

IN1608 xi

EIGHT INPUT SCALING PRESENTATION SWITCHER WITH DTP EXTENSION



DTP
SYSTEMS

IP LINK PRO xi

EVERLAST
POWER SUPPLIES

Complete AV Switching and Processing in One Box

- ▶ Integrates HDMI, analog video, and audio sources into presentation systems
- ▶ Four HDMI inputs, two DTP inputs and two universal analog video inputs
- ▶ Two HDMI outputs plus one DTP output with configurable HDBaseT compatibility
- ▶ Two mic/line mix inputs with 48 volt phantom power and ducking
- ▶ High performance scaling engine with 30-bit precision processing
- ▶ Available with integrated IPCP Pro xi control processor and optional stereo or mono Class D audio power amplifiers

Extron

IN1608 xi

The Extron IN1608 xi is an HDCP-compliant scaling presentation switcher with four HDMI inputs, two universal analog video inputs, and two Extron DTP inputs. It provides dual HDMI outputs and one DTP® output that is also configurable for HDBaseT compatibility. The DTP inputs and output work with DTP endpoints to extend video, audio, and bidirectional control signals over a single shielded CATx cable. The IN1608 xi also includes a host of audio switching and processing features. Models are available with a built-in Class D audio power amplifier and an IP Link® Pro xi control processor for complete AV system control.



IN1608 xi IPCP Q models feature a built-in Extron IP Link® Pro xi quad core control processor with a secure, dedicated three-port AV LAN switch designed to control local AV devices and safeguard them from outside intrusion or interference. The IN1608 xi IPCP Q delivers high-speed processing and abundant control port capacity.



IN1608 xi MA and SA models feature stereo or mono 100-watt Class D power amplifiers with patented CDRS™ - Class D Ripple Suppression technology that provides a smooth, clean audio waveform and an improvement in signal fidelity over conventional Class D amplifier designs.



The IN1608 xi is designed for large rooms where reliability and superior quality presentations are crucial, including corporate boardrooms, lecture halls in higher education, government facilities, and public performance venues. The IN1608 xi provides the convenience of supporting local and remote sources and displays, with fast and reliable source switching. A high-performance scaling engine converts each video source to the optimal resolution. The IN1608 xi IPCP Q with a class D amplifier and a control processor provides all-in-one AV switching, processing, audio amplification, and system control.

FEATURES

Two DTP inputs, four HDMI inputs, and two universal analog video inputs

The IN1608 xi allows for switching between digital and analog video sources. Two universal analog inputs accept all standard analog video formats, including RGB, RGBcV, HD component video, S-video, and composite video signals.

Available with integrated IPCP Pro xi control processor

IN1608 xi IPCP Q models include a built-in IPCP Pro xi control processor for complete AV system control.

Available with energy efficient Class D stereo or mono amplifier:

- 2 x 50 watts @ 4 ohms; 2 x 25 watts @ 8 ohms
- 1 x 100 watts @ 70 volts

Three simultaneous video outputs

One DTP twisted pair output, and two HDMI outputs are available for driving three displays.

Compatible with all DTP Series models and DTP-enabled products

Enables mixing and matching with desktop and wallplate transmitters and receivers, as well as other DTP-enabled products.

Integrated DTP inputs and output support transmission of video, control, and analog audio over a shielded CATx cable

The IN1608 xi supports a maximum transmission distance of 330 feet (100 meters).

Compatible with CATx shielded twisted pair cable

Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance.

DTP output is compatible with HDBaseT-enabled devices

The DTP output can be configured to send video and embedded audio, plus bidirectional RS-232 and IR signals to HDBaseT-enabled displays.

Bidirectional RS-232 and IR pass-through for AV device control

RS 232 insertion from the Ethernet control ports

System level device control to all remote locations via the switcher's Ethernet ports, providing comprehensive control of endpoints and attached devices without needing additional equipment.

Two mic/line inputs with 48 volt phantom power

Mic ducking

Automatically reduces program audio when a microphone signal is detected, replacing the need for a separate audio ducking processor.

Auto-switching between inputs

HDMI audio embedding

Analog input audio signals can be embedded onto the HDMI output signals.

HDMI audio de-embedding

Embedded HDMI two-channel PCM audio can be extracted to the analog outputs, or multi-channel bitstream formats can be passed to the HDMI outputs.

Selectable output rates

Available output rates include computer and video up to 1920x1200, including 1080p/60 and 2K.

Advanced scaling engine with 30-bit precision processing

Motion-adaptive deinterlacing for signals up to 1080i

HDCP compliant

This ensures display of content-protected media and interoperability with other HDCP-compliant devices.

User-selectable HDCP authorization

This allows individual 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.

Supported HDMI specification features include data rates up to 6.75 Gbps, Deep Color, and HD lossless audio formats

Extron-exclusive digital video technologies

The IN1608 xi includes EDID Minder®, Key Minder®, and SpeedSwitch® to simplify integration of HDMI sources and displays, and to help ensure optimal system performance and dependability.

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, which preserves the original aspect ratio of the input signal.

HDCP Visual Confirmation

When processing HDCP-encrypted content, the IN1608 xi outputs a full-screen green signal on any video output connected to a non-HDCP compliant display for immediate visual confirmation that protected content cannot be viewed on the display.

HDMI to DVI Interface Format Correction

Auto-Image setup

When activated, the IN1608 xi automatically optimizes the image by analyzing and adjusting to the video input signal.

Auto Input Memory

When activated, the IN1608 xi automatically stores size, position, and picture settings based on the incoming signal.

Output muting control

Provides the capability to mute one or all outputs at any time.

Output Standby Mode

The unit can be set to automatically mute video and sync output to the display device when no active input signal is detected.

Power Save Mode

The IN1608 xi can be placed in a low power standby state to conserve energy when not in use.

Internal video test patterns and pink noise generator for calibration and setup

Ethernet, USB, and RS-232 control

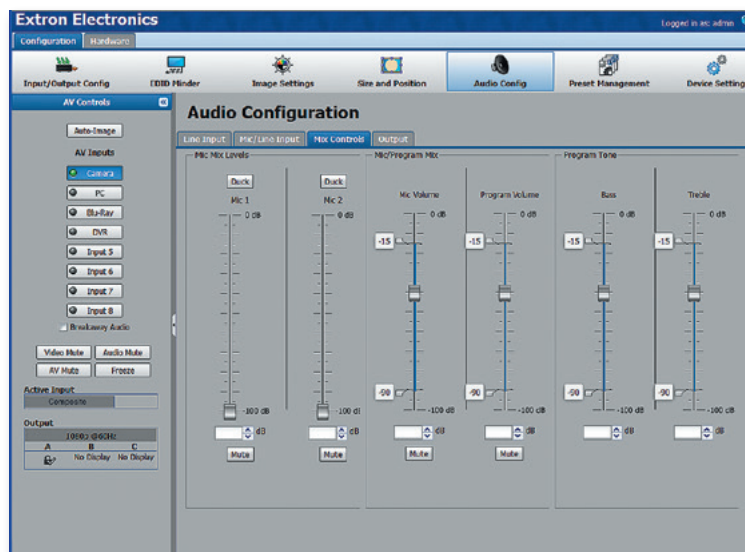
COMPATIBLE WITH DTP 230 SERIES AND DTP 330 SERIES

The IN1608 xi includes two DTP twisted pair inputs and one DTP output that support transmission of video, stereo audio, and bidirectional RS-232 and IR signals over a single shielded CATx cable. These DTP connections support signal extension up to 330 feet (100 meters) and enable mixing and matching with HDMI, DisplayPort, DVI, or VGA DTP transmitters and receivers. DTP transmitters and receivers are available in low-profile enclosures, plus decorator-style wallplate and floorbox models. The IN1608 xi can conveniently power select DTP endpoint devices over the same shielded CATx cable, and directly interface with control systems for sending RS-232 and IR control to remote devices. These capabilities allow system designers to create flexible yet efficient system designs serving local and remote source and display locations in a variety of presentation environments.



ADVANCED AUDIO CAPABILITIES

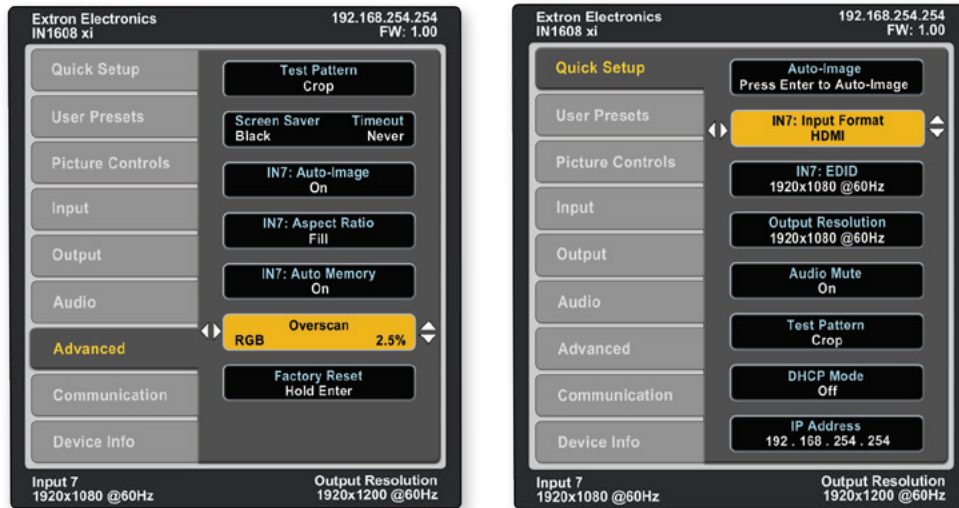
The IN1608 xi provides many advanced audio features that allow for complete audio system integration. They include an integrated eight-input audio switcher, two mic/line inputs with flexible mixing and ducking capabilities, HDMI audio embedding and de-embedding, tone controls, input and output gain adjustments, and options for serving multiple audio destinations. Audio configuration features and options can easily be accessed through the internal Web pages or Extron PCS software, with an intuitive GUI that provides access to all available adjustments and settings. AV integrators and technicians can fine-tune gain controls using the graphical sliders. Real-time meters are available at all inputs and outputs, including audio embedding for the HDMI outputs, to set proper gain structure for the audio system.



IN1608 XI USER INTERFACE

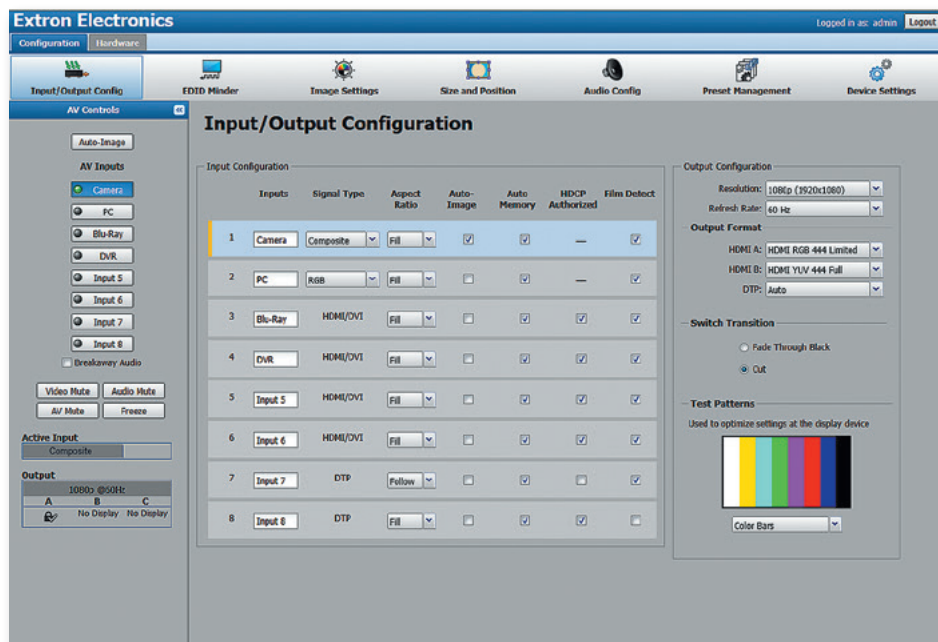
COMPREHENSIVE ON-SCREEN MENUS

The IN1608 xi features intuitive on-screen menus for setup, operation, and monitoring using the front panel controls. Key parameters such as input and output video formats and resolutions are conveniently grouped on the initial Quick Setup screen, while additional screens provide full control over the scaler's other functions and settings.



BUILT-IN WEB INTERFACE FOR INTUITIVE SETUP AND OPERATION

The Web interface integrated into the IN1608 xi is a user-friendly GUI that is very easy to navigate, allowing for expedited setup and configuration, as well as real-time operation and monitoring. Users can view details about the current input and output, such as signal format, resolution, and HDCP status. In addition to input switching, picture and audio settings are available, such as image brightness, contrast, positioning, sizing, and more. The intuitive user-interface also offers preset management and makes it easy to set EDID for any input, providing the option to select factory default EDID, EDID captured from connected output devices, or a custom EDID uploaded to the unit.



OVERVIEW

HDCP compliant

Worry-free display of protected content from digital video sources.

Advanced scaling

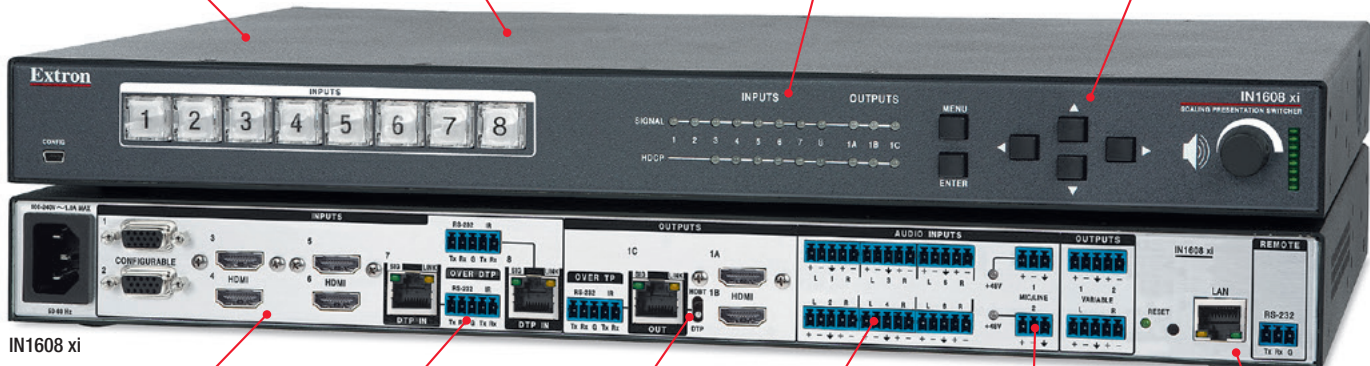
High-quality graphics and video upscaling and downscaling, deinterlacing, and HDMI Deep Color processing

Signal presence and HDCP status LEDs

Provide simple, real-time verification of signal activity and HDCP status for all inputs and outputs.

User-friendly interface

Direct access buttons, adjustment controls, on-screen menu navigation, and volume control simplify system setup and operation.



IN1608 xi

HDMI inputs and universal analog inputs

Ensure compatibility with a wide variety of video sources.

Integrated DTP extension

Extend audio, video, and control over shielded CATx cable.

Three simultaneous outputs

Two HDMI outputs and one DTP output configurable for HDBaseT compatibility

HDMI audio embedding and de-embedding

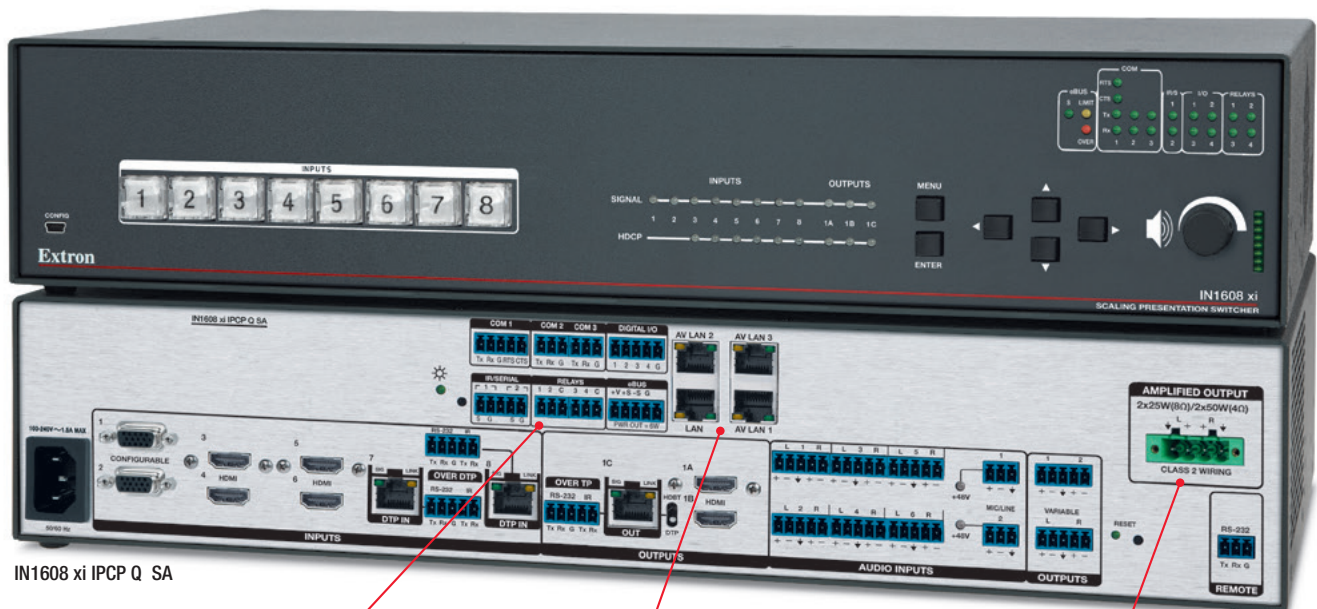
The IN1608 xi can embed analog input audio signals onto the HDMI outputs, and extract embedded two-channel audio from HDMI inputs.

Mic/line inputs with 48 V phantom power and ducking

Two mic/line inputs are available for mixing microphones or line level sources into the audio outputs.

Ethernet and RS-232 control

The IN1608 xi can be controlled and monitored using serial commands or over Ethernet.



IN1608 xi IPCP Q SA

Built-in quad core control processor

IN1608 xi IPCP Q models feature an Extron IP Link® Pro xi control processor with one standard Ethernet port and a secure, dedicated three-port AV LAN switch isolating the AV LAN network traffic from outside interference or intrusion.

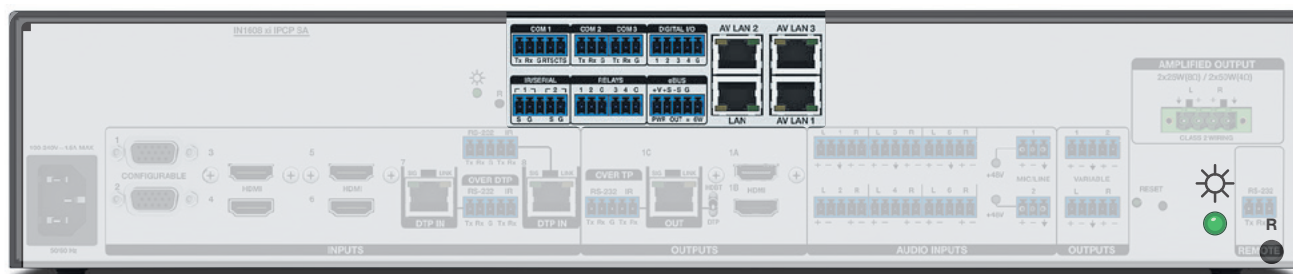
RS-232 insertion from the Ethernet control ports

Provides comprehensive control of endpoints and attached devices without needing additional equipment.

Integrated power amplifier

IN1608 xi models are available with a choice of efficient Class D amplifiers: a stereo power amplifier with 50 watts rms output per channel into 4 ohms, and a mono 70 volt power amplifier with 100 watts rms output.

INTEGRATED CONTROL PROCESSOR



BUILT-IN IP LINK PRO XI QUAD CORE CONTROL PROCESSOR

The integrated control processor of the IN1608 xi IPCP Q includes all of the same advanced features, processing power, and breakthrough technologies found in the new Extron Pro xi Series control systems. It enables the IN1608 xi IPCP Q to provide powerful AV and room control capabilities, including control of all sources and displays, lighting, window shades, projection screens, occupancy sensing, and much more. The IN1608 xi IPCP Q can also be grouped with up to three additional IPCP Pro xi control processors using Global Configurator Professional software to create large, sophisticated control systems.

Two bidirectional RS-232 serial ports with software handshaking

One bidirectional RS-232/RS-422/RS-485 serial port with hardware and software handshaking

Two IR/serial ports for one-way control of external devices

Four digital I/O ports and four relays
Provide control of various room functions.

Quad-core processor and four times more memory with 2 GB of RAM and 8 GB of Flash

For increased upload speeds, faster runtime performance, and more sophisticated projects.

Integrated three-port AV LAN switch allows AV devices to be isolated from the corporate network

Supports secure industry standard communications protocols

Supports LinkLicense

Enables the use of third party devices as primary control interfaces.

Multi-level password protection

Allows security to be set based on user roles.

Fully customizable using Extron control system software

GUI Designer combined with Global Configurator Plus or Global Configurator Professional.

PAIR WITH TOUCHLINK PRO TOUCHPANELS FOR A POWERFUL AV CONTROL SYSTEM

The IN1608 xi IPCP Q supports direct connectivity with Extron TouchLink® Pro touchpanels through the Gigabit switch on the presentation switcher. TouchLink Pro touchpanels feature enhanced processing and memory, plus capacitive touchscreens for select models. These touchpanels are available in a variety of form factors and sizes to suit a wide range of applications.



ADVANCED CONTROL SYSTEM CONFIGURATION

POWERFUL CONFIGURATION SOFTWARE

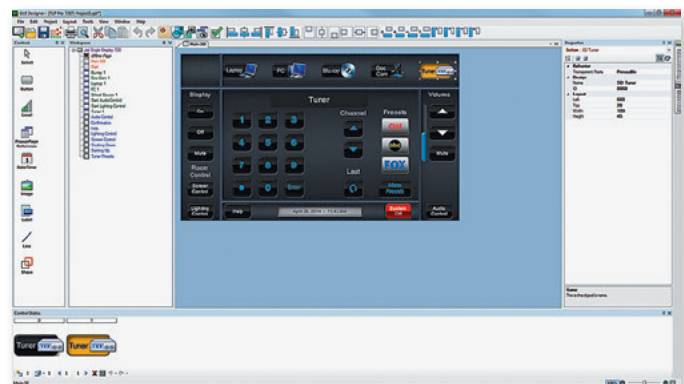
Global Configurator is Extron's most powerful and versatile control system configuration software. It is ideal for a wide variety of control systems and applications, and helps streamline integration within today's demanding AV control environments. Within this latest version, powerful features, such as conditional logic, variables, and macros provide even greater flexibility for more elaborate control system designs. Global Configurator has two modes. Global Configurator Plus is ideal for smaller scale applications requiring one control processor and one control interface. Global Configurator Professional duplicates all of the powerful features within Global Configurator Plus but is especially suited for applications requiring multiple control processors, enhanced functionality, and advanced configuration.

One of the many features of Global Configurator Professional is the ability to create controller groups. Multiple control processors can be grouped together with the IN1608 xi IPCP Q to function as one. This provides unique control system scalability, and is beneficial when more ports are needed than offered on a single control processor, especially in larger-scale projects spanning multiple rooms.



GUI DESIGNER

Extron GUI Designer is a software application used for the design, creation, and maintenance of Extron TouchLink Pro user interfaces. Begin with ready-to-use design templates and resource kits, or start from scratch and build your own layout using our comprehensive software. The available design elements are fully customizable and matched carefully to popular AV system applications. In many cases, all of the input sources, display control, and environmental settings are already in place. These resources are fully developed and include complete, detailed documentation.



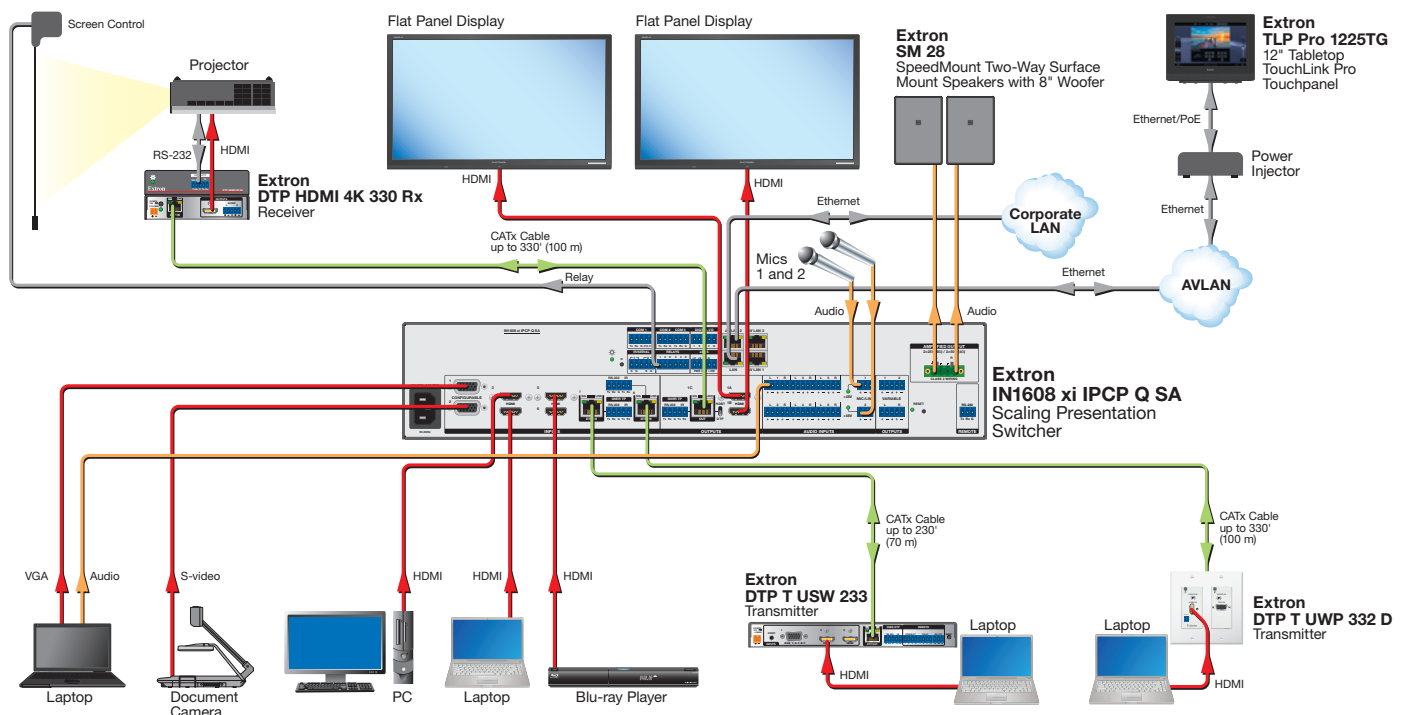
BRING YOUR OWN DEVICE WITH LINKLICENSE



Extron LinkLicense® is an easy, cost-effective way to add even more powerful capabilities to Extron products. The LinkLicense for User Interfaces upgrade for the IN1608 xi IPCP Q enables the use of a mobile device or computer as the primary control interface for the AV system. With the purchase of a LinkLicense with the IN1608 xi IPCP Q, integrators can create custom user interfaces for tablets or laptops, and duplicate them to additional devices with no per-user fees.



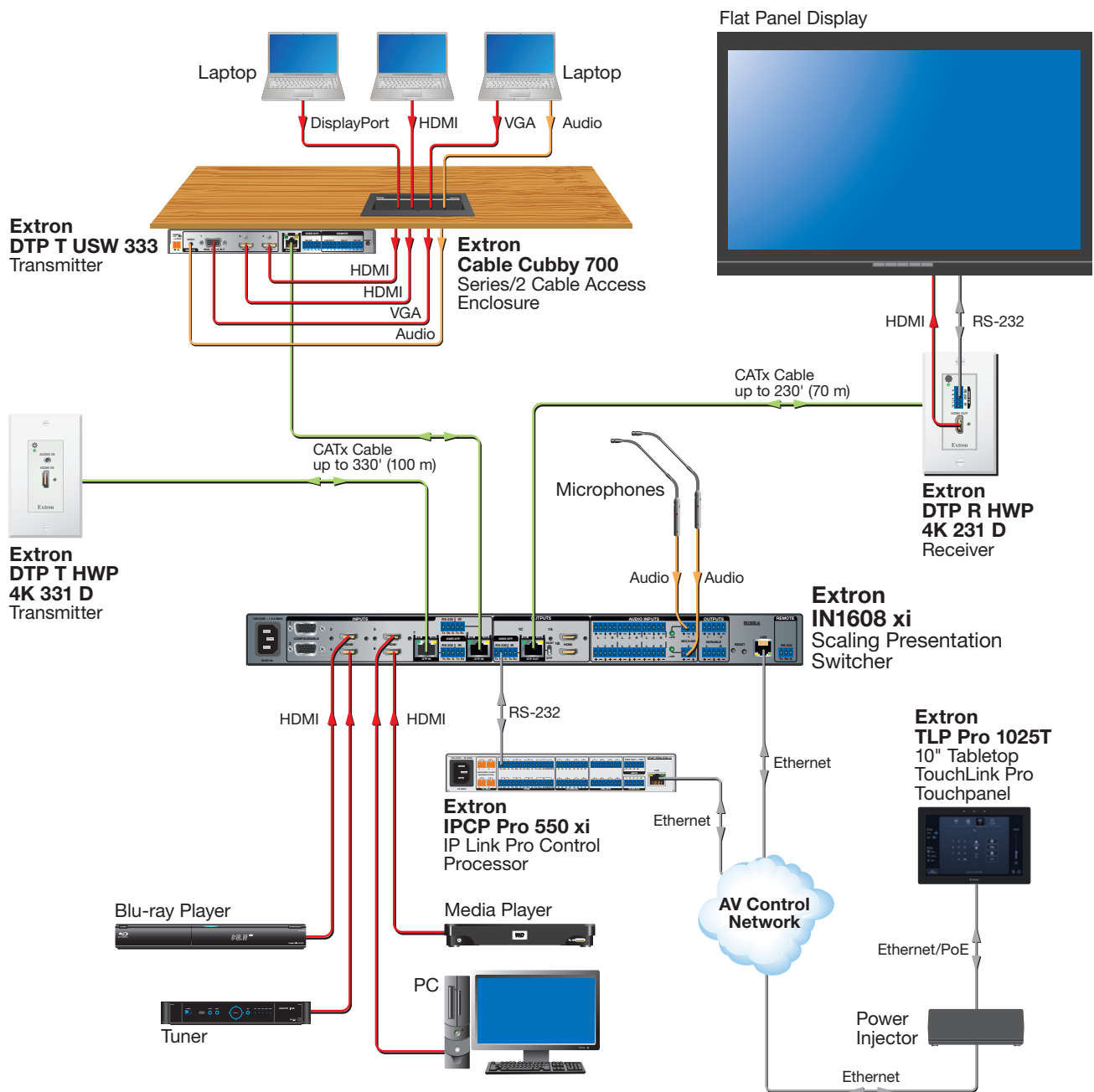
- Purchase LinkLicense and activate it with a single click to take immediate advantage of all the benefits
- Unlock features that add convenience, expand system options, and enhance the capabilities of your Extron products
- No central management of licenses required
- Use a mobile device or computer as the primary control interface in an Extron control system
- Simplify deployment of BYOD – Bring Your Own Device control designs
- Streamlines support by standardizing on a consistent BYOD control approach across your organization
- Operates seamlessly with the Extron Control App



CONFERENCE ROOM

The IN1608 xi can serve as the central integration component for source switching, supporting wall and table locations for connecting devices, and optimizing source video to the display. The IN1608 xi is housed within a credenza, together with a variety of resident sources connected via HDMI. The DTP twisted pair input receives video signals via a shielded CATx cable run from a conference table where guest laptops and mobile devices are located.

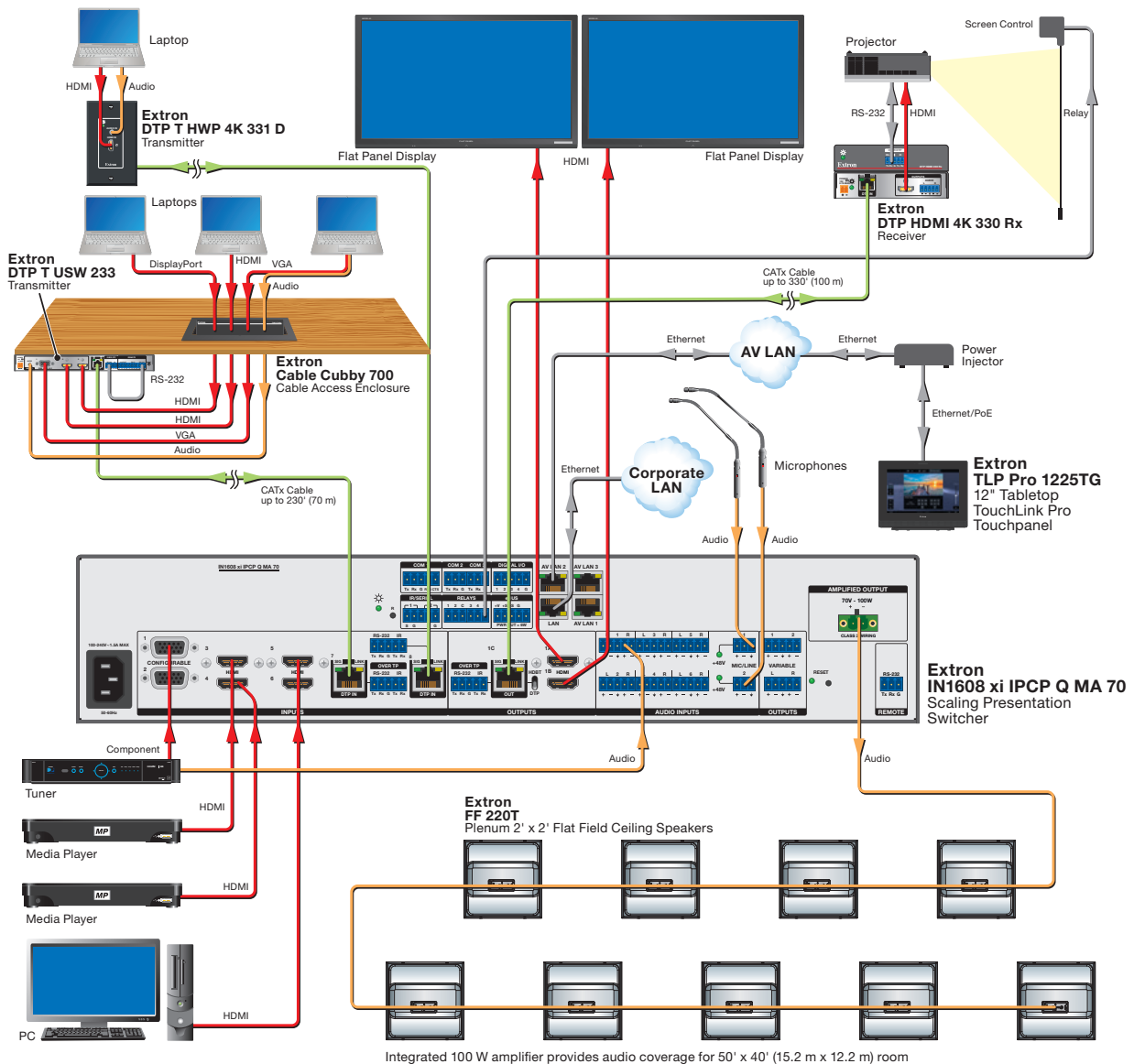
All of the AV equipment is controlled using the IPCP Pro 550 xi control processor and a connected TouchLink Pro touchpanel. From the touchpanel, users can easily switch between video sources to show content on the large display.



TRAINING ROOM

For this 50 x 40 foot (15.2 x 12.2 m) training room, an IN1608 xi IPCP Q MA 70 can provide source switching, support for remote device locations, audio mixing and processing, sound reinforcement, scale source signals to the native resolution of the displays, and control the AV system. An IN1608 xi IPCP Q MA 70 is installed in a lectern, together with local resident sources. Despite the size of this room, the DTP transmission capabilities are sufficient to reach a wallplate at the rear of the room, as well as a student presentation station and a ceiling-mounted projector. The integrated 100-watt mono amplifier feeds the 70-volt speaker system to provide ample sound reinforcement. Speech and program audio mixing, mic ducking, and gain controls with metering are available within the switcher, allowing an AV technician to perform proper sound system setup.

As an additional convenience, the projector and motorized screen can be controlled from a TouchLink Pro touchpanel that is connected to the IN1608 xi IPCP Q MA 70 via the built-in Gigabit Ethernet switch. The integrated control processor with AV LAN ports also enables the IN1608 xi IPCP Q MA 70 to securely control sources, lighting, and more.



SPECIFICATIONS

VIDEO INPUT	
Number/signal type	
Local input	2 RGB, RGBcV, component video (YUVi/YUVp/HDTV), S-video, composite 4 HDMI/DVI
Remote inputs	2 DTP 330
HDMI input cable length	Up to 75' (22.9 m) for all supported input rates
Resolution range	640x480 to 1600x1200 and 1920x1200* NTSC, PAL, SECAM, 480i, 480p, 576i, 576p, 720p, 1080i, 1080p, and 2K *reduced blanking
Standards	NTSC 3.58, NTSC 4.43, PAL, SECAM, DVI 1.0, HDMI 1.3, HDCP 1.4
VIDEO PROCESSING	
Analog sampling	12 bits per color; 13.5 MHz standard (video) 170 MHz standard (RGB)
Digital pixel data bit depth	8, 10, or 12 bits per channel; 165 MHz pixel clock (HDMI)
VIDEO OUTPUT	
Number/signal type	
Local output	2 HDMI/DVI
Remote output	1 DTP 330 or HDBaseT (configurable)
Standards	DVI 1.0, HDMI 1.3, HDCP 1.4
SHIELDED TWISTED PAIR INTERCONNECTION	
Signal transmission distance	
DTP 330	Up to 330' (100 m) using shielded twisted pair cable or XTP DTP 24 STP cable
HDBaseT	Up to 330' (100 m) using shielded twisted pair cable or XTP DTP 24 STP cable
NOTE: Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance.	
AUDIO INPUT	
Number/signal type	
	8 stereo line level balanced or unbalanced 2 mono mic/line level balanced or unbalanced (with available phantom power) 4 stereo, de-embedded from HDMI (PCM only) 2 DTP (de-embedded from HDMI [PCM only], or remote balanced/unbalanced, analog)
AUDIO OUTPUT	
Number/signal type	
Local outputs	1 balanced or unbalanced stereo (variable) 1 balanced or unbalanced stereo; can be configured as stereo or two independently mixed mono channels 2 HDMI embedded
Remote output	1 DTP (embedded digital and remote balanced/unbalanced analog) or 1 HDBaseT (embedded digital)
AUDIO OUTPUT — POWER AMPLIFIER (MA AND SA MODELS ONLY)	
Number/signal type	
Stereo models	1 stereo (default) or 2 mono (2 channels total)
Mono models	1 mono, 70 V line
Frequency response	
Stereo models	20 Hz to 20 kHz, -3 dB to +1 dB @ 1 W
Mono models	100 Hz to 20 kHz, -3 dB to +1 dB @ 1 W
THD + Noise	<0.1% @ 1 kHz, 3 dB below clipping
S/N	>90 dB, 20 Hz to 20 kHz, unweighted

Output power		
Stereo models	25 watts per channel, 8 ohms, 1 kHz, 0.1% THD 50 watts per channel, 4 ohms, 1 kHz, 0.1% THD	
Mono models	100 watts (rms) @ 70 V, 1 kHz, 0.1% THD	
COMMUNICATIONS — SCALING PRESENTATION SWITCHER		
Serial control port	1 bidirectional RS-232, 3.5 mm captive screw connector, 3 pole (rear panel)	
All models except IPCP models		
Ethernet control port	1 female RJ-45 connector	
COMMUNICATIONS		
IPCP Pro dual-NIC embedded control processor — IPCP models only		
Control processor		
IPCP Q models	IPCP Pro 355MQ xi	
Ethernet control		
Network interface controllers (NICs)	2: 1 LAN, 1 AV LAN	
Network switch	1 AV unmanaged 3 port switch	
Protocols	DHCP, DNS, HTTP, HTTPS, ICMP, NTP, SFTP, SMTP, SNMP, SSH, TCP/IP, UDP/IP	
Serial control		
Quantity/type	1 bidirectional RS-232, RS-422, RS-485 (port 1) 2 bidirectional RS-232 (ports 2 and 3)	
Digital I/O control		
Quantity/type	4 digital input/output (configurable)	
eBUS control		
eBUS control ports	(1) 3.5 mm captive screw connector, 5 pole (uses 4 poles)	
GENERAL		
Power supply		
	Internal Input: 100-240 VAC, 50-60 Hz	
Power consumption		
Full load (amp output at 1/8 power)		
IN1608 xi	42 watts	
All xi amplifier models except IPCP models	67 watts	
All xi IPCP models	76 watts	
Power save mode		
IN1608 xi	<33 watts	
All xi amplifier models except IPCP models	<42 watts	
All xi IPCP models	<47 watts	
Enclosure dimensions		
IN1608 xi	1.72" H x 17.5" W x 9.5" D (1U high, full rack wide) (44 mm H x 444 mm W x 241 mm D) (Depth excludes connectors and knobs. Width excludes rack ears.)	
All other models	3.47" H x 17.5" W x 9.5" D (2U high, full rack wide) (88 mm H x 444 mm W x 241 mm D) (Depth excludes connectors and knobs. Width excludes rack ears.)	
Product warranty	3 years parts and labor	
Everlast power supply warranty	7 years parts and labor	
Model	Version Description	Part number
IN1608 xi	Standard Model	60-1238-81
IN1608 xi SA	2 x 50 Watt Stereo Power Amplifier	60-1238-82
IN1608 xi MA 70	100 Watt 70 V Mono Power Amplifier	60-1238-83
IN1608 xi IPCP Q SA	Control Processor and Stereo Amp	60-1238-95
IN1608 xi IPCP Q SA	Control Processor and Stereo Amp, LL UI Upgrade	60-1238-95A
IN1608 xi IPCP Q MA 70	Control Processor and 70 V Mono Amp	60-1238-96
IN1608 xi IPCP Q MA 70	Control Processor and 70 V Mono Amp, LL UI Upgrade	60-1238-96A

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

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