

# PowerShareX Series

## adaptable four-channel power amplifiers



### Product Description

PowerShareX adaptable amplifiers are an ideal match for Bose Professional sound systems. Onboard DSP gives you instant access to optimized loudspeaker presets. ControlSpace Designer software allows for quick configuration. And proven Powersoft technology ensures you put every watt to work.

Choose from three models: PSX1204D, PSX2404D, and PSX4804D. Each networkable, four-channel amp offers innovative power-sharing flexibility, peak power capability, Dante connectivity, and much more — all in a space-saving 1RU design.

And easy integration with Bose Professional DSPs, loudspeakers, and the entire ControlSpace ecosystem makes design, configuration, installation, and operation much simpler — so you can get the job done and move on to the next.

### Key Features

**Power-sharing technology** dynamically allocates power evenly or asymmetrically across outputs without having to bridge channels or lose channel count when powering Bose Professional loudspeakers.

**Bose Professional certified presets and ControlSpace Designer integration** delivers the best performance, loudspeaker protection, and visibility of the entire Bose Professional system from a single UI for easy design, configuration, control, and monitoring.

**Proven Powersoft reliability** ensures the systems operate every day, mitigating non-billable service calls.

**Flexible outputs** capable of handling either low-impedance (2, 4, 8Ω) or high-impedance (70, 100V) loudspeaker loads.

**Built-in Dante audio** supports up to 4 digital input channels from a Dante network eliminating the requirement of ordering and installing an accessory network card.

**4 analog inputs** provide line-level source connections.

**PowerShare Design Tool** is a downloadable design tool that allows system designers the ability to choose their PowerShare amp and simulate the power-sharing capability that, in some cases, can lead to a lower-power model requirement and cost savings.

**GPIO connections** provide a remote level, on/off, and alarm triggers.

**Network monitoring** provides real-time system performance data, minimizing downtime, guesswork, and unnecessary service calls.

**Rack-friendly 1RU design** that is only 358 mm (14.1 in) deep eliminating the need for oversized racks.

**Universal switch mode power supply** with power factor correction

### Applications

Designed for commercial installations

Houses of worship

Performing arts

Corporate

Hotels

Retail / Restaurants

Education

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## Technical Specifications

MODEL		PSX1204D	PSX2404D	PSX4804D
<b>SYMMETRICAL RATINGS* (with all channels equally loaded)</b>				
Rated power total	@ 4-8Ω, 70V, 100V	1200W	2400W	4800W
Rated power	@ 4-8Ω, 70V, 100V	300W x 4	600W x 4	1200W x 4
	@ 2Ω	400W x 4	800W x 4	1500W x 4
Peak power	@ 8Ω, 70V, 100V	600W x 4	1200W x 4	2400W x 4
	@ 4Ω	600W x 4	1200W x 4	3000W x 4
	@ 2Ω	1600W x 4	3700W x 4	4100W x 4
<b>ASYMMETRICAL RATINGS** (total power available per a single channel using power-sharing from other channels)</b>				
Note: Recommend using the PowerShare Design Tool for system verification (downloadable at <a href="http://boseprofessional.com">boseprofessional.com</a> )				
Rated power	@ 8Ω	1100W in 100V mode	1300W in 100V mode	1300W
	@ 4Ω	1100W in 70V mode	1700W	2600W
	@ 2Ω	1100W	1600W	1800W
	@ 70V	1100W	1700W	2100W
	@ 100V	1100W	1500W	2200W
Peak power	@ 8Ω	2200W	3000W	2500W
	@ 4Ω	2200W	2500W	4800W
	@ 2Ω	1600W	3700W	4100W
	@ 70V	2200W	3400W	4200W
	@ 100V	2200W	3000W	4400W
<b>SYMMETRICAL BRIDGED RATINGS* (with two channels bridged and equally loaded)</b>				
Rated power	@ 8Ω Bridged	600W	1200W	2400W
	@ 4Ω Bridged	800W	1600W	3000W
Peak power	@ 8Ω Bridged	1200W	2400W	6000W
	@ 4Ω Bridged	3200W	7400W	8200W
Maximum unclipped output voltage	@ 8 Ω	70V <sub>peak</sub>	100V <sub>peak</sub>	139V <sub>peak</sub>
Maximum output current		33A <sub>peak</sub>	45A <sub>peak</sub>	45A <sub>peak</sub>
<b>AUDIO PERFORMANCE</b>				
Frequency response	20 Hz - 20 kHz (±1.0 dB, 1 W @ 8 Ω)			
Signal-to-noise ratio		>104 dB(A)	>108 dB(A)	>110 dB(A)
THD+N	< 0.1% (< 0.05% typical, from 0.1 W to half-power)			
Intermodulation distortion (SMPTE)	< 0.1% (< 0.05% typical, from 0.1 W to half-power)			
Crosstalk (1 kHz)	-70 dB typical			
Slew rate	> 50 V/μs @ 8 Ω, input filter bypassed			
Output impedance	26 mΩ @ 100 Hz			
<b>INTEGRATED DSP</b>				
Programming software	Bose Professional ControlSpace Designer v5.12 and above			
A/D and D/A converters	24-bit, 48 kHz			
Sample rate converter	24-bit, 44.1 kHz - 192 kHz			
Internal precision	32-bit floating-point			
Latency	2.5 ms fixed-latency architecture			
Input-to-output signal routing	4 × 4 matrix			
Presets	Bose Professional loudspeakers			
Available signal processing	Matrix mixer, 5-band PEQ, array EQ, band pass, Spkr EQ, limiter, delay (See page 6)			
Crossovers	Butterworth 6 dB/octave to 48 dB/octave, Linkwitz-Riley & Bessel: 126 dB/octave to 48 dB/octave (IIR)			
Delay	2 s (input) + 100 ms (output) for time alignment			

\* All channel driven with same burst power

\*\* Maximum power-sharing capacity per channel

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### Technical Specifications Continued

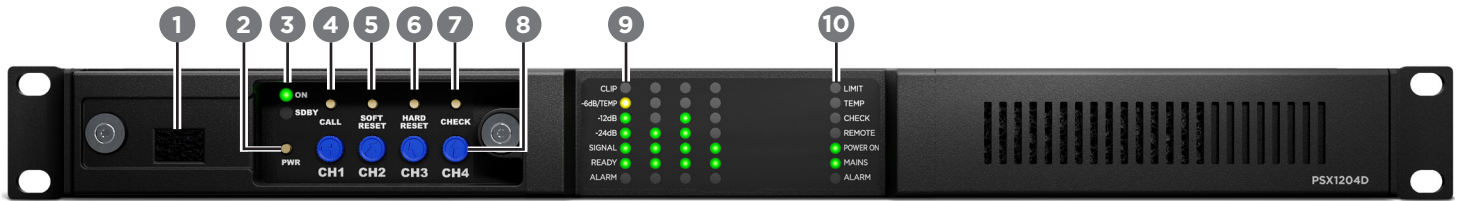
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AUDIO INPUTS			
<b>ANALOG</b>			
Input Channels	4 balanced		
Connector	6-pin Euroblock		
Input impedance	20 k $\Omega$		
Maximum input level	20 dBu		
<b>AUDIO INPUTS CONTINUED</b>			
Maximum input level	20 dBu		
	<b>PSX1204D</b>	<b>PSX2404D</b>	<b>PSX4804D</b>
Input sensitivity @ 8 $\Omega$ with 26 dB gain	2.48 Vrms	3.54 Vrms	4.91 Vrms
Input sensitivity @ 8 $\Omega$ with 29 dB gain	1.76 Vrms	2.51 Vrms	3.48 Vrms
Input sensitivity @ 8 $\Omega$ with 32 dB gain	1.24 Vrms	1.78 Vrms	2.46 Vrms
Input sensitivity @ 8 $\Omega$ with 35 dB gain	0.88 Vrms	1.26 Vrms	1.74 Vrms
<b>DIGITAL</b>			
Channels via Dante™	4		
Connector	RJ-45		
<b>AUDIO OUTPUTS</b>			
Channels	4 (high-/low-impedance; bridgeable per channel pair)		
Connectors	Euroblock, 8-pin, 7.62 mm pitch		
<b>INDICATORS AND CONTROLS</b>			
Status indicators	21 channel metering LEDs, 7 system status LEDs, 2 power status LEDs		
User controls, Front panel	Power button, soft & hard reset buttons, 4 channel attenuation controls		
User controls, Rear panel	16 output DIP switches (4 per channel), 8 system configuration DIP switches		
<b>ELECTRICAL</b>			
Nominals voltage	100 VAC - 240 VAC ( $\pm$ 10%, 50/60 Hz)		
Operating voltage	90 VAC - 264 VAC (50/60 Hz)		
Mains connector	IEC C20 inlet (20 A maximum; typical power consumption 20-50% lower; regional power cord included)		
Power supply	Universal, regulated switch mode with power factor correction (PFC)		
Output stage topology	Class D		
Protections	Thermal, excessively high/low AC mains voltage, DC, high-frequency, output short-circuit, inrush current, clip, peak, long-term/RMS		
<b>PHYSICAL</b>			
Operational temperature range	0 °C to 35 °C (32 °F to 95 °F)		
Cooling system	Continuous temperature-controlled variable-speed fan, front-to-back airflow		
Mounting	Integrated rack ears		
Product dimensions (width x height x depth)	483 mm x 45 mm x 358 mm (19.0 in x 1.8 in x 14.1 in)		
Net weight	7.0 kg (15.4 lb)		
Shipping weight	10.3 kg (22.8 lb)		
Package contents	PowerShareX adaptable power amplifier 4-pin Euroblock connector 8-pin Euroblock connector (3) 12-pin Euroblock connectors AC power cord Installation guide		
<b>PRODUCT CODES BY GEOGRAPHY</b>			
	<b>PSX1204D</b>	<b>PSX2404D</b>	<b>PSX4804D</b>
Americas and Europe	876599-0100	876599-0200	876599-03
Asia Pacific	878918-2130	878919-2130	878920-2130
Australia	878918-5110	878919-5110	878920-5110

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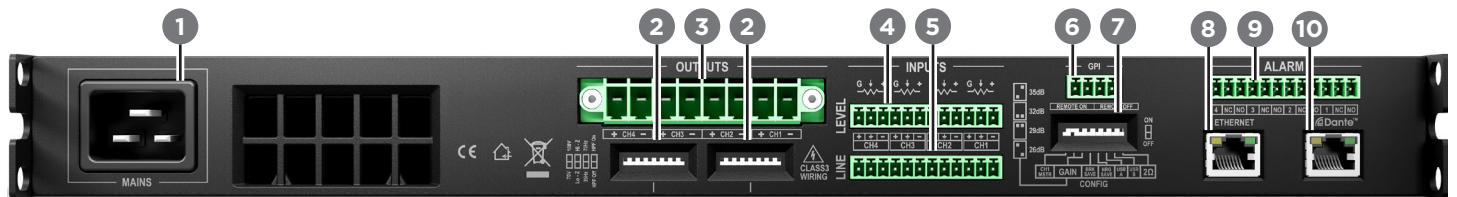
## adaptable four-channel power amplifiers

### Hardware Details



(Front panel shown with magnetic faceplate removed.)

1. **Service port:** For service only.
2. **Power button:** To switch amplifier between powered-on and standby mode, press and hold for 3 seconds.
3. **Operating mode LEDs (ON, SDBY):** Indicate whether the amplifier is powered on or in standby mode.
4. **CALL button:** Reserved for future use.
5. **SOFT RESET button:** To reset network parameters to DHCP, press and hold for 3 seconds.
6. **HARD RESET button:** To restart amplifier without affecting settings or loudspeakers EQs/presets, press and hold for 3 seconds.
7. **CHECK button:** To start the self-check procedure, press and hold for 3 seconds. The procedure tests the amplifier status and reports status via channel status and system status LEDs.
8. **Channel attenuation controls (CH1-4):** Attenuation controls for the output level of each channel.
9. **Channel status LEDs:** Indicate level as meters for Channels 1, 2, 3, and 4.
10. **System status LEDs:** Indicate system status.



1. **Power input:** Power cord connection.
2. **Channel output DIP switches:** Set any configuration of low- and high-impedance output loads for each channel.
3. **Outputs:** 8-pin connector for loudspeaker connections, up to 1200 watts of power per channel.
4. **Remote level inputs:** Remotely adjust channel level via a linear 10 k $\Omega$  potentiometer per channel, in series with the channel attenuation controls.
5. **Analog line inputs:** 12-pin connector for balanced analog line-level audio signals.
6. **GPI/remote inputs:** 4-pin connector for remote on-off control, depending on the power/standby state of the amplifier.
7. **System configuration DIP switches:** Set the overall system output and performance.
8. **Ethernet port:** RJ-45 connector for control via Ethernet connection to a computer using ControlSpace Designer software and not applicable for Dante redundancy.
9. **GPO/alarm outputs:** 12-pin connector for general-purpose output from each channel to indicate a fault, unsafe operating condition, or any fault preventing normal output channel operation.
10. **Dante® port:** RJ-45 connector for 4 Dante audio input streams from a computer using Dante Controller software.

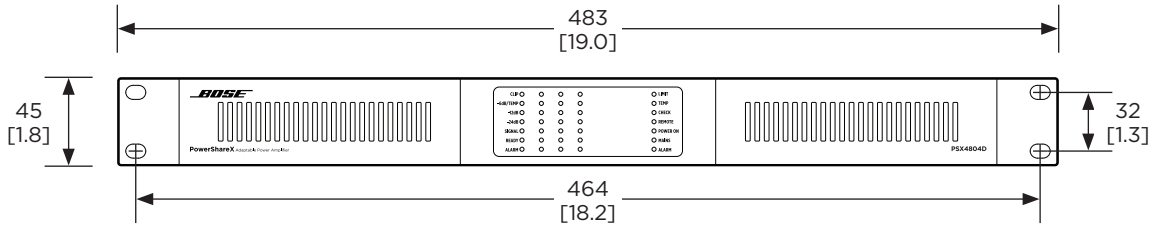
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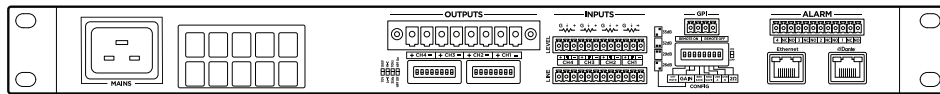
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## Mechanical Diagrams

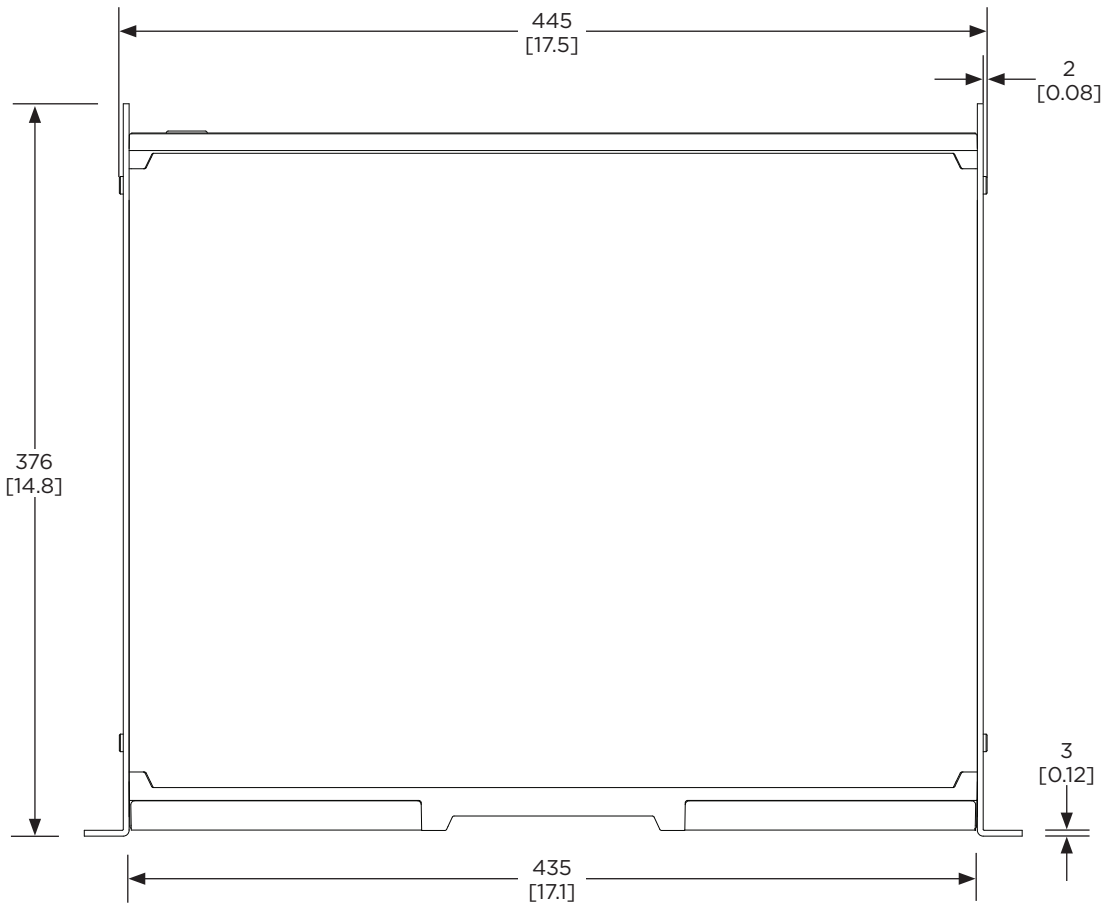
### Front View



### Rear View



### Top View



1. DIMENSIONS ARE SHOWN IN MILLIMETERS OVER INCHES.
2. WEIGHT IS APPROXIMATELY 7.0 KILOGRAMS (15.4 POUNDS).

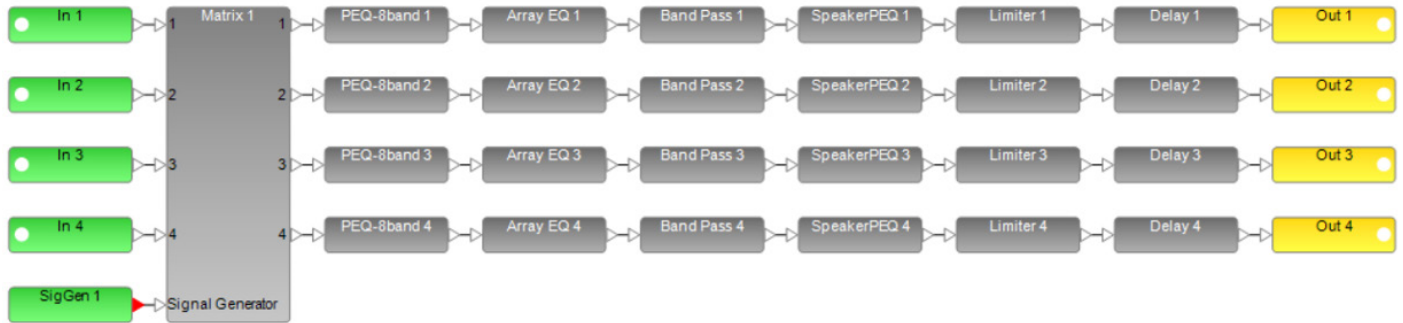
For additional specifications and application information, please visit [BoseProfessional.com](http://BoseProfessional.com) Specifications subject to change without notice.

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## Software Details

PowerShareX incorporates digital signal processing that is configured using Bose Professional ControlSpace Designer Version 5.12 software and above. It provides loudspeaker signal processing with presets for Bose Professional loudspeakers. It includes additional processing for Array EQ, time delay, and environmental tuning. As seen, this is the available processing signal flow and processing blocks provided.



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