PIP 444
Four Window Video Picture-in-Picture Processor

FEATURES

- **Combines multiple video sources into four windows on a single display**

- **Inputs: Four fully configurable inputs with buffered loop-throughs on BNCs; accepts component video, S-video, or composite video input signals**

- **Outputs: Simultaneous output of component video, S-video, and composite video on BNCs**

- **Four window simultaneous display** — The PIP 444 displays up to four windows within the same screen.

- **Three-way video transcoding with simultaneous output of component video, S-video, and composite video** — Allows for flexibility and fast, easy integration into any video display system, as well as video recording or simultaneous distribution to multiple displays.

- **20 memory presets for saving and recalling window configurations** — The PIP 444 features 20 memory presets with factory-loaded picture-in-picture window configurations, which can be customized to save configurations and recall size, positioning, and priority for all windows.

- **Image freeze control** — A picture-in-picture window can be frozen via the front panel or RS-232 or RS-422 control, enabling video frames to be captured and displayed for extended periods of time.

- **Picture controls for each window including color, tint, brightness, contrast, and detail**

- **Window transition effects including cut, dissolve, and wipe** — For professional quality presentations, windows can be transitioned into and out of the image using a cut, dissolve, or wipe effect.

- **Customizable background and border colors** — Any of eight colors can be selected for the background and window borders.

- **Picture-in-picture window controls for positioning, sizing, zoom, and overlay priority**

- **Text overlay for window caption labeling** — Each picture-in-picture window can be labeled with text of up to 16 characters, through RS-232 or RS-422 control.

- **Video genlock** — All video outputs, including NTSC and PAL, can be synchronized to an external reference signal for integration into broadcast and production applications.

- **RS-232 and RS-422 serial control port** — Using serial commands, the PIP 444 can be controlled and configured via the Extron Windows®-based control program, or integrated into third-party control systems. Extron products use the SIS™ - Simple Instruction Set command protocol, a set of basic ASCII code commands that allow for quick and easy programming.

- **Front panel security lockout** — This feature locks out all front panel functions except for input selection; all functions, however, remain active through RS-232 or RS-422 control.

- **Rack-mountable 1U, full rack width metal enclosure**

- **Internal international power supply** — The 100-240VAC, 50/60 Hz, universal power supply provides worldwide power compatibility.

DESCRIPTION

The Extron **PIP 444** is a video picture-in-picture processor for the creation and presentation of multiple video windows on a single display. It delivers high performance video processing, and is easy to operate and configure. The PIP 444 is ideally suited for videoconferencing, distance learning, usability labs, event staging, and other applications that require the capability to simultaneously display multiple video sources on one screen.

The PIP 444 displays up to four windows within the same screen. It offers a high level of flexibility, making the PIP 444 ideal for integration into a variety of A/V systems. Each window has its own dedicated input, which is fully configurable to accept composite video, S-video, or component video sources in NTSC 3.58, NTSC 4.43, PAL, or SECAM. Each input also has a buffered loop-through for source monitoring.

The PIP 444 features internal video transcoding, so that picture-in-picture video is output simultaneously as composite video, S-video, and component video. The output is selectable as either NTSC 3.58 or PAL. All inputs and outputs are on BNC connectors for easy integration into A/V system designs. The PIP 444 also includes video genlock for integration into CCTV and broadcast applications.

Fully customizable picture-in-picture presentations can be created with the PIP 444. Independent, fine-tuning controls are used for each window to adjust size, position, contrast/brightness, color/tint, overlay priority, and more. Window configurations can be saved to 20 available user memory presets and then quickly recalled. Additional customization features include image freeze control, background and window border color selection, and window caption text labeling.

The PIP 444 features full front panel controls for quick access to all functions. Remote configuration and control are available via RS-232 or RS-422 with the Extron SIS™ - Simple Instruction Set. The PIP 444 is firmware upgradeable for incorporation of new features and capabilities.

MODEL	VERSION DESCRIPTION		PART #
PIP 444	Four Window Video PIP Processor		60-606-01

OPTIONAL ACCESSORIES	MODEL DESCRIPTION	PAGE	PART #
SVHSF-BNCM 1' **(30 cm)**	S-Video Female to 2 BNC Male Adapter	page 795	26-541-02
SVHSM-BNCM 6' **(1.8 m)**	S-Video Male to 2 BNC Male Adapters	page 795	26-353-04

Extron®

PIP 444

SPECIFICATIONS

VIDEO

Gain .... Unity
Differential phase error .... 1.5° at 3.58 MHz and 4.43 MHz
Differential gain error .... 1.5% at 3.58 MHz and 4.43 MHz

VIDEO INPUT AND LOOP-THROUGH

Number / signal type .... 4 component video, S-video, composite video inputs
    4 identical, buffered loop-throughs
Connectors .... 4 x 3 female BNC for inputs
    4 x 3 female BNC for loop-throughs
Nominal level .... 1 Vp-p for Y of component video and S-video, and for composite video
    0.7 Vp-p for R-Y and B-Y of component video
    0.3 V p-p for C of S-video
Minimum / maximum levels .. 0.3 V to 2.0 V p-p with no offset
Impedance .... 75 ohms
Horizontal frequency .... NTSC 3.58, NTSC 4.43, PAL, SECAM
Vertical frequency .... NTSC 3.58, NTSC 4.43, PAL, SECAM
Resolution range .... NTSC 3.58, NTSC 4.43, PAL, SECAM
Return loss .... <-30 dB @ 5 MHz
DC offset (min./max.) .... -0.3 V to +1.3 V
External sync (genlock) .... 0.3 V to 1.0 Vp-p

VIDEO PROCESSING

Encoder .... 10 bit digital
Digital sampling .... 24 bit, 8 bits per color; 80 MHz standard
Colors .... 16.8 million
Anti-aliasing filtering .... 5 levels: 0 (off), 1, 2, 3, auto (which uses 0-3)
Detail filtering .... 16 levels: 0-7, 8 (no filtering), 9-15

VIDEO OUTPUT

Number / signal type .... 1 component video
    1 S-video
    1 composite video
Connectors .... 3 female BNC for component video
    2 female BNC for S-video
    1 female BNC for composite video
Nominal level .... 1 Vp-p for Y of component video and S-video, and for composite video
    0.7 Vp-p for R-Y and B-Y of component video
    0.3 V p-p for C of S-video
Minimum / maximum levels .. 0.0 V to 1.0 Vp-p
Impedance .... 75 ohms
DC offset .... 350 ±25 mV (max.) with input at 0 offset
    (for Y of component and S-video and for composite video)
    650 ±25 mV (max.) with input at 0 offset
    (for R-Y and B-Y of component video and for C of S-video)

SYNC

Genlock connectors .... 1 BNC female for genlock input
    1 BNC female for genlock output (terminate with 75 ohms if unused)
Standards
Input .... NTSC 3.58, NTSC 4.43, PAL, SECAM
Output .... NTSC 3.58, PAL

CONTROL / REMOTE — PROCESSOR

Serial control port .... RS-232 or RS-422, 9-pin female D connector
Baud rate and protocol .... 115200, 38400, 19200, or 9600 (default) baud (configurable);
    8 data bits; 1 stop bit; no parity
Serial control pin
configurations .... RS-232: 2 = TX, 3 = RX, 5 = GND
    RS-422: 2 = TX-, 3 = RX-, 5 = GND, 7 = Rx+, 8 = Tx+
Program control .... Extron's control/configuration program for Windows®
    Extron's Simple Instruction Set (SIS™)

GENERAL

Power .... 100 VAC to 240 VAC, 50/60 Hz, 10 watts, internal, universal
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
Rack mount .... Yes, with included brackets
Enclosure type .... Metal
Enclosure dimensions .... 1.75" H x 17.5" W x 8.5" D (1U high, full rack wide)
    4.4 cm H x 44.4 cm W x 21.6 cm D
    (Depth excludes connectors and knobs. Width excludes rack ears.)
Product weight .... 7.0 lbs (3.2 kg)
Shipping weight .... 10 lbs (5 kg)
Vibration .... ISTA 1A in carton (International Safe Transit Association)
Listings .... UL, CUL
Compliances .... CE, FCC Class A, VCCI, AS/NZS, ICES
MTBF .... 30,000 hours
Warranty .... 3 years parts and labor

NOTE: All nominal levels are at ±10%. Specifications are subject to change without notice.

Document Camera

DVD

Camera

Control System

Extron PIP 444 Picture-In-Picture Processor

Extron BBG 6 A Black Burst/Color Bar/ Audio Generator

Extron VSC 500 Scan Converter

Videoconferencing System

Preview Monitor

PC

Extron ®