ISS 506 NEW

Six Input Seamless Switcher

FEATURES

- **Truly seamless switching between six inputs with preview output capability**
- **Inputs** —
  - Four configurable inputs on BNCs for RGBHV up to 1600x1200, component video up to 1080p HDTV, S-video, or composite video
  - One configurable input on BNCs for component video, S-video, or composite video
  - One input on a 4-pin mini-DIN and a BNC for S-video or composite video, respectively, or optional SDI/HD-SDI
- **Outputs** —
  - Preview output on a 15-pin HD connector for RGB or HDTV component video
  - Program output simultaneously on five BNCs and 15-pin HD for RGB and HDTV component video
  - Optional third Program output for DVI-D, HD-SDI, or scan-converted video - RGB, component video, S-video, or composite video
- **Preview and Program output capability**
- **Scales composite, S-video, component, RGBHV, and HDTV signals**
- **Multiple wipe, dissolve, or cut effects** — 28 selectable seamless transition effects are available to enhance and deliver professional quality presentations, at the touch of a button. The duration for wipe and dissolve effects are programmable to provide increased variety and further customization, while adding a high level of visual impact.
- **Multiple logo insertion** — The ISS 506 allows the user to add one or two logos to any presentation. The logos can be created using the Dynamic Image Capture tool, or on a PC and then uploaded to the ISS 506 as BMP - bitmap image files through the IP Link Ethernet port. With 16 MB of internal image storage, up to 16 logos can be accommodated. Any logo can then be recalled for display, positioned anywhere on the image, and keyed into the display via specific RGB or luminance levels.
- **PIP - picture-in-picture** — Allows any input to be displayed on-screen simultaneously with another. PIP windows can be dynamically sized and positioned anywhere within the image with selectable color borders, and also transitioned into or out of the image using the available wipe, dissolve, or cut effects.
- **Title keying** — Title information or other content from an input source can be displayed over the current image. The content is keyed into the display at a selected luminance level.
- **Dynamic Image Capture** — A special tool for creating logos on the ISS 506 by capturing any portion of an image displayed on-screen, and then storing it in memory.
- **Optional SDI/HD-SDI input**
- **Optional DVI, HD-SDI, or scan-converted output** — A flexible output expansion port can be populated to support optional DVI, HD-SDI, or scan converter output cards. When populated, these cards serve as a third Program output and offer additional system capabilities, such as recording or digital signal transmission.
- **Audio crossfade** — A transition technique applied during switches that lowers the audio of the switched-out source while simultaneously bringing up the audio of the activated source. The duration of the audio crossfade matches the duration of the video switching transition.
- **User selectable output rates from 640x480 to 1600x1200, including HDTV 1080p** — The ISS 506 provides 59 user-selectable computer-video output rates, from 640x480 to 1600x1200 and including HDTV 720p, 1080i, and 1080p.
- **Auto-Image™ setup** — For expedited presentation set-up, the ISS 506 automatically optimizes the image by analyzing and then adjusting to the incoming source, eliminating complex and time-consuming set-up procedures.
- **IP Link® Ethernet monitoring and control** — An IP integration technology developed by Extron, specifically engineered to meet the needs of professional A/V environments, which enables the ISS Series to be managed and proactively monitored over a LAN, WAN, or the Internet. An intuitive Web interface is included for such common functions as I/O switching, online diagnostics, and monitoring.
- **Internal test patterns for calibration and set-up** — The ISS 506 offers 11 test patterns, including a crosshatch, 16 bar grayscale, color bars, alternating pixels, ramp, 4 x 4 crosshatch for use with video walls, raster border, and three film aspect ratio patterns - 1.33, 1.78, 1.85, and 2.35. It also features a blue-only mode for proper set-up of video color and tint levels.
- **16 auto-memory presets per input** — Each input supports 16 auto-recall memory presets, based on the incoming horizontal and vertical frequencies. These presets recall sizing, centering, detail, contrast, and brightness information for each source, saving time and effort in fine-tuning displayed images.
- **Aspect ratio conversion** — Any video input can be adjusted horizontally and vertically to meet a specific aspect ratio requirement. For example, the user can save and recall specific settings to match various video aspect ratios from DVDs.
- **Picture controls including color, tint, brightness, contrast, detail, zoom, size, and position** — Three memory presets are available for each input to store all image settings.
- **Accepts balanced and unbalanced audio signals** — Gain and attenuation adjustments can be made directly from the front panel for each input.
- **Audio breakaway enables independent audio and video switching** — Provides the capability to break away an audio signal from its corresponding video signal. Audio breakaway switching can be accomplished via RS-232 control.
- **3:2 NTSC and 2:2 PAL pulldown detection** — Advanced film mode processing techniques help maximize image detail and sharpness for NTSC or PAL sources that originated from film.
- **RS-232/RS-422 serial control port** — Using serial commands, the ISS 506 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 input label windows** — Input buttons may be easily labeled by any Brother® P-Touch™ labeler or by Extron label software. Each input can be labeled with names, alphanumeric characters, or even color bitmaps for easy and intuitive input selection.
- **Front panel security lockout** — This feature locks out all front panel functions except basic switching and control commands; all functions however, are available through RS-232 control.
- **Rack-mountable 2U, full rack width metal enclosure**
- **Internal international power supply** — The 100-240VAC, 50/60 Hz, autoswitchable internal power supply provides worldwide power compatibility.

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ISS 506

DESCRIPTION

The **ISS 506** is a six input seamless switcher that accepts a wide variety of video signals including RGB computer-video, HDTV and standard definition video. It combines truly seamless, glitch-free switching with advanced scaling technologies to meet the requirements of high quality, high resolution video presentations. With presentation-enhancing features such as independent Preview and Program outputs, numerous switching transition effects, logo insertion, title keying, internal test patterns, and multiple control methods, the ISS 506 is designed to deliver advanced capabilities to high-end presentation environments.

Multi-Configurable Inputs

The six input ISS 506 includes four fully configurable inputs, each capable of accepting all common high resolution and standard video signals, from RGB computer-video to composite video. An optional SDI/HD-SDI input is also available. The ISS 506 also provides six input stereo audio switching for unbalanced or balanced audio signals, each with independent gain and attenuation control, and also offers an output volume control.

Independent Preview and Program Outputs

For increased system flexibility, the ISS 506 features separate Preview and Program outputs. Discrete input selection for each output enables preview capability of the "next to switch" source, allowing an operator to cue material locally on a Preview monitor, touch-screen control panel, or other viewing device.

Two simultaneous Program outputs are provided for dual-screen environments. Additionally, the ISS 506 can be configured with an optional output card to suit specific system needs. Available output cards include HD-SDI, DVI - Digital Visual Interface, or scan-converted standard definition video.

Multiple Seamless Transition Effects

For professional transitions between inputs, the ISS 506 offers a wide range of effects including wipes and dissolves with selectable durations, as well as a cut. When the switching includes audio signals, audio cross-fading is implemented that matches the duration of the video transition effect.

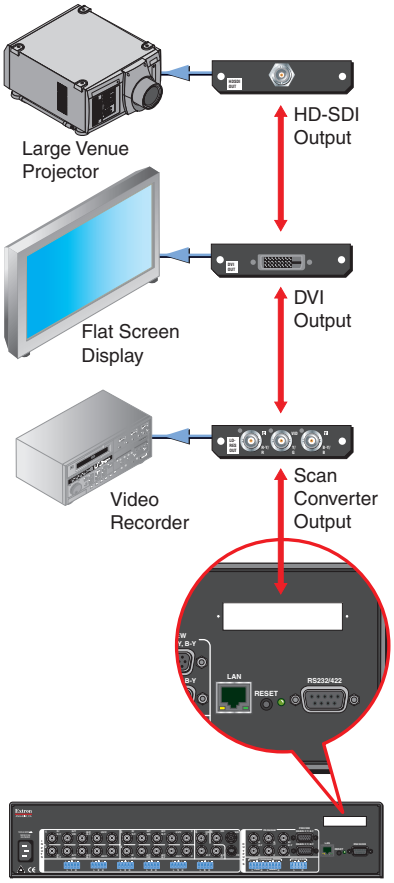
Presentation Enhancement Features

In addition to seamless transition effects, the ISS 506 includes a host of features for enhancing presentations. A PIP - picture-in-picture mode allows insertion of a PIP window that can be sized and positioned anywhere onscreen, and transitioned into and out of the image via wipe, dissolve, or cut effects.

The ISS 506 also provides the capability to insert one or two graphic logos into any presentation. A corporate logo, black screen, or any captured portion of an image can be positioned and keyed into the presentation. Additionally, title keying is available for overlaying title information for I-MAG applications, or other content from any input source.

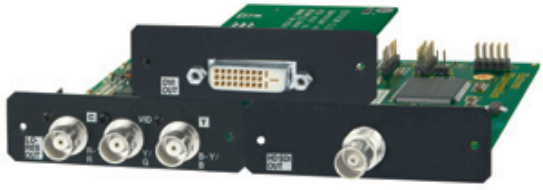
Flexible Control Possibilities

With versatile control functionality, the ISS 506 is ideal for corporate boardrooms, auditoriums, houses of worship and other live events. Full setup and operation is available from the front panel as well as through RS-232 and IP Link®.



ISS 506 Seamless Switcher

Flexible Output Options
An expansion port provides the option of a third, configurable Program output for sending high resolution digital video to a large venue projector or flat screen display, or recording presentations via a scan-converted video output.



Optional DVI, Scan Converter, and HD-SDI output cards

MODEL	VERSION DESCRIPTION	PART #
ISS 506	Standard Version	60-742-01
ISS 506 SC	Scan Converted Output	60-742-03
ISS 506 DI/DVI	SDI/HD-SDI Input, DVI-D Output	60-742-12
ISS 506 DI/SC	SDI/HD-SDI Input, Scan Converted Output	60-742-13
ISS 506 DI/HD-SDI	SDI/HD-SDI Input and HD-SDI Output	60-742-14

OPTIONAL ACCESSORIES	MODEL DESCRIPTION	PAGE	PART #
Scan Converter Output Board	Scan Converter Output Board for the ISS 506	page 566	70-486-01
DVI Output Board	DVI Output Board for the ISS 506	page 567	70-487-01
HD-SDI Output Board	HD-SDI Output Board for the ISS 506	page 566	70-559-01
SDI/HD-SDI Input Board	SDI/HD-SDI Input Board for the ISS 506	page 566	70-560-01

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SPECIFICATIONS

VIDEO INPUT

Number/signal type	4 RGBHV, RGBS, RGsB, component video (interlaced or progressive), S-video, composite video 1 component video (interlaced), S-video, composite video 1 S-video, composite video, or optional digital component video (SDI or HDSDI)
Connectors	4 x 5 female BNC 1 x 3 female BNC, 1 female 4-pin mini DIN 1 optional BNC for SDI/HDSDI
Nominal level	1 Vp-p for Y of component video and S-video, and for composite video 0.7 Vp-p for RGB 0.3 Vp-p for R-Y and B-Y of component video, and for C of S-video
Minimum/maximum levels	Analog: 0.0 V to 2.0 Vp-p with no offset at unity gain
Impedance	75 ohms
Horizontal frequency	Autoscan 15 kHz to 100 kHz
Vertical frequency	Autoscan 50 Hz to 120 Hz
Resolution range	Autoscan 640x480 to 1600x1200
Return loss	-30 dB @ 5 MHz
DC offset (max. allowable)	0.5 V

VIDEO PROCESSING

Encoder (for scan converted output)	10 bit digital
Digital sampling (for program and preview outputs)	24 bit, 8 bits per color; 162 MHz standard
Colors (for program and preview outputs)	16.78 million
Horizontal filtering (for scan converted output)	3 levels
Vertical filtering (for scan converted output)	3 levels
Encoder filtering (for scan converted output)	3 levels

VIDEO OUTPUT

Number/signal type	2 scaled RGBHV, RGBS, RGsB, HD YUV component video program outputs 1 scaled RGBHV, RGBS, RGsB, HD YUV component video preview output 1 optional DVI, HDSDI (SMPTE 292 M), or scan converted output (interlaced component video, S-video, composite video)
Connectors	(2) 15-pin HD (1 for preview output, 1 for program output) 5 BNC female (for program output)
Nominal level	1 Vp-p for Y of component video and S-video, and for composite video 0.7 Vp-p for RGB 0.3 Vp-p for R-Y and B-Y of component video, and for C of S-video
Minimum/maximum levels	0.0 V to 0.7 Vp-p (RGB) 0.0 V to 1.0 Vp-p (component video, G of RGsB)
Impedance	75 ohms
Scaled resolution	640x480[1,2,3,4,5,6], 800x600[1,2,3,4,5,6], 852x480[1,2,3,4,5], 1024x768[1,2,3,4], 1024x852[1,2,3,4], 1024x1024[1,2,3], 1280x768[1,2,3,4], 1280x1024[1,2,3], 1360x765[1,2,3], 1365x768[1,2,3], 1365x1024[1,2], 1366x768[1,2,3], 1400x1050[1,2], 1600x1200[1,2], HDTV 480p[2], 576p[1,5], 720p[1,2], 1080p[1,2], and 1080i[1,2] 1 = at 50 Hz 2 = at 60 Hz 3 = at 72 Hz 4 = 96 Hz 5 = 100 Hz, 6 = 120 Hz
Return loss	-30 dB @ 5 MHz
DC offset	±25 mV with input at 0 offset (except for RGsB and component video)
Switching type	Seamless switching (cut or dissolve)

SYNC

Input type	Autodetect RGBHV, RGBS, RGsB
Output type	RGBHV, RGBS, RGsB Tri-level on Y, R-Y, B-Y channels of component video or bi-level on Y channel of component video (selectable)
Standards	NTSC 3.58, NTSC 4.43, PAL, SECAM Optional SDI/HDSDI input: SMPTE 259M-C, SMPTE 292M
Input level	0.0 V to 5.0 Vp-p 0.0 V to 0.6 Vp-p for component video with tri-level sync
Output level	TTL: 5.0 V p-p, unterminated
Input impedance	510 ohms
Output impedance	75 ohms
Max input voltage	5.0 Vp-p
Polarity	Positive or negative (selectable)

AUDIO

Gain	Unbalanced output: -6 dB; balanced output: 0 dB
Frequency response	20 Hz to 20 kHz, ±0.05 dB
THD + Noise	0.05% @ 1 kHz at +4 dBu and 0 dB gain
S/N	>83 dB (typical) at maximum output (unweighted)
Crosstalk	<-80 dB @ 1 kHz, fully loaded
Stereo channel separation	>90 dB @ 1 kHz
CMRR	>75 dB @ 1 kHz

AUDIO INPUT

Number/signal type	6 stereo, balanced/unbalanced
Connectors	(6) 3.5 mm captive screw connectors, 5 pole
Impedance	>10k ohms unbalanced/balanced, DC coupled
Nominal level	+4 dBu (1.23 Vrms), -10 dBV (316 mVrms)
Maximum level	+19.5 dBu, (balanced or unbalanced) at 1% THD+N
Input gain adjustment	–18 dB to +24 dB

Audio delay compensation (automatic)
20 ms when scaling RGB computer video or HDTV component video
75 ms when scaling NTSC component video, S-video, or composite video
90 ms when scaling PAL component video, S-video, or composite video

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

AUDIO OUTPUT

Number/signal type	3 stereo, balanced/unbalanced (2 program, 1 preview)
Connectors	(3) 3.5 mm captive screw connector, 5 pole
Impedance	50 ohms unbalanced, 100 ohms balanced
Gain error	±0.5 dB channel to channel
Maximum level (Hi-Z)	>+21 dBu, balanced or unbalanced at 1% THD+N
Maximum level (600 ohm)	>+15 dBm, balanced or unbalanced at 1% THD+N

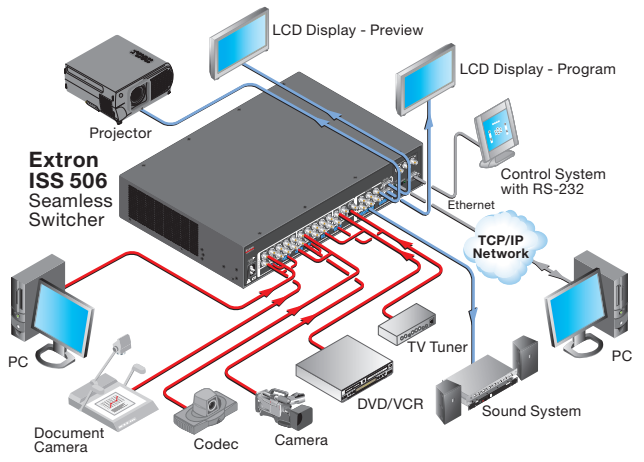
CONTROL/REMOTE — SWITCHER

Serial control ports	1 RS-232/RS-422: 1 rear panel 9-pin female D connector 1 RS-232: 1 front panel 2.5 mm mini stereo jack
Baud rate and protocol	9600 (default), 19200, 38400, 115200 baud; 8 data bits; 1 stop bit; no parity
Serial control pin configurations	
9-pin female D connector	RS-232: 2 = TX, 3 = RX, 5 = GND RS 422: 2 = TX-, 3 = RX-, 5 = GND, 7 = RX+, 8 = Tx+
Mini stereo jack	RS-232: tip = TX, ring = RX, sleeve = GND
Ethernet control port	1 RJ-45 female connector
Ethernet data rate	10/100Base-T, half/full duplex with autodetect
Ethernet protocol	ARP, DHCP, ICMP (ping), TCP/IP, UDP/IP, Telnet, HTTP, SMTP
Ethernet default settings	Link speed and duplex level = autodetected IP address = 192.168.254.254 Subnet mask = 255.255.0.0 Gateway = 0.0.0.0 DHCP = off
Web server	Up to 200 simultaneous sessions 16 MB nonvolatile user memory
Program control	Extron's control/configuration program for Windows® Extron's Simple Instruction Set (SIS™) Microsoft® Internet Explorer ver. 6 or higher, Netscape® Navigator®, Telnet

GENERAL

Power	100 VAC to 240 VAC, 50/60 Hz, 45 watts, internal, autoswitchable
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	3.5" H x 17.5" W x 12.0" D (2U high, full rack wide) 8.9 cm H x 44.4 cm W x 30.5 cm D (Depth excludes connectors and knobs. Width excludes rack ears.)
Product weight	8.5 lbs (3.9 kg)
Shipping weight	18 lbs (9 kg)
DIM weight	
USA/Canada	15 lbs (7 kg)
International	18 lbs (8 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.



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