

XPA ULTRA FX

POWER AMPLIFIERS

HIGH PERFORMANCE MULTI-ZONE AMPLIFIERS



Ultra Flexible • Ultra Cool • Ultra Efficient

- ▶ Four and eight channel models
- ▶ Configurable output mode per channel for 8 ohms, 4 ohms, 70V or 100 V
- ▶ Flexible power sharing per channel pair
- ▶ InstaWake+™ exits auto standby in under 5 milliseconds
- ▶ ECO Standby delivers power only when needed, maximizing energy savings
- ▶ Meets Ecoefficient® Level 4 requirements
- ▶ Freely stackable to save space while staying cool
- ▶ Front to rear fan cooled
- ▶ High pass filter selectable for 70V and 100V modes
- ▶ Remote standby

Extron

XPA ULTRA FX

POWER AMPLIFIERS

Extron XPA Ultra FX Series are eight and four channel multi-zone audio power amplifiers with exceptional flexibility. A single unit can be set up in a variety of configurations to support large systems with multiple speaker types. These amplifiers can simultaneously drive 8 ohm, 4 ohm, 70 volt, and 100 volt loads and are easily configurable per channel. Each channel of an adjacent pair dynamically draws power from the pair's total wattage, delivering optimal power where it's needed according to system requirements. XPA Ultra FX amplifiers feature ECO Standby, that works with InstaWake+ to provide exceptional energy savings. Intelligent ECO Standby technology places the amplifier into standby after just a few seconds of inactivity. When in standby, it draws under one watt of power. InstaWake+ returns the amplifier to full power from standby in under 5 milliseconds, ensuring that no audio is cut off. With an appealing new design, the fan-cooled enclosure can be part of a high-tech aesthetic or hidden away in a rack, without requiring adjacent empty space for ventilation. The XPA Ultra FX amplifier is the go-to solution for any multizone application requiring mixed speaker types and power levels.



The XPA U 4004 FX offers four channels at 400 watts each and up to 800 watts per channel at half the channel count.
The XPA U 2008 FX offers eight channels at 200 watts each and up to 400 watts per channel at half the channel count.
The XPA U 2004 FX offers four channels at 200 watts each and up to 400 watts per channel at half the channel count.



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.

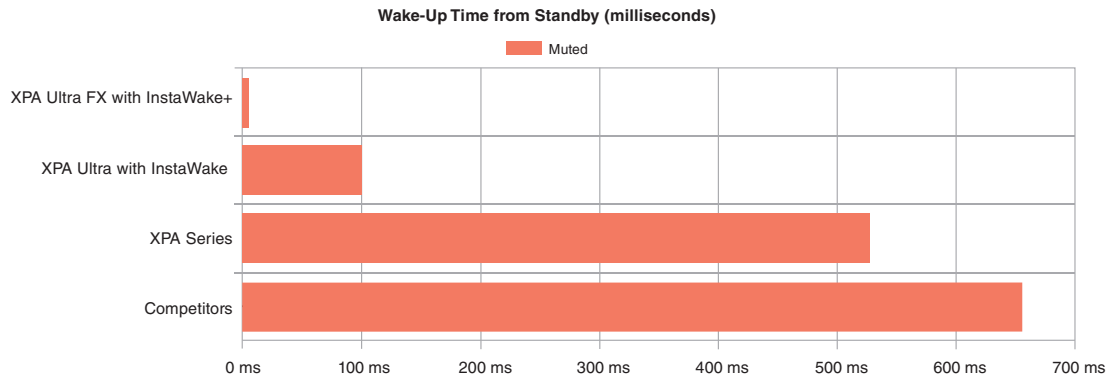


The Ecoefficient Level 4 qualified XPA Ultra FX Series of multi-zone audio power amplifiers features ECO Standby, that works with InstaWake+ to provide exceptional energy savings. Intelligent ECO Standby technology places the amplifier into standby after just a few seconds of inactivity. When in standby, it draws under one watt of power. InstaWake+ returns the amplifier to full power from standby in under 5 milliseconds, ensuring that no audio is cut off.

ADVANTAGES

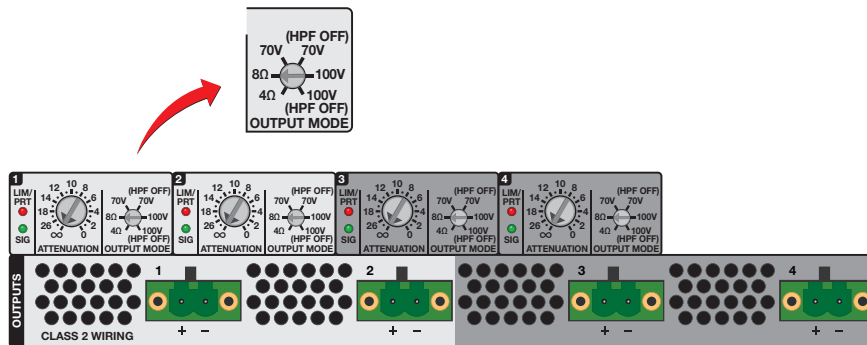
InstaWake+

The graphic below shows the advantage of InstaWake+ technology enabling the XPA Ultra FX to exit standby in less than 5 milliseconds. Other Class D amplifiers can take up to hundreds of milliseconds to achieve nominal power. In paging applications, where every word matters, InstaWake+ ensures no part of the audio is cut off while still maintaining the energy savings of auto-standby.



Independently Configurable Output Modes

Output modes can be independently configured per channel for 8 ohm, 4 ohm, 70 volt or 100 volt operation, as shown in the image below. This allows a single XPA Ultra FX amplifier to power multizone systems with any type of speaker, saving cost and space while simplifying setup.



Output mode configuration is easily done via a rotary switch

Flexible Power Sharing

The total wattage per channel pair is shared between adjacent channels. This power sharing allows each channel of an adjacent pair to deliver the amount of power required by the connected speakers. In a multizone application, a single amp can be used to meet the power requirements of separate speaker zones.



Channel pairs are grouped by alternating shade to indicate shared power

OVERVIEW

Stackable 1U enclosure

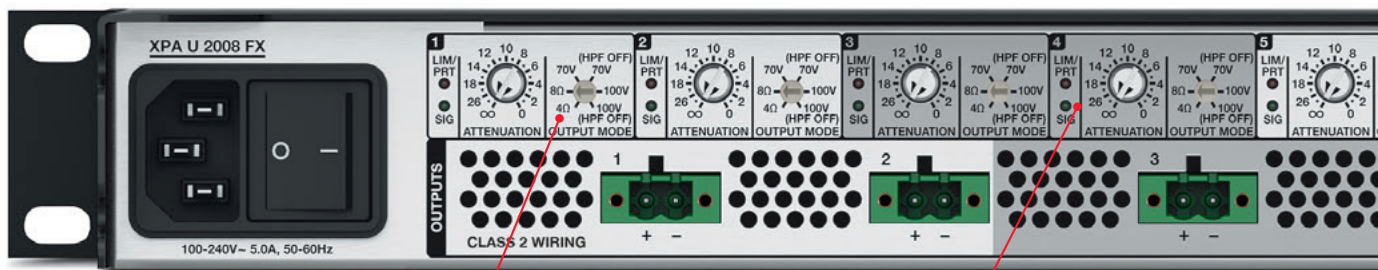
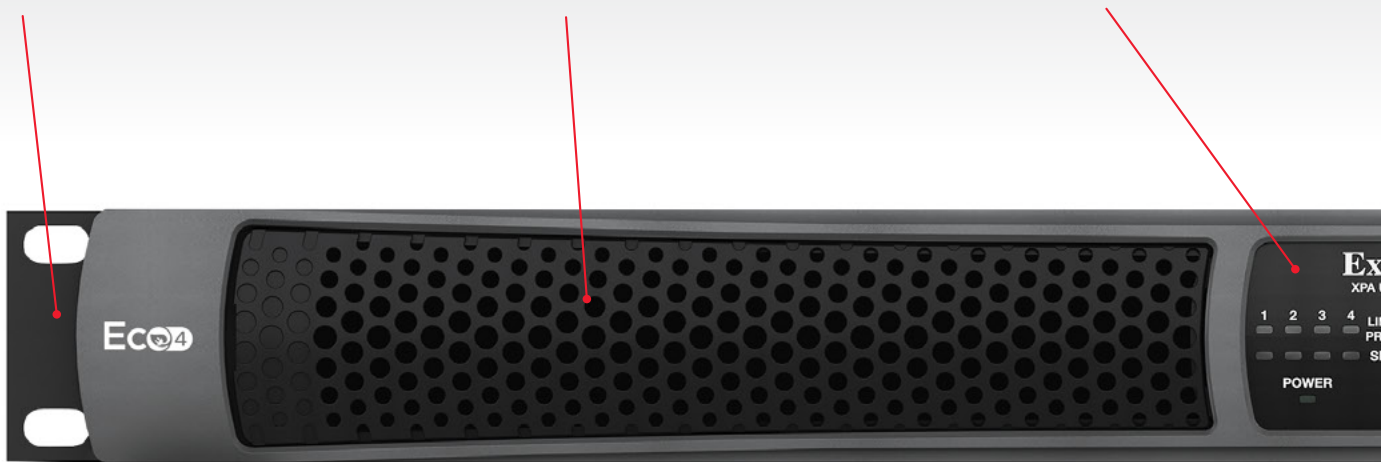
Can be freely stacked in a rack for space savings while maintaining cool operation.

Front to rear fan cooled

Easy to remove and clean foam air filters maintain airflow performance.

Front panel LED indicators

Protection, Signal, Power, and Over Temp LEDs facilitate setup and troubleshooting.



Configurable output mode per channel

Per channel selection of 8 ohm, 4 ohm, 70V, and 100V operation with selectable HPF for 70V/100V modes.

Flexible power allocation

Power is shared between adjacent odd/even channel pairs to provide the right amount of power where it's needed.

InstaWake+

Exits auto-standby mode in under 5 milliseconds to ensure no audio gets cut off.

Eco Standby

Delivers power only when needed, maximizing energy savings.



Recessed, detented level controls & LEDs

Rear panel location prevents tampering and facilitates repeatable setup with laser etched markings and LED signal indicators.

Remote Standby

Enables an XPA Ultra FX amplifier to be remotely powered down when not in use, reducing operating cost.

ADVANCED ENGINEERING FOR EFFICIENCY AND LONG LIFE

Fan Cooled

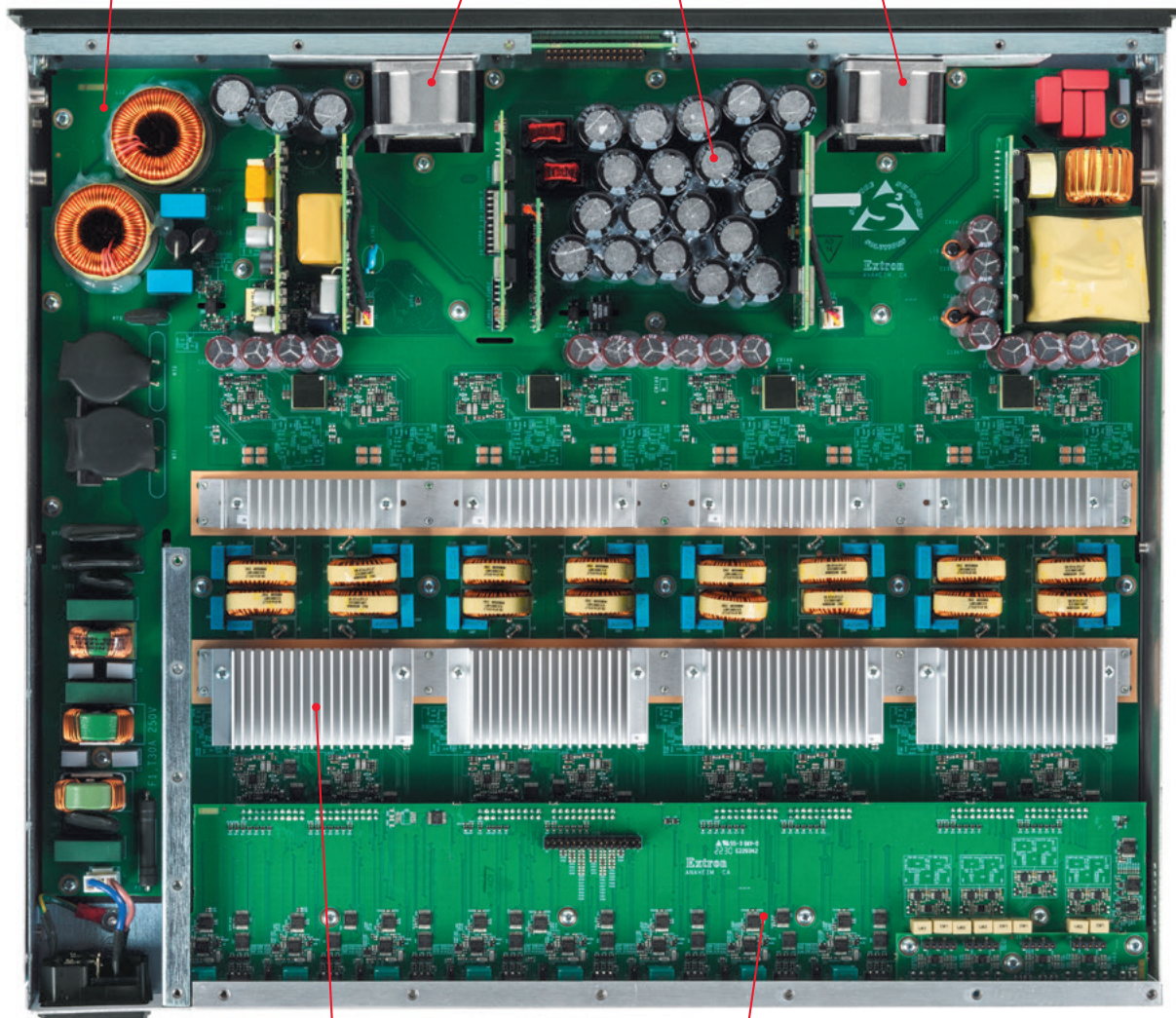
Premium, long lifespan fans that run quietly at low RPM actively push heat away from sensitive components, extending their life.

Everlast Power Supply

Designed with state-of-the-art technology and the highest-quality components for high-demonstrated reliability, low power consumption for reduced operating cost, and worldwide power compatibility.

Component Choice & Placement

Specifying long lifespan capacitors and placing them away from high heat sources extends product lifespan.



Heat Dissipation

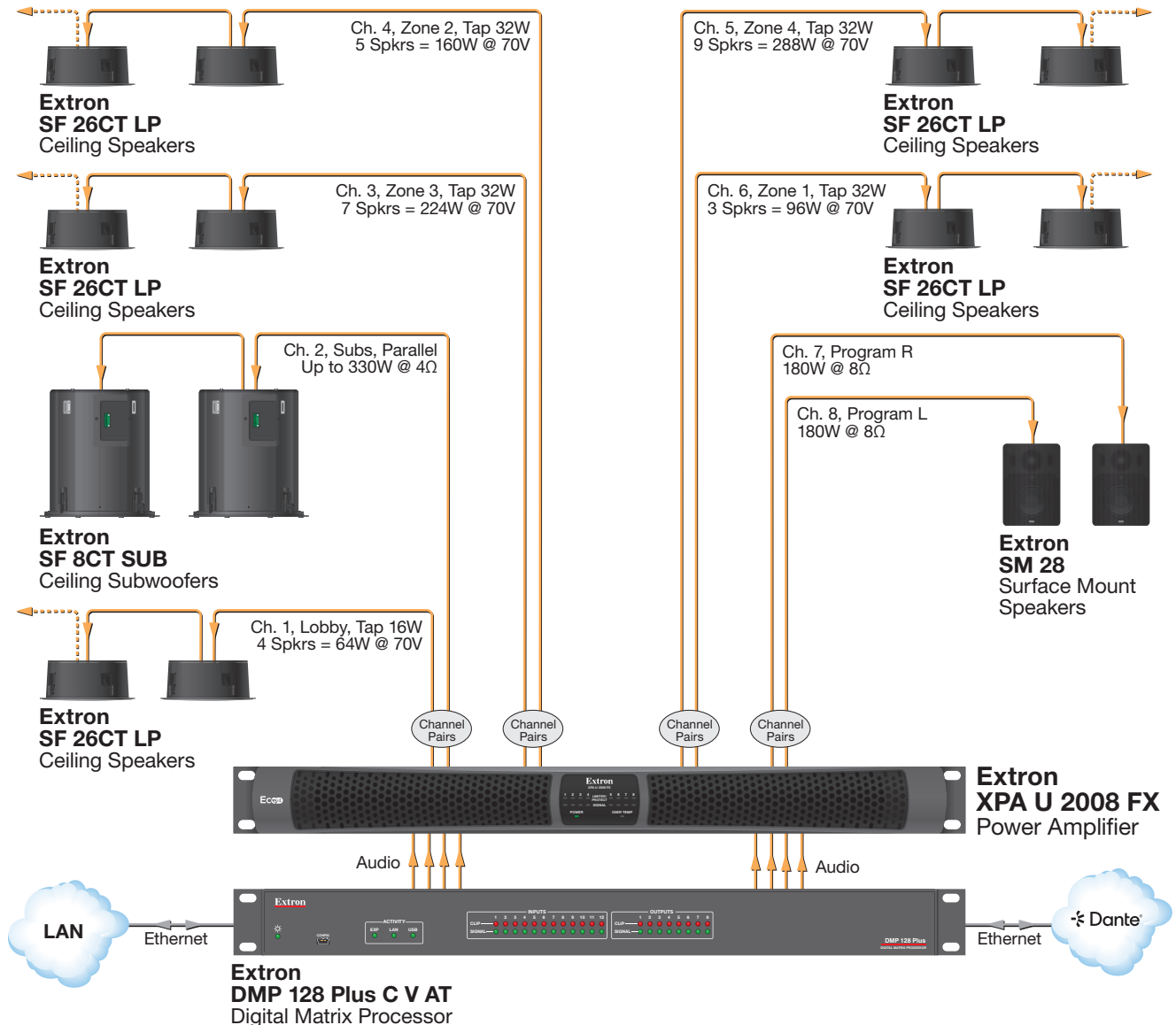
High temperature components utilize the largest possible heat sinks, greatly reducing component level failures.

High Efficiency

XPA Ultra FX amplifiers operate with industry-leading efficiency that reduces cooling costs and energy requirements.

APPLICATION

In this multi-zone system, AV sources are processed and routed through a DMP 128 Plus C V AT Digital Matrix Processor, feeding into an XPA U 2008 FX Eight Channel Flexible Output Audio Power Amplifier. Separate zones receive coverage from appropriate quantities of SF 26CT LP Two-Way Ceiling Speakers, each zone drawing its required power from one of the XPA U 2008 FX channels set to 70 volt operation. Stereo program content is handled by a pair of SM 28 Surface Mount Speakers, driven by two 8 ohm amplifier channels, while two SF 8CT SUB In Ceiling Subwoofers provide low frequency impact, driven by a single low impedance amplifier channel. This compact but powerful system is completed by an additional set of 70 volt lobby ceiling speakers, driven by the remaining amplifier channel.



PANEL DRAWINGS

XPA U 2008 FX



Front



Back

XPA U 2004 FX



Front



Back

SPECIFICATIONS

AUDIO

Voltage gain

XPA U 2008 FX, XPA U 2004 FX

8-ohm mode 46x (33 dB)

4-ohm mode 33x (30 dB)

70 V mode 58x (35 dB)

100 V mode 81x (38 dB)

CMRR 75 dB (typical) @ 1 kHz

AUDIO INPUT

Number/signal type

XPA U 2004 FX 4 balanced/unbalanced

XPA U 2008 FX 8 balanced/unbalanced

Connectors

XPA U 2004 FX (2) 5-pin 3.5 mm captive screw connectors

XPA U 2008 FX (4) 5-pin 3.5 mm captive screw connectors

Impedance >10k ohms balanced/unbalanced, DC coupled

Nominal level +4 dBu, balanced

Maximum level +20 dBu, balanced

Input sensitivity

8 ohm/4 ohm modes +4 dBu (1.23 Vrms) for 400 W @ 8/4 ohms

+1 dBu (0.87 Vrms) for 200 W @ 8/4 ohms

70 V/100 V modes +4 dBu (1.23 Vrms)

Input signal detection threshold -65 dBu $\pm$ 3 dB, balanced

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

AUDIO OUTPUT

Number/signal type

XPA U 2004 FX 4 channels, 8 ohm, 4 ohm, 70 V or 100 V

XPA U 2008 FX 8 channels, 8 ohm, 4 ohm, 70 V or 100 V

Connectors

XPA U 2004 FX (4) 2-pole, 5 mm screw-lock captive screw connectors

XPA U 2008 FX (8) 2-pole, 5 mm screw-lock captive screw connectors

Load impedance

8-ohm mode 8 ohms minimum

4-ohm mode 4 ohms minimum

70 V mode 12.5 ohms minimum for 400 W

100 V mode 25 ohms minimum for 400 W

Output power 200 W per channel (all channels driven), 4 Ω / 8 Ω / 70 V / 100 V, 1 kHz, 0.2% THD
400 W per channel (one channel driven per pair), 4 Ω / 8 Ω / 70 V / 100 V

Frequency response 20 Hz to 20 kHz, $\pm$ 1 dB, 4 Ω / 8 Ω / 70 V / 100 V

THD+Noise 0.2% @ 1 kHz, 8 ohm, at 3 dB below clipping

S/N 100 dB, 20 Hz - 20 kHz, unweighted

High pass filter

70 V or 100 V modes 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 — AMPLIFIER

Control port

(1) 3.5 mm captive screw, 2-pole

GENERAL

Power

100 VAC to 240 VAC, 50-60 Hz, internal

Power consumption and thermal dissipation

XPA U 2004 FX with ECO Standby

XPA U 2004 FX	115 VAC, 60Hz				230 VAC, 50 Hz			
	AC Line Current	AC Power Consumed	Thermal Dissipation		AC Line Current	AC Power Consumed	Thermal Dissipation	
Condition	A	W	W	BTU/hr	A	W	W	BTU/hr
Active (1/8 power), all channels driven	8 Ω	1.4	157.2	57.2	195	0.9	154.0	54.0
	4 Ω	1.7	183.8	83.8	286	1.0	180.0	80.0
	70 V	1.4	147.9	47.9	163	0.8	145.2	45.2
	100 V	1.3	139.8	39.8	136	0.8	137.5	37.5
Quiescent (idle)	0.3	28.0	28.0	96	0.3	27.5	27.5	94
Standby	<0.2	<1	<1	<3	<0.2	<1	<1	<3

XPA U 2008 FX with ECO Standby

XPA U 2008 FX	115 VAC, 60Hz				230 VAC, 50 Hz			
	AC Line Current	AC Power Consumed	Thermal Dissipation		AC Line Current	AC Power Consumed	Thermal Dissipation	
Condition	A	W	W	BTU/hr	A	W	W	BTU/hr
Active (1/8 power), all channels driven	8 Ω	3.0	311.7	111.7	381	1.9	305.4	105.4
	4 Ω	3.4	361.5	161.5	551	2.1	354.3	154.3
	70 V	2.8	295.0	95.0	324	1.8	288.7	88.7
	100 V	2.6	274.5	74.5	254	1.6	268.7	68.7
Quiescent (idle)	0.5	49.1	49.1	167	0.4	47.6	47.6	162
Standby	<0.2	<1	<1	<3	<0.2	<1	<1	<3

Ambient 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

Fan, front-to-rear, variable speed

Protection

Clip limiting, thermal, short circuit, DC output

Mounting

Rack mount

Yes, with included mounting brackets

Rear rack ear mounting depth

15.48" to 26.13" D (front rack rails to rear rack rails)
(393 mm to 664 mm D)

Enclosure dimensions

1.74" H x 17.31" W x 16.5" D (1U high, full rack wide)
(44 mm H x 440 mm W x 419 mm D)(Width excludes faceplate and rack ears. Depth excludes rear rack ears.)

Product weight

XPA U 2004 FX

10.1 lb. (4.6 kg)

XPA U 2008 FX

13.0 lb. (5.9 kg)

Regulatory compliance

CE, CEC, CISPR 22 Class B, C-Tick, c-UL, Ecoefficient Level 4, European Code of Conduct, FCC Class B, ICES, RoHS, UL, VCCI Class B
meets UL 62368-1, IEC 62368-1, and EN 62368-1 for AV equipment

Warranty

3 years parts and labor

Everlast power supply warranty

7 years parts and labor

Model

XPA U 2008 FX

XPA U 2004 FX

AFK 100

Version Description

Eight Channel Flexible Output Amp, 200 Watts

Four Channel Flexible Output Amp, 200 Watts

Air Filter Kit for XPA Ultra FX – 10 Pack

Part number

60-2025-02

60-2026-02

70-1341-01

PANEL DRAWINGS

XPA U 4004 FX



Front



Back

AUDIO

Voltage gain

8-ohm mode	65x (36 dB)
4-ohm mode	46x (33 dB)
70 V mode	58x (35 dB)
100 V mode	81x (38 dB)

CMRR 75 dB (typical) @ 1 kHz

AUDIO INPUT

Number/signal type 4 balanced/unbalanced

Connectors (4) 3-pin 3.5 mm captive screw connectors

Impedance >10k ohms balanced/unbalanced, DC coupled

Nominal level +4 dBu, balanced

Maximum level +20 dBu, balanced

Input sensitivity

8 ohm/4 ohm modes	+4 dBu (1.23 Vrms) for 800 W @ 8/4 ohms
	+1 dBu (0.87 Vrms) for 400 W @ 8/4 ohms
70 V/100 V modes	+4 dBu (1.23 Vrms)

Input signal detection threshold -65 dBu $\pm$ 3 dB, balanced

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV $\approx$ 2 dBu

AUDIO OUTPUT

Number/signal type 4 channels, 8 ohm, 4 ohm, 70 V or 100 V

Connectors (4) 2-pole, 5 mm screw-lock captive screw connectors

Load impedance

8-ohm mode	8 ohms minimum
4-ohm mode	4 ohms minimum
70 V mode	6.25 ohms minimum for 800 W
100 V mode	12.5 ohms minimum for 800 W

Output power

400 W per channel (all channels driven),	4 Ω / 8 Ω / 70 V / 100 V, 1 kHz, 0.2% THD
800 W per channel (one channel driven per pair),	4 Ω / 8 Ω / 70 V / 100 V, 1 kHz

Frequency response 20 Hz to 20 kHz, $\pm$ 1 dB, 4 Ω / 8 Ω / 70 V / 100 V

THD + Noise 0.1% @ 1 kHz, 8 ohm, at 3 dB below clipping

S/N 100 dB, 20 Hz - 20 kHz, unweighted

High pass filter

70 V or 100 V modes	80 Hz, 12 dB per octave rolloff (switch selectable)
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NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV $\approx$ 2 dBu

CONTROL/REMOTE – AMPLIFIER

Control port (1) 3.5 mm captive screw, 2-pole

GENERAL

Power 100 VAC to 240 VAC, 50-60 Hz, internal

Power consumption and thermal dissipation

XPA U 4004 FX

XPA U 4004 FX		115 VAC, 60Hz				230 VAC, 50 Hz			
		AC Line Current	AC Power Consumed	Thermal Dissipation		AC Line Current	AC Power Consumed	Thermal Dissipation	
Condition		A	W	W	BTU/hr	A	W	W	BTU/hr
Active (1/8 power), all channels driven	8 Ω	2.4	258	58	198	1.4	251	51	174
	4 Ω	2.6	272	72	246	1.5	265	65	222
	70 V	2.3	252	52	177	1.4	245	45	154
	100 V	2.3	245	45	154	1.4	239	39	133
Quiescent (idle)		0.4	21.2	21.2	72	0.4	20.6	20.6	70
Standby		<0.1	<1	<1	<3	<0.1	<1	<1	<3

Cooling Fan, front-to-rear, variable speed

Protection Clip limiting, thermal, short circuit, DC output

Mounting

Rack mount

Rear rack ear mounting depth 15.48" to 26.13" D (front rack rails to rear rack rails) (393 mm to 664 mm D)

Enclosure dimensions 1.74" H x 17.31" W x 16.5" D (1U high, full rack wide) (44 mm H x 440 mm W x 419 mm D)(Width excludes faceplate and rack ears. Depth excludes rear rack ears.)

Product weight 14 lb. (6.4 kg)

Regulatory compliance CE, CEC, CISPR 22 Class B, C-Tick, c-UL, European Code of Conduct, FCC Class B, ICES, RoHS, UL, VCCI Class B meets UL 62368-1, IEC 62368-1, and EN 62368-1 for AV equipment ENERGY STAR® qualified amplifier

Warranty 3 years parts and labor

Everlast power supply warranty 7 years parts and labor

Model

XPA U 4004 FX
AFK 100

Version Description

Four Channel Flexible Output Amp, 400 Watts
Air Filter Kit for XPA Ultra FX – 10 Pack

Part number

60-2034-01
70-1341-01

XPA ULTRA FX PATENTS

Only a company that develops its own unique technology could have a patent portfolio as extensive as Extron, including many audio patents. The XPA Ultra FX amplifiers benefit from our patented technologies shown below, technologies providing key performance and reliability advantages to our customers that cannot be duplicated by other amplifier manufacturers.



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.

Class D Soft Switching

Extron's soft switching design works 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.

XPA ULTRA POWER AMPLIFIERS

XPA Ultra Series / NetPA Ultra Series - Features & Capabilities

Model	Channels / Power @ 8 ohms	Channels / Power @ 70/100V	Flexible Power Sharing	Channels / Power Bridged	Dante/ AES67	Onboard DSP	RS-232	VCM Support	Ecoefficient Level
XPA Ultra FX Amplifiers									
XPA U 2008 FX	8 x 200 watts	8 x 200 watts	✓						4
XPA U 2004 FX	4 x 200 watts	4 x 200 watts	✓						4
XPA U 4004 FX	4 x 400 watts	4 x 400 watts	✓						4
NetPA Ultra FX Amplifiers									
NetPA U 2008 FX	8 x 200 watts	8 x 200 watts	✓		✓	✓	✓		2
NetPA U 2004 FX	4 x 200 watts	4 x 200 watts	✓		✓	✓	✓		2
NetPA U 4004 FX	4 x 400 watts	4 x 400 watts	✓		✓	✓	✓		2
XPA Ultra Amplifiers									
XPA U 758	8 x 75 watts								3
XPA U 358	8 x 35 watts								3
XPA U 358-70V		8 x 35 watts							3
XPA U 358-100V		8 x 35 watts							3
XPA U 358C-70V	4 x 35 watts	4 x 35 watts							3
XPA U 358C-100V	4 x 35 watts	4 x 35 watts							3
XPA U 1004	4 x 100 watts								3
XPA U 1004-70V		4 x 100 watts							3
XPA U 1004-100V		4 x 100 watts							3
XPA U 1002	2 x 100 watts								3
XPA U 1002-70V		2 x 100 watts							3
XPA U 1002-100V		2 x 100 watts							3
XPA U 3502	2 x 350 watts							✓	3
XPA Ultra Amplifiers with Selectable Output Modes									
XPA U 1004 SB	4 x 100 watts	2 x 200 watts		2 x 200 watts				✓	3
XPA U 2002 SB	2 x 200 watts	1 x 400 watts		1 x 400 watts				✓	3
NetPA Ultra Amplifiers with DSP and Dante									
NetPA U 1004	4 x 100 watts				✓	✓	✓		3
NetPA U 1004-70V		4 x 100 watts			✓	✓	✓		3
NetPA U 1004-100V		4 x 100 watts			✓	✓	✓		3
NetPA U 1002	2 x 100 watts				✓	✓	✓		3
NetPA U 1002-70V		2 x 100 watts			✓	✓	✓		3
NetPA U 1002-100V		2 x 100 watts			✓	✓	✓		3
NetPA U 2002 SB	2 x 200 watts	1 x 400 watts		1 x 400 watts	✓	✓	✓		3
NetPA U 8001 SUB	1 x 800 watts				✓	✓	✓		3

Extron

www.extron.com/xpaultrafx