IN1404XT

VIDEO/RGB SCALER WITH TWISTED PAIR OUTPUT AND SEAMLESS SWITCHING

- **Twisted Pair output**
- **Seamless switching**
- **Four input switcher for RGBHV, RGBS, RGsB, component video, S-video, composite video, and stereo audio**
- **Audio breakaway**
- **Quad standard decoder with adaptive comb filter**
- **Aspect ratio**
- **128 input memories**
- **RS-232 control**

The Inline IN1404XT combines video and RGB scaling, A/V switching, and a twisted pair transmitter into a single box. Expanding on the popular Inline IN1404 design, the IN1404XT (eXtended Technology) is enhanced with several innovative features.

DESCRIPTION

The Inline **IN1404XT** is a full featured video scaler that combines digital video decoding, advanced video scaling, computer-video scaling, and a four input seamless A/V switcher into one box. It includes several advanced and innovative features that make it a valuable addition for virtually any multimedia presentation system.

Twisted Pair Output

In addition to five BNC and 15-pin HD outputs, the IN1404XT features twisted pair output. By incorporating a twisted pair transmitter, the IN1404XT is able to send a scaled video signal up to 500 feet over UTP cable, including Extron Skew-Free™ A/V UTP cable. Twisted pair cabling is a fraction of the size of coaxial cable, as well as being much lighter, more flexible, and less expensive. When used with the compact and installation-friendly Inline VTR001CM Twisted Pair Receiver, the IN1404XT is a complete, and space efficient solution for environments that may require long distance cable runs.

Seamless Switching

The IN1404XT provides a seamless cut between inputs when switching between a passive computer input signal on input four and a composite video, S-video, component video, or progressive component video signal connected to input one, two, or three. The scaler also provides a seamless switch between an active scaled RGB computer-video signal connected to input three and a passive RGB computer-video signal connected to input four. By incorporating seamless switching, the IN1404XT is able to provide glitch-free switching with crisp and flawless transitions between sources for professional presentations each and every time.

Audio Breakaway

Audio breakaway allows the video and audio to be switched independently from one another. It is often used when the audio and video sources brought together for a presentation are not generated by the same source, although it is just as effective in breaking away an audio signal from its corresponding video signal. The IN1404XT's default operation is audio-follow-video switching; however, audio breakaway can be controlled independently using RS-232 serial commands.

			Refresh Rate (Hz)								
Resolution	**Mode**	**Aspect Ratio**	**56**	**60**	**65**	**72**	**75**	**85**	**96**	**100**	**120**
640 x 480	VGA	4:3		✓		✓	✓	✓	✓	✓	✓
800 x 600	SVGA	4:3		✓		✓	✓	✓	✓	✓	✓
852 x 480	HDTV—480p	16:9		✓		✓	✓	✓	✓	✓	✓
1024 x 768	XGA	4:3		✓		✓	✓	✓	✓	✓	
1152 x 864		4:3		✓		✓	✓	✓			
1280 x 720	HDTV—720p	16:9		✓		✓	✓	✓	✓	✓	
1280 x 768		16:9	✓	✓	✓						
1280 x 1024	SXGA	5:4		✓		✓	✓				
1365 x 768	Wide XGA	16:9		✓		✓	✓	✓			
1365 x 1024		4:3		✓							

Scaled Outputs

FEATURES

- **Superior video scaling technology** – Utilizing sophisticated video de-interlacing, scaling, and filtering techniques, the IN1404XT offers an output signal with optimum image detail, free of visible scan lines.
- **Computer-video/RGB upscaling** – The IN1404XT provides high quality upscaling and refresh rate conversion, accepting RGBHV/RGBS/RGsB signals, as well as 640x480, 800x600, and 1024x768 computer-video resolutions at scan rates of 15 to 60 KHz.
- **Output rates** – Various resolutions from 640 x 480 up to 1365 x 1024 allow the IN1404XT to match the optimal or native resolution of virtually any display.
- **Four input switcher** – The IN1404XT offers input flexibility to accommodate a variety of video formats. Inputs one and two can accept composite video or S-Video. Input three and input four are universal inputs that provide video scaling for NTSC, PAL, or SECAM signals from any of the following formats: composite video, S-video, component video, progressive component video, RGBS, or RGBHV. Input four can also be set as a passive input that allows a computer video signal to be connected and routed passively to the output.
- **Outputs** – The IN1404XT features outputs on five female BNCs, a 15-pin HD, and an RJ-45 connector for twisted pair output. Since all three outputs are active simultaneously, the IN1404XT can provide signals to three separate displays.
- **Quad standard decoder** – The IN1404XT employees an advanced 3-line adaptive comb filter and a high quality video decoder to provide accurate video decoding for composite video and S-video signals in NTSC 3.58, NTSC 4.43, PAL, and SECAM video (quad standard) for worldwide compatibility.
- **Picture controls** – The IN1404XT includes a comprehensive selection of video adjustments including brightness, contrast, gamma, hue, saturation, sharpness, noise filter, image size, and image shift.
- **Volume and mute** – Unique volume levels can be saved for each input on the IN1404XT and automatically recalled each time an input is selected. Volume and mute can be controlled via the front panel or RS-232.
- **Input memories** – Unique settings for up to 128 different sources can be stored to accommodate many input devices.
- **Digital freeze frame** – The freeze frame function can be enabled or disabled via the front panel of the IN1404XT, as well through RS-232. High quality still images are useful for applications that require close examination of a specific video frame.
- **Aspect ratio** – Proper image geometry can be achieved by using the aspect ratio feature of the IN1404XT. The built-in scaler is able to horizontally and vertically resize the video image to match a specified aspect ratio, filling the display, and improving the overall perception of the displayed image.
- **RS-232 control** – A rear panel, RS-232 control port provides connection of the IN1404XT to a third-party control system.
- **Rack mountable** – The IN1404XT is housed in a 1U high, one full rack width metal enclosure.

VIDEO

Gain ..... RGB or component video: adjustable
S-video or composite video: unity

VIDEO INPUT

Number/signal type..... 4 inputs total
Inputs 1 & 2 ..... 1 S-video, or 1 composite video
Inputs 3 & 4 ..... 1 RGBHV, RGBS, RGsB, component video (interlaced or progressive), S-video, or composite video
Connectors
Inputs 1 & 2 ..... (1) female 4-pin mini DIN (S-video) and 1 female BNC
Inputs 3 & 4 ..... 5 female BNC
Nominal level..... 1V p-p for Y of component video and S-video, and for composite video
0.7V p-p for RGB
0.3V p-p for R-Y and B-Y of component video, and for C of S-video
Impedance ..... 75 ohms
Horizontal frequency ..... 15 kHz to 60 kHz
Vertical frequency ..... 50 Hz to 120 Hz

VIDEO OUTPUT

Number/signal type..... 3 identical RGBHV, RGBS, RGsB, scaled RGB, and proprietary analog signals
Connectors ..... 5 BNC female, (1) 15-pin HD female, 1 female RJ-45 connector
Nominal level..... 0.7V p-p for RGB
Impedance..... 75 ohms
Scaled resolution 640x480, 800x600, 852x480, 1024x768, 1152x864, 1280x720, 1280x768,1280x1024, 1365x768, 1365x1024
Switching type..... Seamless switching

SYNC

Input type ..... RGBHV, RGBS, RGsB
Output type..... RGBHV, RGBS, RGsB (selectable)
Standards..... NTSC 3.58, NTSC 4.43, PAL, SECAM
Polarity ..... Positive or negative (selectable)

AUDIO

Gain..... Unbalanced output: 0dB

AUDIO INPUT

Number/signal type..... 4 stereo, unbalanced, line level
Connectors ..... 4 pairs of RCA female connectors

AUDIO OUTPUT

Number/signal type..... 1 stereo, unbalanced; 1 proprietary
Connectors ..... 1 pair of RCA female connectors, 1 RJ-45 connector
NOTE: 0dBu = 0.775 volts (RMS).

CONTROL/REMOTE — SCALER

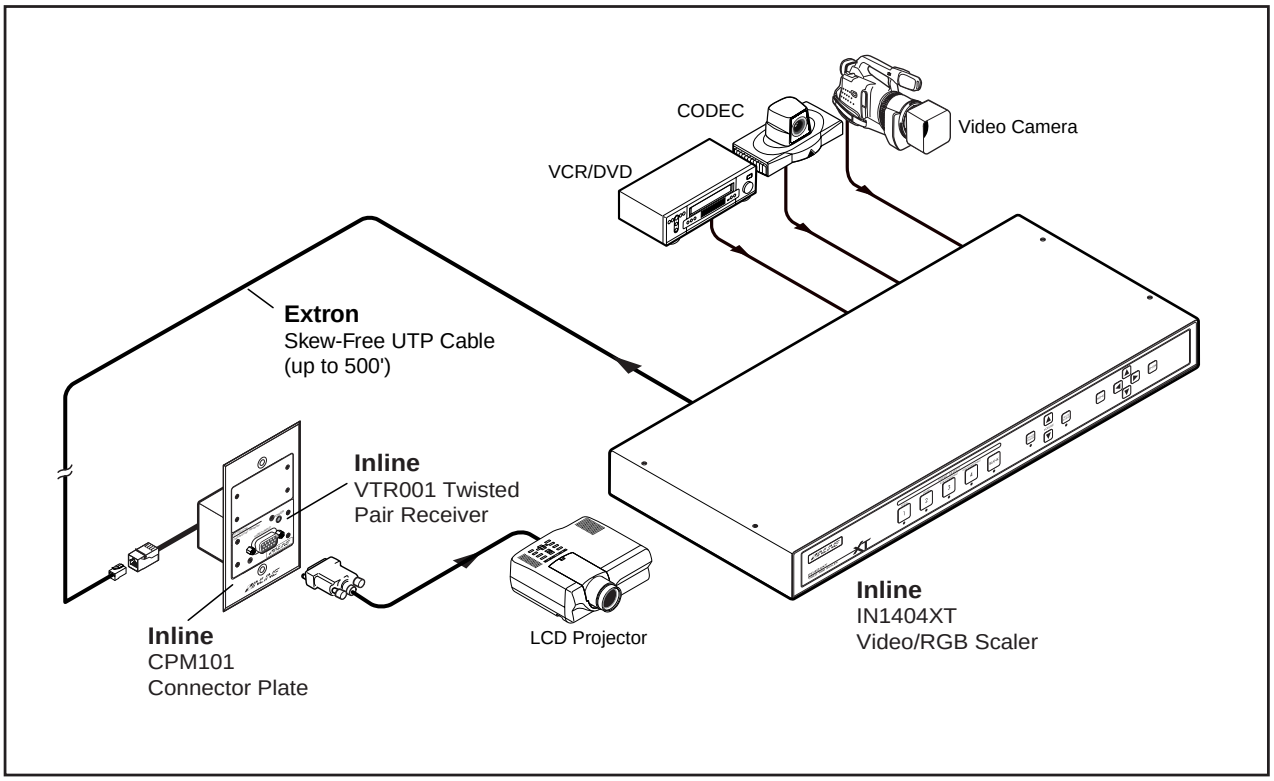
Serial control port ..... RS-232 3.5 mm captive screw connector, 3 pole
Baud rate and protocol ..... 1,200 to 57,600 (9600 = default); 8-bit, 1 stop bit, no parity
Serial control pin configurations .. 1 = TX, 2 = GND, 3 = RX

GENERAL

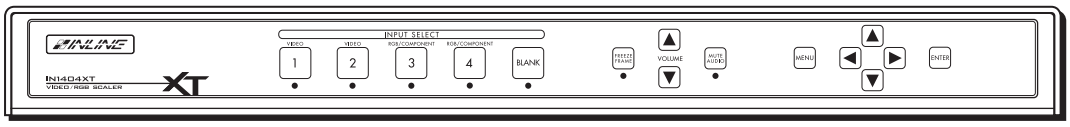
Power ..... 90VAC to 260VAC, 47 to 63 Hz, 25 watts, internal, autoswitchable
Temperature/humidity..... Storage -40° to +158°F (-40° to +70°C) / 10% to 90%, non-condensing
Operating +32° to +122°F (0° to +50°C) / 10% to 90%, non-condensing
Rack mount ..... Yes, with included brackets (part #IN91213B)
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. Width excludes rack ears.)
Product weight ..... 3.5 lbs (1.6 kg)
Shipping weight ..... 7 lbs (3.5 kg)
Vibration ..... ISTA/NSTA 1A in carton (International Safe Transit Association)
Listings ..... UL, CUL
Compliances ..... CE, FCC Class A
MTBF..... 30,000 hours
Warranty ..... 3 years parts and labor
Specifications are subject to change without notice.

Model	Part Number
IN1404XT	IN1404XT

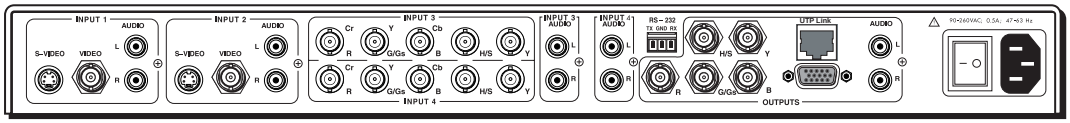
Application Diagram



Panel Drawings



Front



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