DTP3 IN2004 Series

FOUR INPUT 4K/60 SEAMLESS SCALING SWITCHERS

DTP3 SYSTEMS | 18 Gbps 4K/60 4:4:4 | VECTOR 4K SCALING | EVERLAST POWER SUPPLIES

High Performance Video Switching and Processing

- Integrates HDMI and audio sources into presentation systems
- Advanced Extron Vector™ 4K scaling engine
- Selectable scaled output rates from 640x480 to 4K/60 with 4:4:4 color sampling
- Integrated DTP3 input and output support transmission of 4K/60 video, audio, and control up to 330' (100 m) over a shielded CAT 6A cable
- Auto switching between inputs
- Configurable input loop-through
- Selectable seamless switching transitions
- Logo image keying and display
- Integrated audio mixing, level, ducking, and mute control

Extron

DTP3 IN2004 Series

The Extron DTP3 IN2004 Series are compact four-input scalers that support video resolutions up to 4K/60 at 4:4:4. All models deliver fast and reliable automatic switching and provide advanced capabilities such as audio embedding/de-embedding, mixing, ducking, seamless transition effects, and logo keying.

- **DTP3 IN2004 DI/DO** - with HDMI and DTP3 inputs and outputs
- **DTP3 IN2004 DO** - with HDMI inputs and HDMI and DTP3 outputs
- **IN2004** - all HDMI inputs and outputs

Loaded with these capabilities and more, the DTP3 IN2004 Series is ideal for boardrooms collaboration spaces, lecture halls, and other professional AV presentation venues.

DTP3 SYSTEMS

DTP3 IN2004 models feature twisted pair connectivity to support 4K/60 @ 4:4:4 signal extension up to 330 feet (100 meters) over a shielded CAT 6A cable when paired with DTP3 endpoints. It is also compatible with first-generation DTP® products and XTP CrossPoint® matrix switchers, enabling additional design options within the AV industry's most comprehensive integration platform.

18 Gbps 4K/60 4:4:4

With a maximum data rate of 18 Gbps, the DTP3 IN2004 Series supports computer and video resolutions up to 4K/60 with full 4:4:4 color sampling. The Extron-exclusive Vector 4K scaling engine applies precision 30-bit processing and maintains 4:4:4 color sampling to ensure pristine image quality at the output.

DTP3 IN2004 models are built for installations where reliability, ease of use, and superior quality presentations are crucial – these include corporate meeting rooms, lecture halls in higher education, and government facilities. In addition to pristine video performance and signal extension, they incorporate logo keying and seamless switching transition effects to enhance the user experience.

SEAMLESS SWITCHING AND LOGO KEYING

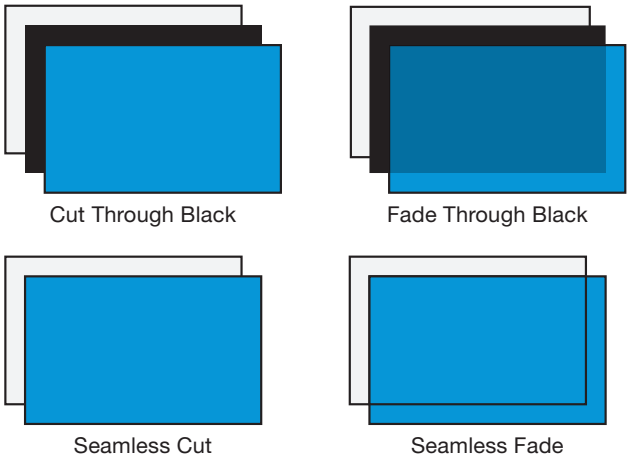
The high-performance video scaling within the DTP3 IN2004 Series produces uncompromised image quality. Driven by Vector 4K scaling technology, the switcher's video output provides powerful processing capabilities that include selectable seamless switching transition effects and logo keying. These capabilities serve the needs of environments where superior quality presentation is crucial.

Seamless Switching Transitions

Critical presentations do not tolerate video glitches. To ensure glitch-free, professional quality presentations, several transition effects can be selected when switching between video sources.

Effects include:

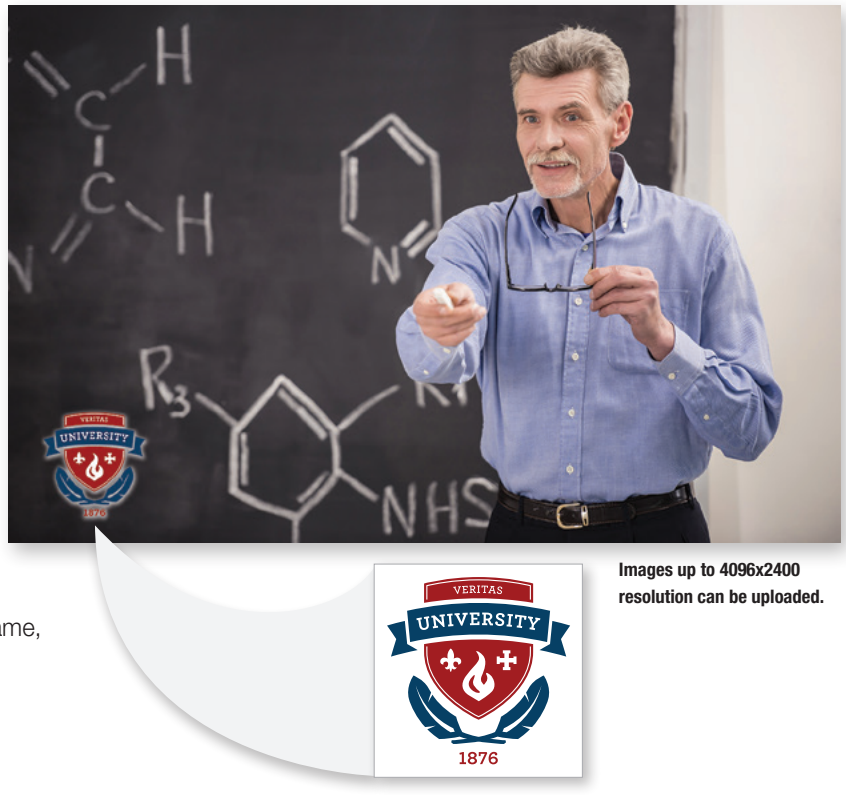
- **Cut through black** – Instantly cut the current input to black, then cut to the newly selected input.
- **Fade through black** – Fade the current input to black, then fade to the new input.
- **Seamless cut** – Freeze the current input video frame, then cut to the newly selected input.
- **Seamless 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 output video signal to enhance branding and to identify the source of valuable video content. Custom images up to 4K 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 filename, position, and key settings for quick recall and switching between multiple logo images.



Images up to 4096x2400 resolution can be uploaded.

Pure 4K/60 4:4:4 Transmission. Uncompressed. Zero Latency.

DTP3 is Extron's third-generation, digital twisted pair solution. For maximum image quality and minimal latency, all video signals up to 18 Gbps are transported without compression. The DTP3 line incorporates advanced features such as 4K/60 @ 4:4:4, HDCP 2.3, and HDR video support to let you create the sophisticated, yet simple to use systems that customers demand. All products extend video, audio, and control up to 330 feet (100 meters) at every video resolution.

DTP3 Endpoint Features

DTP3 SYSTEMS

Transmits video, bidirectional control, and audio up to 330 feet (100 meters) over a shielded CAT 6A cable

DTP3 transmitters and receivers provide high reliability and maximum performance on an economical and easily installed cable infrastructure.

18 Gbps 4K/60 4:4:4

Supports computer and video resolutions up to 4K/60 @ 4:4:4

DTP3 endpoints support HDMI 2.0b specification features including data rates up to 18 Gbps and HDR video. Support of 4K/60 at 4:4:4 color sampling requires connection to a matching DTP3 product.

HDCP 2.3

HDCP 2.3 compliant

Ensures display of content-protected 4K video media and interoperability with other HDCP-compliant devices.

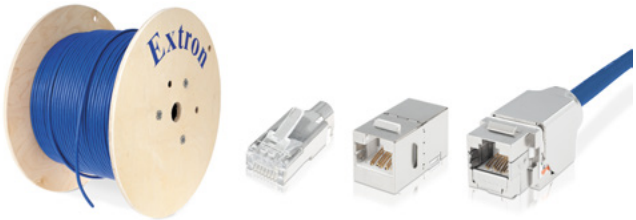
USB

USB Support

Select DTP3 products support USB data, USB-C®, DisplayPort Alt Mode video, and power delivery.

Ensure Success with Extron Cable

Extron XTP DTP 22 twisted pair cables are designed and constructed to excel at high-speed transport and go the distance. Advanced shielding design and precise manufacturing tolerances maintain signal integrity and reliable performance in the professional arena.



FEATURES

Integrates HDMI and audio sources into presentation systems

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

Advanced Extron Vector 4K scaling engine
All video outputs are driven by the Vector 4K scaling engine specifically designed for critical-quality 4K imagery, with best-in-class image upscaling and downscaling.

Auto-switching between inputs
Auto-switching allows for intuitive operation in collaboration spaces. Multiple switching priority modes are available, including last-connected input and user-selectable priority.

Configurable input loop-through
HDMI Output 1B is selectable to mirror the main scaler output or as a loop-out for any input.

Integrated audio mixing, level, ducking, and mute control

Stereo audio embedding and de-embedding

Supported HDMI 2.0b specification features include data rates up to 18 Gbps , HDR, Deep Color up to 12-bit, 3D, HD lossless audio formats, and CEC

HDCP 2.3 compliant
Ensures display of content- protected 4K video media and maintains interoperability with earlier versions of HDCP.

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 DTP3 outputs. The ability to control specific functions, such as power on/off, input selection, or volume level, is dependent on implementation by the device manufacturer.

Scaler Bypass Mode
May be bypassed to transmit HDR, ultra-widescreen, high frame rate, and 3D video signals.

User-selectable HDCP authorization for DTP3 and HDMI inputs
Allows inputs to appear HDCP compliant or non-HDCP compliant to the connected source, which is beneficial if the source automatically encrypts all content when connected to an HDCP-compliant device. Protected material is not passed in non-HDCP mode.

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

EDID Minder® automatically manages EDID communication between connected devices

Integrated DTP3 extension supports transmission of video. audio, and control up to 330' (100 m) over a shielded CAT 6A cable - DTP3 IN2004 DI/DO and DTP3 IN2004 DO only

Compatible with DTP3 and first-generation DTP endpoints and XTP CrossPoint® matrix switchers

Remote powering of DTP3 transmitters and receivers
For simplified installation, the DTP3 IN2004 models can provide power to connected DTP3-enabled endpoints over the twisted pair connection.

Compatible with HDBaseT™-enabled displays
The DTP3 output can be configured to send video and embedded audio, plus bidirectional RS-232 signals to HDBaseT-enabled displays.

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 CAT 6A shielded twisted pair cable

Extron XTP DTP 22 shielded twisted pair cable is strongly recommended for optimal performance

SpeedSwitch® Technology provides exceptional switching speed for HDCP-encrypted content

Displays user-supplied images for screen saver, corporate branding, logo insertion, and HDCP notification
Custom, user-loaded images can be displayed as a screen saver after a predefined duration of inactivity at the video input, or whenever the input is disconnected between presentations. User-supplied images can also be displayed for HDCP Visual Confirmation, whenever HDCP-encrypted content is transmitted to a non-HDCP compliant display.

Supports custom EDID and output resolutions
User-defined output resolutions up to 600 MHz pixel clock can be supported by uploading custom EDID files or capturing EDID from a display or other destination device.

HDCP Visual Confirmation provides a green signal when encrypted content is sent to a non-compliant display
When HDCP-encrypted content is transmitted to a non-HDCP compliant display, a full screen green signal is sent to the display for immediate visual confirmation that protected content cannot be viewed on that display.

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

Input presets
Memory presets are available to store and recall optimized image settings.

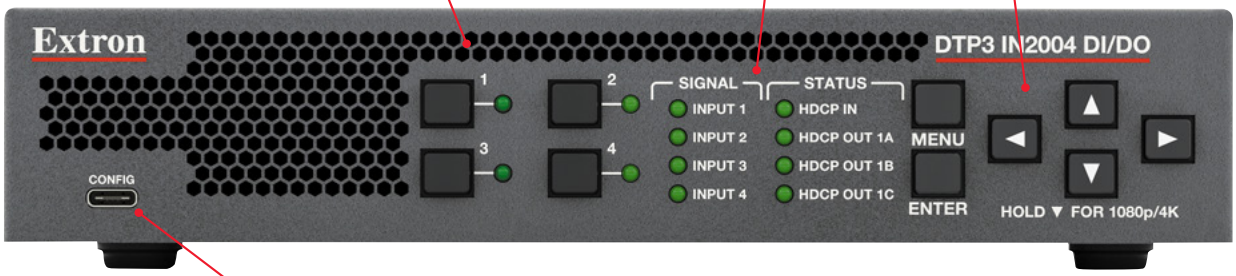
Output muting control
The video and audio output may be muted independently.

Image freeze control
A live image can be frozen using RS-232, USB, or Ethernet control.

Supports video signals at resolutions up to 4K/60 at 4:4:4 chroma sampling and complies with HDCP 2.3

Front panel LEDs
Provide convenient monitoring of key parameters

Menu navigation controls for onscreen display



DTP3 IN2004 DI/DO - Front

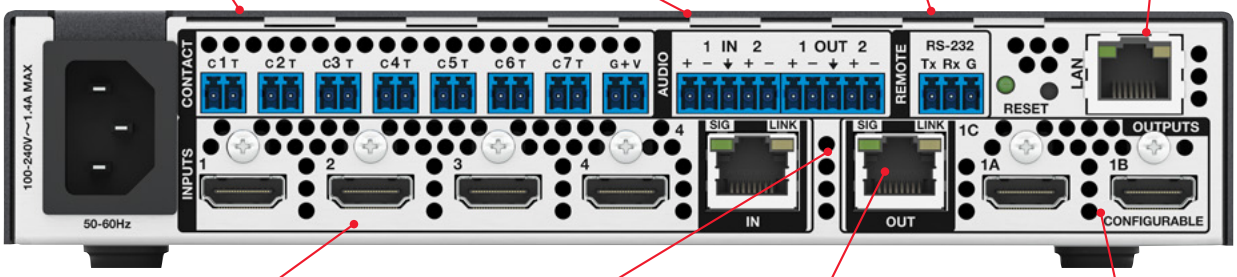
Front panel USB-C configuration port
Provides convenient access for information and firmware updates

Contact closure with tally output
Enables compatibility with Extron Show Me cables

Advanced audio processing
Features embedding, de-embedding, mixing, ducking, and mute control

RS-232 control of switcher settings
Alternatively, switcher may be controlled via SIS commands inserted over DTP3

Ethernet control
Built-in web server and RS-232 insertion



DTP3 IN2004 DI/DO - Back

Four HDMI inputs
Supports HDMI 2.0b specification features including data rates up to 18 Gbps, HDR, Deep Color up to 12-bit, 3D, HD lossless audio formats, and CEC

Integrated DTP3 input and output
Supports transmission of 18 Gbps video, audio, and control up to 330' (100 m) over a shielded CAT 6A cable

Compatible with HDBaseT displays and XTP matrix switchers
DTP3 output is configurable for to drive HDBaseT-enabled displays and Extron XTP matrix switchers

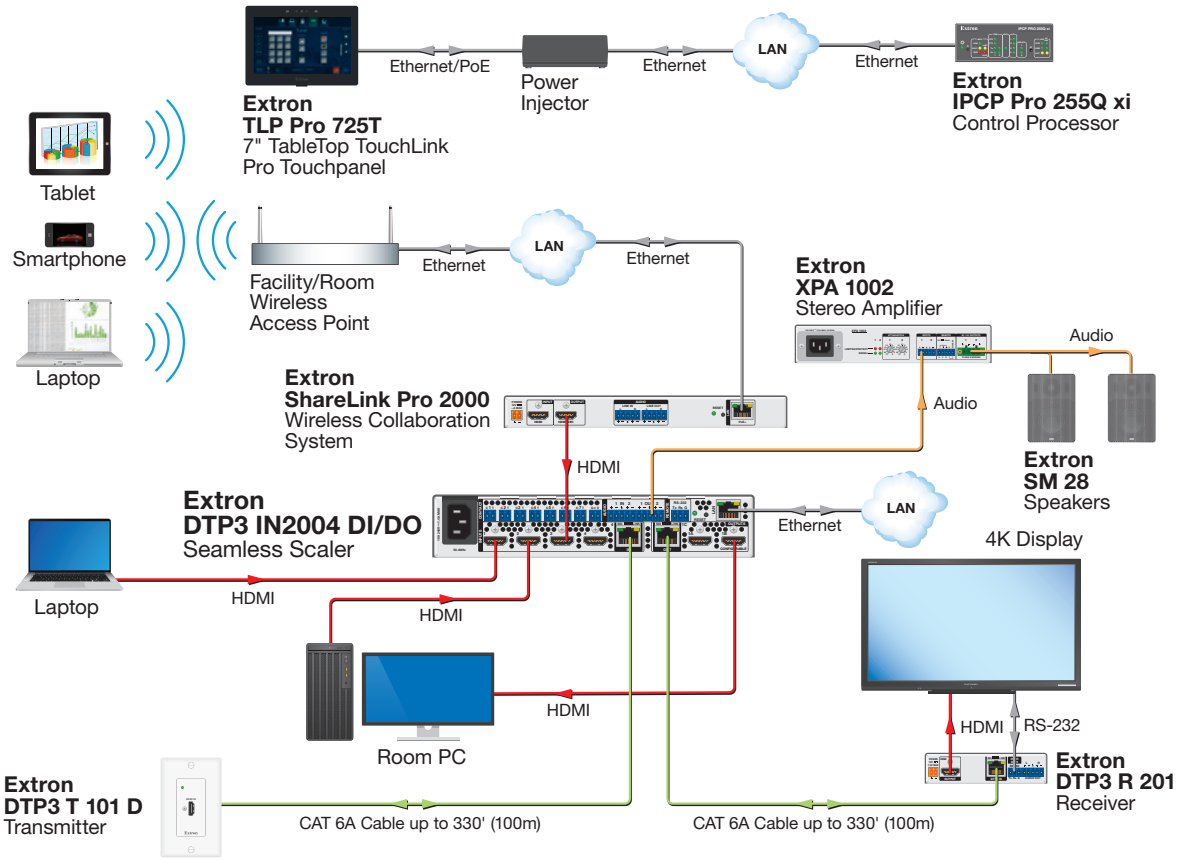
Mirrored DTP3 and HDMI outputs
HDMI Output 1B is selectable to mirror the main scaler output or as a loop-out for any input

Backward Compatible with First-Generation DTP-Enabled Products

The DTP3 IN2004 models are compatible with all first-generation DTP-enabled products. The Extron DTP Systems product line is the AV industry's most comprehensive integration platform for small to mid-sized AV systems supporting video resolutions up to 4K over shielded CATx cable. This family includes numerous extender models in a wide variety of form factors and video formats, plus a broad offering of distribution amplifiers, switchers, and matrix switchers with essential AV signal processing and control features.

Meeting Room

Meeting participants can bring their own devices and share content wirelessly by connecting to the ShareLink® Pro 2000 Collaboration System, physically through HDMI connections located near the switcher, or remotely at the DTP3 T 101 D wallplate transmitter. The DTP3 IN2004 DI/DO automatically switches and scales the laptop video to 3840x2160 to match the native resolution of the displays. It then sends video data at 18 Gbps up to 330 feet (100 meters) to the DTP3 R 201 receiver. Audio is de-embedded and sent to the XPA 1002 stereo power amplifier to drive the SM 28 speakers. The IPCP Pro 255Q xi control processor manages each system component to ensure fully automatic, effortless operation.



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
		10 bit
4096 x 2160 at 60 Hz 3840 x 2160 at 60 Hz	4:2:0	

Frame rate[1]	24, 25, 30, 50, 60, 120, 144, or 250 fps
Chroma sampling[1]	4:4:4, 4:2:2, and 4:2:0[2]
Color bit depth[1]	8 or 10 bits per color
Signal Type	DVI 1.0, HDMI 1.4 and 2.0, HDCP 1.4 and 2.3
Max. video data rate[1]	18 Gbps (6 Gbps per color)

NOTE:

- 1 Subject to the maximum data rate limit. Use our calculator at www.extron.com/8Kdatarate to determine video parameters supported by this data rate.
- 2 4096 x 2160/50-60 at 4:4:4 is supported at input only.

NOTE: DTP3 ports are backwards-compatible with DTP endpoints for resolutions up to 4K @ 30 Hz, 4:4:4 (input or output), or 4K @ 60 Hz, 4:2:0 (input only).

VIDEO INPUT

Number/signal type	
IN2004 and DTP3 IN2004 DO	4 HDMI
DTP3 IN2004 DI/DO	3 HDMI 1 HDMI or DTP3/XPT (selectable)
Horizontal frequency	15 kHz to 270 kHz
Vertical frequency	24 Hz to 240 Hz
Resolution range	640x480 to 4096x2160, 480i, 480p, 576i, 576p, 720p, 1080i, 1080p, and 2K (up to 60 Hz), 3840x2160 (up to 60 Hz) to 4096x2160 (up to 60 Hz)

VIDEO OUTPUT

Number/signal type	
All models	2 HDMI
DTP3 models	1 DTP3/XTP/HDBT (configurable)
Peripheral device power	250 mA per output (HDMI 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], 11920x1200[8], 2048x1200[8], 2048x1536[8], 2560x1080[8], 2560x1440[8], 2560x1600[8], 3840x2160[1,2,3,4,5,6,7,8], 4096x2160[1,2,3,4,5,6,7,8] 480p[7,8], 576p[6], 720p[3,4,5,6,7,8], 1080p[1,2,3,4,5,6,7,8], 2K[1,2,3,4,5,6,7,8]

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	
All models	1 stereo or 2 independent mono, line level, balanced or unbalanced (5 pole captive screw) 4 stereo, de-embedded HDMI/DTP/XTP (LPCM-2Ch only)
DTP3 IN2004 DI/DO	1 stereo DTP remote unbalanced analog* *Available to a DTP3 transmitter only

AUDIO OUTPUT

Number/signal type	
All models	1 stereo or 2 independent mono, line level, balanced or unbalanced 2 HDMI, embedded
DTP3 models	1 DTP/XTP/HDBT (embedded digital and remote balanced/unbalanced analog*) *Available to a DTP3 receiver only

COMMUNICATIONS — SCALING PRESENTATION SWITCHER

Serial control port	1 bidirectional RS-232, 3.5 mm, 3 pole captive screw connector (rear panel)
Ethernet	
Connector	1 female RJ-45
Contact/tally ports	7 sets (2 pins each) of contact and tally ports 1 set (1 pin each) of +V and G Tally output power +5 VDC, 0.2 A

GENERAL

Power supply	Internal Input: 100-240 VAC, 50-60 Hz
Enclosure dimensions	1.66" H x 8.68" W x 11.5" D (1U high, half rack wide) (42 mm H x 220 mm W x 292 mm D) (Depth excludes connectors and buttons.)
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
DTP3 IN2004 DI/DO	Four Input 4K/60 Scaler, DTP3 I/O	60-1962-03
DTP3 IN2004 DO	Four Input 4K/60 Scaler, DTP3 Output	60-1962-02
IN2004	Four Input 4K/60 Scaler	60-1962-01

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

Extron

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