

XTRA™ Series

Audio Power Amplifiers



XPA 1002



XPA 2001



SERIES FEATURES

- **Inputs: Balanced or unbalanced stereo or mono on a captive screw connector**
- **Speaker Outputs: Screw-lock, 5 mm captive screw connector**
- **XTRA efficient ENERGY STAR® qualified amplifiers** — The XPA 1002 and XPA 2001 are ENERGY STAR qualified amplifiers and energy efficient products that conserve energy and reduce costs.
- **XTRA quiet output with professional grade signal-to-noise and THD performance** — The XTRA Series amplifiers deliver professional grade performance with 105 dB signal-to-noise ratio and THD of less than 0.05% for the XPA 1002, and 100 dB plus signal-to-noise ratio and THD of less than 0.1% for the XPA 2001.
- **XTRA cool, no fan operation** — The XTRA Series amplifiers generate substantially less heat than similar power amplifier designs, making them ideal for installation in credenzas and lecterns without the need for an external fan to provide forced air circulation. They are also ideal for rack-mount installations in close proximity with other equipment.
- **XTRA compact 1U half rack 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 amplifiers reduce rack space requirements for many installations.
- **XTRA low EMI with Patented CDRS™ - Class D Ripple Suppression** — CDRS is an Extron Patented technology that eliminates the high frequency switching ripple and EMI emissions found in all Class D amplifiers. CDRS dramatically improves audio performance over conventional Class D amplifier designs.
- **UL 2043 plenum rated** — The XPA 1002 and XPA 2001 meet UL 2043 for smoke and heat release for installation within a plenum airspace above a drop ceiling. Above-the-ceiling placement conceals the amplifier to prevent theft, and is convenient for installing equipment when space inside the room is limited.
- **Fanless design** — The XPA 1002 and XPA 2001 do not require fans or vents for cooling, ensuring quiet, reliable operation.
- **Extron exclusive auto-standby with fast power-up** — The XTRA Series amplifiers exceed ENERGY STAR qualification requirements with an auto-standby feature that automatically enters the amplifiers into standby after one hour of inactivity, dramatically reducing power consumption. They quickly return to full power status in less than one second upon signal detection.
- **Rear panel recessed, detented level controls** — Provide attenuation of input signals for adjusting audio system gain staging. They are located on the rear panel to prevent users from tampering with level adjustments.
- **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.
- **Remote volume and mute control port** — In basic installations without third-party control systems, this port allows the XTRA Series amplifiers to be remotely controlled using the optional Extron VCM 100 analog volume and mute controller or VC 50 analog volume controller.
- **5 mm captive screw speaker connectors** — Enable simple, secure connections with 22 to 12 AWG speaker cables.
- **Front and rear-mounted signal and protection indication LEDs** — Provide convenient 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.
- **Internal universal power supply** — The 100-240 VAC, 50/60 Hz, international power supply provides worldwide power compatibility.

DESCRIPTION

The Extron XPA 1002 and XPA 2001 are compact power amplifiers in the XTRA Series, designed for installation in racks, lecterns, or above the ceiling. These ENERGY STAR qualified amplifiers feature an Extron exclusive, highly efficient, advanced Class D amplifier design with patented CDRS™ - Class D Ripple Suppression technology that eliminates EMI emissions and interference with sensitive A/V equipment. This Extron exclusive, high efficiency design allows the amplifiers to be fanless and operate in environments with little or no ventilation. These professional grade amplifiers deliver 200 watts of continuous output power. The XPA 1002 stereo power amplifier offers 100 watts per channel output into 4 ohms, while the XPA 2001 mono 70 volt or 100 volt power amplifier models offer 200 watts output.

ENERGY STAR Qualified Amplifiers with Auto-Standby

The XPA 1002 and XPA 2001 ENERGY STAR qualified amplifiers are energy efficient products that conserve energy and reduce costs. With an Extron exclusive auto-standby feature that automatically enters the amplifiers into standby after one hour of inactivity, they consume just 10 watts when idle and less than 1 watt in standby mode. XTRA Series amplifiers exceed ENERGY STAR qualification requirements.

XPA 1002

Stereo Power Amplifier - 100 Watts Per Channel

The XPA 1002 two channel amplifier delivers 100 watts rms per channel into 4 ohms, and 60 watts rms per channel into 8 ohms for amplification of voice or program audio content to stereo speakers, or two sets of 8 ohm ceiling speakers in a dual zone application.

XPA 2001

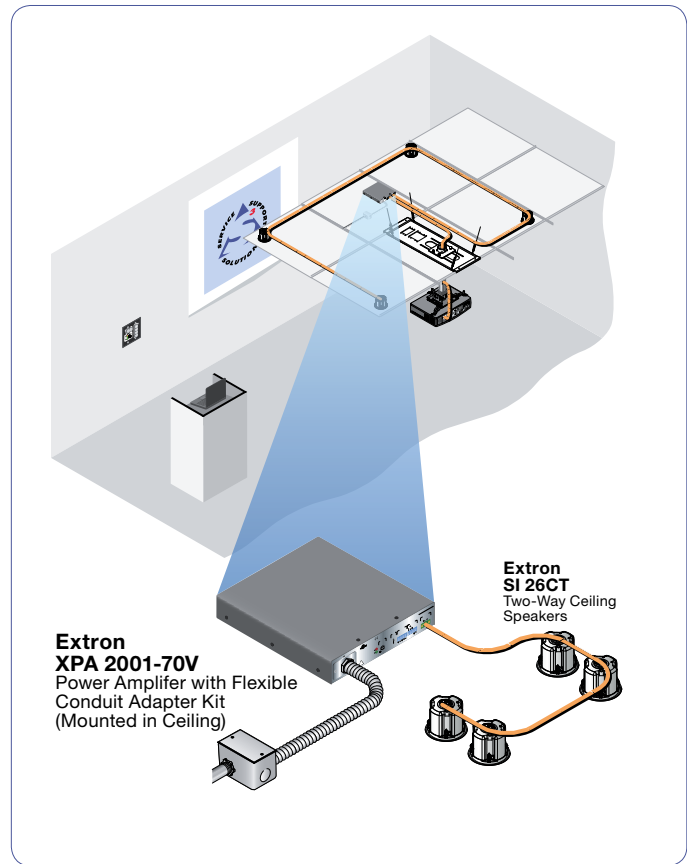
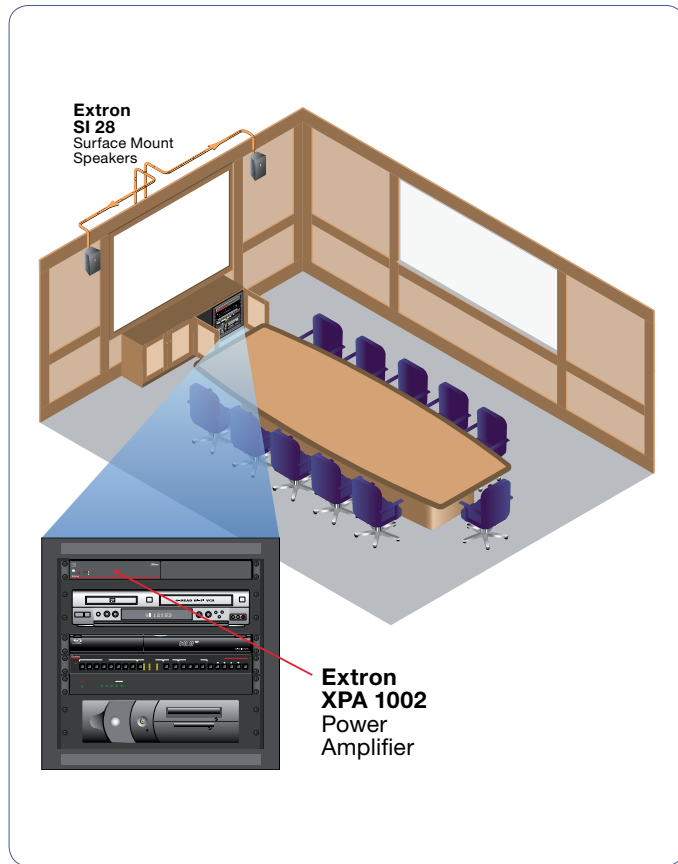
Mono 70 Volt / 100 Volt Power Amplifiers - 200 Watts

The XPA 2001 delivers 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.

The XPA 1002 and XPA 2001 accept balanced and unbalanced input signals and include a recessed, detented level control located on the rear panel to prevent tampering. This control allows for adjusting audio system gain structure. For applications requiring volume adjustment and muting control from a location other than the amplifier, remote control capability is available using the optional Extron VCM 100 analog volume and mute controller or VC 50 analog volume controller. Additionally, the XTRA Series amplifiers include 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.

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XTRA™ Series



XPA 1002

Stereo Power Amplifier - 100 Watts Per Channel

UNIQUE FEATURES

- **100 watts rms per channel into 4 ohms, 60 watts rms per channel into 8 ohms** — The XPA 1002 provides ample power output for larger rooms
- **Bridgeable outputs** — The power output of the XPA 1002 can be effectively doubled by bridging the output



MODEL

VERSION DESCRIPTION

PART

XPA 1002	Stereo Power Amp - 100 Watts Per Channel	60-849-01
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XPA 2001

Mono Power Amplifier - 200 Watts

UNIQUE FEATURES

- **200 watts rms for high impedance speaker systems** — The XPA 2001 provides ample power output for larger rooms
- **Input summing** — Actively sums incoming left and right channel signals for mono amplification
- **High pass filter** — This switch selectable filter rolls off frequencies below 80 Hz to prevent saturation of speaker transformers



MODEL

VERSION DESCRIPTION

PART

XPA 2001-70V	70 Volt Mono Power Amp - 200 Watts	60-850-01
XPA 2001-100V	100 Volt Mono Power Amp - 200 Watts	60-850-11

Continued →

XTRA™ Series

SPECIFICATIONS

AUDIO

Voltage gain

XPA 1002.....	16x (24 dB)
XPA 2001-70V	57x (35 dB)
XPA 2000-100V	81x (38 dB)

Stereo channel separation.....

>75 dB @ 1 kHz

CMRR..... 75 dB @ 1 kHz (typical)

AUDIO INPUT

Number/signal type.....

1 stereo or 2 mono, 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 sensitivity

XPA 1002..... +4 dBu (1.23 Vrms)

XPA 2001-70V, XPA-2001-100V

+4 dBu (1.23 Vrms) if driven by one input

-2 dBu (0.615 Vrms) if both inputs are summed

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

AUDIO OUTPUT

Number/signal type

XPA 1002..... 1 stereo, 4- or 8-ohm direct

XPA 2001-70V

1 mono, 70 V line

XPA 2001-100V

1 mono, 100 V line

Connectors

XPA 1002..... (1) 5 mm screw lock captive screw connector, 4 pole

XPA 2001-70V, XPA-2001-100V

(1) 5 mm screw lock captive screw connector, 2 pole

NOTE: These connectors accept wires of 22 AWG to 12 AWG.

Load impedance

XPA 1002..... 4 ohms minimum

XPA 2001-70V

25 ohms minimum

XPA 2001-100V

50 ohms minimum

Amplifier type.....

Class D

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 2001-70V

200 watts rms, 70 V, 1 kHz, <0.1% THD

XPA 2001-100V

200 watts rms, 100 V, 1 kHz, <0.1% THD

Frequency response.....

20 Hz to 20 kHz, ±1 dB

THD + Noise

XPA 1002..... 0.05% @ 20 Hz-20 kHz, 8 ohms, at 3 dB below clipping

XPA 2001-70V, XPA-2001-100V

<0.1% @ 1 kHz at 3 dB below clipping

S/N

XPA 1002..... 105 dB, 20 Hz - 20 kHz, unweighted

XPA 2001-70V, XPA-2001-100V

100 dB, 20 Hz - 20 kHz, unweighted

Damping factor

XPA 1002..... >100 @ 8 ohms

High pass filter

XPA 2001-70V, XPA-2001-100V

80 Hz, 12 dB per octave rolloff (switch selectable)

CONTROL/REMOTE — AMPLIFIER

Control port..... (1) 3.5 mm captive screw connector, 5 pole

Pin configurations

DC volume control (analog)..... Pin 1 = +10 VDC, 50 mA (max.), pin 2 = volume/mute (variable voltage), pin 3 = GND

Volume control voltage range..... 0 V (mute) to 10 V (maximum volume)

Standby power control

(contact closure)..... Pin 4 = GND, pin 5 = standby

GENERAL

Power..... 100 VAC to 240 VAC, 50/60 Hz, internal

Typical..... 26 watts (1/8 power [pink noise] at 8 ohms)

Quiescent..... 10 watts

Standby..... <1 watt (triggered by contact closure or after 1 hour 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 internal heat sinks

Thermal dissipation

Standby..... <1 watt (3 BTU/hr)

Idle..... 10 watts (34 BTU/hr)

1/8 power (pink noise)..... 4 ohms (x2): 14 watts

8 ohms (x2): 14 watts (48 BTU/hr)

70 V (XPA 2001-70V): 14 watts (48 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 optional 1U, 9.5" deep rack shelf (RSU 129, #60-190-01; RSB 129, #60-604-01)

Enclosure type.....

Metal

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)

Shipping weight.....

5 lbs (3 kg)

Vibration.....

ISTA 1A in carton (International Safe Transit Association)

Regulatory compliance

Safety..... CE, CUL, 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 A/V equipment.

EMI/EMC..... CE, CISPR 22 Class B, C-tick, 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

MTBF.....

250,000 hours

Warranty.....

3 years parts and labor

NOTE: All nominal levels are at ±10%.

NOTE: Specifications are subject to change without notice.

Note: For complete specifications, please go to www.extron.com