

XTRA™ Series

AUDIO POWER AMPLIFIERS

Professional Grade Power Amplifiers
Engineered for Efficiency

- ▶ Mono, dual, and multi-channel power amplifiers in a 1U enclosure
- ▶ 200 to 800 watts rms output power
- ▶ 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



Extron® Electronics
INTERFACING, SWITCHING AND CONTROL

Introduction

The Extron **XTRA™ Series** is a family of 1U convection cooled power amplifiers with mono, stereo, and multi-channel outputs. These professional grade amplifiers deliver from 200 to 800 watts of continuous output power and are available for low and high impedance applications. Each model offers professional grade signal-to-noise ratio and THD+N performance. XTRA Series amplifiers are ENERGY STAR® qualified amplifiers with an Extron exclusive, highly efficient, advanced Class D amplifier design. They also feature 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. XTRA Series amplifiers are one quarter to one half the size of comparable amplifiers, conserving rack space. The Extron exclusive, high efficiency design generates very little heat and allows the amplifiers to be installed without empty rack spaces for cooling.

Energy Efficient Amplifiers with Auto Power-Down

The XTRA Series of ENERGY STAR qualified amplifiers are energy efficient products that conserve energy and reduce costs. With an auto power-down feature that automatically places each amplifier into standby after a period of inactivity, they consume 28 watts or less when idle and less than 1 watt in standby mode.

200 Watts – Half Rack Width

The **XPA 1002** two channel amplifier delivers 100 watts rms per channel into 4 ohms or 60 watts rms per channel into 8 ohms for use with stereo speakers or two sets of 8 ohm ceiling speakers.

The **XPA 1002 Plus** two channel amplifier delivers 100 watts rms per channel into 4 ohms or 8 ohms to cover a wide variety of application needs from stereo speakers to ceiling speakers.

The **XPA 1002-70V** and **XPA 1002-100V** output 100 watts rms into high impedance 70 volt or 100 volt speaker systems in voice reinforcement and distributed audio applications.

The **XPA 2001** outputs 200 watts rms for high impedance speaker systems in voice reinforcement and distributed audio applications. The XPA 2001 is available in 70 volt and 100 volt models.

400 Watts – Full Rack Width

The **XPA 2002-70V** and **XPA 2002-100V** two channel amplifiers output 200 watts rms per channel for 70 volt or 100 volt speaker systems.

600 Watts – Full Rack Width

The **XPA 2003C** three channel amplifier delivers two channels of 200 watts rms into 4 ohms or 100 watts rms into 8 ohms for stereo speakers. It provides a third channel with 200 watts rms into a 70 volt or 100 volt line for high impedance speaker systems.

800 Watts – Full Rack Width

The **XPA 2004** four channel amplifier outputs 200 watts rms per channel into 4 ohms or 100 watts per channel into 8 ohms for two sets of stereo speakers, four sets of 8 ohm ceiling speakers in a four zone application, or as part of a surround sound system using the Extron SSP 7.1 Surround Sound Processor.

The **XPA 4002** two channel amplifier delivers 400 watts rms per channel into 4 ohms or 200 watts per channel into 8 ohms. It features a bridged mode that provides a single 800 watt output into 8 ohms. The **XPA 4002-70V** two channel amplifier outputs 400 watts rms per channel at 70 volts. The XPA 4002 and XPA 4002-70V are ideal for driving high powered speaker systems or a large quantity of distributed speakers.

Professional Integration Features

All XTRA Series amplifiers have an ultra low inrush current to prevent power circuit overload and eliminate the need for power sequencing. These amplifiers also feature very low thermal dissipation under full load, to keep racks and equipment cabinets cool, even when installed on top of each other.

XTRA Series amplifiers accept balanced and unbalanced signals and include recessed controls located on the rear panel to prevent tampering. The XTRA Series also includes multiple protection circuits that activate when an abnormal condition, such as overheating, is detected. An advanced, automatic clip limiter protects speakers from clipping distortion.



Features

200 to 800 watts rms output power

The XTRA Series is designed for a wide variety of applications, from classrooms and boardrooms to multi-purpose rooms, auditoriums, and open spaces.

Professional grade signal-to-noise and THD+N performance

The XTRA Series delivers professional grade performance with at least 100 dB signal-to-noise ratio and 0.1% THD+N or less.

Convection cooled, fanless operation

XTRA Series amplifiers do not require internal fans or vents for cooling, ensuring quiet, reliable operation. They generate substantially less heat than similar power amplifier designs, making them ideal for rack-mount applications where space is at a premium.

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. CDRS eliminates the high frequency switching ripple characteristic of Class D amplifiers, a source of RF emissions which can interfere with sensitive AV equipment such as wireless microphones.

ENERGY STAR qualified amplifiers

The XTRA Series is a family of ENERGY STAR qualified amplifiers and energy efficient products that conserve energy and reduce costs.

Auto power-down with fast power-up

XTRA Series amplifiers meet ENERGY STAR qualification requirements with an auto power-down feature that automatically places the amplifier into standby after 25 minutes of inactivity, dramatically reducing power consumption. They quickly return to full power status in less than one second upon signal detection.

Power factor correction

The XTRA Series features power factor correction technology that smooths out the high peak currents of the amplifier's current draw, minimizing the presence of high frequency harmonics on the AC power line, and therefore preventing audible artifacts from being transmitted to other audio equipment in the system.

Automatic clip limiter

Detects actual onset of clipping by comparing input and output waveforms. Gain is automatically reduced with a slow attack and fast release to eliminate clipping. This advanced limiter design protects the

speakers from clipping distortion and offers superior sonic characteristics compared to limiters that use signal compression.

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 XTRA Series amplifiers to be remotely powered down when not in use, reducing operating cost.

Ultra low inrush current

Allows multiple XTRA Series amplifiers to be powered on simultaneously without overloading power circuits. This eliminates the need for power sequencing.

Rear panel recessed, detented level controls

Provide attenuation of input signals for adjusting audio system gain staging as well as multi-zone applications. They are located on the rear panel to prevent users from tampering with level adjustments.

Small rack-mountable 1U enclosure

With the capability to deliver full-sized amplifier power in one quarter to one half the size of many comparable power amplifiers, the XTRA Series reduces rack space requirements for many installations.

XTRA Series Amplifiers		
200 Watts		
XPA 1002	Stereo Amplifier - 60 Watts Per Channel Into 8 Ohms	 <p>XPA 1002</p>
XPA 1002 Plus	Stereo Amplifier - 100 Watts Per Channel Into 4 or 8 Ohms	
XPA 1002-70V	Two Channel Amplifier - 100 Watts Into 70V	
XPA 1002-100V	Two Channel Amplifier - 100 Watts Into 100V	
XPA 2001-70V	Mono Amplifier - 200 Watts Into 70 Volts	
XPA 2001-100V	Mono Amplifier - 200 Watts Into 100 Volts	
400 Watts		
XPA 2002-70V	Two Channel Amplifier - 200 Watts Per Channel Into 70 Volts	 <p>XPA 2002</p>
XPA 2002-100V	Two Channel Amplifier - 200 Watts Per Channel Into 100 Volts	
600 Watts		
XPA 2003C-70V	Three Channel Combo Amplifier - 200 Watts Per Channel Into 4 Ohms and 200 Watts Mono Into 70 Volts or 100 Volts	 <p>XPA 2003C-70V</p>
XPA 2003C-100V	Three Channel Combo Amplifier - 200 Watts Per Channel Into 4 Ohms and 200 Watts Mono Into 100 Volts	
800 Watts		
XPA 2004	Four Channel Amplifier - 200 Watts Per Channel Into 4 Ohms	 <p>XPA 4002</p>
XPA 4002	Two Channel Amplifier - 400 Watts Per Channel Into 4 Ohms	
XPA 4002-70V	Two Channel Amplifier - 400 Watts Per Channel Into 70 Volts	

Cost of Ownership

Extron XTRA Series power amplifiers are engineered for efficiency to help integrators and their clients save money in many ways. XTRA Series amplifiers consume less power and cost less to operate than conventional amplifiers. They also generate much less waste heat, which can further lower energy costs since less rack and room cooling is needed.

Learn more about cost-saving XTRA™ technologies
www.extron.com/xtrapaper

ENERGY EFFICIENCY AND REDUCED POWER CONSUMPTION

XTRA Series Class D amplifiers have higher energy efficiency than conventional Class AB amplifiers. This means they draw less power from the wall to produce the same audio output power. They also produce less **waste heat**, since the additional power drawn from the wall by a Class AB amplifier must be dissipated as heat. Higher energy efficiency translates to lower power draw and lower waste heat dissipation for the same amount of audio output power.

Greater efficiency for an amplifier in active mode is not the only factor that allows Extron XTRA Series amplifiers to save energy. One of the most important aspects of the Extron XTRA Series

amplifier design is that it features an automatic standby mode, allowing the amplifier to put itself into a very low power “sleep” mode after a 25 minute period in which no signal is present at the input. Conventional amplifiers do not offer a standby mode. When the amplifiers are not in use, they operate in an idle mode, consuming power and dissipating it as waste heat the entire time the system is powered on. Conventional amplifiers create a significant idle load during a system’s non-operational downtime. This is often referred to as **vampire power** which adds significant costs to a facility’s operational budget.

INCREASED ENERGY EFFICIENCY OF XTRA SERIES VERSUS CLASS AB AMPLIFIERS

	Audio Output Power (W)	Input Power (W)	Waste Heat (W)
Two Channel Low Impedance Amplifiers			
XPA 1002	10	24	14
Competitor A	10	70	60
Two Channel High Impedance Amplifiers			
XPA 2002-70V	50	85	35
Competitor B	50	230	180
Four Channel Low Impedance Amplifiers			
XPA 2004	50	89	39
Competitor C	50	320	270

Class AB amplifiers draw much more input power than the XTRA Series. The additional power drawn is converted to waste heat.

ANNUAL COST OF OPERATION FOR XTRA SERIES VERSUS CLASS AB AMPLIFIERS

	Audio Output Power (W)	Input Power (W)	Idle or Standby Input Power (W)	Annual Input Power (kW-hr)	Annual Power Cost (USD)	Additional Cost Versus XTRA Amplifier
Two Channel Low Impedance Amplifiers						
XPA 1002	10	24	0.4	53	\$5.26	
Competitor A	10	70	22	293	\$29.26	456%
Two Channel High Impedance Amplifiers						
XPA 2002-70V	50	85	0.5	180	\$18.01	
Competitor B	50	230	31	685	\$68.55	281%
Four Channel Low Impedance Amplifiers						
XPA 2004	50	89	0.5	188	\$18.85	
Competitor C	50	320	35	899	\$89.94	377%

Extron XTRA Series amplifiers cost less to operate annually than Class AB amplifiers.

Output power used for testing based 1/8 of the maximum output power of the amplifier (all channels driven), using a 1kHz sinewave and resistive loads. For cases where maximum output power ratings of two compared amplifiers are not equal, both are adjusted for the same audio output power for comparison purposes. Input power is measured using a power meter on the AC mains. Low-impedance amplifiers tested with 8 ohm loads.

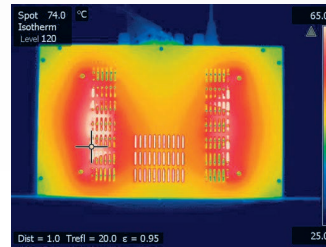
Cost of Ownership

LOW WASTE HEAT

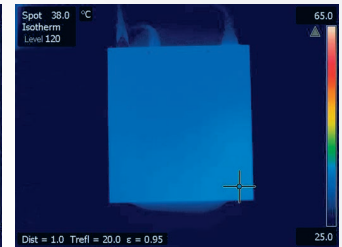
Audio amplifiers are traditionally one of the biggest sources of energy consumption in an AV system. The energy efficiency of an amplifier is the ratio of audio output power to the input power drawn from the supply. The difference between the input power and the audio output power is waste heat, which must be dissipated. XTRA Series amplifiers generate much less waste heat compared to conventional Class AB amplifiers.

A dramatic comparison of the heat dissipated from a conventional Class AB and an XTRA Series amplifier is shown here. Under 1/8th power conditions, the hottest point on the Class AB amplifier measured 74° C (165° F), while the hottest point on the XTRA Class D amplifier was just 38° C (100° F).

Conventional Amplifier at 1/8 Power



Extron XPA 1002 at 1/8 Power



Comparison of heat output between Class AB and XTRA Series Class D amplifiers through infrared photography

ANNUAL WASTE HEAT OF EXTRON XTRA SERIES VERSUS CONVENTIONAL CLASS AB AMPLIFIERS

	Annual Input Power (kW-hr)	Annual Output Power (kW-hr)	Annual Waste Heat Power (kW-hr)	Annual Waste Heat Power (1000 BTU)	Additional Waste Heat Versus XTRA Amplifier	Required Cooling (Tons)
Two Channel Low Impedance Amplifiers						
XPA 1002	53	21	32	108		0.004
Competitor A	293	21	272	927	755%	0.017
Two Channel High Impedance Amplifiers						
XPA 2002-70V	180	104	76	260		0.010
Competitor B	685	104	581	1,984	664%	0.051
Four Channel Low Impedance Amplifiers						
XPA 2004	188	104	84	288		0.011
Competitor C	899	104	795	2,714	842%	0.077

Much more heat is dissipated by Class AB amplifiers when compared to XTRA Series amplifiers.

SPACE EFFICIENT SMALL ENCLOSURE

XTRA Series amplifiers also offer space efficiency when it comes to placing products into confined or limited spaces. The compact nature of Extron XTRA Series Class D amplifiers results in a reduction of the space required for amplification, resulting in more room in equipment racks for other AV gear. The XPA 1002, for example, fits within a rack space one-fourth the enclosure size of a competitive model. Furthermore, many amplifiers have vents on the upper and lower panels, and require adequate space above or below for ventilation. Because the XTRA Series amplifiers run cool and do not require ventilation, up to four of them can be mounted before a space is needed above and below the units.



The 1U, half rack width XPA 1002 versus a competitive 2U, full rack amplifier allows more amplification to be installed in smaller spaces to save installation equipment costs.

First ENERGY STAR Qualified Commercial Amplifiers



Extron is pleased to lead the industry with the first ENERGY STAR qualified audio power amplifiers for professional AV applications. These amplifiers meet the ENERGY STAR specification for audio/video products, which includes qualification for commercial as well as consumer AV products.

Extron ENERGY STAR qualified amplifiers feature highly efficient amplifier designs with considerably lower power consumption than competitive models. They can offer significant long term energy savings for clients looking to reduce operating costs, achieve overall energy efficiency goals throughout their facilities, and promote sustainability through a reduction in the consumption of natural resources for producing energy.

ENERGY STAR and Commercial AV Products

The ENERGY STAR audio/video specification has been continuously revised to require increasingly more efficient AV products such as power amplifiers. Requirements for power consumption are mandated and also include criteria for idle and full operation modes in addition to standby. Since the first ENERGY STAR AV specification in 2009, Extron has provided ENERGY STAR qualified amplifiers for commercial applications.

Extron ENERGY STAR Qualified Amplifiers

Extron power amplifiers that have earned the ENERGY STAR form a complete family of mono, stereo, and multi-channel power amplifiers for a wide range of applications from classrooms and boardrooms to multi-purpose rooms, auditoriums, and open spaces. They meet all of the requirements for ENERGY STAR qualification for commercial AV products, including an auto power-down feature that engages standby mode after inactivity, and consumes less than 1 watt of power.

Why Use Extron ENERGY STAR Amplifiers?

These are the first amplifiers in the pro AV industry to have earned the ENERGY STAR for commercial audio/video products. This means that system designers can now specify these amplifiers for their projects knowing that they'll be compatible in facilities with "green" objectives, including energy efficiency and sustainability. The visibility of the ENERGY STAR logo on Extron XTRA Series products will also make it easier to recommend them to clients when it comes to meeting their desires to save energy and respond to the need to be more environmentally conscious.

Extron First US Manufacturer to Receive UL Energy Efficiency Certification

Extron is pleased to be the first US-based manufacturer to receive Energy Efficiency Certification - EEC by UL Environment, a wholly owned subsidiary of the globally respected Underwriters Laboratories® Inc. The EEC program allows a manufacturer to substantiate its energy efficiency claims using a trusted third-party organization. Extron designs and tests its products to the highest standards available for reliability and performance. Taking the extra step of having UL test these products for energy efficiency ensures that the designs stand up to the intense scrutiny of these industry regulatory leaders. After completing the testing of the XTRA Series Power Amplifiers as well as PS Series Desktop Power Supplies, UL confirmed that Extron is the first US manufacturer to receive Energy Efficiency Certification.

Once UL Environment qualifies a product, it is listed on their Web site, www.ulenvironment.com, and the EEC mark is placed on the product and its packaging. The EEC mark, consisting of the UL Environment leaf logo encapsulating the UL initials and including the words Energy Verified, signifies that a product has met a wide variety of stringent regulations. Products with the EEC mark can be cross-checked against the Web site listings to verify energy efficiency and performance in accordance with environmental and industry standards. This certification provides additional credibility to a product's energy efficiency claims.



CDRS™ - Class D Ripple Suppression

CDRS is a patented technology from Extron that dramatically improves signal fidelity over conventional Class D amplifier designs. It delivers a smooth, clean audio waveform by eliminating the high frequency switching ripple characteristic of Class D amplifiers. This ripple is also a source of RF emissions, which can interfere with sensitive AV equipment such as wireless microphones.

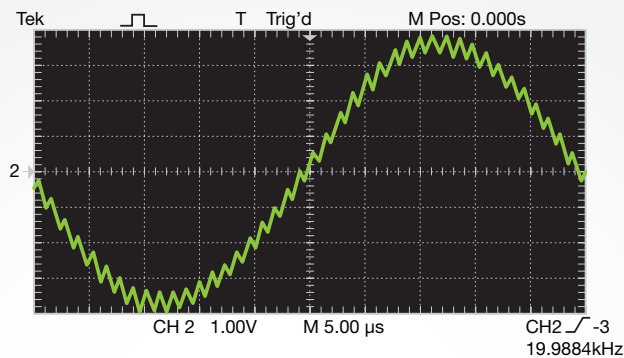
Elimination of Switching Ripple Improves Audio Performance

The switching ripple at the audio output distorts the audio waveform and may impact audio performance. As a result, the switching ripple can compromise the capability of a Class D amplifier to deliver natural sound reproduction. Extron's advanced Class D design incorporates patented CDRS technology, providing pure, high fidelity audio output.

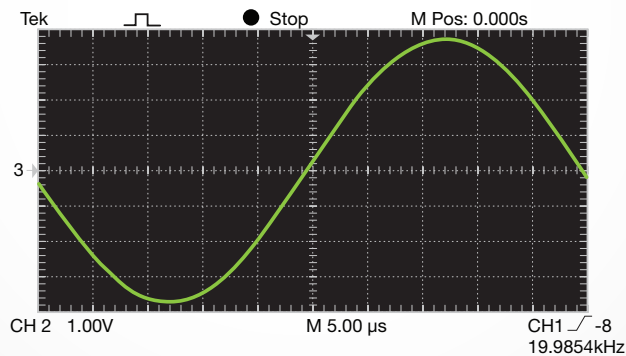
Reduced EMI Emissions

Conventional Class D amplifier designs emit significant amounts of EMI - electromagnetic interference that often impacts sensitive nearby electronic equipment. Extron's CDRS technology eliminates EMI interference problems and produces a clean, ripple-free output.

To learn more about this technology, download the white paper at www.extron.com/whitepapers.



In a conventional Class D amplifier the switching ripple is present on the output audio waveform as a superimposed high frequency ripple. The result is a distorted signal and EMI emissions on output cabling.



CDRS removes the switching ripple from the audio output waveform, so that the signal is pure, and on par with that of a conventional linear amplifier. The result is a Class D amplifier design with dramatically improved audio performance. With CDRS, the XTRA Series amplifiers deliver high quality reproduction of music and voice, and also the efficiency of a Class D amplifier.

200 Watts

XPA 1002

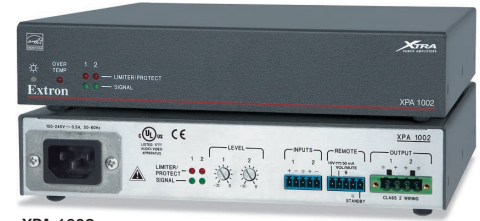
Stereo Amplifier - 100 Watts Per Channel

The Extron XTRA™ Series XPA 1002 models are two channel, half rack, 1U, convection cooled power amplifiers. This series includes low and high impedance versions to cover a variety of application needs. The XPA 1002 models are ENERGY STAR® qualified amplifiers with an Extron exclusive, highly efficient, advanced Class D amplifier design. They also feature 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 design generates very little heat to keep racks and equipment cabinets cool.

FEATURES:

- XPA 1002 - 2 x 60 watts @ 8 ohms, 2 x 100 watts @ 4 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 - no need for power sequencing
- Power factor correction - removes harmonic content on AC line
- UL 2043 plenum rated when used with optional Flexible Conduit Adapter Kit
- Auto power-down with fast power-up
- Rear panel recessed, detented level controls
- Automatic clip limiter
- Multiple protection circuits
- Remote volume and mute control port
- Front and rear-mounted signal and protection indication LEDs



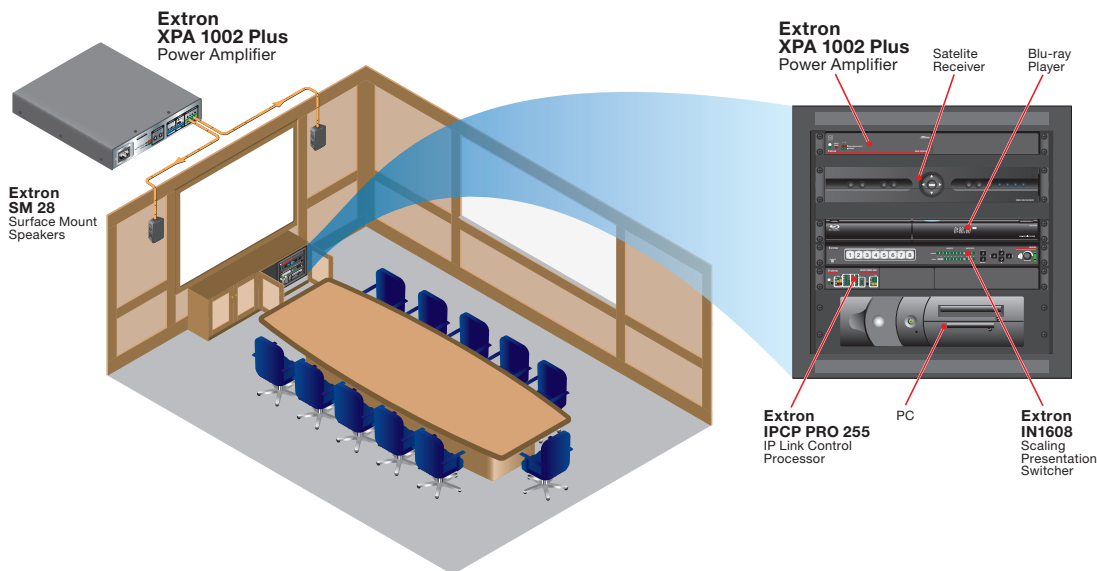
XPA 1002



XPA 1002 Plus



Model	Version Description	Part Number
XPA 1002	Stereo Amp - 100 Watts/Ch	60-849-01
XPA 1002 Plus	100 Watts Per Ch @ 8 Ohms	60-849-21
XPA 1002-70V	100 Watts Per Ch @ 70 V	60-1302-01
XPA 1002-100V	100 Watts Per Ch @ 100 V	60-1302-11



The Extron XTRA Series amplifiers operate without fans and do not require additional ventilation spaces in equipment racks

- Highly efficient, advanced Class D design enables installation in equipment credenzas and lecterns with limited ventilation
- Convection cooled without the need for fans to ensure quiet, reliable operation
- Compact 1U metal enclosure reduces rack space requirements

200 Watts

XPA 2001

Mono 70/100 V Amplifier - 200 Watts

The Extron XTRA™ Series XPA 2001 is a half rack 1U, convection cooled power amplifier delivering 200 watts into a 70 volt or 100 volt line. This professional grade amplifier features a 100 dB signal-to-noise ratio with less than 0.1% THD+N. The XPA 2001 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 2001 is one quarter the size of comparable amplifiers, 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.

FEATURES:

- 200 watts rms output power @ 70 volts or 100 volts
- Input summing

- High pass filter
- 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 - no need for power sequencing
- Power factor correction - removes harmonic content on AC line
- UL 2043 plenum rated when used with optional Flexible Conduit Adapter Kit
- Auto power-down with fast power-up
- Rear panel recessed, detented level controls
- Automatic clip limiter
- Multiple protection circuits
- Remote volume and mute control port
- Front and rear-mounted signal and protection indication LEDs



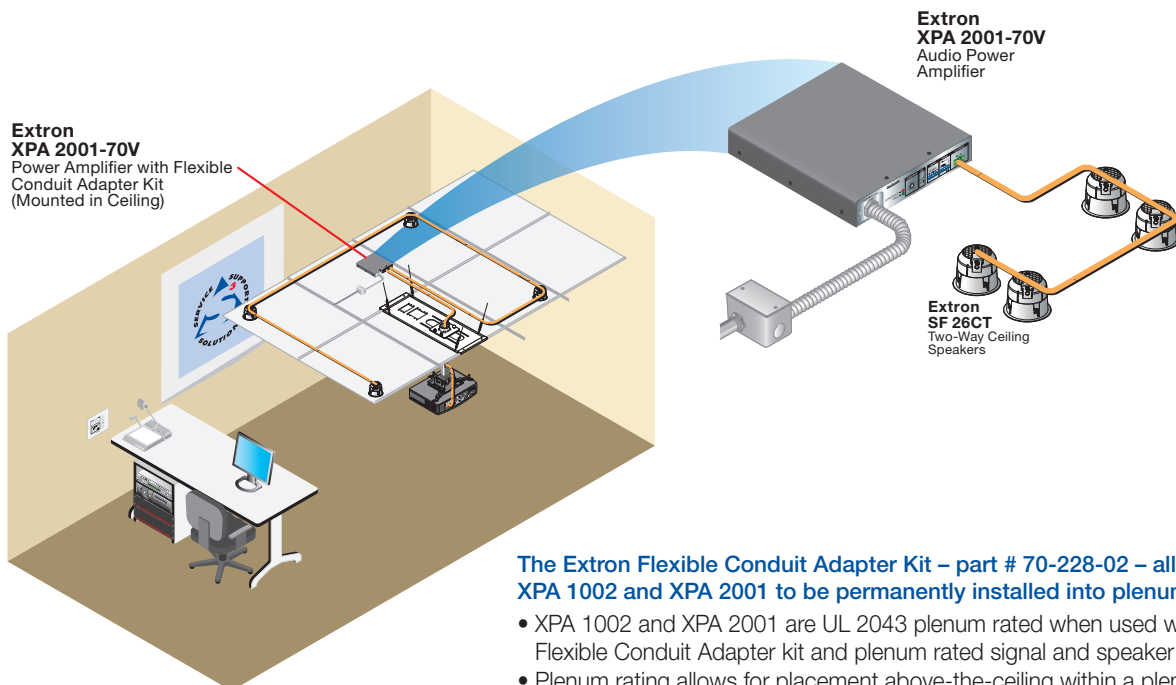
XPA 2001-70V



XPA 2001-100V



Model	Version Description	Part Number
XPA 2001-70V	70 V Mono Amp - 200 Watts	60-850-01
XPA 2001-100V	100 V Mono Amp - 200 Watts	60-850-11



The Extron Flexible Conduit Adapter Kit – part # 70-228-02 – allows the XPA 1002 and XPA 2001 to be permanently installed into plenum environments

- XPA 1002 and XPA 2001 are UL 2043 plenum rated when used with the optional Flexible Conduit Adapter kit and plenum rated signal and speaker cables
- Plenum rating allows for placement above-the-ceiling within a plenum airspace
- Concealed, above-the-ceiling installation prevents theft
- Enables use of an amplifier without an equipment rack in the room
- Remote control capability for adjusting volume and mute, and shutting down amplifier

400 Watts

XPA 2002

Two Channel Amplifier - 200 Watts Per Channel

The Extron XTRA™ Series XPA 2002 is a 1U, convection-cooled power amplifier delivering two channels of 200 watts rms. This professional grade amplifier features a 100 dB signal-to-noise ratio with 0.1% THD+N. The XPA 2002 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 2002 is half the size of comparable amplifiers, conserving rack space and weighing only 9 lbs (4 kg). The Extron exclusive, high efficiency design generates very little heat and allows the amplifier to be convection cooled.

COMMON FEATURES:

- 400 watts rms output power
- 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 - no need for power sequencing
- Power factor correction - removes harmonic content on AC line
- Rack-mountable 1U, full rack width enclosure
- Auto power-down with fast power-up
- Rear panel recessed, detented level controls
- Automatic clip limiter
- Multiple protection circuits
- Remote standby port
- 5 mm screw-lock captive screw speaker connectors
- Front and rear-mounted signal and protection indication LEDs
- Front panel over-temperature LED



XPA 2002-70V



XPA 2002-100V



XPA 2002-70V

Two Channel 70 V Amplifier - 200 Watts Per Channel

UNIQUE FEATURES:

- 2 x 200 watts @ 70 volts
- High pass filter

XPA 2002-100V

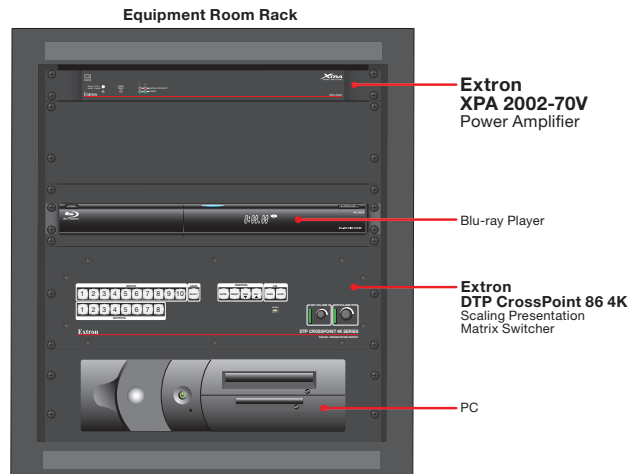
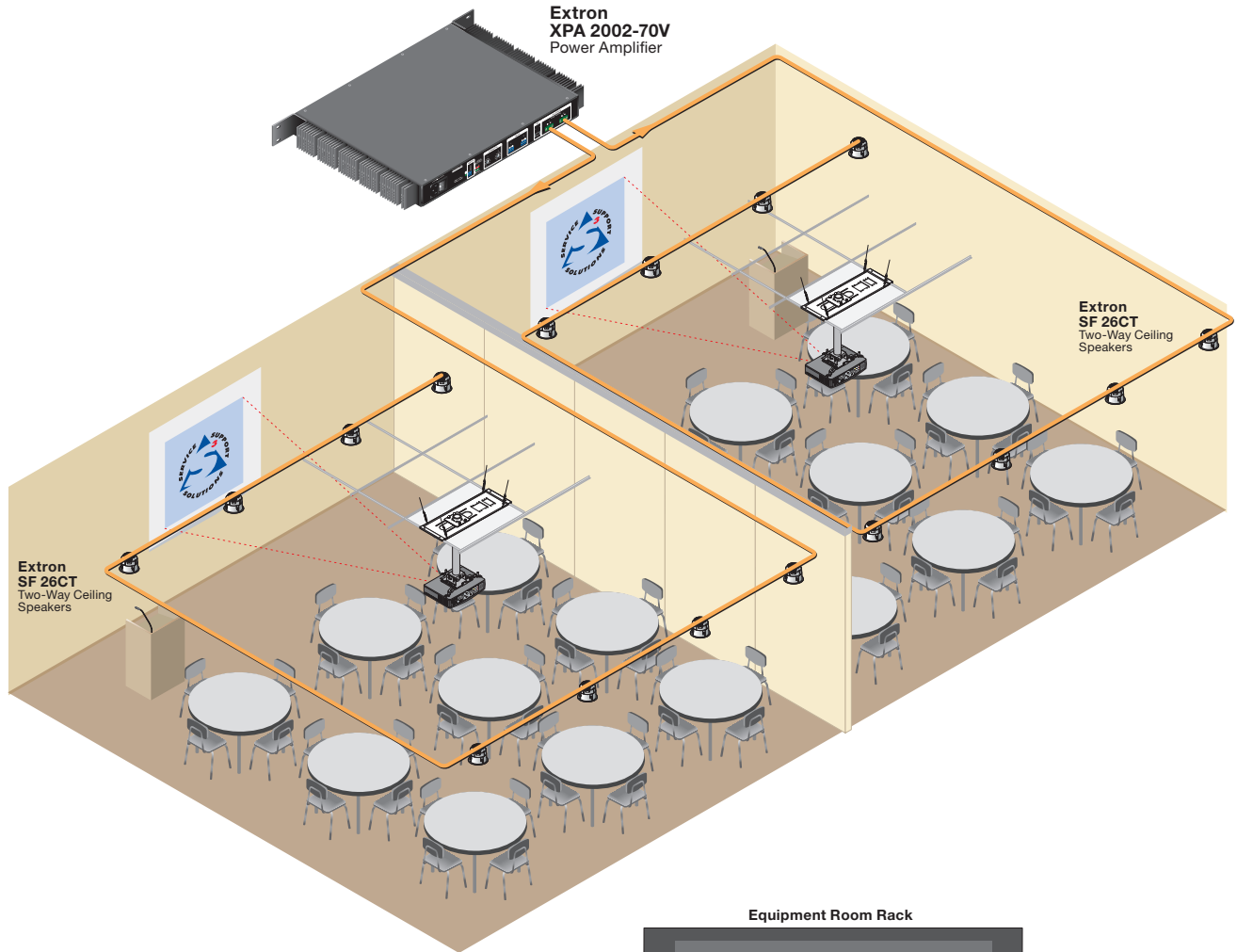
Two Channel 100 V Amplifier - 200 Watts Per Channel

UNIQUE FEATURES:

- 2 x 200 watts @ 100 volts
- High pass filter

Model	Version Description	Part Number
XPA 2002-70V	70 V Two Channel Amp - 200 Watts/Ch	60-883-02
XPA 2002-100V	100 V Two Channel Amp - 200 Watts/Ch	60-883-12

400 Watts



Single and Multi-Zone Distributed Audio

- Provides sufficient power output for driving several distributed speakers in a large multi-purpose room
- Two 70 volt output channels enable separate zones of distributed audio in divisible or separate rooms
- Ideal for multi-zone applications – compact 1U enclosure allows multiple units to fill less rack space than conventional amplifiers

600 Watts

XPA 2003C

Three Channel Combo Amplifier - 200 Watts Per Channel

The Extron XTRA™ Series XPA 2003C is a 1U, convection-cooled, three channel power amplifier delivering two channels of 200 watts into 4 ohms, plus 200 watts at 70 volts or 100 volts. This professional grade amplifier features a 100 dB signal-to-noise ratio with 0.1% THD+N. The XPA 2003C 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. This unique amplifier conserves rack space and weighs only 9 lbs (4 kg). The Extron exclusive, high efficiency design generates very little heat and allows the amplifier to be convection cooled.

FEATURES:

- 600 watts rms output power:
2 x 200 watts @ 4 ohms; 2 x 100 watts @ 8 ohms
1 x 200 watts @ 70 volts or 100 volts

- High pass filter
- 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 - no need for power sequencing
- Power factor correction - removes harmonic content on AC line
- Rack-mountable 1U, full rack width enclosure
- Auto power-down with fast power-up
- Rear panel recessed, detented level controls
- Automatic clip limiter
- Multiple protection circuits
- Remote standby port
- Front and rear-mounted signal and protection indication LEDs



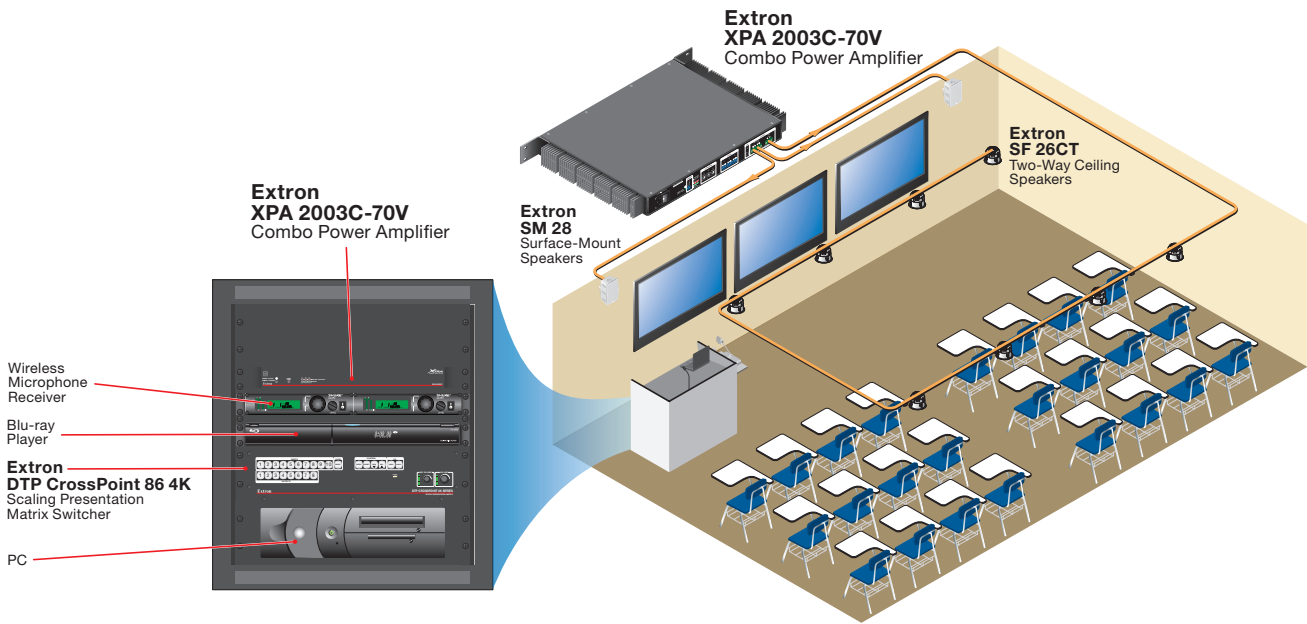
XPA 2003C-70V



XPA 2003C-100V



Model	Version Description	Part Number
XPA 2003C-70V	70 V Three Channel Amp - 200 Watts/Ch	60-848-01
XPA 2003C-100V	100 V Three Channel Amp - 200 Watts/Ch	60-848-11



Unique Combo Amplifier Supports Program and Distributed Speakers

- Two channels of 200 watts into 4 ohms or 100 watts into 8 ohms
- Third channel with 200 watts into a 70 volt or 100 volt line
- Ideal for classrooms and other environments for providing speech reinforcement or background audio distribution, plus program audio presentations

800 Watts

XPA 2004

Four Channel Amplifier - 200 Watts Per Channel

The Extron XTRA™ Series XPA 2004 is a 1U, convection cooled power amplifier delivering four channels of 200 watts into 4 ohms or 100 watts into 8 ohms. This professional grade amplifier features a 100 dB signal-to-noise ratio with 0.1% THD+N. The XPA 2004 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 2004 is half the size of comparable amplifiers, conserving rack space and weighing only 9 lbs (4 kg). The Extron exclusive, high efficiency design generates very little heat and allows the amplifier to be convection cooled.

FEATURES:

- 800 watts rms output power: 4 x 200 watts @ 4 ohms; 4 x 100 watts @ 8 ohms

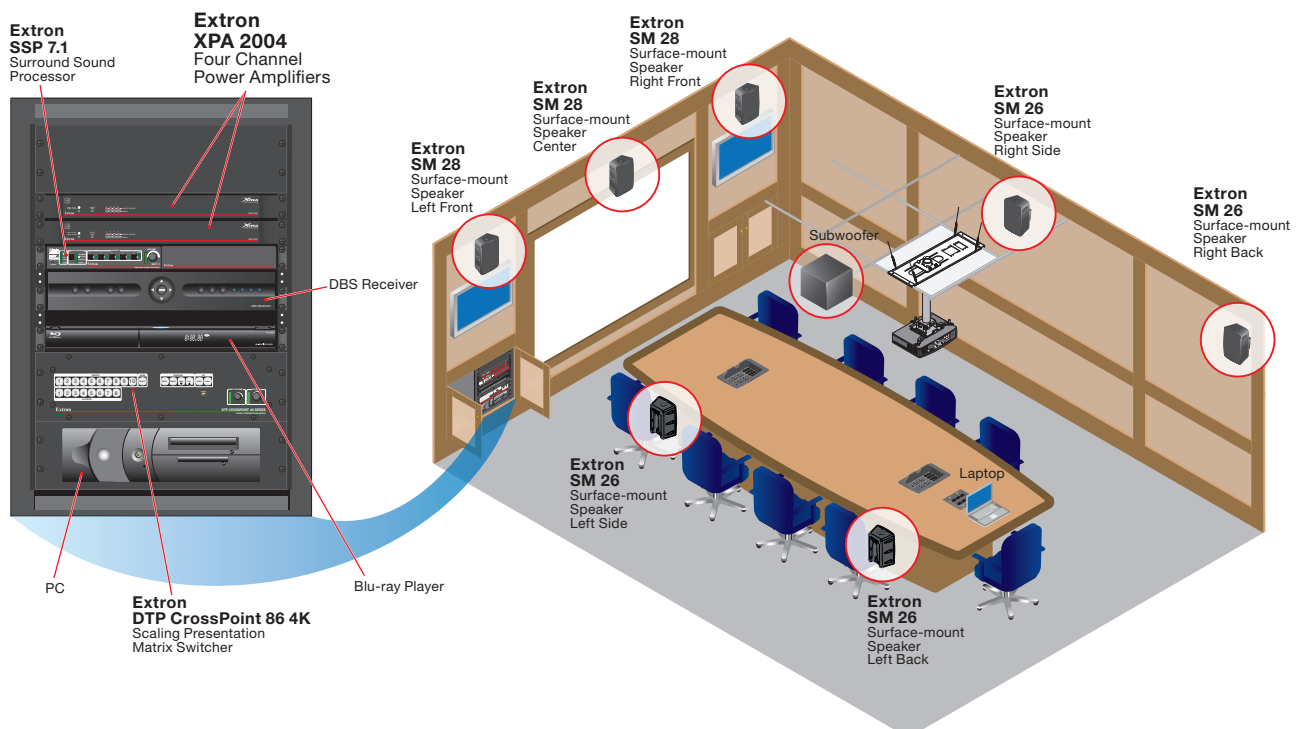
- Bridgeable outputs: 2 x 400 watts @ 8 ohms
- ENERGY STAR® qualified amplifier
- Professional grade signal-to-noise and THD+N performance
- Extron Patented CDRS™ - Class D Ripple Suppression
- Convection cooled, fanless operation
- Ultra low inrush current - no need for power sequencing
- Power factor correction - removes harmonic content on AC line
- Rack-mountable 1U, full rack width enclosure
- Auto power-down with fast power-up
- Rear panel recessed, detented level controls
- Automatic clip limiter
- Multiple protection circuits
- Remote standby port
- 5 mm screw-lock captive screw speaker connectors
- Front and rear-mounted signal and protection indication LEDs
- Front panel over-temperature LED



XPA 2004



Model	Version Description	Part Number
XPA 2004	Four Channel Amp - 200 Watts/Ch	60-563-02



A Versatile Multi-Channel Amplifier

- Powers a surround sound speaker system with the Extron SSP 7.1 Surround Sound Processor
- Provides ample output for high-powered applications with two bridged channels of 400 watts into 8 ohms

800 Watts

XPA 4002

Four Channel Amplifier - 400 Watts Per Channel

The Extron XTRA™ Series XPA 4002 is a 1U, convection-cooled power amplifier delivering two channels of 400 watts rms. This professional grade amplifier features a 100 dB signal-to-noise ratio with 0.1% THD+N. The XPA 4002 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 4002 is half the size of comparable amplifiers, conserving rack space and weighing only 9 lbs (4 kg). The Extron exclusive, high efficiency design generates very little heat and allows the amplifier to be convection cooled.

COMMON FEATURES:

- 800 watts rms output power
- 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 - no need for power sequencing
- Power factor correction - removes harmonic content on AC line
- Rack-mountable 1U, full rack width enclosure
- Auto power-down with fast power-up
- Rear panel recessed, detented level controls
- Automatic clip limiter
- Multiple protection circuits
- Remote standby port
- 5 mm screw-lock captive screw speaker connectors
- Front and rear-mounted signal and protection indication LEDs
- Front panel over-temperature LED



XPA 4002



XPA 4002-70V



XPA 4002

Two Channel Amplifier - 400 Watts Per Channel

UNIQUE FEATURES:

- 2 x 400 watts @ 4 ohms; 2 x 200 watts @ 8 ohms
- Bridgeable outputs: 1 x 800 watts @ 8 ohms

XPA 4002-70V

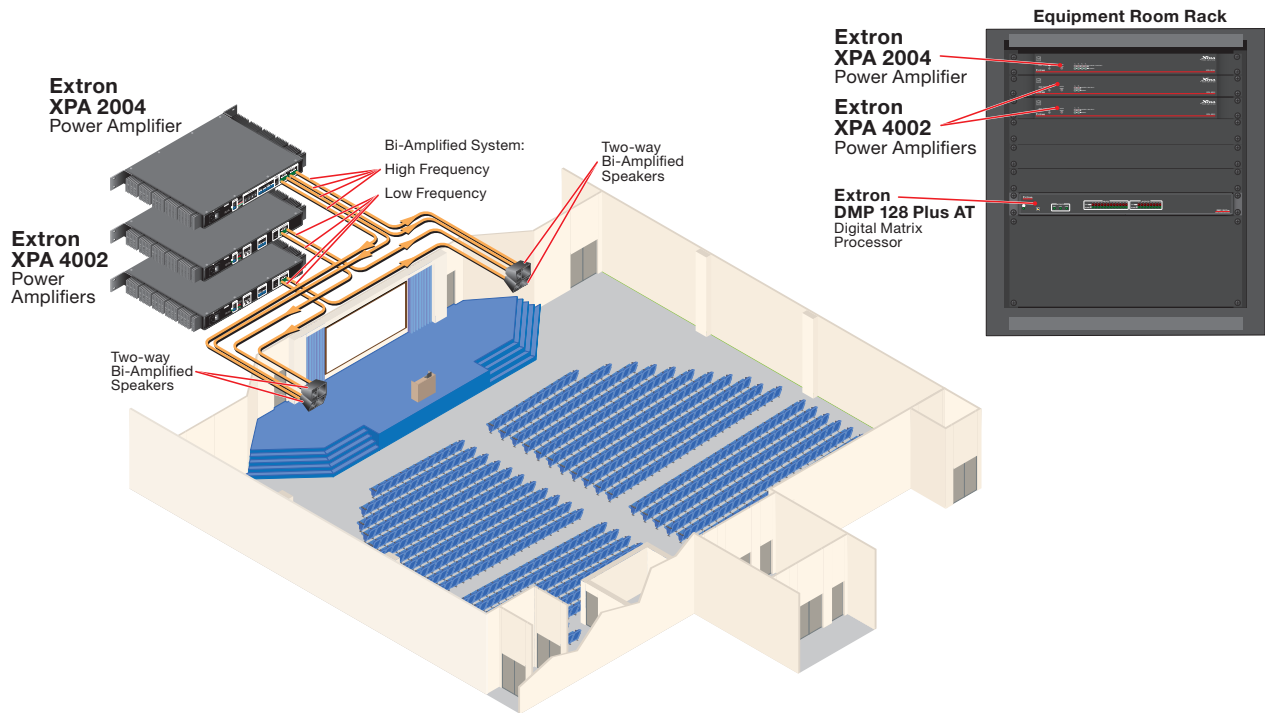
Two Channel 70 V Amplifier - 400 Watts Per Channel

UNIQUE FEATURES:

- 2 x 400 watts @ 70 volts
- High pass filter

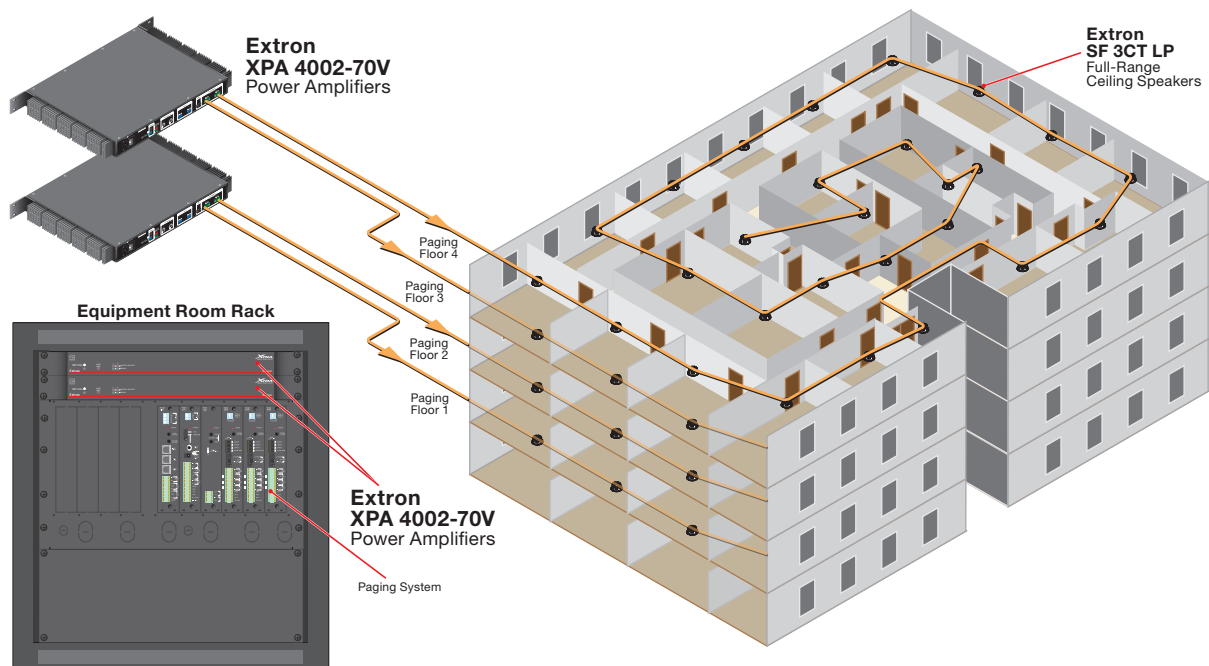
Model	Version Description	Part Number
XPA 4002	Two Channel Amp - 400 Watts/Ch	60-1244-01
XPA 4002-70V	70 V Two Channel Amp - 400 Watts/Ch	60-1245-01

800 Watts



High power amplification for large venues

- Provides significant power output for driving speaker cabinets in auditoriums, lecture halls, and houses of worship
- Dual 4 ohm, 400 watt outputs can be bridged for a single 800 watt output into 8 ohms
- Ideal for low frequency amplification in a bi-amplified system



Large distributed paging system

- High output 70 volt amplifier for driving large numbers of music and paging speakers
- Ideal for distributed audio in corporate offices, convention centers, and public spaces
- Dual outputs provide 400 watts into 70 volt lines

Specifications - XPA 1002, XPA 2001

AUDIO (XPA 1002, XPA 1002 PLUS)	
Voltage gain	
XPA 1002	16x (24 dB)
XPA 1002 Plus	23x (27dB)
AUDIO INPUT (XPA 1002, XPA 1002 PLUS)	
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
NOTE:	0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu
AUDIO OUTPUT (XPA 1002, XPA 1002 PLUS)	
Number/signal type	1 stereo, 4 or 8 ohm direct
Connectors	(1) 5 mm screw lock captive screw connector, 4 pole
Load impedance	4 ohms 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
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 (XPA 1002, XPA 1002 PLUS)	
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	BSMI, CCC, CE, c-UL, GS, KC Mark, PSE, S Mark, 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
AUDIO INPUT (XPA 1002-70V, XPA 1002-100V)	
Voltage gain	
XPA 1002-70V	57x (35 dB)
XPA 1002-100V	81x (38 dB)
AUDIO INPUT (XPA 1002-70V, XPA 1002-100V)	
Number/signal type	2 balanced/unbalanced
Connectors	(1) 3.5 mm captive screw connector, 5 pole
Impedance	>10k ohms unbalanced/balanced, DC coupled
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

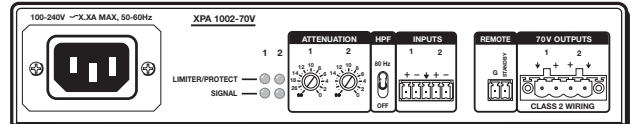
AUDIO OUTPUT (XPA 1002-70V, XPA 1002-100V)		
Number/signal type		
XPA 1002-70V	2 mono, 70 V line	
XPA 1002-100V	2 mono, 100 V line	
Connectors	(1) 5 mm screw lock captive screw connector, 4 pole	
NOTE:	These connectors accept wires of 22 AWG to 12 AWG.	
Load impedance		
XPA 1002-70V	50 ohms minimum	
XPA 1002-100V	100 ohms minimum	
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	
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 (XPA 1002-70V, XPA 1002-100V)		
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 [±5 minutes] with no signal)	
Cooling	Convection, no vents, with internal heat sinks	
Thermal dissipation		
Standby	<1 watt (3 BTU/hr)	
Idle		
XPA 1002-70V	11.4 watts (39 BTU/hr)	
1/8 power (pink noise)		
XPA 1002-70V	70 V (x2): 16.8 watts (57 BTU/hr)	
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	BSMI, 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.	
EMI/EMC	CE, CISPR 22 Class B, C-tick, FCC Class B, ICES, KCC, VCCI Class B	
Environmental	Complies with the appropriate requirements of ENERGY STAR® (ENERGY STAR qualified amplifier), EU code of conduct, RoHS, WEEE	
Warranty	3 years parts and labor	
NOTE:	All nominal levels are at ±10%.	
Model	Version Description	Part Number
XPA 1002	Stereo Power Amp - 100 Watts/Ch	60-849-01
XPA 1002 Plus	100 Watts Per Ch @ 8 Ohms	60-849-21
XPA 2001-70V	70 V Mono Power Amp - 200 Watts	60-850-01
XPA 2001-100V	100 V Mono Power Amp - 200 Watts	60-850-11
Optional Accessories	Version Description	Part Number
RSB 129	10 9.5" deep basic rack shelf, Gray	60-604-02
HRB 109	10 basic half rack shelf, Gray	60-1251-10
Flexible Conduit Adapter Kit	For PS 124 select XTRA Series AMPS	70-228-02

Panel Drawings

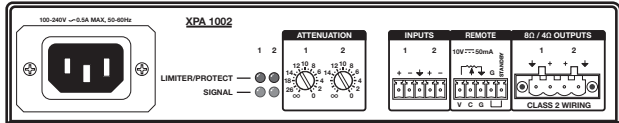
XPA 1002



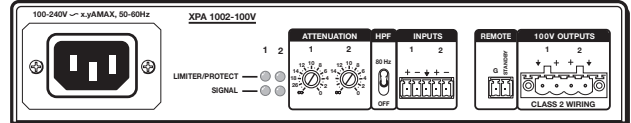
XPA 1002 - Front



XPA 1002-70V - Back



XPA 1002 - Back

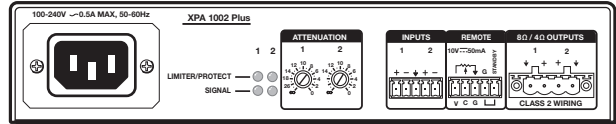


XPA 1002-100V - Back

XPA 1002 Plus



XPA 1002 Plus - Front

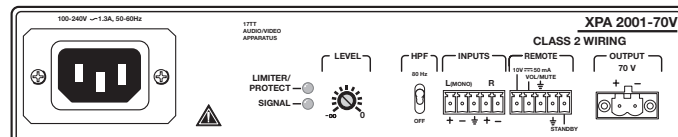


XPA 1002 Plus - Back

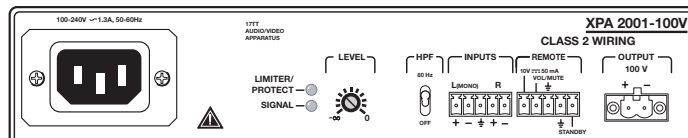
XPA 2001



XPA 2001 - Front



XPA 2001-70V - Back



XPA 2001-100V - Back

Specifications - XPA 2002

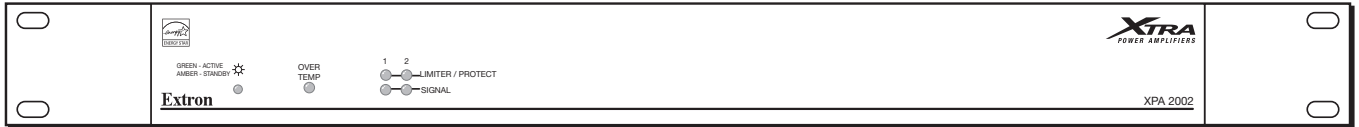
AUDIO	
Voltage gain	
XPA 2002-70V	57x (35 dB)
XPA 2002-100V	81x (38 dB)
AUDIO INPUT	
Number/signal type	2 balanced/unbalanced
Connectors	(2) 3.5 mm captive screw connectors, 3 pole
AUDIO OUTPUT	
Number/signal type	
XPA 2002-70V	2 channels 70 V
XPA 2002-100V	2 channels, 100 V
Connectors	(2) 5 mm screw lock captive screw connectors, 2 pole
Amplifier type	Class D
Output power	
XPA 2002-70V	200 watts rms per channel, 70 V, 1 kHz, 0.1% THD
XPA 2002-100V	200 watts rms per channel, 100 V, 1 kHz, 0.1% THD
Frequency response	20 Hz to 20 kHz, ± 1 dB
THD + Noise	0.1%, 1 kHz, 3 dB below clipping
S/N	100 dB, 20 Hz - 20 kHz, unweighted
GENERAL	
Power	Internal Input: 100-240 VAC, 50-60 Hz
Power consumption at 115 VAC, 60 Hz	
Typical (1/8 power)	
XPA 2002-70V	70 V (x2): 84.5 watts
XPA 2002-100V	100 V (x2): 89.6 watts
Quiescent	
XPA 2002-70V	20.8 watts
XPA 2002-100V	25.1 watts
Standby	<1 watt (triggered by contact closure or after 25 minutes [± 5 minutes] with no signal)
Power consumption at 230 VAC, 50 Hz	
Typical (1/8 power)	
XPA 2002-70V	70 V (x2): 84.5 watts
XPA 2002-100V	100 V (x2): 90.4 watts
Quiescent	
XPA 2002-70V	23.1 watts
XPA 2002-100V	26.2 watts
Standby	<1 watt (triggered by contact closure or after 25 minutes [± 5 minutes] with no signal)
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Cooling	Convection, no vents, with heat sinks on the sides
Thermal dissipation at 115 VAC, 60 Hz	
Standby	<1 watt (3 BTU/hr)
Idle	
XPA 2002-70V	20.8 watts (71 BTU/hr)
XPA 2002-100V	25.1 watts (86 BTU/hr)
1/8 power	
XPA 2002-70V	70 V (x2): 34.5 watts (118 BTU/hr)
XPA 2002-100V	100 V (x2): 39.6 watts (135 BTU/hr)
Thermal dissipation at 230 VAC, 50 Hz	
Standby	<1 watt (3 BTU/hr)
Idle	
XPA 2002-70V	23.1 watts (79 BTU/hr)
XPA 2002-100V	26.2 watts (89 BTU/hr)
1/8 power	
XPA 2002-70V	70 V (x2): 35.6 watts (122 BTU/hr)
XPA 2002-100V	100 V (x2): 40.4 watts (138 BTU/hr)

Protection	Clip limiting, thermal, short circuit, DC output	
Indication	Limiter/Protect LED indicates the onset of clip limiting, thermal cycling, or a short circuit	
Mounting		
Rack mount	Yes, with included mounting brackets	
Enclosure type	Metal	
Enclosure dimensions	1.7" H x 17.4" W* x 12.0" D (1U high, full rack wide) (4.3 cm H x 44.2 cm W* x 30.5 cm D) *Width excludes rack ears. 19.0" (48.3 cm) W with rack ears.	
Product weight	9.2 lbs (4.2 kg)	
Shipping weight	12 lbs (6 kg)	
Vibration	ISTA 1A in carton (International Safe Transit Association)	
Regulatory compliance		
Safety	BSMI, CCC, CE, c-UL, GS, KC, PSE, S-Mark, UL Meets UL 60065, IEC 60065, and BSEN 60065 for AV equipment.	
EMI/EMC	CE, CISPR 22 Class B, CISPR 24, C-tick, EN55103-1, EN55103-2, FCC Class B, ICES, KCC, VCCI Class B	
Environmental	Complies with the appropriate requirements of ENERGY STAR® (ENERGY STAR qualified amplifier), EU code of conduct, RoHS, WEEE	
Warranty	3 years parts and labor	
NOTE: All nominal levels are at $\pm 10\%$.		
Model	Version Description	Part Number
XPA 2002-70V	70 V Two Channel Power Amplifier	60-883-02
XPA 2002-100V	100 V Two Channel Power Amplifier	60-883-12

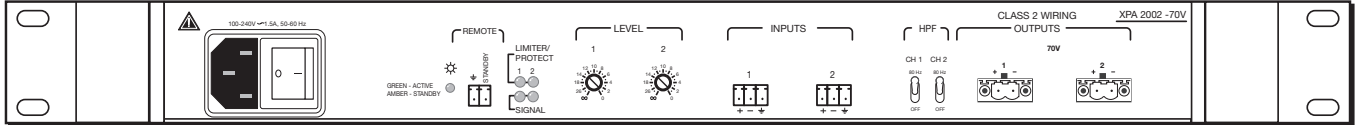
For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

Panel Drawings

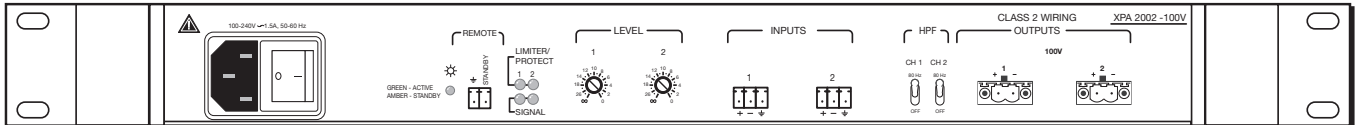
XPA 2002



XPA 2002 - Front



XPA 2002-70V - Back



XPA 2002-100V - Back

Specifications - XPA 2003C, XPA 2004

AUDIO INPUT		
Number/signal type	3 balanced/unbalanced	
Connectors	(3) 3.5 mm captive screw connectors, 3 pole	
AUDIO OUTPUT		
Number/signal type		
XPA 2003C-70V	2 channels, 4 or 8 ohms 1 channel, 70 V	
XPA 2003C-100V	2 channels, 4 or 8 ohms 1 channel, 100 V	
Connectors	(1) 5 mm screw lock captive screw connector, 4 pole (1) 5 mm screw lock captive screw connector, 2 pole	
Output power		
Channel 1 or 2 (8 ohm)	100 watts rms per channel, 1 kHz, 0.1% THD	
Channel 1 or 2 (4 ohm)	200 watts rms per channel, 1 kHz, 0.1% THD	
Channel 3		
XPA 2003C-70V (70 V output)	200 watts rms per channel, 70 V, 1 kHz, 0.1% THD	
XPA 2003C-100V (100 V output)	200 watts rms per channel, 100 V, 1 kHz, 0.1% THD	
Frequency response	20 Hz to 20 kHz, ± 1 dB	
THD + Noise		
Channel 1 or 2	0.1% @ 20 Hz to 20 kHz, 8 ohms, 3 dB below clipping	
Channel 3	0.1%, 1 kHz, 3 dB below clipping	
S/N	100 dB, 20 Hz - 20 kHz, unweighted	
GENERAL		
Power	Internal Input: 100-240 VAC, 50-60 Hz, 1.5 A	
Power consumption at 115 VAC, 60 Hz		
Typical (1/8 power)		
XPA 2003C-70V	4 ohms (x2) + 70 V: 122.4 watts 8 ohms (x2) + 70 V: 92.2 watts	
XPA 2003C-100V	4 ohms (x2) + 100 V: 123.1 watts 8 ohms (x2) + 100 V: 94.4 watts	
Quiescent		
XPA 2003C-70V	28.9 watts	
XPA 2003C-100V	28.1 watts	
Standby	<1 watt (triggered by contact closure or after 25 minutes [± 5 minutes] with no signal)	
Thermal dissipation at 115 VAC, 60 Hz		
Standby	<1 watt (3 BTU/hr)	
Idle		
XPA 2003C-70V	28.9 watts (99 BTU/hr)	
XPA 2003C-100V	28.1 watts (96 BTU/hr)	
1/8 power		
XPA 2003C-70V	4 ohms (x2) + 70 V: 47.4 watts (162 BTU/hr) 8 ohms (x2) + 70 V: 42.2 watts (144 BTU/hr)	
XPA 2003C-100V	4 ohms (x2) + 100 V: 48.1 watts (164 BTU/hr) 8 ohms (x2) + 100 V: 44.4 watts (152 BTU/hr)	
Enclosure dimensions	1.7" H x 17.4" W* x 12.0" D (1U high, full rack wide) (4.3 cm H x 44.2 cm W* x 30.5 cm D) *Width excludes rack ears. 19.0" (48.3 cm) W with rack ears.	
Product weight	9.2 lbs (4.2kg)	
Regulatory compliance		
Safety	CE, c-UL, UL Meets UL 60065, IEC 60065, and BSEN 60065 for AV equipment.	
Environmental	Complies with the appropriate requirements of CEC, ENERGY STAR® (ENERGY STAR qualified amplifier), EU code of conduct, RoHS, WEEE	
Warranty	3 years parts and labor	
Model	Version Description	Part Number
XPA 2003C-70V	70 V Three Channel Combo Power Amp	60-848-01
XPA 2003C-100V	100 V Three Channel Combo Power Amp	60-848-11

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

AUDIO INPUT		
Number/signal type	4 balanced/unbalanced	
Connectors	(4) 3.5 mm captive screw connectors, 3 pole	
AUDIO OUTPUT		
Number/signal type	4 channels, 4 or 8 ohms; or 2 bridged mono, 8 ohms	
Connectors	(2) 5 mm screw lock captive screw connectors, 4 pole	
Output power	100 watts rms per channel, 8 ohms, 1 kHz, 0.05% THD 200 watts rms per channel, 4 ohms, 1 kHz, 0.05% THD 400 watts rms (bridged mono), 8 ohms, 1 kHz, 0.05% THD	
Frequency response	20 Hz to 20 kHz, ± 1 dB	
THD + Noise	0.1%, 20 Hz-20 kHz, 8 ohms, 3 dB below clipping	
S/N	100 dB, 20 Hz - 20 kHz, unweighted	
CONTROL/REMOTE – AMPLIFIER		
Control port	(1) 3.5 mm captive screw connector, 2 pole	
Pin configurations		
Standby power control (contact closure)	Pin 1 = GND, pin 2 = standby	
GENERAL		
Power	Internal Input: 100-240 VAC, 50-60 Hz, 1.5 A	
Power consumption at 115 VAC, 60 Hz		
Typical (1/8 power)		
	4 ohms (x4): 146.5 watts 8 ohms (x4): 89.3 watts	
Quiescent	28.7 watts	
Standby	<1 watt (triggered by contact closure or after 25 minutes [± 5 minutes] with no signal)	
Cooling	Convection, no vents, with heat sinks on the sides	
Thermal dissipation at 115 VAC, 60 Hz		
Standby	<1 watt (3 BTU/hr)	
Idle	28.7 watts (98 BTU/hr)	
1/8 power	4 ohms (x4): 46.5 watts (159 BTU/hr) 8 ohms (x4): 39.3 watts (134 BTU/hr)	
Protection	Clip limiting, thermal, short circuit, DC output	
Indication	Limiter/Protect LED indicates the onset of clip limiting, thermal cycling, short circuit, or DC output protection	
Mounting		
Rack mount	Yes, with included mounting brackets	
Enclosure type	Metal	
Enclosure dimensions	1.7" H x 17.4" W* x 12.0" D (1U high, full rack wide) (4.3 cm H x 44.2 cm W* x 30.5 cm D) *Width excludes rack ears. 19.0" (48.3 cm) W with rack ears.	
Product weight	9.2 lbs (4.2 kg)	
Regulatory compliance		
Safety	CE, c-UL, UL Meets UL 60065, IEC 60065, and BSEN 60065 for A/V equipment.	
EMV/EMC	CE, CISPR 22 Class B, CISPR 24, C-tick, EN55103-1, EN55103-2, FCC Class B, ICES, VCCI Class B	
Environmental	Complies with the appropriate requirements of CEC, ENERGY STAR® (ENERGY STAR® qualified amplifier), EU code of conduct, RoHS, WEEE	
Warranty	3 years parts and labor	
Model	Version Description	Part Number
XPA 2004	Four Channel Power Amplifier	60-563-02

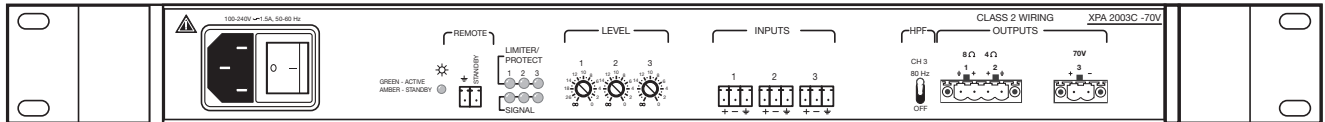
For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

Panel Drawings

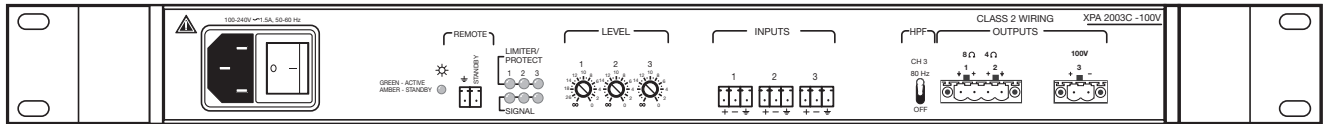
XPA 2003C



XPA 2003C - Front



XPA 2003C-70V - Back

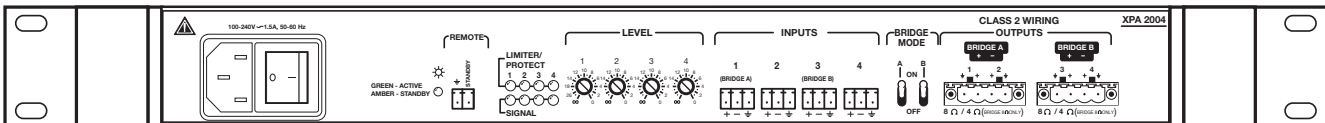


XPA 2003C-100V - Back

XPA 2004



XPA 2004 - Front



XPA 2004 - Back

Specifications - XPA 4002

AUDIO	
Voltage gain	
XPA 4002	33x (30 dB)
XPA 4002-70V	57x (35 dB)
Crosstalk	75 dB (typical) @ 1 kHz
CMRR	75 dB (typical) @ 1 kHz
AUDIO INPUT	
Number/signal type	2 balanced/unbalanced
Connectors	(2) 3.5 mm captive screw connectors, 3 pole
Impedance	>10k ohms unbalanced/balanced, DC coupled
Nominal level	+4 dBu (1.23 Vrms), balanced
Maximum level	+21 dBu (8.69 Vrms), balanced
Input sensitivity	+4 dBu (1.23 Vrms)
Input signal detection threshold	-40 dBu \pm 3 dB, balanced
AUDIO OUTPUT	
Number/signal type	
XPA 4002	2 channels, 4 or 8 ohms; or 1 bridged mono, 8 ohms
XPA 4002-70V	2 channels 70 V
Connectors	
XPA 4002	(1) 5 mm screw lock captive screw connector, 4 pole
XPA 4002-70V	(2) 5 mm screw lock captive screw connectors, 2 pole
Load impedance	
XPA 4002	4 ohms (8 ohms if bridged) minimum
XPA 4002-70V	12.5 ohms minimum
Output power	
XPA 4002	200 watts rms per channel, 8 ohms, 1 kHz, 0.05% THD 400 watts rms per channel, 4 ohms, 1 kHz, 0.05% THD 800 watts rms (bridged mono), 8 ohms, 1 kHz, 0.05% THD
XPA 4002-70V	400 watts rms per channel, 70 V, 1 kHz, 0.1% THD
Frequency response	20 Hz to 20 kHz, \pm 1 dB
THD + Noise	
XPA 4002	0.1%, 20 Hz to 20 kHz, 8 ohms, 3 dB below clipping
XPA 4002-70V	0.1%, 1 kHz, 3 dB below clipping
S/N	100 dB, 20 Hz - 20 kHz, unweighted
Damping factor	
XPA 4002	>100 @ 8 ohms
XPA 4002-70V	>100 @ 12.5 ohms
High pass filter	
XPA 4002-70V	80 Hz, 12 dB per octave rolloff for 70 V line output (switch selectable)
GENERAL	
Power supply	Internal Input: 100-240 VAC, 50-60 Hz
Power consumption at 115 VAC, 60 Hz	
Typical (1/8 power)	
XPA 4002	4 ohms (x2): 154.0 watts 8 ohms (x2): 93.1 watts
XPA 4002-70V	70 V (x2): 143 watts
Quiescent	
XPA 4002	28.3 watts
XPA 4002-70V	21 watts
Standby	<1 watt (triggered by contact closure or after 25 minutes [\pm 5 minutes] with no signal)
Temperature/humidity	Storage: -40 to +158 F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 F (0 to +50 °C) / 10% to 90%, noncondensing

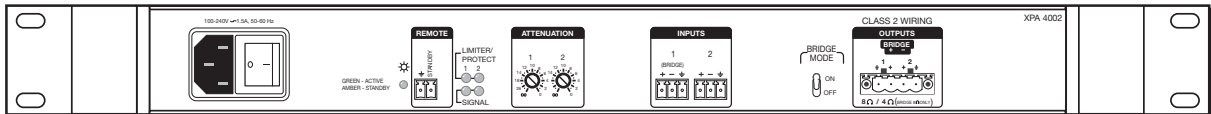
Cooling	Convection, no vents, with heat sinks on the sides	
Thermal dissipation at 115 VAC, 60 Hz		
Standby	<1 watt (3 BTU/hr)	
Idle		
XPA 4002	28.3 watts (97 BTU/hr)	
XPA 4002-70V	21 watts (72 BTU/hr)	
1/8 power		
XPA 4002	4 ohms (x2): 54.0 watts (185 BTU/hr) 8 ohms (x2): 43.1 watts (147 BTU/hr)	
XPA 4002-70V	70 V (x2): 43 watts (147 BTU/hr)	
Enclosure dimensions	1.7" H x 17.4" W* x 12.0" D (1U high, full rack wide) (4.3 cm H x 44.2 cm W* x 30.5 cm D) *Width excludes rack ears. 19.0" (48.3 cm) W with rack ears.	
Product weight	9.2 lbs (4.2 kg)	
Shipping weight	12 lbs (6 kg)	
Vibration	ISTA 1A in carton (International Safe Transit Association)	
Regulatory compliance		
Safety	CE, c-UL, UL Meets UL 60065, IEC 60065, and BSEN 60065 for AV equipment.	
EMI/EMC	CE, CISPR 22 Class B, CISPR 24, C-tick, EN55103-1, EN55103-2, FCC Class B, ICES, VCCI Class B	
Environmental	Complies with the appropriate requirements of ENERGY STAR® (ENERGY STAR qualified amplifier), EU code of conduct, RoHS, WEEE	
MTBF	200,000 hours	
Warranty	3 years parts and labor	
Model	Version Description	Part number
XPA 4002	Two Channel Power Amplifier	60-1244-01
XPA 4002-70V	70 V Two Channel Power Amplifier	60-1245-01

Panel Drawings

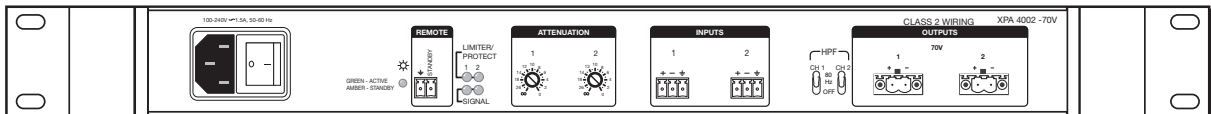
XPA 4002



XPA 4002 - Front



XPA 4002 - Back



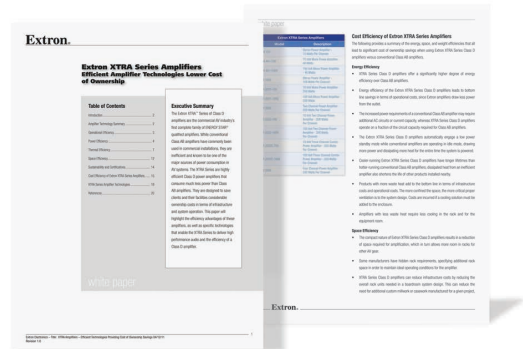
XPA 4002-70V - Back

Amplifier Technology White Papers

Extron offers a collection of white papers written by Extron engineers that discuss the technologies behind XTRA Series amplifiers. Download these and more at www.extron.com/whitepapers.

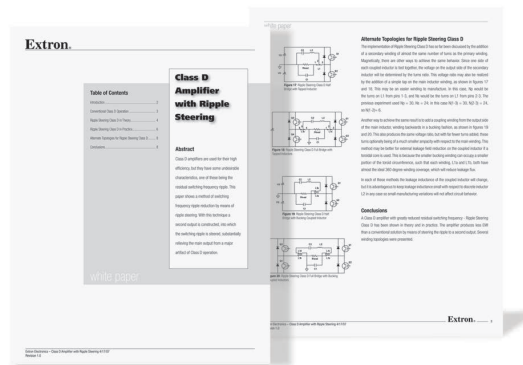
Extron XTRA™ Series Amplifiers: Efficient Amplifier Technologies Lower Cost of Ownership

The XTRA Series are the commercial AV industry's first complete family of ENERGY STAR® qualified amplifiers. While conventional Class AB amplifiers have commonly been used in commercial installations, they are inefficient and known to be one of the major sources of power consumption in AV systems. The XTRA Series are highly efficient Class D power amplifiers that consume much less power than Class AB amplifiers. They are designed to save clients and their facilities considerable ownership costs. This paper will highlight the energy efficiency, low heat dissipation, and space efficiency of these amplifiers.



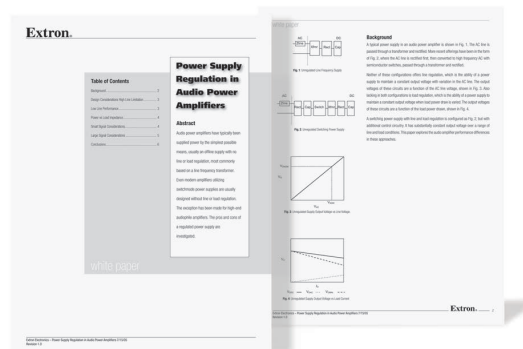
Class D Amplifier with Ripple Steering

Class D amplifiers are favored for their high efficiency, but are known for the residual high frequency switching ripple present on the audio outputs, which can affect audio performance. Extron CDRS™ - Class D Ripple Suppression is a patented technology in Extron Class D power amplifiers that eliminates the switching ripple characteristic of conventional Class D designs, resulting in a smooth, clean audio output with dramatically improved signal fidelity.



Power Supply Regulation in Audio Power Amplifiers

Audio power amplifiers have typically been supplied power without line or load regulation. High-end audiophile amplifiers have generally been the exception. The XTRA™ Series of Class D Amplifiers utilize regulated switchmode power supplies that have been designed and engineered in-house. An advantage of a regulated power supply is that it maintains a constant output voltage despite any variance in voltage on the AC line, and optimizes the power supply's output voltage for different output load impedances.



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