XPA ULTRA

POWER AMPLIFIERS

ENERGY STAR

EVERLAST POWER SUPPLIES

Extron Amplifiers Go Ultra

Ultra Efficient · Ultra Cool · Ultra Reliable · Ultra Power

- 35 watt, 75 watt, and 100 watt models at 8 ohms, 70 volts, and 100 volts
- ENERGY STAR qualified
- Extron patented CDRS™ - Class D Ripple Suppression
- Convection cooled, fanless operation
- Defeatable Auto Standby
- Fast Wake Up from Standby
- Rack mount hardware included
- Internal Everlast power supply
- UL 2043 Plenum rated when used with optional Flexible Conduit Adapter Kit

Extron

XPA ULTRA

POWER AMPLIFIERS

A decade ago Extron pioneered the use of Class D amplifiers in Pro AV. Since then, we have continuously reinvented Class D with our meticulous engineering and the development of patented technologies. Now, with the XPA Ultra line of power amplifiers, we introduce the latest generation of Extron amplifier technology. These ENERGY STAR qualified power amplifiers provide defeatable auto-standby while maintaining fast wake up, and their convection cooled, fanless designs allow units to be installed without using rack spaces for ventilation. From our industry leading channel density and low thermal dissipation to our best in class efficiency, the XPA Ultra lineup represents Extron's commitment to innovation and delivering more high performance channels in less space with exceptional reliability.

EVERLAST
POWER SUPPLIES

Power supply failures in mission-critical AV products can cause significant disruption to signal distribution and facility operations, creating serious challenges for system integrators, end users, and manufacturers alike. Extron has answered this challenge with the Everlast™ Series of high-performance, no compromise, internal and external power supplies, setting a new standard for reliability and efficiency in the professional AV industry.

ENERGY STAR

Extron XPA Ultra amplifiers carry on our commitment to conserve energy and reduce costs with their ENERGY STAR qualified designs. All Extron amplifiers have an auto standby feature that places the amplifier into standby after 25 minutes of inactivity, consuming less than 1 watt of energy.

Extron has made significant investments in the construction of our own in-house product testing facilities. Our internal quality standards, along with multiple accreditations from worldwide regulatory agencies allow Extron to continually provide reliable, high-performing products, like XPA Ultra amplifiers, to customers worldwide.

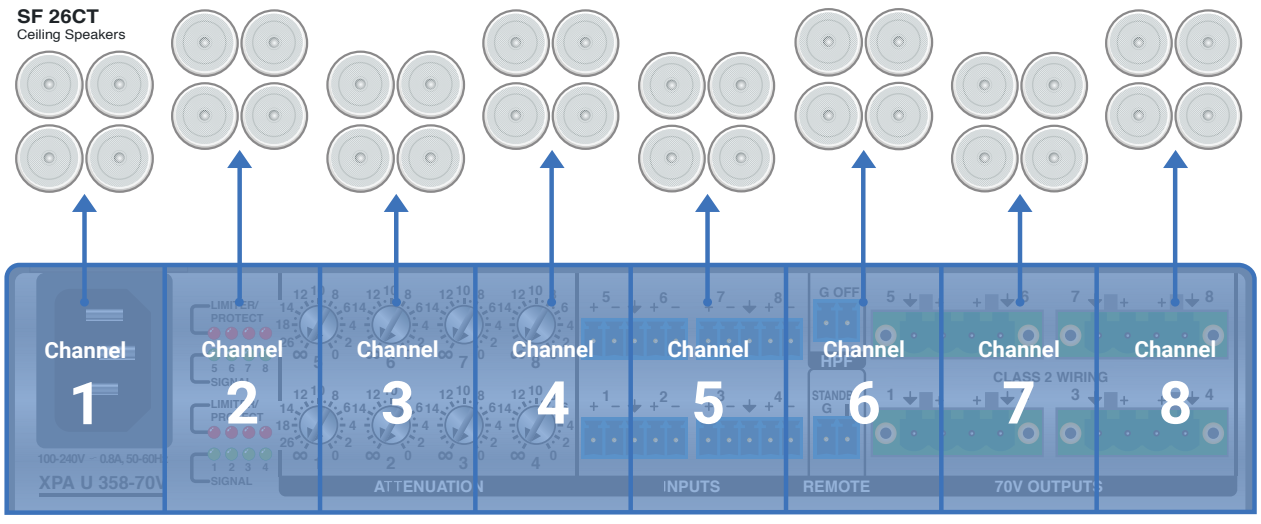
World's First 8 Channel Half-Rack Amplifier

Ultra Channel Density Lets You Deliver More Channels in Less Space

Engineered for Your Success

Packing eight channels of amplification into a half-rack unit required some serious high-level engineering. With exceptional channel density, the XPA U 358 lets you install sixteen 35 watt channels in just one rack space. For applications that need more power, four XPA U 1004 amplifiers can provide sixteen 100 watt channels in a mere two rack spaces. Rack space is often at a premium, and Extron XPA Ultra amplifiers let you install more channels into less space than ever before.

8 Channels in Just ½ Rack Space – Imagine the Possibilities

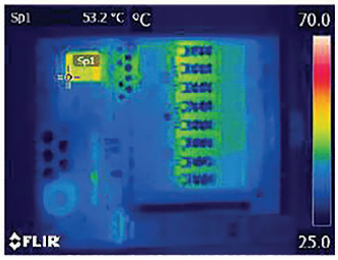


One XPA U 358-70V Can Drive 32 Speakers Tapped at 8 Watts

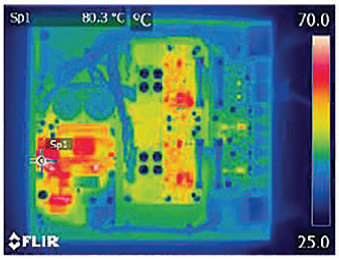
Ultra Cool

An XPA Ultra amplifier runs cooler than other Class D amplifiers. An amplifier that generates excessive heat not only wastes a rack space above it by requiring space for cooling, it also places more demand on rack cooling systems and reduces component life. The higher cooling requirements and failure rates of other Class D amplifiers lead to higher costs and downtime. The convection cooled XPA Ultra amplifiers run quieter, cooler, and longer, thanks to the cumulative effect of Extron's meticulous thermal engineering.

Thermal Imaging



Extron



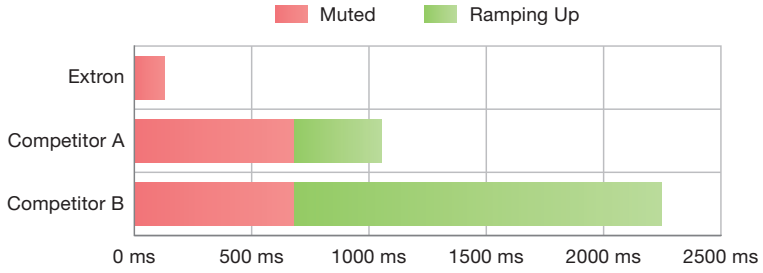
Competitor

Ultra Fast Wake Up Time

XPA Ultra amplifiers have a defeatable auto-standby feature that places the amplifier into standby after 25 minutes of inactivity, consuming less than 1 watt of energy, per ENERGY STAR requirements.

When audio is detected while in standby, an amplifier must wake up fast enough for the beginning of audio to be heard. The graphic below shows the difference between the XPA Ultra waking up completely in less than 100 milliseconds compared to competitors' Class D amplifiers that can take well over two seconds to achieve nominal power.

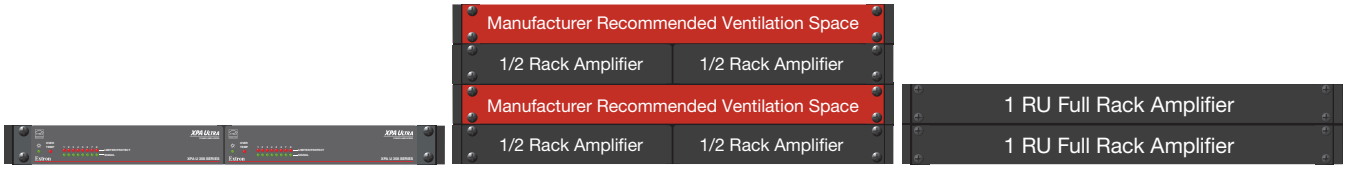
Wake Up Time from Standby (milliseconds)



Ultra High Channel Density

Because XPA Ultra amplifiers are incredibly efficient and run so cool, you don't need to waste empty rack space for ventilation. Competing models require blank space above or below and may even require extra rack space for a separate 70V transformer. The illustration below shows you can install 16 channels of 8 ohm or 70V/100V amplification in 1U of rack space with Extron XPA Ultra, while the competition requires two or four times the space.

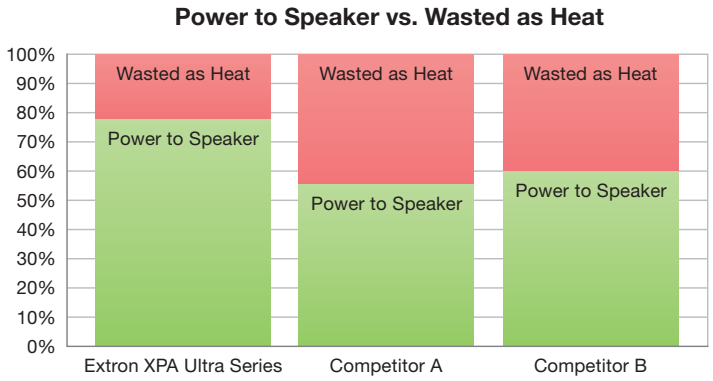
Sixteen Channels at 8 ohms



Extron | Competitor A | Competitor B

Ultra Efficient

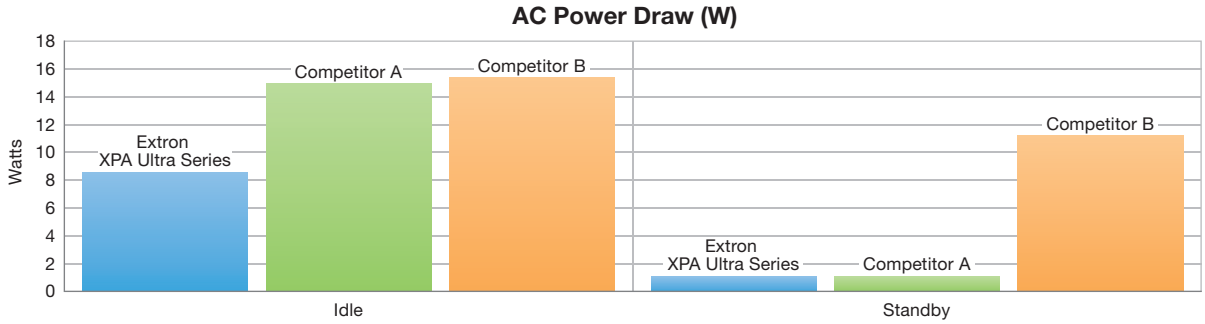
An efficient amplifier delivers the highest possible percentage of its input power to output power for speakers. Power not delivered is wasted as radiated heat, which causes further waste in higher cooling costs and energy requirements. All XPA Ultra amplifiers operate with industry-leading efficiency up to 77%.



Ultra Low AC Power Draw

A highly efficient amplifier will require less electrical power than an inefficient amplifier to deliver the same amount of amplification to speakers. The ENERGY STAR qualified XPA Ultra amplifiers also use less power in idle or standby.

The XPA Ultra amplifiers, with their Everlast power supplies, reduce electrical costs in terms of kilowatt hours used, power infrastructure required, and cooling.

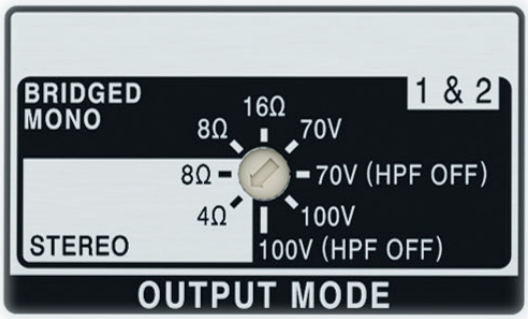


Ultra Reliable

Extron's team of dedicated power systems engineers made hundreds of design decisions that cumulatively ensure an XPA Ultra amplifier will provide years of trouble-free service. For example, sensitive power capacitors are located away from heat sources, failure-prone wire harnesses are avoided, short-lived electrolytic capacitors are not in the audio path, and many innovative heat dissipation techniques are utilized throughout. The XPA Ultra line of amplifiers set a new standard for reliability and efficiency in the professional AV industry.

Switchable Bridging

The Extron XPA Ultra SB models provide a flexible output technology that can drive 8 ohm, 4 ohm, 70 volt, or 100 volt loads. When a channel pair is set to mono bridged mode, output power is doubled while retaining the ability to drive a low or high impedance system. A rotary switch on the rear panel of the amplifier makes it quick and easy to select the desired output mode. XPA Ultra SB models also support remote volume and mute control using an Extron VCM, VC or select MediaLink controllers.



Output Mode Selector on XPA U 2002 SB

XPA Ultra Series / NetPa Ultra Series - Features & Capabilities

Model	Channels / Power @ 8 ohms	Channels / Power @ 70/100V	Channels / Power Bridged	Dante/ AES67	Onboard DSP	Analog Line Out	RS-232	VCM Support
XPA Ultra Amplifiers								
XPA U 758	8 x 75 watts							
XPA U 358	8 x 35 watts							
XPA U 358-70V		8 x 35 watts						
XPA U 358-100V		8 x 35 watts						
XPA U 358C-70V	4 x 35 watts	4 x 35 watts						
XPA U 358C-100V	4 x 35 watts	4 x 35 watts						
XPA U 1004	4 x 100 watts							
XPA U 1004-70V		4 x 100 watts						
XPA U 1004-100V		4 x 100 watts						
XPA U 1004C-70V	2 x 100 watts	2 x 100 watts						
XPA U 1004C-100V	2 x 100 watts	2 x 100 watts						
XPA U 1002	2 x 100 watts							
XPA U 1002-70V		2 x 100 watts						
XPA U 1002-100V		2 x 100 watts						
XPA Ultra Amplifiers with Selectable Output Modes								
XPA U 1004 SB	4 x 100 watts	2 x 200 watts	2 x 200 watts					√
XPA U 2002 SB	2 x 200 watts	1 x 400 watts	1 x 400 watts					√
NetPA Ultra Amplifiers with DSP and Dante								
NetPA U 1004	4 x 100 watts			√	√	√	√	
NetPA U 1004-70V		4 x 100 watts		√	√	√	√	
NetPA U 1004-100V		4 x 100 watts		√	√	√	√	
NetPA U 1002	2 x 100 watts			√	√	√	√	
NetPA U 1002-70V		2 x 100 watts		√	√	√	√	
NetPA U 1002-100V		2 x 100 watts		√	√	√	√	

OVERVIEW

ENERGY STAR qualified amplifier
XPA Ultra amplifiers are energy efficient products that conserve energy and reduce costs

Front and rear mounted signal and protection LEDs
Provide key indication from both sides of the amplifier during use and setup

Convection cooled, fanless operation
Can be stacked without extra rack space for ventilation

Automatic Clip Limiter
Detects actual onset of clipping. Gain is automatically reduced without audible artifacts to protect speakers from clipping distortion

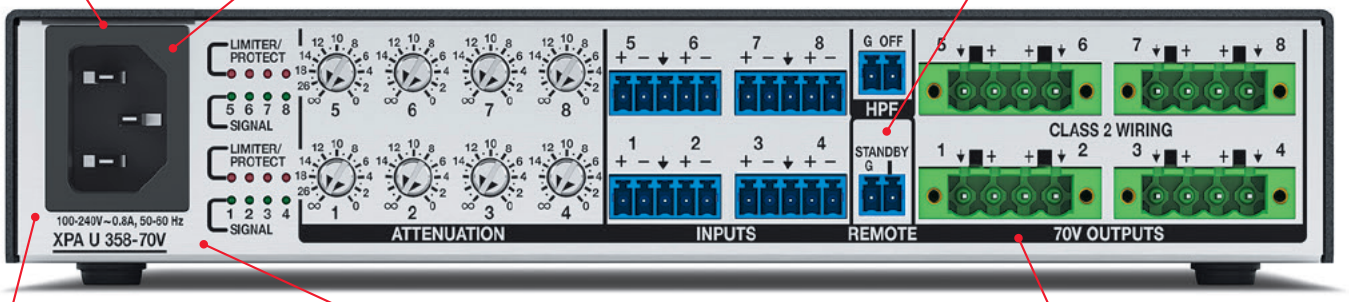
CDRS
Extron patented technology that provides a smooth, clean audio waveform, eliminating RF emissions

High performance signal-to-noise ratio and THD+N
XPA Ultra amplifiers feature a signal to noise ratio of 100 dB and THD+N of less than 0.1%

UL 2043 plenum rated
When used with the optional, easy to install Flexible Conduit Adapter Kit

Ultra low inrush current at power up
Allows multiple XPA Ultra Series amplifiers to be powered on simultaneously without overloading power circuits. This eliminates the need for power sequencing.

Auto Standby and Fast Wake Up
Auto standby after 25 minutes of inactivity with wake up in less than 100 ms upon signal detection - auto standby can be disabled if required

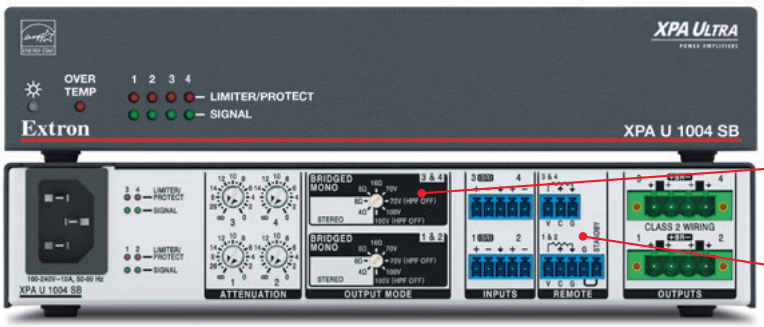


Internal Everlast Power Supply
Provides worldwide power compatibility, with high-demonstrated reliability and low power consumption for reduced operating cost.

Power Factor Correction
Minimizes the presence of high frequency harmonics on the AC power line, preventing audible artifacts from being transmitted to other audio equipment in the system.

Flexible Output Power Options
35 watt, 75 watt, and 100 watt models at 8 ohms, 70 volts, and 100 volts

SB Models Include All Features Above Plus:
Selectable Output Modes and Remote Volume & Mute Control



Selectable Output Modes - SB Models
Quick and easy setup via rear panel rotary switch per channel pair

Remote Volume and Mute Control - SB Models
Per channel pair with Extron VCM, VC, and select MediaLink controllers

ENGINEERING EXCELLENCE

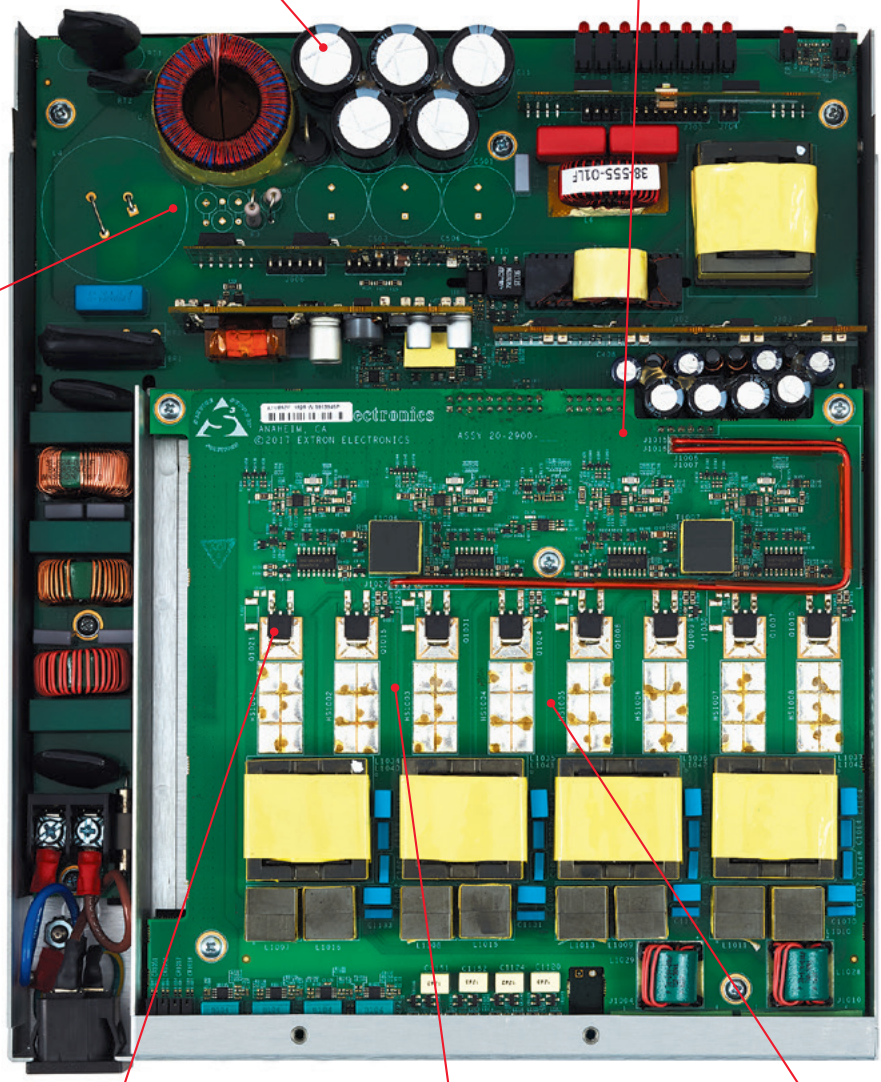
Engineering an amplifier with the performance and reliability of the XPA Ultra series requires a commitment to meeting rigorous standards at each step of the design process, from the choice of components to the layout of the board. Extron's commitment to engineering excellence is the foundation of developing industry leading technologies based on our mission to meet the requirements and high expectations of our customers.

The photograph below illustrates key advantages of the Designed by Extron approach.

High Quality Capacitors
By designing in long lifespan capacitors, product life is extended by up to ten times

All point to point soldered wiring
Connections will not vibrate loose or corrode. No failure-prone connectors

Everlast Power Supply
Designed by Extron for ultra reliability and longevity



Heat Sensitive Component Placement
High temperature FETs are placed away from capacitors, further extending component life

Advanced Thermal Engineering
Convection cooled, fanless operation, uses airflow heat dissipation instead of inefficient chassis heat sinking

Extron Designed and Built Amplifiers
Designed and purpose built for efficiency, cool operation, and high reliability

Integrator Friendly Features

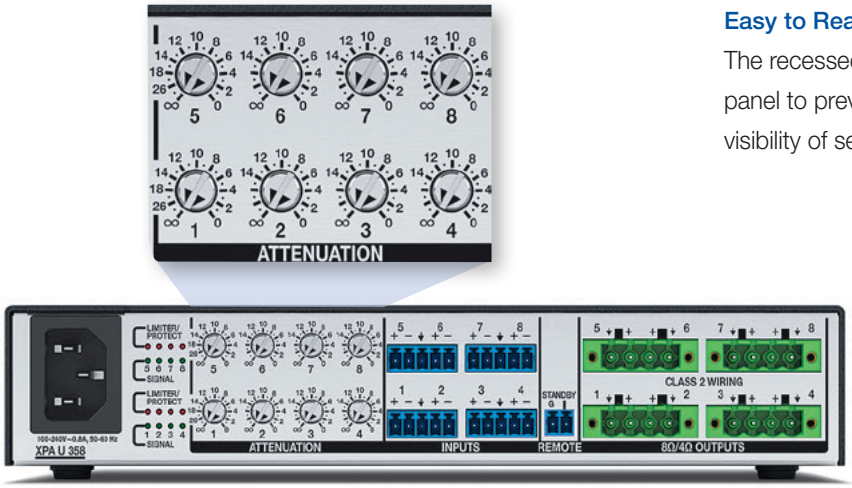
Extron is always listening to feedback from integrators, designers, end users, and sales engineers. This feedback becomes part of the design process. Shown below are just three examples of features found in XPA Ultra amplifiers that provide enhanced flexibility and simplify the installation process.

Plenum Rated

XPA Ultra amplifiers meet UL 2043 requirements for smoke and heat release when used with the optional Flexible Conduit Adapter Kit, part # 70-228-02. Above-the-ceiling placement conceals the amplifier to prevent theft, and is convenient for installing equipment when space inside the room is limited.

Rack mount hardware included

Each XPA Ultra amplifier comes with everything needed to install a single unit, or two units, into one rack space. This simplifies planning and saves cost.



Easy to Read Attenuators

The recessed, detented level controls are located on the rear panel to prevent tampering. Laser etched markings provide visibility of settings for ease of configuration.

SPECIFICATIONS - XPA U 758

AUDIO	
Voltage gain	20x (26 dB)
CMRR	75 dB @ 1 kHz (typical)
AUDIO INPUT	
Number/signal type	8 balanced/unbalanced
Connectors	(4) 3.5 mm captive screw connector, 5-pole
Impedance	>10 k ohms balanced/unbalanced, DC coupled
Nominal level	+4 dBu, balanced
Maximum level	+20 dBu, balanced
Input sensitivity	
8 ohms	+4 dBu (1.23 Vrms)
4 ohms	-1 dBu (0.71 Vrms)
Input signal detection threshold	-65 dBu ±3 dB, balanced
AUDIO OUTPUT	
Output Number/Signal Type	8 channels, 4 or 8 ohms
Connectors	(4) 5 mm screw lock captive screw connector, 4-pole
Load impedance	4 ohms minimum
Output power	75 watts per channel, 8 ohms, 1 kHz, 0.1% THD 50 watts per channel, 4 ohms, 1 kHz, 0.1% THD
Frequency response	20 Hz to 20 kHz, ±1 dB
THD + Noise	0.1% @ 1 kHz at 3 dB below clipping
S/N	100 dB, 20 Hz - 20 kHz, unweighted
Damping factor	>100 @ 8 ohms

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

GENERAL	
Power supply	100 VAC to 240 VAC, 50-60 Hz, internal
Temperature/humidity	
Operating	+32 to +122 °F (0 to +50 °C) / 10% to 90%, non-condensing
Cooling	Convection, no vents
Protection	Clip limiting, thermal, short circuit, DC output
Rack mount	Yes, with included mounting brackets or optional rack shelf
Enclosure dimensions	1.7" H x 8.7" W x 10.5" D (1U high, half rack wide) 43 mm H x 220 mm W x 267 mm D
Product weight	4.2 lbs (1.9 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Safety	CE, C-tick, CUL, UL rated for use in plenum airspaces, meets UL 2043 for heat and smoke release, meets UL 60065 and IEC60065 for AV Equipment
EMI/EMC	CE, C-tick, FCC Class B, ICES, VCCI Class B, CISPR 22 Class B
Environmental Compliance	ENERGY STAR® qualified amplifier, CEC, European Code of Conduct, RoHS
Product warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

NOTE: All nominal level are at ±10%.

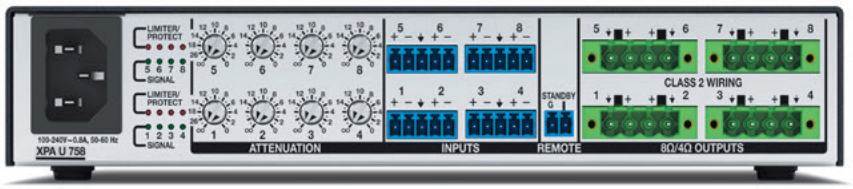
NOTE: Shipping weights and dimensions are available at www.extron.com

Model	Version Description	Part number
Model XPA U 758	Eight Channel Amp, 75 watts at 8 ohms	60-1863-01

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

Panel Drawings

XPA U 758 - Front



XPA U 758 - Back

SPECIFICATIONS - XPA U 358

AUDIO	
Voltage gain	
XPA U 358	14x (23 dB)
XPA U 358-70V	57x (35 dB)
XPA U 358-100V	81x (38 dB)
CMRR	75 dB (typical) @ 1 kHz

AUDIO INPUT	
Number/signal type	8 balanced/unbalanced
Connectors	(4) 3.5 mm captive screw connector, 5-pole
Impedance	>10k ohms balanced/unbalanced, DC coupled
Nominal level	+4 dBu, balanced
Maximum level	+20 dBu, balanced
Input sensitivity	+4 dBu
Input signal detection threshold	-65 dBu ±3 dB, balanced
NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu	

AUDIO OUTPUT	
Number/signal type	
XPA U 358	8 channels, 4 or 8 ohms
XPA U 358-70V	8 channels, 70V
XPA U 358-100V	8 channels, 100V
Connectors	(4) 5 mm screw-lock captive screw connector, 4-pole
NOTE: These connectors accept wires of 22 AWG to 12 AWG.	
Load impedance	
XPA U 358	4 ohms minimum
XPA U 358-70V	143 ohms minimum
XPA U 358-100V	286 ohms minimum
Output power	
XPA U 358	35 watts rms per channel, 4 ohms, 1 kHz, 0.1% THD
	35 watts rms per channel, 8 ohms, 1 kHz, 0.1% THD
XPA U 358-70V	35 watts rms per channel, 70V, 1 kHz, 0.1% THD
XPA U 358-100V	35 watts rms per channel, 100V, 1 kHz, 0.1% THD

Frequency response	20 Hz to 20 kHz, ±1 dB
THD + Noise	0.1% @ 1 kHz at 3 dB below clipping
S/N	100 dB, 20 Hz - 20 kHz, unweighted
Damping factor	
XPA U 358	>100 @ 8 ohms
XPA U 358-70V	>100 @ 143 ohms
XPA U 358-100V	>100 @ 286 ohms
High pass filter	
XPA U 358-70V	80 Hz, 12 dB per octave rolloff, selectable via captive screw
XPA U 358-100V	80 Hz, 12 dB per octave rolloff, selectable via captive screw

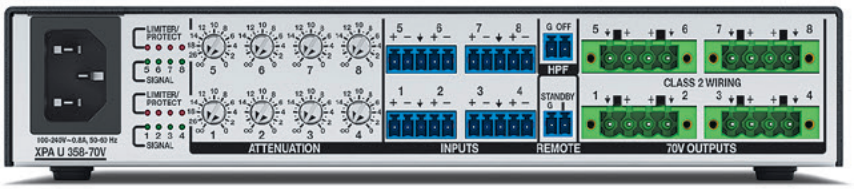
GENERAL	
Power supply	Internal Input: 100 VAC - 240 VAC, 50-60 Hz
Temperature/humidity	
Operating	+32 to +122°F (0 to +50°C) / 10% to 90%, non-condensing
Cooling	Convection, no vents
Protection	Clip limiting, thermal, short circuit, DC output
Rack mount	Yes, with included mounting brackets or optional rack shelf
Enclosure dimensions	1.7" H x 8.7" W x 10.5" D (1U high, half rack wide) 43 mm H x 220 mm W x 267 mm D
Product weight	4.2 lbs (1.9 kg)
Product warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

Model	Version Description	Part number
XPA U 358	Eight Channel Amp, 35 watts at 8 or 4 ohms	60-1759-01
XPA U 358-70V	Eight Channel Amp, 35 watts at 70 volts	60-1759-02
XPA U 358-100V	Eight Channel Amp, 35 watts at 100 volts	60-1759-12

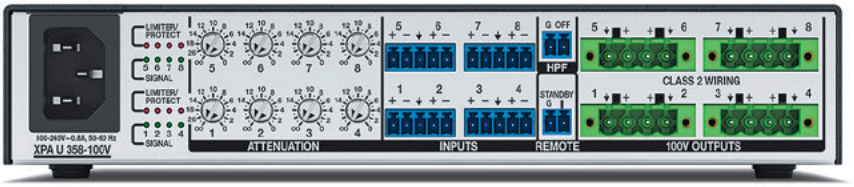
For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

Panel Drawings

XPA U 358 - Front



XPA U 358-70V - Back



XPA U 358-100V - Back

SPECIFICATIONS - XPA U 358C

AUDIO	
Voltage gain	
Channels 1, 2, 3, and 4	14x (23 dB)
Channels 5, 6, 7, and 8	
XPA U 358C-70V	57x (35 dB)
XPA U 358C-100V	81x (38 dB)
CMRR	75 dB (typical) @ 1 kHz

AUDIO INPUT	
Number/signal type	8 balanced/unbalanced
Connectors	(4) 3.5 mm captive screw connector, 5-pole
Impedance	>10k ohms balanced/unbalanced, DC coupled
Nominal level	+4 dBu, balanced
Maximum level	+20 dBu, balanced
Input sensitivity	+4 dBu
Input signal detection threshold	-65 dBu ±3 dB, balanced
NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu	

AUDIO OUTPUT	
Number/signal type	
XPA U 358C-70V	8 channels, 4 low impedance and 4 high impedance 70V
XPA U 358C-100V	8 channels, 4 low impedance and 4 high impedance 100V
Connectors	(4) 5 mm screw-lock captive screw connector, 4-pole
NOTE: These connectors accept wires of 22 AWG to 12 AWG.	
Load impedance	
Channels 1, 2, 3, and 4	4 ohms minimum
Channels 5, 6, 7, and 8	
XPA U 358C-70V	143 ohms minimum
XPA U 358C-100V	286 ohms minimum
Output power	
Channels 1, 2, 3, and 4	35 watts rms per channel, 4 ohms, 1 kHz, 0.1% THD
	35 watts rms per channel, 8 ohms, 1 kHz, 0.1% THD
Channels 5, 6, 7, and 8	
XPA U 358C-70V	35 watts rms per channel, 70V, 1 kHz, 0.1% THD
XPA U 358C-100V	35 watts rms per channel, 100V, 1 kHz, 0.1% THD
Frequency response	20 Hz to 20 kHz, ±1 dB
THD + Noise	0.1% @ 1 kHz at 3 dB below clipping
S/N	100 dB, 20 Hz - 20 kHz, unweighted
Damping factor	
Channels 1, 2, 3, and 4	>100 @ 8 ohms
Channels 5, 6, 7, and 8	
XPA U 358C-70V	>100 @ 143 ohms
XPA U 358C-100V	>100 @ 286 ohms
High pass filter	
Channels 5, 6, 7, and 8	80 Hz, 12 dB per octave rolloff, selectable via captive screw

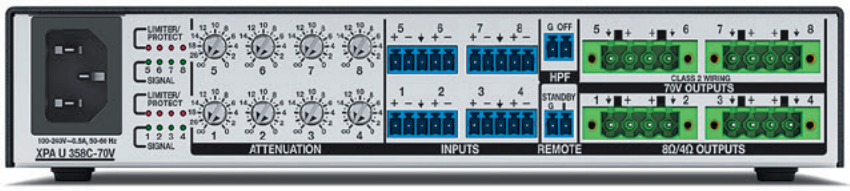
GENERAL	
Power supply	Internal Input: 100 VAC - 240 VAC, 50-60 Hz
Temperature/humidity	
Operating	+32 to +122°F (0 to +50°C) / 10% to 90%, non-condensing
Cooling	Convection, no vents
Protection	Clip limiting, thermal, short circuit, DC output
Rack mount	Yes, with included mounting brackets or optional rack shelf
Enclosure dimensions	1.7" H x 8.7" W x 10.5" D (1U high, half rack wide) 43 mm H x 220 mm W x 267 mm D
Product weight	4.2 lbs (1.9 kg)
Product warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

Model	Version Description	Part number
XPA U 358C-70V	70V Eight Channel Combo Amp, 35 watts per channel	60-1762-01
XPA U 358C-100V	100V Eight Channel Combo Amp, 35 watts per channel	60-1762-11

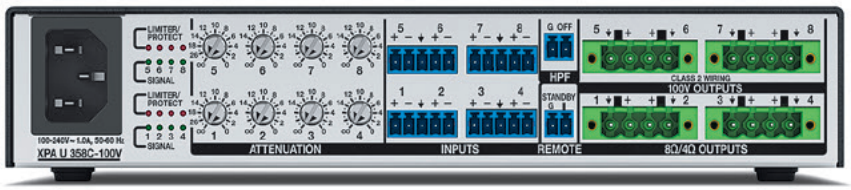
For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

Panel Drawings

XPA U 358C - Front



XPA U 358C-70V - Back



XPA U 358C-100V - Back

SPECIFICATIONS - XPA U 1004

AUDIO	
Voltage gain	
XPA U 1004	23x (27 dB)
XPA U 1004-70V	57x (35 dB)
XPA U 1004-100V	81x (38 dB)
CMRR	75 dB @ 1 kHz (typical)

AUDIO INPUT	
Number/signal type	4 balanced/unbalanced
Connectors	(2) 3.5 mm captive screw connector, 5 pole
Impedance	>10k ohms balanced/unbalanced, DC coupled
Nominal level	+4 dBu, balanced
Maximum level	+20 dBu, balanced
Input sensitivity	+4 dBu
Input signal detection threshold	-65 dBu ±3 dB, balanced
NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu	

AUDIO OUTPUT	
Number/signal type	
XPA U 1004	4 channels, 4 or 8 ohms
XPA U 1004-70V	4 channels, 70V
XPA U 1004-100V	4 channels, 100V
Connectors	(2) 5 mm screw lock captive screw connector, 4-pole
NOTE: These connectors accept wires of 22 AWG to 12 AWG.	
Load impedance	
XPA U 1004	4 ohms minimum
XPA U 1004-70V	50 ohms minimum
XPA U 1004-100V	100 ohms minimum
Output power	
XPA U 1004	100 Watts per channel, 8 ohms, 1 kHz, 0.1% THD
	100 Watts per channel, 4 ohms, 1 kHz, 0.1% THD
XPA U 1004-70V	100 watts per channel, 70V, 1 kHz, 0.1% THD
XPA U 1004-100V	100 watts per channel, 100V, 1 kHz, 0.1% THD

Frequency response	20 Hz to 20 kHz, ±1 dB
THD + Noise	0.1% @ 1 kHz, at 3 dB below clipping
S/N	100 dB, 20 Hz - 20 kHz, unweighted
Damping factor	
XPA U 1004	>100 @ 8 ohms
XPA U 1004-70V	>100 @ 50 ohms
XPA U 1004-100V	>100 @ 100 ohms

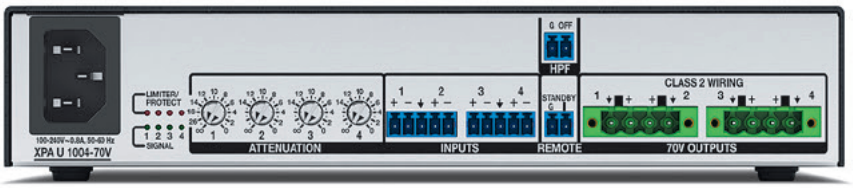
GENERAL	
Power supply	Internal
	Input: 100-240 VAC, 50-60 Hz
Temperature/humidity	
Operating	+32 to +122 °F (0 to +50 °C) /
	10% to 90%, non-condensing
Cooling	Convection, no vents
Protection	Clip limiting, thermal, short circuit, DC output
Rack mount	Yes, with included mounting brackets or optional rack shelf
Enclosure dimensions	1.7" H x 8.7" W x 10.5" D (1U high, half rack wide)
	43 mm H x 220 mm W x 267 mm D
Product weight	3.5 lbs (1.6 kg)
Product warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

Model	Version Description	Part number
XPA U 1004	Four Channel Amp, 100 watts at 8 or 4 ohms	60-1760-01
XPA U 1004-70V	Four Channel Amp, 100 watts at 70 volts	60-1760-02
XPA U 1004-100V	Four Channel Amp, 100 watts at 100 volts	60-1760-12

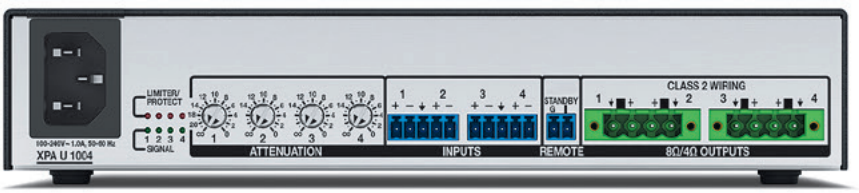
For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

Panel Drawings

XPA U 1004 - Front



XPA U 1004-70V / 100V - Back



XPA U 1004 - Back

SPECIFICATIONS - XPA U 1004C

AUDIO	
Voltage gain	
Channels 1 and 2	23x (27 dB)
Channels 3 and 4	
XPA U 1004C-70V	57x (35 dB)
XPA U 1004C-100V	81x (38 dB)
CMRR	75 dB (typical) @ 1 kHz

AUDIO INPUT	
Number/signal type	4 balanced/unbalanced
Connectors	(2) 3.5 mm captive screw connector, 5-pole
Impedance	>10k ohms balanced/unbalanced, DC coupled
Nominal level	+4 dBu, balanced
Maximum level	+20 dBu, balanced
Input sensitivity	+4 dBu
Input signal detection threshold	-65 dBu±3 dB, balanced
NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu	

AUDIO OUTPUT	
Number/signal type	
XPA U 1004C-70V	4 channels, 2 low impedance and 2 high impedance 70V
XPA U 1004C-100V	4 channels, 2 low impedance and 2 high impedance 100V
Connectors	(2) 5 mm screw-lock captive screw connector, 4-pole
NOTE: These connectors accept wires of 22 AWG to 12 AWG.	
Load impedance	
Channels 1 and 2	4 ohms minimum
Channels 3 and 4	
XPA U 1004C-70V	50 ohms minimum
XPA U 1004C-100V	100 ohms minimum
Output power	
Channels 1 and 2	100 watts rms per channel, 4 ohms, 1 kHz, 0.1% THD
	100 watts rms per channel, 8 ohms, 1 kHz, 0.1% THD
Channels 3 and 4	
XPA U 1004C-70V	100 watts rms per channel, 70V, 1 kHz, 0.1% THD
XPA U 1004C-100V	100 watts rms per channel, 100V, 1 kHz, 0.1% THD
Frequency response	20 Hz to 20 kHz, ±1 dB
THD + Noise	0.1% @ 1 kHz at 3 dB below clipping
S/N	100 dB, 20 Hz - 20 kHz, unweighted
Damping factor	
Channels 1 and 2	>100 @ 8 ohms
Channels 3 and 4	
XPA U 1004C-70V	>100 @ 50 ohms
XPA U 1004C-100V	>100 @ 100 ohms
High pass filter	
Channels 3 and 4	80 Hz, 12 dB per octave rolloff, selectable via captive screw

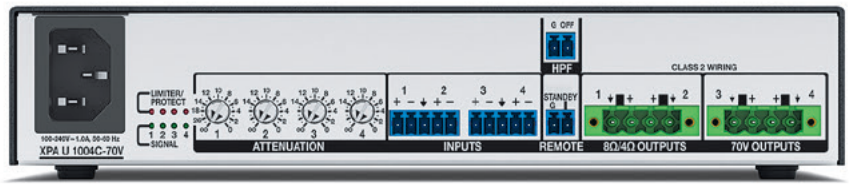
GENERAL	
Power supply	Internal
	Input: 100 VAC - 240 VAC, 50-60 Hz
Temperature/humidity	
Operating	+32 to +122 °F (0 to +50 °C) / 10% to 90%, non-condensing
Cooling	Convection, no vents
Protection	Clip limiting, thermal, short circuit, DC output
Rack mount	Yes, with included mounting brackets or optional rack shelf
Enclosure dimensions	1.7" H x 8.7" W x 10.5" D (1U high, half rack wide)
	43 mm H x 220 mm W x 267 mm D
Product weight	4.2 lbs (1.9 kg)
Product warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

Model	Version Description	Part number
XPA U 1004C-70V	70V Four Channel Combo Amp, 100 watts per channel	60-1852-01
XPA U 1004C-100V	100V Four Channel Combo Amp, 100 watts per channel	60-1852-11

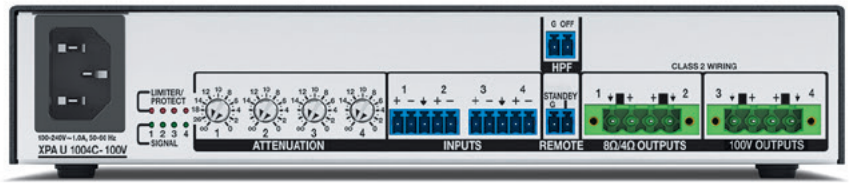
For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

Panel Drawings

XPA U 1004C - Front



XPA U 1004C-70V - Back



XPA U 1004C-100V - Back

SPECIFICATIONS - XPA U 1002

AUDIO	
Voltage gain	
XPA U 1002	23x (27 dB)
XPA U 1002-70V	57x (35 dB)
XPA U 1002-100V	81x (38 dB)
CMRR	75 dB @ 1 kHz (typical)

AUDIO INPUT	
Number/signal type	2 balanced/unbalanced
Connectors	(1) 3.5 mm captive screw connector, 5 pole
Impedance	>10k ohms balanced/unbalanced, DC coupled
Nominal level	+4 dBu, balanced
Maximum level	+20 dBu (7.75 Vrms), balanced
Input sensitivity	+4 dBu
Input signal detection threshold	-65 dBu ±3 dB, balanced
NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu	

AUDIO OUTPUT	
Number/signal type	
XPA U 1002	2 channels, 4 or 8 ohms
XPA U 1002-70V	2 channels, 70V
XPA U 1002-100V	2 channels, 100V
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 U 1002	4 ohms minimum
XPA U 1002-70V	50 ohms minimum
XPA U 1002-100V	100 ohms minimum
Output power	
XPA U 1002	100 Watts per channel, 8 ohms, 1 kHz, 0.1% THD
	100 Watts per channel, 4 ohms, 1 kHz, 0.1% THD
XPA U 1002-70V	100 watts per channel, 70V, 1 kHz, 0.1% THD
XPA U 1002-100V	100 watts per channel, 100V, 1 kHz, 0.1% THD

Frequency response	20 Hz to 20 kHz, ±1 dB
THD + Noise	0.1% @ 1 kHz, at 3 dB below clipping
S/N	100 dB, 20 Hz - 20 kHz, unweighted
Damping factor	
XPA U 1002	>100 @ 8 ohms
XPA U 1002-70V	>100 @ 50 ohms
XPA U 1002-100V	>100 @ 100 ohms

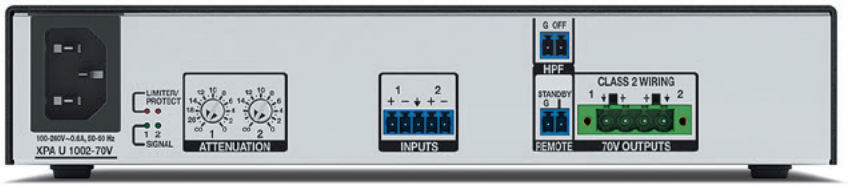
GENERAL	
Power supply	Internal
	Input: 100-240 VAC, 50-60 Hz
Temperature/humidity	
Operating	+32 to +122°F (0 to +50°C) / 10% to 90%, non-condensing
Cooling	Convection, no vents
Protection	Clip limiting, thermal, short circuit, DC output
Rack mount	Yes, with included mounting brackets or optional rack shelf
Enclosure dimensions	1.7" H x 8.7" W x 10.5" D (1U high, half rack wide)
	43 mm H x 220 mm W x 267 mm D
Product weight	3.4 lbs (1.5 kg)
Product warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

Model	Version Description	Part number
XPA U 1002	Two Channel Amp, 100 watts at 8 or 4 ohms	60-1761-01
XPA U 1002-70V	Two Channel Amp, 100 watts at 70 volts	60-1761-02
XPA U 1002-100V	Two Channel Amp, 100 watts at 100 volts	60-1761-12

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

Panel Drawings

XPA U 1002 - Front



XPA U 1002-70V / 100V - Back

XPA U 1002 - Back

SPECIFICATIONS - XPA U 1004 SB

AUDIO	
Stereo mode (8 ohm)	23x (27 dB)
Stereo mode (4 ohm)	16x (24 dB)
Bridged mono mode (16 ohm)	46x (30 dB)
Bridged mono mode (8 ohm)	33x (30 dB)
Bridged mono mode (70V)	57x (35 dB)
Bridged mono mode (100V)	81x (38 dB)
CMRR	75 dB @ 1 kHz (typical)
AUDIO INPUT	
Number/signal type	4 balanced/unbalanced
Connectors	(2) 5-pin 3.5mm captive connector
Impedance	>10k ohms unbalanced/balanced, DC coupled
Nominal level	+4 dBu balanced
Maximum level	+20 dBU balanced
Input sensitivity	+4 dBu (1.23 Vrms)
Input signal detection threshold	-65 dBU +/-3 dB, balanced
AUDIO OUTPUT	
Output Number/Signal Type	4 channel, 8 ohms or 4 ohms; or 2 bridged mono, 8 ohms, 16 ohms, 70V or 100V
Connectors	(2) 4 pole 5mm screw lock captive screw connectors
Load impedance	
Stereo mode (8 ohm)	8 ohms minimum
Stereo mode (4 ohm)	4 ohms minimum
Bridged mono mode (16 ohm)	16 ohms minimum
Bridged mono mode (8 ohm)	8 ohms minimum
Bridged mono mode (70V)	25 ohms minimum
Bridged mono mode (100V)	50 ohms minimum
Output power	
Stereo mode	100 Watts per channel, 4 or 8 ohms, 1 kHz, 0.1% THD
Bridged mono modes	
Low impedance	200 watts per channel, 8 ohms or 16 ohms, 1 kHz, 0.1% THD
High impedance	200 watts per channel, 70V or 100V, 1 kHz, 0.1% THD
Frequency response	20 Hz to 20 kHz, +/- 1 dB, 8 ohms/ 70V / 100V
THD + Noise	0.1% @ 1 kHz at 3 dB below clipping
S/N	100 dB, 20 Hz - 20 kHz, unweighted
Damping factor	>100 @ 8 ohms
High pass filter	
Bridged mono mode (70V or 100V)	80 Hz, 12 dB per octave rolloff (switch selectable)

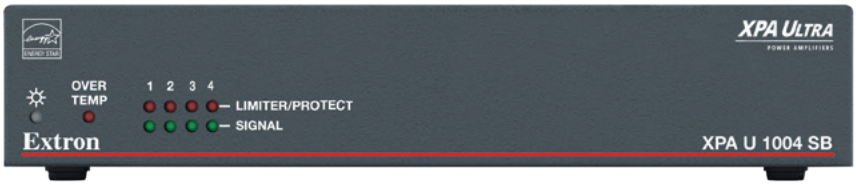
NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

CONTROL/REMOTE	
Control port	(1) 3.5mm captive screw connector, 5-pole(1) 3.5mm captive screw connector, 3-pole
Pin configuration	
DC volume control (analog)	Pin 1 = +10 VDC, 50 mA (max.), Pin 2 = volume/mute (variable voltage), Pin 3 = GND
Standby power control (contact closure)	Pin 4 = GND, Pin 5 = Standby
GENERAL	
Power	100 VAC to 240 VAC, 50-60 Hz, internal
Power consumption and thermal dissipation	
Temperature/humidity	
Storage	40 to +158°F (40 to +70°C) / 10% to 90%, non-condensing
Operating	+32 to +122°F (0 to +50°C) / 10% to 90%, non-condensing
Cooling	Convection, no vents
Protection	Clip limiting, thermal, short circuit, DC output
Rack mount	Yes with included brackets and optional rack shelf
Enclosure dimensions	(1U high, half rack wide) 1.7" H x 8.7" W x 10.5" D 43mm H x 220mm W x 267 mm D
Product weight	4.2 lbs (1.9 kg)
Vibration	ISTA 1A in carton (International Safe Transmit Association)
Regulatory compliance	
Safety	CE, C-tick, CUL, UL UL rated for use in plenum airspaces: meets UL 2043 for heat and smoke release; meets UL 60065 and IEC 60065 for AV Equipment
EMI/EMC	CE, C-tick, FCC Class B, ICES, VCCI Class B, CISPRR 22 Class B
Environmental Compliance	ENERGY STAR® qualified amplifier, CEC, European Code of Conduct, RoHS
Warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

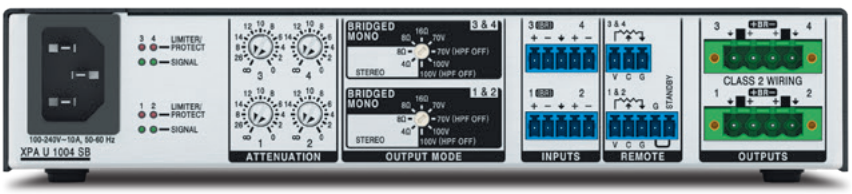
Model	Version Description	Part number
Model XPA U 1004 SB	Four Channel Bridgeable Output Amp, 100/200 Watts	60-1301-01

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

Panel Drawings



XPA U 1004 SB - Front



XPA U 1004 SB - Back

AUDIO	
Stereo mode (8 ohm)	33x (30 dB)
Stereo mode (4 ohm)	23x (27 dB)
Bridged mono mode (16 ohm)	65x (36 dB)
Bridged mono mode (8 ohm)	46x (33 dB)
Bridged mono mode (70V)	57x (35 dB)
Bridged mono mode (100V)	81x (50 dB)
CMRR	75 dB @ 1 kHz (typical)

AUDIO INPUT	
Number/signal type	2 balanced/unbalanced
Connectors	(1) 5-pin 3.5mm captive connector
Impedance	>10k ohms unbalanced/balanced, DC coupled
Nominal level	+4 dBu balanced
Maximum level	+20 dBU balanced
Input sensitivity	+4 dBu (1.23 Vrms)
Input signal detection threshold	-65 dBU +/-3 dB, balanced

AUDIO OUTPUT	
Output Number/Signal Type	2 channel, 4 or 8 ohms; or 1 bridged mono, 8 ohms, 16 ohms, 70V or 100V
Connectors	(1) 4 pole 5mm screw lock captive screw connector
Load impedance	
Stereo mode (8 ohm)	8 ohms minimum
Stereo mode (4 ohm)	4 ohms minimum
Bridged mono mode (16 ohm)	16 ohms minimum
Bridged mono mode (8 ohm)	8 ohms minimum
Bridged mono mode (70V)	12.5 ohms minimum
Bridged mono mode (100V)	25 ohms minimum
Output power	
Stereo mode	200 Watts per channel, 4 or 8 ohms, 1 kHz, 0.1% THD
Bridged mono modes	
Low impedance	400 watts per channel, 8 or 16 ohms, 1 kHz, 0.1% THD
High impedance	400 watts per channel, 70V or 100V, 1 kHz, 0.1% THD
Frequency response	20 Hz to 20 kHz, +/- 1 dB, 8 ohms/ 70V/ 100V
THD + Noise	0.1% @ 1 kHz at 3 dB below clipping
S/N	100 dB, 20 Hz - 20 kHz, unweighted
Damping factor	>100 @ 8 ohms
High pass filter	
Bridged mono mode (70V or 100V)	80 Hz, 12 dB per octave rolloff (switch selectable)

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

CONTROL/REMOTE	
Control port	(1) 3.5mm captive screw connector, 5-pole
Pin configuration	
DC volume control (analog)	Pin 1 = +10 VDC, 50 mA (max.), Pin 2 = volume/mute (variable voltage), Pin 3 = GND
Standby power control (contact closure)	Pin 4 = GND, Pin 5 = Standby

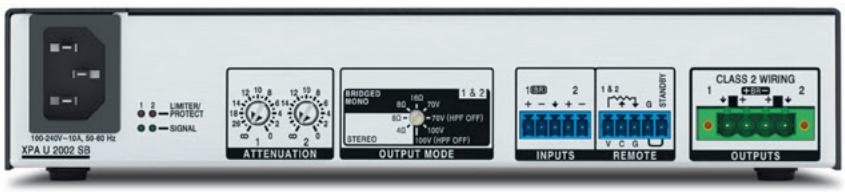
GENERAL	
Power	100 VAC to 240 VAC, 50-60 Hz, internal
Power consumption and thermal dissipation	
Temperature/humidity	
Storage	40 to +158°F (40 to +70°C) / 10% to 90%, non-condensing
Operating	+32 to +122°F (0 to +50°C) / 10% to 90%, non-condensing
Cooling	Convection, no vents
Protection	Clip limiting, thermal, short circuit, DC output
Rack mount	Yes with included mounting brackets or optional rack shelf
Enclosure dimensions	(1U high, half rack wide) 1.7" H x 8.7" W x 10.5" D 43mm H x 220mm W x 267 mm D
Product weight	3.4 lbs (1.5 kg)
Vibration	ISTA 1A in carton (International Safe Transmit Association)
Regulatory compliance	
Safety	CE, C-tick, CUL, UL UL rated for use in plenum airspaces: meets UL 2043 for heat and smoke release; meets UL 60065 and IEC 60065 for AV Equipment
EMI/EMC	CE, C-tick, FCC Class B, ICES, VCCI Class B, CISPRR 22 Class B
Environmental Compliance	ENERGY STAR® qualified amplifier, CEC, European Code of Conduct, RoHS
Warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

Model	Version Description	Part number
Model XPA U 2002 SB	Two Channel Bridgeable Output Amp, 200/400 Watts	60-1758-01

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

Panel Drawings

XPA U 2002 SB - Front



XPA U 2002 SB - Back

ENGINEERING EXCELLENCE

The Extron portfolio of technology patents includes many audio patents. The XPA Ultra amplifiers benefit from a number of Extron patented technologies, providing key performance and reliability advantages.

Class D Ripple Suppression - CDRS

Three patents form the basis of Extron's CDRS technology found in XPA Ultra amplifiers. This technology reduces high frequency radiated emissions that can be picked up by other gear.

Class D Soft Switching

Extron's soft switching design works with CDRS to reduce dissipated power, which increases amplifier efficiency.

Class D Power Converter

The power converters in Extron Class D amplifiers facilitate energy transfer for more precise performance while using fewer lifetime-limiting capacitors in the power supply.

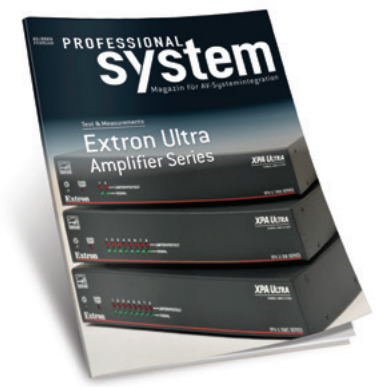
Low Noise Triangular Waveform Generator

Since a triangle generator is the heart of a Class D amplifier, and triangle generators have audio band noise content, this technology is used to greatly reduce that noise content resulting in a lower audio noise floor.

In-Depth Independent Review

Prof. Dr. Ing. Anselm Goetz, doctor of electrical engineering with a specialty in technical acoustics, conducted extensive testing of the Extron XPA Ultra amplifier and wrote this review for Germany's Professional Systems Magazine. Mr. Goertz deals with planning, training, and project support in all areas of electrical and room acoustics measurement technology for professional audio.

extron.com/xpau

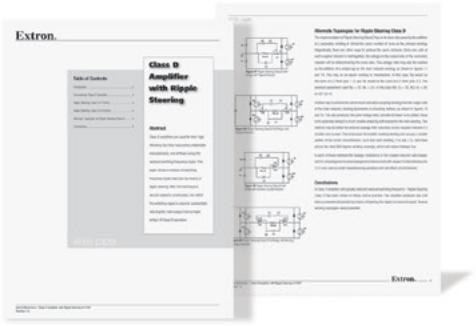


Amplifier Technology White Papers

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

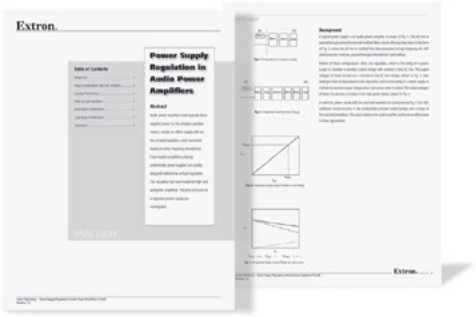
Class D Amplifier with Ripple Steering

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.



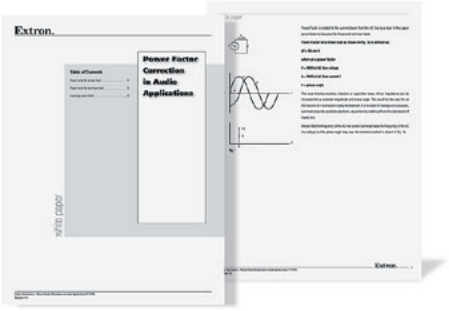
Power Supply Regulation in Audio Power Amplifiers

Audio power amplifiers have typically been supplied power without line or load regulation. High-end audiophile amplifiers have generally been the exception. Extron 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.



Power Factor Correction in Audio Applications

Switched-mode power supplies are increasingly common in audio power amplifiers, and are desired for their relatively small size and weight, as well as high efficiency. This article provides an introduction to power factor correction, which substantially reduces AC harmonics and prevents noise impact on other AV products in the system.



NOTES

WORLDWIDE SALES OFFICES

Anaheim • Raleigh • Silicon Valley • Dallas • New York • Washington, DC • Toronto • Mexico City • Paris • London
Frankfurt • Madrid • Stockholm • Amersfoort • Moscow • Dubai • Johannesburg • Tel Aviv • Sydney • Melbourne
Bangalore • Mumbai • New Delhi • Singapore • Seoul • Shanghai • Beijing • Hong Kong • Tokyo

www.extron.com

04-2020
68-3437-01
REV. A2
Letter - English - NP