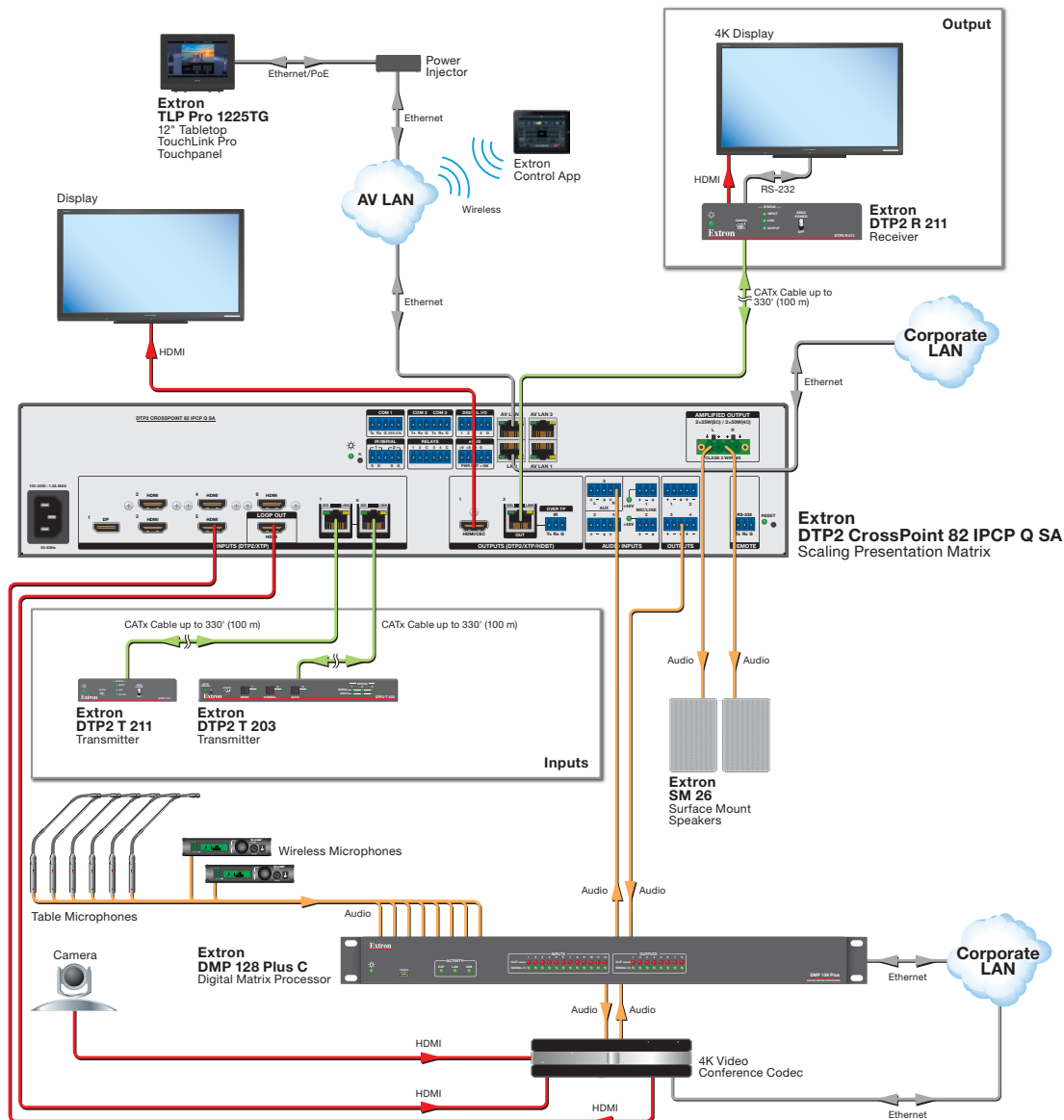
Serving as the central component for full audio system integration, the DTP2 CrossPoint 82 IPCP Q MA 70 features powerful DSP to support the distributed audio system. The internal DSP provides audio signal switching and processing for each of the source inputs and room microphones. The DTP2 CrossPoint 82 IPCP Q MA 70 includes an integrated 100-watt mono amplifier that feeds the 70-volt speaker system, providing ample sound reinforcement. As an additional integration convenience, source selection, transport control for a 4K media player and a ShareLink Pro 1100 wireless system, and audio system control are easily accessible with the TLP Pro 1025T TouchLink Pro Touchpanel that is connected to the matrix switcher's built-in control processor. This allows AV network control to be dedicated to an AV LAN for enhanced security and convenient management.



Videoconference

This room provides excellent audio and video performance for videoconferencing and local meetings. Installed video equipment such as displays, switchers, transmitters, and the VC codec are capable of 4K video resolution. Meeting participants sitting at the table can share content from their devices connected over HDMI or DisplayPort, and the DTP2 CrossPoint 82 scales lower resolution content to 4K/60 4:4:4 to feed the main display. When the room is in video conference mode, the matrix switcher enables video from the far side to be shown on either or both displays. Alternatively, one display can be switched to show local content. The DMP 128 Plus C ProDSP™ audio processor provides up to twelve channels of high-performance acoustic echo cancellation, as well as sophisticated microphone automixing and ducking. The DMP 128 processor feeds audio to the 100-watt Class D stereo amplifier built into the DTP2 CrossPoint 82 to drive the SM 26 two-way speakers, delivering a premium audio experience.

The DTP2 CrossPoint 82 IPCP Q SA has an integrated IP Link® Pro xi control processor connecting the AV system components over an isolated network, which is secured from outside interference or intrusion. Also, the built-in three-port AV LAN switch enables AV devices to be isolated from the corporate network, allowing them to receive firmware updates and be remotely monitored, managed, and controlled. End users can conveniently control system functions using the TLP Pro 1225TG 12" Tabletop TouchLink® Pro Touchpanel or using the Extron Control App installed on a mobile device.



SPECIFICATIONS

TRUE 4K SPECIFICATION

Max 4K Capabilities		
Resolution and Refresh Rate	Chroma Sampling	Max Bit Depth per Color
4096 x 2160 at 60 Hz ² 3840 x 2160 at 60 Hz 4096 x 2160 at 30 Hz 3840 x 2160 at 30 Hz	4:4:4	8 bit
4096 x 2160 at 60 Hz 3840 x 2160 at 60 Hz	4:2:0 ⁴	10 bit ³
Frame rate ¹	24, 25, 30, 50, 60, 120, 144, or 240 fps	
Chroma sampling ¹	4:4:4 and 4:2:2; 4:2:0 (at input only)	
Color bit depth ¹	8 or 10 bits per color	
Signal type	DVI 1.0, HDMI 1.4 and 2.0, DisplayPort 1.2, HDCP 1.4 and 2.3	
Max. video data rate ¹		
HDMI	18 Gbps (6 Gbps per color)	
DisplayPort	21.6 Gbps (5.4 Gbps per lane)	
NOTE: • ¹ Subject to the maximum data rate limit. Use our calculator at www.extron.com/8Kdata to determine video parameters supported by this data rate.		
• ² 4096 x 2160/50-60 at 4:4:4 is available only for HDMI and DisplayPort connections.		
• ³ DTP2 and XTP are 8 bits per color for all 4096 x 2160 formats.		
• ⁴ 4:2:0 sub-sampling is supported at input only.		
NOTE: DTP2 ports are backwards-compatible with DTP endpoints for resolutions up to 4K @ 30 Hz, 4:4:4, or 4K @ 60 Hz, 4:2:0.		

VIDEO INPUT

Number/signal type	1 DisplayPort 5 HDMI/DVI 1 HDMI/DVI loop-out, configurable (non-scaled) 2 DTP2/XTP-configurable
Connectors	1 female DisplayPort 5 female HDMI type A 1 female HDMI type A loop-out 2 female RJ-45
Horizontal frequency	15 kHz to 270 kHz for resolutions up to 18 Gbps
Vertical frequency	24 Hz to 240 Hz for resolutions up to 18 Gbps
Resolution range	640x480 @ 60 Hz through 4096x2160 @ 60 Hz with 4:4:4 chroma sampling Includes 480i, 480p, 576i, 576p, 720p, 1080i, 1080p, 2K, and 4K.

VIDEO PROCESSING

Digital sampling	8 or 10 bits per color; 600 MHz pixel clock maximum
Colors	1.07 billion (10 bit 4:4:4 processing)

VIDEO OUTPUT

Number/signal type	1 HDMI/DVI (non-scaled) 1 DTP2/XTP/HDBT, configurable (scaled)
Connectors	1 female HDMI type A 1 female RJ-45
Peripheral device power	225 mA per output (HDMI and loop outputs only)
Scaled resolution	640x480 ⁸ , 800x600 ⁸ , 1024x768 ⁸ , 1280x768 ⁸ , 1280x800 ⁸ , 1280x1024 ⁸ , 1360x768 ⁸ , 1366x768 ⁸ , 1440x900 ⁸ , 1400x1050 ⁸ , 1600x900 ⁸ , 1680x1050 ⁸ , 1600x1200 ⁸ , 1920x1200 ⁸ , 2048x1200 ⁸ , 2048x1536 ⁸ , 2560x1080 ⁸ , 2560x1440 ⁸ , 2560x1600 ⁸ , 3840x2160 ^{1,2,3,4,5,6,7,8} , 4096x2160 ^{1,2,3,4,5} , and Custom 1-8 480p ^{7,8} , 576p ⁶ , 720p ^{3,4,5,6,7,8} , 1080p ^{6,7,8} , 1080p ^{1,2,3,4,5,6,7,8} , 2K ^{1,2,3,4,5,6,7,8} ¹ 23.98 Hz, ² 24 Hz, ³ 25 Hz, ⁴ 29.97 Hz, ⁵ 30 Hz, ⁶ 50 Hz, ⁷ 59.94 Hz, ⁸ 60 Hz *Available to a DTP2 Rx

AUDIO

Gain	Unbalanced output: -6 dB; balanced output: 0 dB
Frequency response	20 Hz to 20 kHz, ±0.5 dB
THD + Noise	<0.1%, 20 Hz to 20 kHz at nominal level
S/N	>90 dB at maximum balanced output (unweighted)
Supported formats	
Analog de-embedding	LPCM up to 2.0/24-bit/96 kHz
HDMI pass-through	LPCM up to 7.1/24-bit/192 kHz, Dolby Atmos, Dolby TrueHD, and Dolby legacy formats DTS:X, DTS-HD Master Audio, DTS 96/24, and DTS legacy formats

AUDIO INPUT

Number/signal type	2 stereo line level, balanced or unbalanced 2 mono mic/line level, balanced or unbalanced, (with available phantom power) 6 stereo, de-embedded from HDMI/DisplayPort (PCM only) 2 DTP2/XTP (de-embedded HDMI—PCM only, or remote unbalanced analog*) *Available only in DTP mode
Connectors	(2) 3.5 mm, 5 pole captive screw for line (2) 3.5 mm, 3 pole captive screw for mic/line 5 female HDMI type A 1 female DisplayPort 2 RJ-45 female
Input gain adjustment	Line inputs: -18 dB to +24 dB in 0.1 dB steps, adjustable per input LPCM-2Ch inputs: -18 dB to +24 dB in 0.1 dB steps, adjustable per input Mic/line inputs: -18 dB to +60 dB in 0.1 dB steps, adjustable per input
DC phantom power	+48 VDC ±10% (can be switched on or off per mic/line input)

AUDIO OUTPUT — LINE OUT

Number/signal type	2 stereo or 4 mono, balanced/unbalanced 2 HDMI, embedded (Loop Out and HDMI Out 1 do not support breakaway or audio DSP.) 1 DTP2/XTP/HDBT (embedded digital, and remote balanced/unbalanced analog*) *Available only in DTP mode
Connectors	(2) 3.5 mm, 5 pole captive screw 2 female HDMI type A 1 female RJ-45
Output volume range	0 to -100 dB in 0.1 dB steps (Volume control not available on loop out or HDMI output 1)

AUDIO OUTPUT — POWER AMPLIFIER — IPCP MODELS ONLY

Number/signal type	1 stereo (default) or 2 mono (2 channels total)
SA models	1 stereo (default) or 2 mono (2 channels total)
MA 70 models	1 mono, 70 V line
Connectors	
SA models	(1) 5 mm, 4 pole, screw lock captive screw
MA 70 models	(1) 5 mm, 2 pole, screw lock captive screw
NOTE: The 5 mm screw lock captive screw connector accepts wires of 22 AWG to 12 AWG.	
Load impedance	
SA models	4 ohms minimum
MA 70 models	50 ohms minimum
Amplifier type	Class D
Output power	
SA models	25 watts per channel, 8 ohms, 1 kHz, 0.1% THD, or 50 watts per channel, 4 ohms, 1 kHz, 0.1% THD
MA 70 models	100 watts (rms) @ 70 V, 1 kHz, 0.1% THD
Protection	Clip limiting, thermal, short circuit, DC output
Frequency response	20 Hz to 20 kHz, -3 dB to +1 dB @ 1 W
THD + Noise	<0.1% @ 1 kHz, 3 dB below clipping
S/N	>90 dB, 20 Hz to 20 kHz, unweighted

SPECIFICATIONS

COMMUNICATIONS	
Serial control port	1 bidirectional RS-232, 3.5 mm, 3 pole captive screw connector (rear panel)
USB control port	1 female mini USB B (front panel)
Ethernet	
Connector	1 female RJ-45*
Ethernet data rate	*IPCP models use IPCP Ethernet ports.
Ethernet protocol	10/100/1000Base-T, half/full duplex with autotdetect ARP, ICMP (ping), IP, TCP, DHCP, HTTP, Telnet
Program control	Extron Product Configuration Software (PCS) program for Windows® Extron Simple Instruction Set (SIS™) Microsoft® Internet Explorer®
COMMUNICATIONS	
IPCP Pro Control Processor with AV LAN — IPCP models only	
Control processor	
IPCP Q models	IPCP Pro 355MQ xi
Memory	
SDRAM	
IPCP Q models	2 GB
Flash	
IPCP Q models	8 GB
Software and control options	
Configuration software	Global Configurator® Plus and Professional for Windows®
Programming software	Global Scripter®
Control applications	GlobalViewer®, eBus®, TouchLink® for Web, Touchlink for iPad®, or TouchLink Pro touchpanels
Resource management software	GlobalViewer® Enterprise
Utilities	Toolbelt, embedded web page
Hardware user interface	
Hardware	TouchLink® Pro touchpanels, NBP button panels, or eBUS® button panels
Ethernet control	
Network interface controllers (NICs)	2: 1 LAN, 1 AV LAN
AV LAN network switch	1 unmanaged 3 port switch
Connectors	
LAN	1 female RJ-45
AV LAN	3 female RJ-45
Ethernet data rate	10/100/1000Base-T, half/full duplex with autotdetect
Protocols	DHCP, DNS, HTTP, HTTPS, ICMP, IEEE 802.1X, NTP, SFTP, SMTP, SNMP, SSH, TCP/IP, UDP/IP
Serial	
Quantity/type	1 bidirectional RS-232, RS-422, RS-485 (port 1) 2 bidirectional RS-232 (ports 2 and 3)
Digital I/O	
Quantity/type	4 digital input/output (configurable)
Digital inputs	
Input voltage range	0 to 24 VDC, clamped at +30 VDC
Digital outputs	250 mA sink from 24 VDC max.
IR/serial	
Quantity/type	2 programmable: unidirectional RS-232 (±5 V), or TTL level (0 to 5 V) infrared (carrier and non-carrier) up to 300 kHz
Relay	
Quantity/type	4 normally open relays
Relay control contact rating	24 VDC, 1 A

eBUS control		
eBUS control ports	(1) 3.5 mm captive screw connector, 5 pole (uses 4 poles)	
Recommended cable type	Extron STP20-2/1000 or STP20-2P/1000 cable	
eBUS power output	6 watts	
COMMUNICATIONS		
external device (RS-232/IR over DTP2/XTP/HDBT)		
Serial control pass-through ports	DTP2 Tx/XTP matrix to DTP2 CrossPoint 82: RS-232 can be transmitted to and from DTP2 Tx/XTP matrix via Ethernet insertion. DTP2 CrossPoint 82 to DTP2/HDBT Rx/XTP matrix: RS-232 can be transmitted to and from DTP2 Rx/HDBT Rx/XTP matrix via Ethernet insertion.	
Baud rates	Up to 115200 baud	
Protocol	6 to 8 data bits 1 or 2 stop bits Even or odd parity, no parity Flow control = XON, XOFF, none	
IR control pass-through port	DTP2 CrossPoint 82 to TP Rx: (1) 3.5 mm, 3 pole captive screw connector TTL level (0 to 5 V) modulated infrared control from 30 kHz up to 60 kHz	
IR control pin configuration	1 = Tx, 2 = Rx, 3 = Gnd	
GENERAL		
Power supply	Internal Input: 100-240 VAC, 50-60 Hz	
Power consumption		
Full power		
DTP2 CrossPoint 82	94 watts	
DTP2 CrossPoint 82 IPCP SA	127 watts	
DTP2 CrossPoint 82 IPCP MA 70	126 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		
DTP2 CrossPoint 82	2 fans, air flows from right to left (when viewed from the front)	
DTP2 CrossPoint 82 IPCP models	1 fan, air flows from right to left (when viewed from the front)	
Mounting		
Rack mount	Yes, with included, preinstalled brackets	
Enclosure dimensions		
DTP2 CrossPoint 82	1.75" H x 17.5" W x 10.5" (1U high, full rack wide) (44 mm H x 444 mm W x 267 mm D)	
DTP2 CrossPoint 82 IPCP models	3.50" H x 17.5" W x 10.5" D (2U high, full rack wide) (89 mm H x 444 mm W x 267 mm D)	
Product warranty	3 years parts and labor	
Everlast power supply warranty	7 years parts and labor	
NOTE: All nominal levels are at ±10%.		
Model	Version Description	Part number
DTP2 CrossPoint 82	Standard Model	60-1812-01
DTP2 CrossPoint 82 IPCP Q SA	Control Processor and Stereo Amp	60-1812-92
DTP2 CrossPoint 82 IPCP Q SA	Control Processor and Stereo Amp, LL UI Upgrade	60-1812-92A
DTP2 CrossPoint 82 IPC Q P MA 70	Control Processor and Mono Amp	60-1812-93
DTP2 CrossPoint 82 IPCP Q MA 70	Control Processor and Mono Amp, LL UI Upgrade	60-1812-93A

For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

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