

# HIGH PERFORMANCE MULTI-ZONE AMPLIFIERS





# Ultra Flexible • Ultra Cool • Ultra Efficient

**Extron** 

- 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
- Auto standby reduces power consumption
- InstaWake+ exits auto standby in under 5 milliseconds
- 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 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 Extron InstaWake+<sup>™</sup> technology, offering the ability to return to full power from standby in under 5 milliseconds. This ensures no part of the audio is ever 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 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<sup>®</sup> Series of high-performance, no compromise, internal and external power supplies, setting a new standard for reliability and efficiency in the professional AV industry.



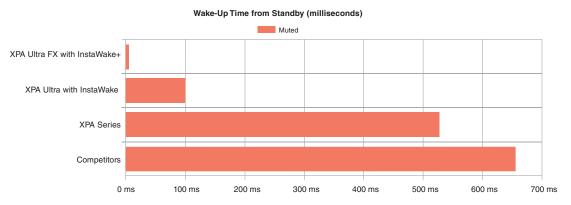
The ENERGY STAR qualified **XPA U 4004 FX** uniquely features ECO Standby, that works with InstaWake+ to provide exceptional energy savings. ECO Standby automatically maximizes the time the amplifier operates in its lowest possible power state, while InstaWake+ gives the amplifier the ability to return to full power from standby in under 5 milliseconds.

The XPA U 4004 FX offers four channels at 400 watts each. Utilizing dynamic power allocation, it can provide up to 800 watts per channel at half the channel count.

## **ADVANTAGES**

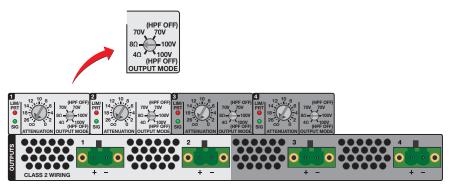
### InstaWake+

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



#### Stackable 1U enclosure

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

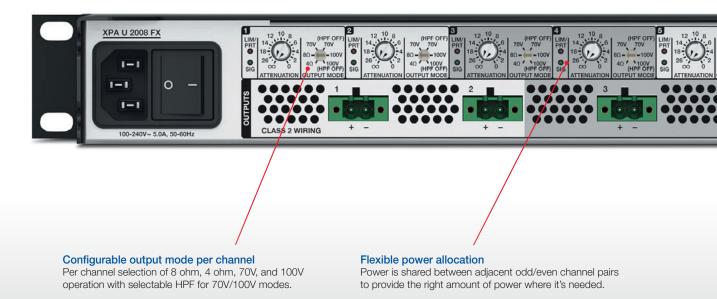
### Front to rear fan cooled

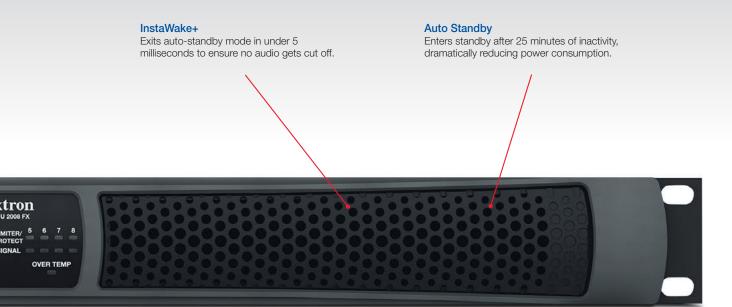
Easy to remove and clean foam air filters maintain airflow performance.

### Front panel LED indicators

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









**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

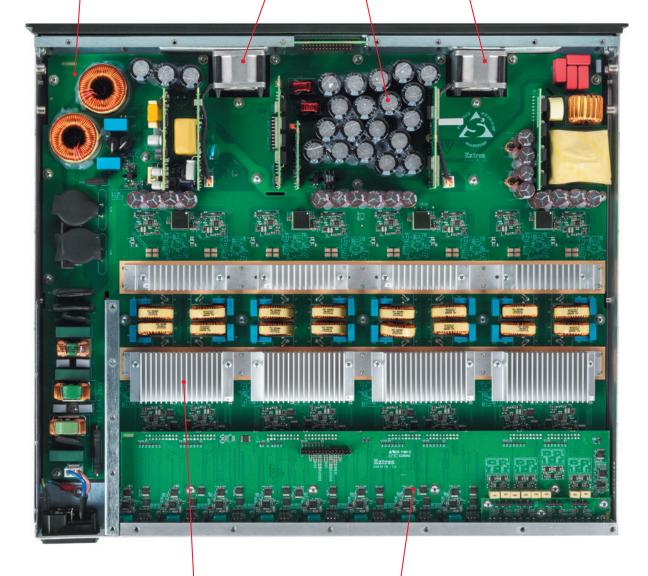
Premium, long lifespan fans that run quietly at low RPM actively push heat away from sensitive components, extending their life.

#### **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**

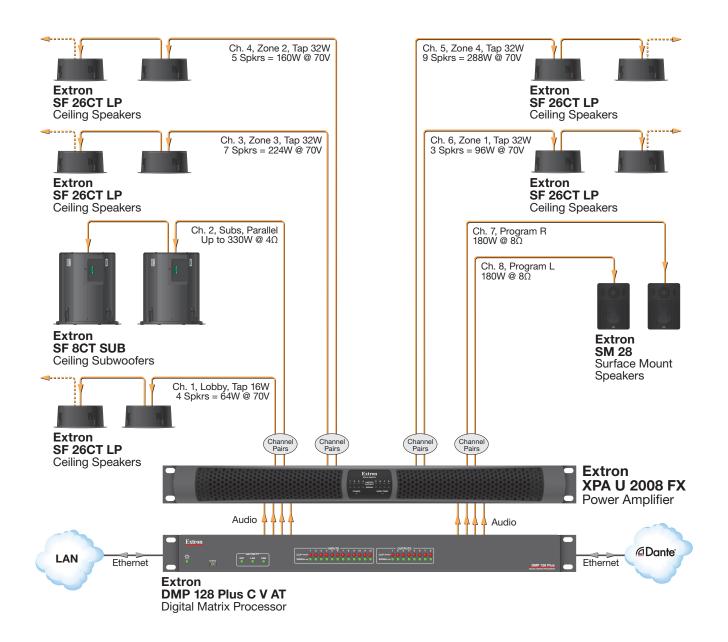
High temperature components utilize the largest possible heat sinks, greatly reducing component level failures.

#### **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.



## 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 ±3 dB, balanced
<b>NOTE:</b> 0 dBu = 0.775 Vrms, 0 dBV =	1 Vrms, 0 dBV $\approx$ 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), $4\Omega / 8\Omega / 70 V /$
	100 V, 1 kHz, 0.1% THD
	400 W per channel (one channel driven per pair), $4\Omega / 8\Omega$
	/70 V / 100 V
Frequency response	20 Hz to 20 kHz, ±1 dB, 4Ω / 8Ω / 70 V / 100 V
THD + Noise	0.1% @ 1 kHz, 8 ohm, at 3 dB below clipping
S/N High page filter	100 dB, 20 Hz - 20 kHz, unweighted
High pass filter	20 Hz 10 dB par active relieff (awitch calestable)
70 V or 100 V modes <b>NOTE:</b> 0 dBu = 0.775 Vrms, 0 dBV =	80 Hz, 12 dB per octave rolloff (switch selectable)
CONTROL/REMOTE – AMPL	
Control port	(1) 3.5 mm captive screw, 2-pole

### GENERAL

Power

Power consumption and thermal dissipation  $\ensuremath{\mathsf{XPA}}\xspace$  U 2004 FX

		115 VAC, 60Hz				230 VAC, 50 Hz				
XPA U 200	04 FX	AC Line AC Power Thermal Current Consumed Dissipation			AC Line Current	AC Power Consumed		Thermal issipation		
Conditi	on	A	W	W	BTU/hr	A	W	W BTU/hr		
Active (1/8	8Ω	1.4	157.2	57.2	195	0.9	154.0	54.0	184	
power), all	4Ω	1.7	183.8	83.8	286	1.0	180.0	80.0	273	
channels driven	70 V	1.4	147.9	47.9	163	0.8	145.2	45.2	154	
unven	100 V	1.3	139.8	39.8	136	0.8	137.5	37.5	128	
Quiescent (idle)		0.3	28.0	28.0	96	0.3	27.5	27.5	94	
Standb	у	<0.2	<2	<2	<7	<0.2	<2	<2	<7	

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

### XPA U 2008 FX

			115 VAC, 60	Hz		230 VAC, 50 Hz					
XPA U 200	08 FX	AC Line AC Power Thermal AC Line AC Power Current Consumed Dissipation Current Consumed				Thermal Dissipation					
Conditi	on	А	W	W	BTU/hr	A	W	W	BTU/hr		
Active (1/8	8Ω	3.0	311.7	111.7	381	1.9	305.4	105.4	360		
power), all	4Ω	3.4	361.5	161.5	551	2.1	354.3	154.3	526		
channels	70 V	2.8	295.0	95.0	324	1.8	288.7	88.7	303		
driven	100 V	2.6	274.5	74.5	254	1.6	268.7	68.7	234		
Quiescent (idle)		0.5	49.1	49.1	167	0.4	47.6	47.6	162		
Standb	iy.	< 0.2	<3	<3	<11	<0.2	<3	<3	<11		

Cooling		Fan, front-to-rear, variable speed	b					
Protection		Clip limiting, thermal, short circu	Clip limiting, thermal, short circuit, DC output					
Mounting								
Rack mount		Yes, with included mounting bra	ckets					
Rear rack ear mour	nting depth	15.48" to 26.13" D (front rack ra	ails to rear rack rails)					
		(393 mm to 664 mm D)						
Enclosure dimens	ions	1.74" H x 17.31" W x 16.5" D (1	1U high, full rack wide)					
		(44 mm H x 440 mm W x 419 n	nm D)(Width excludes					
		faceplate and rack ears. Depth e	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)	13.0 lb. (5.9 kg)					
Regulatory compl	iance	CE, CEC, CISPR 22 Class B, C-T	CE, CEC, CISPR 22 Class B, C-Tick, c-UL, European Code					
		of Conduct, FCC Class B, ICES, F	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	AV equipment					
Warranty		3 years parts and labor						
Everlast power su	pply warranty	7 years parts and labor						
Model	Version Descripti	on	Part number					
XPA U 2008 FX	Eight Channel Flex	Eight Channel Flexible Output Amp, 200 Watts						
XPA U 2004 FX		Four Channel Flexible Output Amp, 200 Watts						
AFK 100	Air Filter Kit for XP	A Ultra FX – 10 Pack	70-1341-01					

# PANEL DRAWINGS

## XPA U 4004 FX





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 ±3 dB, balanced
<b>NOTE:</b> 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrm	s, 0 dBV ≈ 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),
	4Ω / 8Ω / 70 V / 100 V, 1 kHz, 0.2% THD
	800 W per channel (one channel driven per pair),
<b>F</b>	4Ω / 8Ω / 70 V / 100 V, 1 kHz
Frequency response	20 Hz to 20 kHz, ±1 dB, 4Ω / 8Ω / 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	00 Ltz 10 dD por optour rolloff (switch colorishis)
70 V or 100 V modes	80 Hz, 12 dB per octave rolloff (switch selectable)
<b>NOTE:</b> 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrm	
CONTROL/REMOTE - AMPLIFIE	R
Control port	(1) 3.5 mm captive screw, 2-pole

### GENERAL Power

Power consumption and thermal dissipation XPA U 4004 FX

Γ	н	υ	400	4	I.	Λ	

		115 VAC, 60Hz				230 VAC, 50 Hz				
XPA U 400	04 FX	AC Line Current	AC Power Consumed							
Conditi	on	А	W	W	BTU/hr	A	W	W	BTU/hr	
Active (1/8	8Ω	2.4	258	58	198	1.4	251	51	174	
power), all	4Ω	2.6	272	72	246	1.5	265	65	222	
channels driven	70 V	2.3	252	52	177	1.4	245	45	154	
unven	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	
Standb	y	<0.1	<1	<1	<3	<0.1	<1	<1	<3	

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

Cooling		Fan, front-to-rear, variable speed					
Protection		Clip limiting, thermal, short circuit, DC out	out				
Mounting							
Rack mount		Yes, with included mounting brackets					
Rear rack ear moun	ting depth	15.48" to 26.13" D (front rack rails to real	rack rails)				
		(393 mm to 664 mm D)					
Enclosure dimensi	ons	1.74" H x 17.31" W x 16.5" D (1U high, fu	ll rack wide)				
		(44 mm H x 440 mm W x 419 mm D)(Wid	th 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	Version Description		Part number				
XPA U 4004 FX	Four Channel Flexible C	Dutput Amp, 400 Watts	60-2034-01				
AFK 100	Air Filter Kit for XPA Ultra	FX - 10 Pack 70-1341					

## 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 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	ENERGY STAR
XPA Ultra FX Amplifi	ers								
XPA U 2008 FX	8 x 200 watts	8 x 200 watts	1						
XPA U 2004 FX	4 x 200 watts	4 x 200 watts	1						
XPA U 4004 FX	4 x 400 watts	4 x 400 watts	1						1
XPA Ultra Amplifiers									
XPA U 758	8 x 75 watts								1
XPA U 358	8 x 35 watts								1
XPA U 358-70V		8 x 35 watts							1
XPA U 358-100V		8 x 35 watts							1
XPA U 358C-70V	4 x 35 watts	4 x 35 watts							1
XPA U 358C-100V	4 x 35 watts	4 x 35 watts							1
XPA U 1004	4 x 100 watts								1
XPA U 1004-70V		4 x 100 watts							1
XPA U 1004-100V		4 x 100 watts							1
XPA U 1002	2 x 100 watts								1
XPA U 1002-70V		2 x 100 watts							1
XPA U 1002-100V		2 x 100 watts							1
XPA U 3502	2 x 350 watts							1	1
XPA Ultra Amplifiers	with Selectable Output	t Modes							
XPA U 1004 SB	4 x 100 watts	2 x 200 watts		2 x 200 watts				1	1
XPA U 2002 SB	2 x 200 watts	1 x 400 watts		1 x 400 watts				1	1
NetPA Ultra Amplifie	rs with DSP and Dante	)							
NetPA U 1004	4 x 100 watts				1	1	1		1
NetPA U 1004-70V		4 x 100 watts			1	1	1		1
NetPA U 1004-100V		4 x 100 watts			1	1	1		1
NetPA U 1002	2 x 100 watts				1	1	1		1
NetPA U 1002-70V		2 x 100 watts			1	1	1		1
NetPA U 1002-100V		2 x 100 watts			1	1	1		1
NetPA U 2002 SB	2 x 200 watts	1 x 400 watts		1 x 400 watts	1	1	1		1
NetPA U 8001 SUB	1 x 800 watts				1	1	1		1



www.extron.com/xpaultrafx