

IN1401 RGB Video Scaler



The **IN1401** is an advanced RGB video scaler that takes in RGB signals at various scan rates and resolutions and uses sophisticated digital video scaling technology to convert the signals to standard VGA resolutions and refresh rates.

Industrial & Process Control Applications - The **IN1401** can act as a bridge between the installed base of proprietary process control systems and modern data displays. Because the unit accepts a wide range of standard and non-standard analog video signals and converts them to standard VGA resolutions and refresh rates, it allows obsolete long-persistence phosphor monitors to be replaced with standard VGA monitors and flat panel displays. The **IN1401** also provides enhanced ergonomics by converting 50 Hz and 60 Hz input signals to higher, flicker-free refresh rates.

A/V & Display System Applications - The **IN1401** provides an economical way to provide high quality video scaling of NTSC and PAL RGB video signals from high resolution cameras, document cameras, visualizers and other devices featuring an RGB video output.

The **IN1401** also provides superb upscaling for 640x480, 800x600 and 1024x768 resolution computer video signals, making it an excellent companion for LCD and DLP displays that have marginal on-board video scaling capability. The **IN1401** has been optimized for scaling RGB computer video signals and RGB signals from document cameras or other RGB video signals without a great deal of fast motion. The **Inline IN1402**, **IN1403** and **IN1404** video scalers are recommended for applications requiring superb quality video scaling for composite video, S-Video, component video and RGB video signals containing fast, continuous motion.

Flexible Input Compatibility - The **IN1401** accepts interlaced and progressive scan RGSB, RGBS, RGBHV signals at horizontal scan rates from 15 KHz to 60 KHz. The unit automatically adjusts for a wide variety of input signals including NTSC, PAL and most standard computer video scan rates.

Comprehensive input adjustment controls are provided to optimize the unit when used with proprietary and non-standard input signals. These input signal adjustments include: Total Pixels, Active Pixels, Active Lines, Horizontal and Vertical Blanking, Phase, and Scan Type. Once adjustments are made to optimize non-standard input signals, these settings are stored and automatically recalled when the same input signal is encountered again.

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FEATURES

- Compatible with RGBHV / RGBS / RGSB Input Signals at Scan Rates from 15 to 60 KHz
- Advanced Digital Scaling Circuitry Upscales Input Signals to Standard VGA Resolutions and Refresh Rates
- Selectable Output Resolutions: 640 x 480 up to 1365 x 1024
- Selectable Refresh Rate: 60 Hz to 120 Hz
- Comprehensive Input Adjustments to Optimize Signal Quality for Non-Standard Input Signals
- Complete Set of Output Image Adjustments: Horizontal & Vertical Position, Brightness, Contrast, Individual Red / Green / Blue Gain

SPECIFICATIONS

INPUT:

Connectors: (5) Female BNC for RGBHV, RGBS, RGSB
Signal: 0.7 Vp-p typical, 75 Ohm impedance
Signal Type: Analog Video, Progressive Scan or Interlaced
Horizontal Scan Rate: 15 KHz - 60 KHz
Refresh Rate: 50 Hz - 120 Hz

OUTPUT:

Connectors: (1) 15-pin HD female for RGBHV
RGB Video: 0.7 Vp-p typical, 75 Ohm impedance
Sync: H&V: TTL compatible
Resolution: 640 x 480 to 1365 x 1024 (see chart on back)
Refresh Rate: 60 Hz to 120 Hz (see chart on back)
Color Depth: 24-bit

GENERAL:

Power Supply: Internal Switch Mode: 90 - 260VAC; 47 - 63Hz
Power Consumption: 15 Watts
Shipping Weight: 4 lbs. / 2 Kg Product Weight: 2 lbs. / 0.9 Kg
Dimensions: 1.65" x 8.5" x 7.3" / 4.2cm x 21.6cm x 18.5cm
Regulatory Approvals: UL1950, CAN/CSA-22.2 No.950, Third Edition
CE: EN55022 (1987), EN50081-1 (1991), EN50082-1 (1992 and 1994), EN60950-2

Output signal adjustments are included for horizontal and vertical position, brightness, contrast as well as individual gain controls for Red, Green and Blue.

Selectable Output Resolution and Refresh Rate - The **IN1401** offers a wide range of output resolutions to match the optimum or native resolution of virtually any display device. The output refresh rate is also selectable as desired. When used with LCD and DMD displays the 60 Hz output setting is recommended. Higher output refresh rates may be selected for use on CRT type displays in order to reduce flicker and provide enhanced ergonomics. The chart below indicates the output resolutions and refresh rates available.

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

Data Display Friendly Output - The **IN1401** provides a progressive scan RGBHV output signal at standard VGA resolutions and refresh rates, ensuring optimal compatibility with a wide range of CRT, LCD, DMD, ILA, D-ILA, HDLV and plasma display devices.

On-Screen Control Menus provide intuitive control for input and output signal adjustments as well as advanced settings such as reset to factory defaults. **System Info** is a menu option that uses the on screen display to show comprehensive information about the input signal as well as the output signal.

The **Blue Screen** feature provides a full screen blue image for set up and testing purposes. The blue screen output signal (activated via on-screen menu) is always available, even when the input signal is missing or the input settings are incorrectly adjusted. Blue screen is ideal for setting up the output resolution, refresh rate and position settings and to verify connection to the output display device.

Two **IN1401** units may be mounted side-by-side in a 1U rack space using the optional **IN9080** rack shelf. A single unit may be rack-mounted using the **IN9080** rack shelf and an **IN9088** half-rack blank panel.