

XPA 1002 Series

TWO CHANNEL AMPLIFIERS
100 WATTS PER CHANNEL



- ▶ **XPA 1002:**
2 x 100 watts @ 4 ohms,
2 x 60 watts @ 8 ohms, or
1 x 200 watts @ 8 ohms (bridged)
- ▶ **XPA 1002 Plus:**
2 x 100 watts @ 4 or 8 ohms, or
1 x 200 watts @ 8 ohms (bridged)
- ▶ **XPA 1002-70V:**
2 x 100 watts @ 70 volts
- ▶ **XPA 1002-100V:**
2 x 100 watts @ 100 volts
- ▶ **ENERGY STAR®** qualified amplifier
- ▶ Professional grade signal-to-noise and THD+N performance
- ▶ Extron Patented CDRS™ Class D Ripple Suppression
- ▶ Convection cooled, fanless operation
- ▶ Ultra low inrush current - eliminates need for power sequencing
- ▶ Power factor correction - removes harmonic content on AC line
- ▶ Rack-mountable 1U, half rack width enclosure
- ▶ UL 2043 plenum rated when used with optional Flexible Conduit Adapter Kit

The Extron XTRA™ Series XPA 1002, XPA 1002 Plus, XPA 1002-70V, and XPA 1002-100V are half rack 1U, convection cooled power amplifiers that deliver two channels of 100 watts rms. These professional grade amplifiers are ENERGY STAR® qualified and feature an Extron exclusive, highly efficient Class D amplifier design. The XPA 1002 models are ideal for amplification of voice or program audio content in low or high impedance speaker systems.



Extron Electronics
INTERFACING, SWITCHING AND CONTROL

DESCRIPTION

The Extron **XTRA Series XPA 1002** is a half rack 1U, convection cooled power amplifier delivering two channels of 100 watts per channel. This series includes low and high impedance versions to cover a variety of application needs. The XPA 1002 is an ENERGY STAR qualified amplifier with an Extron exclusive, highly efficient, advanced Class D amplifier design. It also features patented CDRS - Class D Ripple Suppression technology that provides a smooth, clean audio waveform and an improvement in signal fidelity over conventional Class D amplifiers. The XPA 1002 is housed in a half rack width metal enclosure, conserving rack space and weighing only 2.5 lbs (1.1 kg). The Extron exclusive, high efficiency design generates very little heat and allows the amplifier to be convection cooled.

XPA 1002 and XPA 1002 Plus

The XPA 1002 two channel amplifier delivers 100 watts rms per channel into 4 ohms or 60 watts rms per channel into 8 ohms, while the XPA 1002 Plus delivers 100 watts rms per channel into 4 or 8 ohms. Both models feature a bridged mode that provides a single 200 watt output into 8 ohms. The XPA 1002 and XPA 1002 Plus are ideal for amplification of voice or program audio content to stereo speakers, or two sets of 8 ohm ceiling speakers in a dual zone application. The professional grade amplifiers also feature a 105 dB signal-to-noise ratio and 0.05% THD+N specifications.

The 4 ohm / 8 ohm models also feature remote control capability for volume adjustment and muting.

XPA 1002-70V and XPA 1002-100V

The XPA 1002-70V and XPA 1002-100V two channel amplifiers deliver 100 watts rms per channel for 70 volt or 100 volt high impedance speaker systems in voice reinforcement and distributed audio applications. The professional grade amplifiers feature a 100 dB signal-to-noise ratio and 0.1% THD+N specifications. The XPA 1002-70V and XPA 1002-100V also include a switch selectable, high pass filter that rolls off frequencies below 80 Hz to prevent saturation of speaker transformers.

Energy Efficient Amplifier with Auto Power-Down

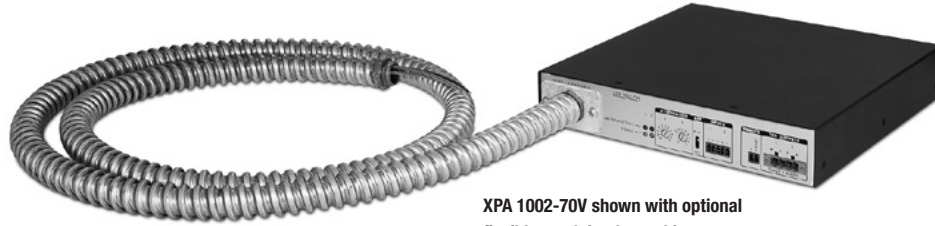
The XPA 1002 ENERGY STAR qualified amplifier is an energy efficient product that conserves energy and reduces costs. With an auto power-down feature that automatically places the amplifier into standby after 25 minutes of inactivity, it consumes just 10 watts when idle and less than 1 watt in standby mode.

The XPA 1002 accepts balanced and unbalanced input signals and includes recessed, detented level controls located on the rear panel to prevent tampering. These controls allow for adjusting audio system gain structure, or setting individual levels for each zone. Additionally, the XPA 1002 includes multiple protection circuits that momentarily activate when an abnormal condition, such as overheating, is detected. An advanced, automatic clip limiter protects speakers from clipping distortion.

FEATURES

- ▶ **ENERGY STAR qualified amplifier** – The XPA 1002 is an ENERGY STAR qualified amplifier and energy efficient product that conserves energy and reduces costs.
- ▶ **Professional grade signal-to-noise and THD+N performance** – The XPA 1002 delivers professional grade performance. The XPA 1002 4 ohm / 8 ohm models feature 105 dB signal-to-noise ratio and THD of less than 0.05%, while the XPA 1002-70V and XPA 1002-100V feature 100 dB signal-to-noise ratio and 0.1% THD+N.
- ▶ **Extron Patented CDRS - Class D Ripple Suppression** – CDRS is an Extron Patented technology that provides a smooth, clean audio waveform and an improvement in signal fidelity over conventional Class D amplifier designs.
- ▶ **Convection cooled, fanless operation** – The XPA 1002 does not require internal fans or vents for cooling, ensuring quiet, reliable operation. It generates substantially less heat than conventional power amplifiers, making it ideal for rack-mount applications.
- ▶ **Ultra low inrush current** – Allows multiple XTRA Series amplifiers to be powered simultaneously without overloading power circuits. This eliminates the need for power sequencing.
- ▶ **Power factor correction - removes harmonic content on AC lines**
- ▶ **Rack-mountable 1U, half rack width enclosure**
- ▶ **UL 2043 plenum rated when used with optional Flexible Conduit Adapter Kit (70-228-02)**
- ▶ **Auto power-down with fast power-up**
- ▶ **Rear panel recessed, detented level controls**
- ▶ **Automatic clip limiter** – Detects actual onset of clipping by comparing input and output waveforms.
- ▶ **Multiple protection circuits** – Activate during output shorts, thermal overload, or DC faults to prevent damage to the amplifier and speakers.
- ▶ **Remote standby port** – Enables the XPA 1002 to be remotely powered down when not in use, reducing operating cost.
- ▶ **Remote volume and mute control port** – In basic installations without control systems, this port allows the XPA 1002 4 ohm / 8 ohm models to be remotely controlled using the optional Extron VCM 100 (70-396-11) or VCM 200 (70-883-02) analog volume and mute controller or VC 50 (70-530-02) analog volume controller.
- ▶ **High pass filter for high impedance model** – This switch selectable filter, available on 70 and 100 volt models, rolls off frequencies below 80 Hz to prevent saturation of speaker transformers.
- ▶ **Bridgeable outputs for low impedance models**
- ▶ **Front and rear-mounted signal and protection indication LEDs** – Provides visual indication of input signal presence and protection circuit activation from both sides of an equipment rack.
- ▶ **Front panel over-temperature LED** – Provides visual indication that the enclosure temperature has exceeded the optimal value, well in advance of the onset of thermal protection circuitry.
- ▶ **Highly reliable, energy efficient internal universal power supply**

OPTIONAL FLEXIBLE CONDUIT ADAPTER KIT



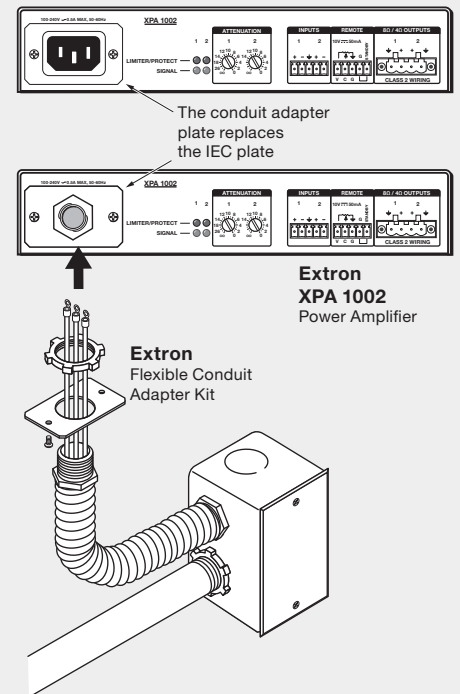
XPA 1002-70V shown with optional flexible conduit adapter kit

Plenum Rated When Used with Optional Flexible Conduit Adapter Kit

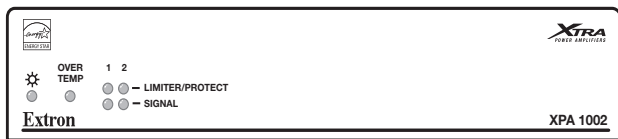
In many rooms, the space above the ceiling is used as a return air plenum. To ensure safety from potentially harmful heat and smoke release in the event of a fire, AV products installed in ceilings of this type must comply with safety codes and be specifically rated for use in plenum environments. When used with the optional Flexible Conduit Adapter Kit, part # 70-228-02, the XPA 1002 Series power amplifiers are UL 2043 rated to conform to heat and smoke release codes for plenum environments.

The XPA 1002 Series amplifiers feature a built-in power supply with a modular power connection. In a rack installation, these amplifiers would be powered from an AC receptacle. However, when the amplifier is to be permanently situated above a drop ceiling, the XPA 1002 Series can be directly hard-wired for AC power when the optional Flexible Conduit Adapter Kit is used in place of a conventional power cord. With this kit, the wiring is encased in flexible conduit, which connects directly to the amplifier and a local junction box. This can simplify installation without the necessity to provide an AC receptacle above the drop ceiling. As with the XPA 1002 Series, the Flexible Conduit Adapter Kit is plenum rated and meets UL 2043 for smoke and heat release.

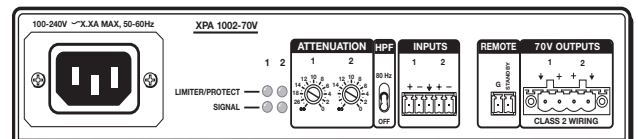
Installing an amplifier above a drop ceiling offers flexibility for integrators wanting to conserve rack space and achieve a clean, streamlined installation free of visible cable runs. An amplifier situated above the ceiling is also concealed from view, which reduces the possibility of theft.



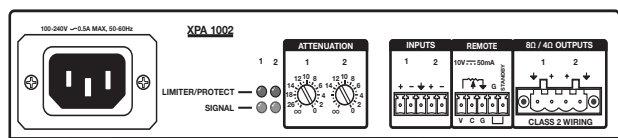
PANEL DRAWINGS



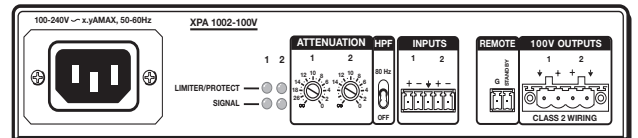
XPA 1002 - Front



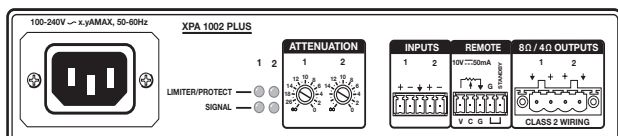
XPA 1002-70V - Back



XPA 1002 - Back



XPA 1002-100V - Back



XPA 1002 Plus - Back

SPECIFICATIONS

XPA 1002 and XPA 1002 Plus

AUDIO		
Voltage gain		
XPA 1002	16x (24 dB)	
XPA 1002 Plus	23x (27dB)	
AUDIO INPUT		
Number/signal type	1 stereo or 2 mono, balanced/unbalanced	
Connectors	(1) 3.5 mm captive screw connector, 5 pole	
Nominal level	+4 dBu (1.23 Vrms), balanced	
Maximum level	+20 dBu (7.75 Vrms), balanced	
Input signal detection threshold	-40 dBu ±3 dB, balanced	
AUDIO OUTPUT		
Number/signal type	1 stereo, 4 or 8 ohm direct	
Connectors	(1) 5 mm screw lock captive screw connector, 4 pole	
Load impedance	4 ohm minimum	
Output power		
XPA 1002	60 watts rms per channel, 8 ohms, 1 kHz, <0.05% THD	
	100 watts rms per channel, 4 ohms, 1 kHz, <0.05% THD	
XPA 1002 Plus	100 watts rms per channel, 8 ohms, 1 kHz, <0.05% THD	
	100 watts rms per channel, 4 ohms, 1 kHz, <0.05% THD	
Frequency response	20 Hz to 20 kHz, ±1 dB	
THD + Noise	0.05% @ 20 Hz - 20 kHz, 8 ohms, at 3 dB below clipping	
S/N	105 dB, 20 Hz - 20 kHz, unweighted	
GENERAL		
Power supply	Internal	
	Input: 100-240 VAC, 50-60 Hz, 0.5 A	
Power consumption		
Typical (1/8 power)		
XPA 1002	4 ohms (x2): 43 watts	
	8 ohms (x2): 30 watts	
XPA 1002 Plus	4 ohms (x2): 46 watts	
	8 ohms (x2): 45 watts	
Quiescent		
XPA 1002	10 watts	
XPA 1002 Plus	14 watts	
Standby	<1 watt (triggered by contact closure or after 25 minutes [± 5 minutes] with no signal)	
Cooling	Convection, no vents, with internal heat sinks	
Protection	Clip limiting, thermal, short circuit, DC output	
Enclosure dimensions	1.7" H x 8.7" W x 9.5" D (1U high, half rack wide) (4.3 cm H x 22.1 cm W x 24.1 cm D)	
Product weight	2.5 lbs (1.1 kg)	
Regulatory compliance		
Safety	CCC, CE, c-UL, GS, KC Mark, PSE, S Mark, UL, BSMI UL rated for use in plenum airspaces: meets UL 2043 for heat and smoke release; meets UL 60065, IEC 60065, and BSEN 60065 for AV equipment.	
Environmental	Complies with the appropriate requirements of ENERGY STAR® (ENERGY STAR qualified amplifier), EU code of conduct, RoHS, WEEE	
Model	Version Description	Part number
XPA 1002	60 Watts Per Ch @ 8 Ohms	60-849-01
XPA 1002 Plus	100 Watts Per Ch @ 8 Ohms	60-849-21
Flexible Conduit Adapter kit	For PS 124 & Select XTRA Series Amps	70-228-02

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

XPA 1002-70V and XPA 1002-100V

AUDIO		
Voltage gain		
XPA 1002-70V	57x (35 dB)	
XPA 1002-100V	81x (38 dB)	
AUDIO INPUT		
Number/signal type	2 balanced/unbalanced	
Connectors	(1) 3.5 mm captive screw connector, 5 pole	
Nominal level	+4 dBu (1.23 Vrms), balanced	
Maximum level	+20 dBu (7.75 Vrms), balanced	
Input signal detection threshold	-40 dBu $\pm$ 3 dB, balanced	
AUDIO OUTPUT		
Number/signal type		
XPA 1002-70V	2 mono, 70 V line	
XPA 1002-100V	2 mono, 100 V line	
Connectors	(1) 5 mm screw lock captive screw connector, 4 pole	
Output power		
XPA 1002-70V	100 watts rms per channel, 70 V, 1 kHz, <0.1% THD	
XPA 1002-100V	100 watts rms per channel, 100 V, 1 kHz, <0.1% THD	
Frequency response	20 Hz to 20 kHz, $\pm$ 1 dB	
THD + Noise	<0.1% @ 1 kHz at 3 dB below clipping	
S/N	100 dB, 20 Hz - 20 kHz, unweighted	
High pass filter	80 Hz, 12 dB per octave rolloff (switch selectable)	
GENERAL		
Power supply	Internal Input: 100-240 VAC, 50-60 Hz	
Power consumption		
Typical (1/8 power)		
XPA 1002-70V	70 V (x2): 41.8 watts	
Quiescent	11.4 watts	
Standby	<1 watt (triggered by contact closure or after 25 minutes [$\pm$ 5 minutes] with no signal)	
Cooling	Convection, no vents, with internal heat sinks	
Protection	Clip limiting, thermal, short circuit, DC output	
Enclosure dimensions	1.7" H x 8.7" W x 9.5" D (1U high, half rack wide) (4.3 cm H x 22.1 cm W x 24.1 cm D)	
Product weight	2.5 lbs (1.1 kg)	
Regulatory compliance		
Safety	CE, c-UL, UL UL rated for use in plenum airspaces: meets UL 2043 for heat and smoke release; meets UL 60065, IEC 60065, and BSEN 60065 for AV equipment.	
Environmental	Complies with the appropriate requirements of ENERGY STAR® (ENERGY STAR qualified amplifier), EU code of conduct, RoHS, WEEE	
Model	Version Description	Part number
XPA 1002-70V	70 V Two Channel Amp - 100 Watts/Ch	60-1302-01
XPA 1002-100V	100 V Two Channel Amp - 100 Watts/Ch	60-1302-11
Flexible Conduit Adapter kit	For PS 124 & Select XTRA Series Amps	70-228-02

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