

# RGB 160xi RGB 164xi

UNIVERSAL ANALOG  
COMPUTER-VIDEO AND AUDIO  
INTERFACES WITH ADSP™

- ▶ 300 MHz (-3 dB) RGB video bandwidth
- ▶ Compatible with computer-video resolutions up to QXGA
- ▶ Buffered local monitor output
- ▶ ADSP™ - Advanced Digital Sync Processing
- ▶ DDSP™ - Digital Display Sync Processing
- ▶ Three-position level/peaking control
- ▶ Horizontal shift control
- ▶ Active PC audio to balanced audio interfacing
- ▶ 1U, compact metal enclosure
- ▶ Internal universal power supply



RGB 160xi



RGB 164xi

The Extron RGB 160xi and RGB 164xi are universal, analog computer-video and audio interfaces with ADSP™. They allow computer-video resolutions up to QXGA to be converted for output to projectors and flat panel displays. These interfaces are ideal for smaller classrooms, auditoriums, and conference rooms.



**Extron® Electronics**  
INTERFACING, SWITCHING AND CONTROL

## DESCRIPTION

The Extron **RGB 160xi** and **RGB 164xi** are universal, analog computer-video and audio interfaces with ADSP™. They allow computer-video resolutions up to QXGA to be converted for output to projectors and flat panel displays. They also accept unbalanced computer stereo audio and output balanced, line level stereo audio. Extron Advanced Digital Sync Processing or ADSP technology provides all-digital processing of sync signals, eliminating compatibility issues encountered when using analog sync processing with digital display devices. For AV systems that require an unaltered sync pulse or width, selecting Extron Digital Display Sync Processing - DDSP disables sync processing, enabling the sync signal to pass through.

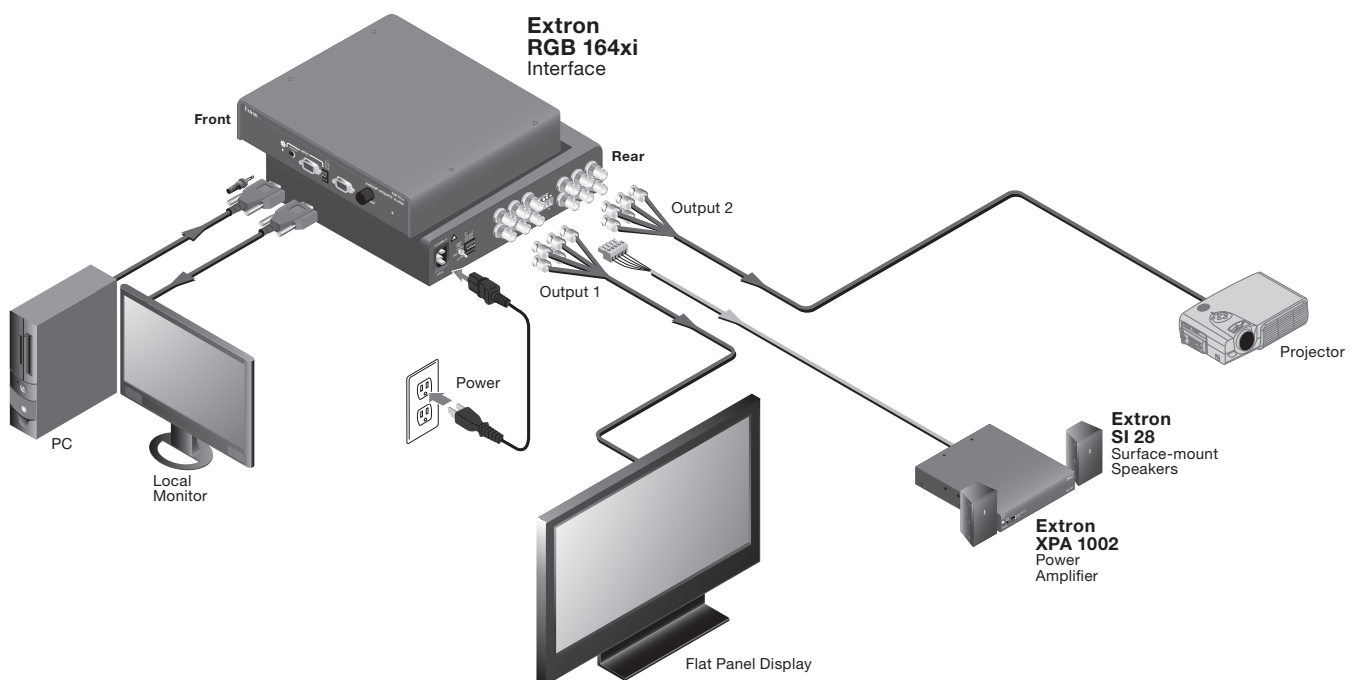
The RGB 160xi and RGB 164xi interfaces feature level and peaking control, horizontal shift control, and a buffered local monitor output with ID bit termination. Level and peaking compensate for signal loss due to long cable runs. Horizontal shift allows the image to be adjusted to the left or right when timing differences between source resolutions and refresh rates cause a display to position images in different places. These interfaces are housed in 1U high, compact metal enclosures that can be furniture- or rack-mounted.

In addition to these shared features, the RGB 164xi provides dual outputs, eliminating the need for a separate distribution amplifier. The RGB 160xi and RGB 164xi are ideal for use in applications that require signal amplification and sync processing to ensure compatibility between many different types of displays and computer-video signal sources found in classrooms, auditoriums, and conference rooms.

## FEATURES

- ▶ **300 MHz (-3 dB) RGB video bandwidth**
- ▶ **Compatible with computer-video resolutions up to QXGA**
- ▶ **Buffered local monitor output** – Enables local viewing of the computer source.
- ▶ **ADSP™ - Advanced Digital Sync Processing** – An exclusive Extron technology that conditions sync signals to provide reliable operation with a variety of signal sources and display types. ADSP reshapes the sync signals, restores proper TTL voltage levels, and maintains the original video to sync timing relationships while allowing centering control.
- ▶ **DDSP™ - Digital Display Sync Processing** – Allows the sync signal to pass through without altering sync pulse or width. Disables other sync processing features such as horizontal and vertical centering.
- ▶ **Three-position level/peaking control** – Boosts and equalizes video signals to compensate for signal loss and high frequency attenuation that occur in long cable runs.
- ▶ **Horizontal shift control** – Shifts the displayed image left or right on the display screen. Also called "horizontal centering".
- ▶ **Active PC audio to balanced audio interfacing** – Converts computer-generated, unbalanced audio to balanced line level stereo audio for output on a captive screw connector.
- ▶ **Internal universal power supply**
- ▶ **1U, compact metal enclosure**

## APPLICATION DIAGRAM

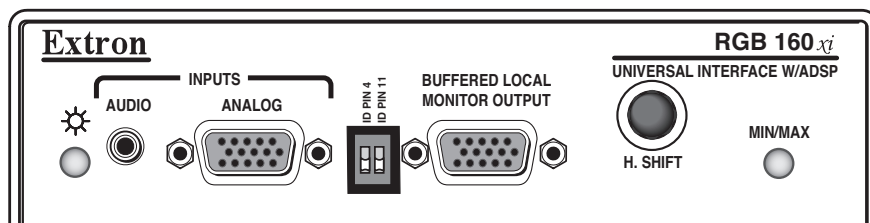


## SPECIFICATIONS

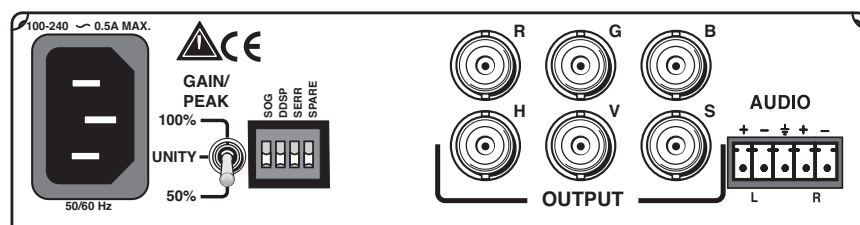
VIDEO	
Gain	Unity, (0.725 Vp-p) 50% peaking, (0.75 Vp-p) 100% peaking
Bandwidth	300 MHz (-3 dB)
VIDEO INPUT	
Number/signal type	1 analog VGA-QXGA RGBHV, RGBS, RGSB, RsGsBs
Connectors	1 female 15-pin HD
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels	Analog: 0.3 V to 1.5 Vp-p with no offset at unity gain
Impedance	75 ohms
Horizontal frequency	Autoscan 15 kHz to 130 kHz
Vertical frequency	Autoscan 30 Hz to 120 Hz
Return loss	-30 dB @ 5 MHz
DC offset (max. allowable)	4.0 V
VIDEO OUTPUT	
Number/signal type	
RGB 160xi	1 analog RGBHV, RGBS, RGSB
RGB 164xi	2 analog RGBHV, RGBS, RGSB
Connectors	
RGB 160xi	6 female BNC 1 female 15-pin HD local monitor buffered output
RGB 164xi	2 x 6 female BNC 1 female 15-pin HD local monitor buffered output
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels	Analog: 0.7 V to 0.75 Vp-p with 0.70 Vp-p input
Impedance	75 ohms
Return loss	-30 dB @ 5 MHz
SYNC	
Input type	RGBHV TTL ( $\pm$ ), RGBS TTL ( $\pm$ ), RGSB 0.3 V (-), RsGsBs 1.3 V (-)
Output type	RGBHV ( $\pm$ ), RGBS ( $\pm$ ), RGSB (-)
Input level	2 V to 5.5 Vp-p with $\pm 0.2$ VDC offset (max.)
Output level	4 V to 5 Vp-p, unterminated
Input impedance	510 ohms
Output impedance	75 ohms
Max. propagation delay	48 ns
Max. rise/fall time	3.5 ns
Polarity	RGBHV: when RGBHV is input, polarity follows input; otherwise negative RGBS, RGSB: negative
AUDIO	
Gain	Unbalanced output: 0 dB; balanced output +6 dB
Frequency response	20 Hz to 20 kHz, $\pm 0.05$ dB
THD + Noise	0.03% @ 1 kHz, 0.3% @ 20 kHz at nominal level
S/N	>72 dB, at maximum output (14 dBu), balanced (unweighted)
Stereo channel separation	>66 dB @ 1 kHz to 20 kHz
AUDIO INPUT	
Number/signal type	1 PC level stereo, unbalanced
Connectors	(1) 3.5 mm stereo jack, 2 channel; tip (L), ring (R), sleeve (ground)
Impedance	5k ohms, DC coupled
Nominal level	-10 dBV (316 mVrms)
Maximum level	+4.2 dBu, (unbalanced) at 1% THD+N
<b>NOTE:</b> 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV $\approx$ 2 dBu	

AUDIO OUTPUT		
Number/signal type	1 stereo (2 channel), balanced/unbalanced	
Connectors	(1) 3.5 mm captive screw connector, 5 pole	
Impedance	50 ohms unbalanced, 100 ohms balanced	
Gain error	±0.1 dB channel to channel	
Maximum level (600 ohm)	>+8.8 dBm, balanced at 1% THD+N	
GENERAL		
Power	100 VAC to 240 VAC, 50-60 Hz, 15 watts, internal	
MBC power jack	9.0 VDC, 150 mA	
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +104 °F (0 to +40 °C) / 10% to 90%, noncondensing	
Rack mount		
RGB 160xi	No	
RGB 164xi	Yes, with optional rack shelf	
Furniture mount	Yes, with optional mounting kits	
Enclosure type	Metal	
Enclosure dimensions		
RGB 160xi	1.75" H x 6.4" W x 6.0" D 4.4 cm H x 16.3 cm W x 15.2 cm D (Depth excludes connectors.)	
RGB 164xi	1.75" H x 8.75" W x 6.0" D (1U high, half rack wide) 4.4 cm H x 22.2 cm W x 15.2 cm D (Depth excludes connectors.)	
Product weight		
RGB 164xi	1.7 lbs (0.8 kg)	
RGB 160xi	1.4 lbs (0.6 kg)	
Shipping weight		
RGB 160xi	3 lbs (2 kg)	
RGB 164xi	4 lbs (2 kg)	
Vibration	ISTA 1A in carton (International Safe Transit Association)	
Listings	UL	
Compliances	CE, FCC Class A	
MTBF	30,000 hours	
Warranty	3 years parts and labor	
NOTE: All nominal levels are at ±10%.		
Model	Version Description	Part number
RGB 160xi	Mountable Universal Interface w/Audio	60-378-01
RGB 164xi	Two Output Universal Interface w/Audio	60-485-01

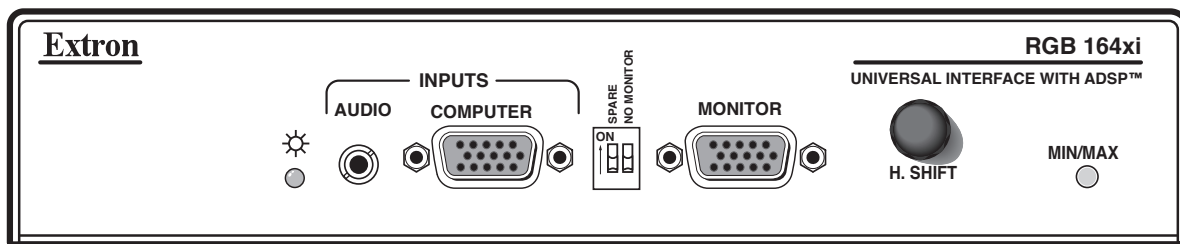
# PANEL DRAWINGS



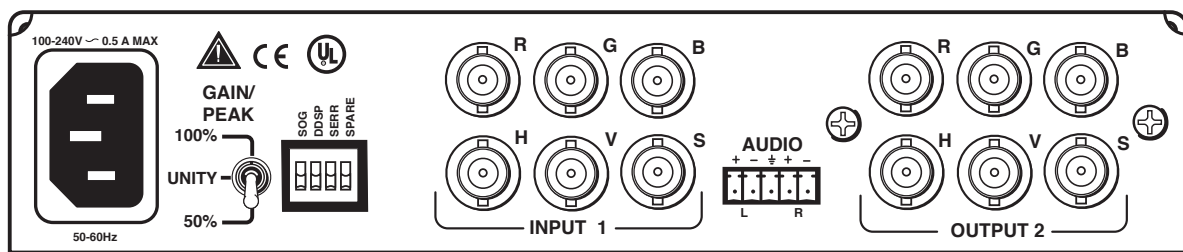
RGB 160xi - Front



RGB 160xi - Back



RGB 164xi - Front



RGB 164xi - Back



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