

# IN31608 16-Input, 8-Output Presentation Switcher



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## FEATURES

- 16 x 8 Matrix Switcher
- 350 MHz Video Bandwidth
- Stereo Audio Inputs / Outputs - Balanced (5-Pin Phoenix) and Unbalanced (RCA) Models Available
- Master Volume Control and Mute
- Unit Stores Unique Input Gain Trim Levels for Each Input
- Audio-Follow-Video Switching or Audio / Video Breakaway
- RGB Delay Mode
- Vertical Interval Switching with Synchronous Video Sources
- Control From Front Panel or Remotely Via RS-232 Serial Control
- 16 Configuration Memories
- Unit Can Store and Transmit Serial Commands to Control Projectors and Other Serially Controlled Equipment

The **IN31608** Presentation Switcher offers 16 x 8 video / audio matrix switching capability. Six models are available to match your switching requirements:

Model	Configuration	Signal Compatibility
<b>IN31608-1</b>	RGB	RGsB, Component, Y/C, Composite
<b>IN31608-2</b>	RGB + Audio	RGsB, Component, Y/C, Composite, Stereo Audio (Balanced)
<b>IN31608-3</b>	RGB + Audio	RGsB, Component, Y/C, Composite, Stereo Audio (Unbalanced)
<b>IN31608-4</b>	RGBHV	RGBHV, RGsB, Component, Y/C, Composite
<b>IN31608-5</b>	RGBHV + Audio	RGBHV, RGsB, Y/C, Composite, Stereo Audio (Balanced)
<b>IN31608-6</b>	RGBHV + Audio	RGBHV, RGsB, Y/C, Composite, Stereo Audio (Unbalanced)

**Two Switching Modes** - Featuring two switching modes (Direct & Matrix), the **IN31608** combines the easy operation and serial control capabilities of a projector switcher with the flexibility and routing capabilities of a large matrix switcher.

**Direct Switching Mode** - In Direct Mode, the **IN31608** acts as a projector switcher, routing composite, S-Video and RGB signals to the appropriate outputs. The user simply presses one of the 16 large input buttons and that input signal is automatically routed to the pre-programmed output or outputs. The **IN31608** can also store and transmit commands to a data display which tell the display to switch inputs and/or recall a convergence memory.

In **Matrix Switching Mode** the **IN31608** operates as a true 16 x 8 matrix switcher. Users press an output button followed by an input button and a new patch is immediately executed. The unit features large switching buttons and ample space for installers to affix custom labels specifying input sources and output devices. Matrix Mode is ideal for advanced operations requiring complete flexibility over input / output routing.

**Labelling System** - The **IN31608** features attachment posts to securely hold engravable name plates. The optional **IN9347** nameplate kit includes four plastic plates that can be engraved to neatly show the names of each input and output device.

## SPECIFICATIONS

### INPUT:

Video / Sync Connectors: **IN31608-1 / -2 / -3:** (16) Sets of 3 female BNC  
**IN31608-4 / -5 / -6:** (16) Sets of 5 female BNC  
 Stereo Audio Connectors: **IN31608-2 / -5:** (16) female 5-Pin Captive Screw  
**IN31608-3 / -6:** (16) pairs RCA female  
 Signal Levels: Video: +/- 3.0 Volts max., Sync: +/- 5.0 Volts max.  
 Audio: +/- 8 Volts max. (high Z), +/- 4 Volts (low Z)  
 Impedance: Video / Sync: 75 ohms Audio: 600 ohms

### OUTPUT:

Video / Sync Connectors: **IN31608-1 / -2 / -3:** (8) Sets of 3 female BNC  
**IN31608-4 / -5 / -6:** (8) Sets of 5 female BNC  
 Stereo Audio Connectors: **IN31608-2 / -5:** (8) female 5-Pin Captive Screw  
**IN31608-3 / -6:** (8) pairs RCA female  
 RGB Bandwidth: >350 MHz any channel driving any number of outputs, measured with .7V input signal at -3dB  
 Audio S/N Ratio: Greater than 100 dB  
 Audio THD: 0.007% - 1 KHz signal at 1V p-p

### GENERAL:

Serial Control Ports: 1200 to 38400 baud, RS-232, RS-422, RS-485  
 (2) Serial Ports, 5-Pin Phoenix Brand Connectors  
 Power Supply: Internal 90 to 260 VAC, 47 to 90 Hz (universal)  
 Product Weight: 14 lbs. / 6.4 kg Shipping Weight: 18 lbs. / 8 kg  
 Dimensions: 7" x 17" x 12.2" / 17.8cm x 43.2cm x 31cm  
 Regulatory Approvals: UL1950, CAN/CSA-22.2 No.950, Third Edition  
 CE: EN55022 (1987), EN50081-1 (1991), EN50082-1 (1992 and 1994), EN0950-92

Featuring **16 Configuration Memories**, the **IN31608** can store and recall frequently used configurations for easy recall with a single button. The memories store all input / output patches as well as the current audio level for each output. The configuration memories make it easy to set up complex switching arrangements ahead of time and then recall them quickly and reliably at the appropriate times during a show or presentation.

**High Resolution Video Switching** - With video bandwidth in excess of 350 MHz, the **IN31608** provides ample performance for analog video signals at virtually any resolution and refresh rate.

The **Blank Button** temporarily disconnects the current input when it is activated. When the blank button is pressed again (deactivated), the switcher returns to the last selected input. The blank button has two modes of operation. In the **Default mode**, the Blank button disconnects all signal components (RGBHV) from the output. In the **Sync Pass mode**, the Blank button disconnects only the RGB signals from the output while the sync signal(s) continue uninterrupted. This lets the display device maintain sync lock while a black image is displayed. When the blank button is pressed again, the RGB signal components are reconnected to the output and the display device instantly displays the input signal.

The **RGB Delay** feature may be engaged to provide a more attractive on-screen appearance when switching between various computer video sources. When switching between high resolution video sources, data display devices normally require some period of time to identify and lock up to a new source. During this adjustment period the screen may show flashing, resizing and other strange effects. With RGB Delay, each time a new input is selected the switcher immediately routes the sync signal(s) for the new input to the output, followed by the RGB signals at a later time. This allows the display device time to lock up to the new signal before any image is displayed (during the delay time the display shows black). When the RGB components are finally connected to the output, the display device has a solid lock on the new signal and immediately displays a stable image. The RGB delay time is adjustable from 0.5 seconds to 7.5 seconds in 0.5 second increments and can be set using serial commands or by pressing specific front panel buttons at power on.

**Vertical Interval Switching** capability provides glitch-free switches when used with synchronous video sources. The vertical interval switching mode can be engaged using an RS-232 serial command or by pressing specific buttons at power on. The **IN31608** derives timing information from the house sync signal applied to the Genlock In connector. In vertical interval switching mode, the switcher delays the actual switch so that it occurs during the vertical blanking interval. Vertical interval switching mode is compatible with synchronous video signals in the composite, s-video, component, RGsB, RGbS, and RGBHV formats.

**Audio Breakaway Switching** - The default operation mode for the **IN31608** is audio-follow-video switching, where audio and video signals switch together. For special applications, users can separate the video and audio switching. A single front panel button allows for quick selection of switching mode: Video + Audio, Video Only, or Audio Only.

**Advanced Audio Switching Capability** - **IN31608** models with audio capability offer very high quality switching and amplification for stereo audio input and output signals. Unique gain trim levels can be adjusted and stored for each input, helping standardize signal levels among various types of audio sources. Each output has a master volume control and mute capability that can be controlled from the front panel or via RS-232 serial commands. Left / Right balance can also be adjusted as required using RS-232 commands. Two types of audio switching boards are available:

#### **Balanced Audio Models**

The **IN31608-2** and **IN31608-5** feature 5-pin captive screw connectors for audio inputs / outputs and are compatible with balanced or unbalanced audio signals. By wiring the inputs and outputs appropriately, unbalanced input signals can be output as balanced audio and vice versa. These models are ideal for permanent installations and other applications requiring balanced / unbalanced signal compatibility and quick input / output termination to bare wires.

#### **Unbalanced Audio Models**

The **IN31608-3** and **IN31608-6** feature female RCA connectors for audio inputs / outputs and are compatible with unbalanced audio signals. These models are ideal for rental, staging and other applications where users must quickly make input / output connections using standard RCA patch cables.

**Projector and Audiovisual Device Control** - The **IN31608** can store and transmit RS-232, RS-422 or RS-485 serial commands to control projectors, Inline products or other serially controlled A/V equipment. Serial commands can be automatically triggered when inputs or outputs are selected or when a function button is pressed. **All serial control codes required to control other devices must be provided by the installing technician.**

**Setup and Control Software** - Windows™ 95/98/NT compatible software provided with the **IN31608** makes it easy to set up the switcher and store control codes. The software also provides effortless control over all matrix switching and audio level functions.

**Function Buttons** - In addition to codes triggered automatically by input and output selection, the switcher can also store 8 additional code strings which are triggered by the four function buttons. The function buttons might be used to set the projector into standby mode, select lighting presets, switch scan doubler inputs, interface with a control system or to activate virtually any other serially controlled event.

**Flexible Capabilities** - Featuring 16 x 8 matrix switching, 350 MHz bandwidth and two switching modes, the **IN31608** is ideal for permanent installations, rentals, complex staging operations and any other audiovisual / display system requiring a high performance matrix switcher with intuitive operation.