TPX 88 & TPX 88 A

8x8 TWISTED PAIR MATRIX FOR RGBHV AND STEREO AUDIO

- 8x8 Twisted Pair Matrix Switcher
- Separate local audio outputs (TPX 88 A)
- I/O grouping
- RS-232 and RS-422 control
- Extron Simple Instruction Set (SIS™)
- Input audio gain and attenuation (TPX 88 A)
- Audio output volume adjustment and muting (TPX 88 A)
- Audio breakaway
- 16 global memory presets

TPX 88 A

The Extron TPX 88 and TPX 88 A are twisted pair matrix switchers designed to work with Extron and Inline twisted pair transmitters and receivers to provide simplified routing and control of audio and video signals ranging from RGBHV to composite video or S-video and stereo audio using twisted pair cable.

DESCRIPTION

The Extron **TPX 88** and **TPX 88 A** matrix switchers work in conjunction with Extron and Inline twisted pair transmitters and receivers to create a complete, high performance A/V signal routing system utilizing low-cost, lightweight Extron Skew-Free™ A/V UTP or other CAT 5/5e/6 unshielded twisted pair cable (UTP). In the case of the TPX 88 A, digital audio signals previously encoded by Extron twisted pair transmitters can be decoded back to analog audio and output locally on 5-pin captive screw connectors.

Each model also includes time-saving features such as I/O grouping of specific video formats, global presets for recalling predetermined configurations, and various control options, such as RS-232 and RS-422, the Extron MCP 1000 and MKP 1000 control panels and keypads, or front panel.

Capable of connecting to as many as eight twisted pair transmitters and eight twisted pair receivers, the TPX 88 and TPX 88 A twisted pair matrix switchers provide simplified signal routing and control while letting system designers and installers take advantage of the many benefits of A/V signal distribution over UTP cables.

TPX 88 Compatibility
Extron TPX 88 Matrix Switchers are compatible with the following Extron and Inline twisted pair products:

RGBHV Transmitters	RGBHV Receivers
Extron TP T Series	Extron TP R Series
Extron VTT001Series	Extron VTR001Series
Extron IN1404XT	Extron VTR001CM
Composite/S-Video Transmitters	**Composite/S-Video Receivers**
Extron MTP T Series	Extron MTP R Series

RGBHV transmitters are compatible with any RGBHV receiver.
MTP Series transmitters are compatible only with MTP Series receivers.

FEATURES

- **Separate local audio outputs (TPX 88 A only)** – Digital audio signals from Extron TPT series twisted pair transmitters are decoded back to analog audio for local output. The signal is available as balanced or unbalanced stereo audio on 5-pin captive screw connectors.
- **QuickSwitch Front Panel Controller (QS-FPC™)** – The QS-FPC feature allows for touch-of-a-button input and output selection. Extron's QuickSwitch technology eliminates the learning curve usually associated with switching the inputs and outputs of a matrix switcher by using a tactile switch front panel button for every input and output.
- **View I/O mode** – Users can easily see which individual inputs and outputs are actively connected from either the front panel or RS-232/422 control.
- **Global presets** – 16 individual I/O configurations may be saved and recalled either from the QuickSwitch front panel controller or RS-232/422. This time-saving feature allows you to set up I/O configurations and keep them in memory for future use.
- **RS-232 & RS-422 control** – Both TPX 88 matrix switcher models offer RS-232 & RS-422 control, allowing the switchers to be controlled via a third party control system.
- **Control software** – For control from a PC, Extron ships Windows®-based control software with every matrix switcher. This icon-driven software uses a graphical, drag-and-drop interface to make I/O configuration and other customization functions simple and convenient. This software also offers an emulation mode for configuration of an offsite matrix switcher; the I/O configuration may then be saved for future downloading to the matrix switcher.

FEATURES (CONT.)

- **MCP 1000 and MKP 1000 control** – Utilizing the Extron MCP 1000 master control panel and any combination of MCP 1000 slave control panels or Extron MKP 1000 control keypads, users can control a TPX 88 from a remote location or room. Both remote control options are easy to use and equipped with tactile buttons for quick selection. Each MCP 1000 panel may be used for one-button switching for a particular output and selecting global presets. The Extron MKP 1000 keypad may be used to select a different input or select a preset.
- **Simple Instruction Set (SIS™)** – Extron SIS is a set of basic ASCII code commands that provide simple control through a third party control system. Instead of programming in long, obscure strings of code, SIS makes it easy to operate an Extron product using RS-232/422 control.
- **Audio breakaway** – The TPX 88 can break away an audio signal from its corresponding video signal (except S-video with stereo audio). Audio breakaway can be achieved through the front panel or RS-232/422.
- **Front panel executive mode** – If a TPX 88 matrix switcher is installed in an unsecured environment where easy access is not desirable, a security lock-out feature may be implemented. During executive mode, a special button combination is required to activate the front panel controls.
- **Rack-mountable** – The 1U high, full rack width, rugged, metal enclosure integrates easily into standard A/V equipment racks.
- **Internal international power supply** – The 100-240 volt, autoswitchable, internal power supply provides worldwide power compatibility.
- **RGBHV and video compatible** – Accepts high-resolution RGBHV, RGBS, RGsB, RsGsBs, component video,progressive component video, S-video, composite video, and stereo audio transmissions up to 1600 x 1200 with scan rates from 15-130 kHz from Extron twisted pair transmitters.
- **I/O grouping** – Allows the matrix to be virtually divided into smaller subswitchers, making installation and control easier. I/O grouping allows specific outputs to be grouped together—such as those designated for a specific video format.
- **Input audio gain & attenuation (TPX 88 A only)** – Allow users to set the level of audio gain or attenuation (-18dB to +24dB) using RS-232/RS-422 commands or front panel controls. Individual input audio levels may be adjusted so there are no noticeable volume differences between sources.
- **Audio output volume adjustment and muting (TPX 88 A only)** – Each individual output has volume control adjustment via the front panel or RS-232 control. Audio output levels can be set dynamically at different levels to feed the audio amplifier, thus eliminating the need for a pre-amplifier.

Skew-Free™ A/V UTP Cable

Skew-Free A/V UTP Cable
Skew-Free A/V UTP Cable incorporates a design exclusive to Extron that eliminates the skew or time delay of signals commonly encountered when CAT 5e/6 cable is used. Twisted Pair cables can vary greatly in length, causing image distortion. However, with Extron Skew-Free A/V UTP Cable, the length of each of the wires is uniform so that each signal arrives at the transceiver at the same time. The Skew-Free A/V UTP Cable comprises of four twisted pairs of 23 AWG wires and can be terminated with RJ-45 connectors. It is available in both Plenum and non-Plenum versions in bulk rolls of 1,000 feet, as well as in pre-cut lengths.

VIDEO

Routing	8 x 8 matrix
Gain	Unity
Crosstalk	-55dB @ 10 MHz, -45dB @ 30 MHz, -37dB @ 100 MHz
Switching speed	200 ns (max.)

VIDEO INPUT – FROM AN EXTRON OR INLINE TRANSMITTER

Number/signal type	8 RGBHV, RGBS, RGsB, component video, S-video, composite video
Connectors	(8) 8-pin RJ-45 female

VIDEO OUTPUT – TO AN EXTRON OR INLINE RECEIVER

Number/signal type	8 RGBHV, RGBS, RGsB, component video, S-video, composite video
Connectors	(8) 8-pin RJ-45 female

SYNC

Input type	RGBHV, RGBS, RGsB
Output type	RGBHV, RGBS, RGsB
Standards	NTSC 3.58, NTSC 4.43, PAL, SECAM
Input level	0.5V to 5.0V p-p, 4.0V p-p normal
Output level	AGC to TTL: 4V to 5V p-p, unterminated

AUDIO — TPX 88 A ONLY

Routing	8 x 8 stereo matrix
Gain	Unbalanced output: -6dB; balanced output: 0dB
Frequency response	20 Hz to 20 kHz, ±0.05dB
THD + Noise	0.03% @ 1 kHz at nominal level
S/N	>90dB, output 21dBu balanced
Crosstalk	<-80dB @ 1 kHz, fully loaded
Stereo channel separation	>-90dB @ 1 kHz
CMRR	>75dB @ 20 Hz to 20 kHz

AUDIO INPUT — TPX 88 A ONLY

Number/signal type	8 stereo, balanced/unbalanced
Connectors	(8) 8-pin female RJ-45 connectors
Impedance	>10 kohms balanced/unbalanced, DC coupled
Nominal level	Proprietary signal level
Maximum level	Proprietary signal level
Input gain adjustment	-18dB to +24dB, adjustable per input by RS-232 or front panel

AUDIO OUTPUT — TPX 88 A ONLY

Number/signal type	8 stereo, balanced/unbalanced
Connectors	(8) 3.5 mm captive screw terminal, 5 conductor 8-pin female RJ-45 connector
Impedance	50 ohms unbalanced, 100 ohms balanced 100 ohms for RJ-45 connectors
Gain	Selectable output level Unbalanced -6dB, balanced 0dB
Gain error	±0.1dB channel to channel
Maximum level (Hi-Z)	>+21dBu, balanced or unbalanced at stated %THD+N
Maximum level (600 ohm)	>+15dBm, balanced or unbalanced at stated %THD+N

CONTROL/REMOTE — SWITCHER

Serial control port	RS-232 or RS-422, 5-pin captive screw connector
Baud rate and protocol	9600, 8-bit, 1 stop bit, no parity
Pin configurations	3 = TX, 5 = RX, 1= GND
Program control	Extron's control program for Windows® Extron's Simple Instruction Set™ – SIS™

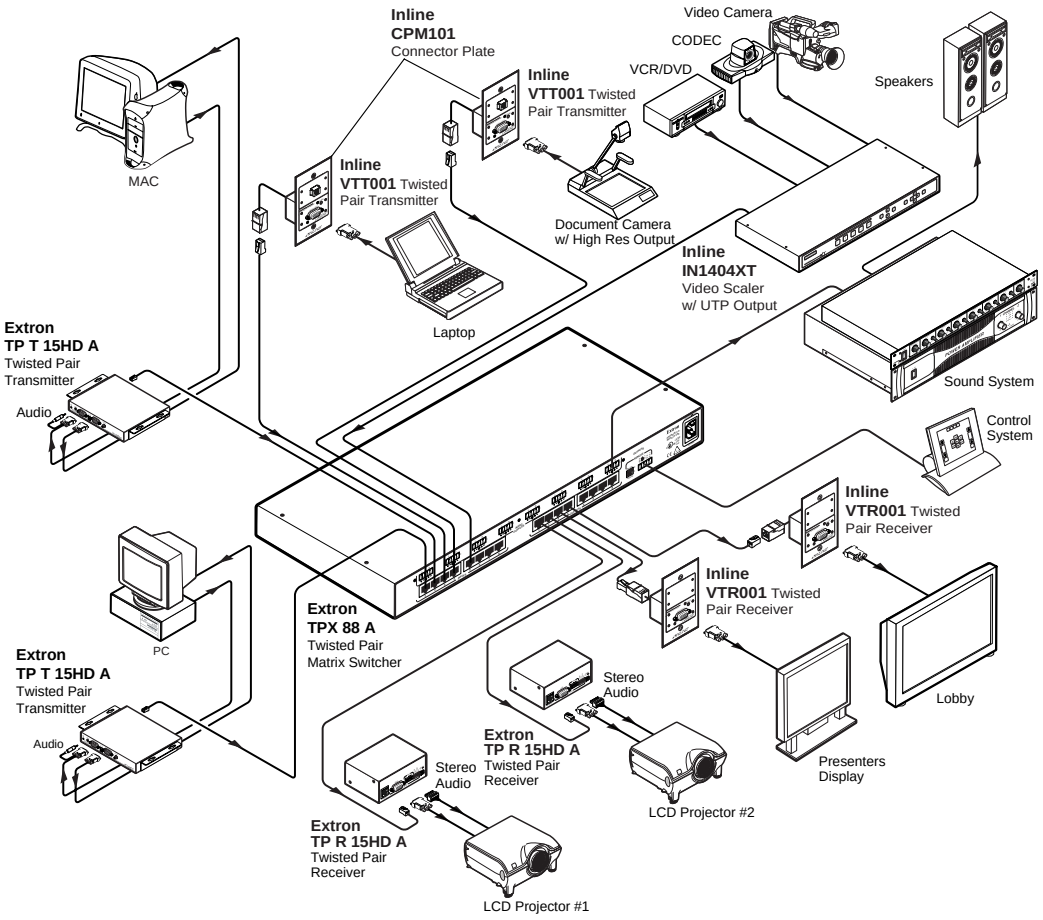
GENERAL

Power	100VAC to 240VAC, 50/60 Hz, 25 watts, internal, autoswitchable
Temperature/humidity	Storage -40° to +158°F (-40° to +70°C) / 10% to 90%, non-condensing Operating +32° to +122°F (0° to +50°C) / 10% to 90%, non-condensing
Rack mount	Yes, with optional brackets
Enclosure type	Metal
Enclosure dimensions	1.75" H x 17.0" W x 12.2" D (1U high, full rack width) 4.4 cm H x 43.2 cm W x 31.0 cm D (Depth excludes connectors and knobs.)
Product weight	3.5 lbs (1.6 kg)
Shipping weight	7 lbs (3.2 kg)
DIM weight	25
Vibration	ISTA/NSTA 1A in carton (International Safe Transit Association)
Listings	UL, CUL
Compliances	CE, FCC Class B, VCCI, AS/NZS, ICES
MTBF	30,000 hours
Warranty	3 years parts and labor

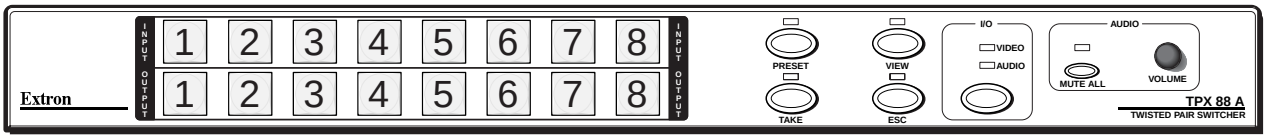
Model	Part Numbers
TPX 88 A (with audio)	60-542-01
TPX 88	60-542-02

Specifications are subject to change without notice.

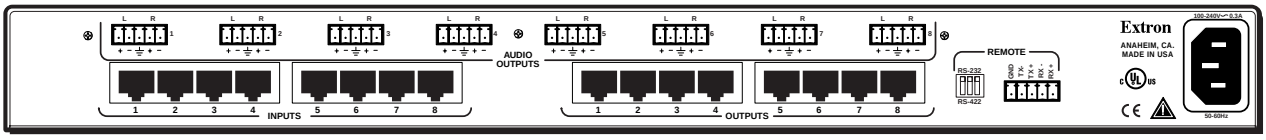
Application Diagram



Panel Drawings



TPX 88 A (Front)



TPX 88 A (Back)

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