BOSE PS604D Adaptable Power Amplifiers Installation Guide

Contents

BOSE PS604D Adaptable Power Amplifiers

Important Safety Instructions

Please read and keep all safety and use instructions.
This product is intended for installation by professional installers only! This document is intended to provide

professional installers with basic installation and safety guidelines for this product in typical fixed-installation systems. Please read this document and all safety warnings before attempting installation.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNINGS/CAUTIONS:

- This symbol on the product means there are important operating and maintenance instructions in this guide.
- This symbol on the product means there is uninsulated, dangerous voltage within the product enclosure that may present a risk of electrical shock.
- Contains small parts which may be a choking hazard. Not suitable for children under age 3.

All Bose Professional products must be installed in accordance with local, state, federal and industry regulations. It is the installer's responsibility to ensure installation of the loudspeakers and mounting system is performed in accordance with all applicable codes, including local building codes and regulations. Consult the local authority having jurisdiction before installing this product. Unsafe mounting or overhead suspension of any heavy load can result in serious injury or death, and property damage. It is the installer's responsibility to evaluate the reliability of any mounting method used for their application. Only professional installers with the knowledge of proper hardware and safe mounting techniques should attempt to install any loudspeaker overhead.

- Do not mount the product in locations where condensation may occur.
- This product is not intended for installation or use in indoor water facility areas (including, without limitation, indoor pools, indoor water parks, hot tub rooms, saunas, steam rooms and indoor skating rinks).
- To reduce the risk of fire or electrical shock, do NOT expose this product to rain, liquids or moisture.

- Keep the product away from fire and heat sources. Do NOT place naked flame sources, such as lighted candles, on or near the product.
- Do NOT make unauthorized alterations to this product.
- Do NOT use a power inverter with this product.
- Do NOT use in vehicles or boats.
- Provide an earth connection or ensure the socket outlet incorporates a protective earthing connection before connecting the plug to the mains socket outlet.
- Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
- Only use the mounting hardware recommended by the rack manufacturer.
- Due to ventilation requirements, Bose Professional does not recommend placing the product in a confined space such as in a wall cavity or in an enclosed cabinet.
- Do not place or install the bracket or product near any heat sources, such as fireplaces, radiators, heat registers or other apparatus (including amplifiers) that produce heat.
- Do not use hydrocarbon based solvents, lubricants or cleaning agents of any type on or around Bose Professional speakers, and associated mounting hardware, during installation.
- The use of such hydrocarbon based lubricants, solvents or cleaning agents on or around the mounting anchors and screws can lead to degradation of the plastic material, possibly resulting in cracking and premature failure of the product.

Regulatory Information
CAN ICES-3 (A)/NMB-3(A)
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

- Changes or modifications not expressly approved by Bose Professional could void the user's authority to operate this equipment.
- This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
- This product meets all EN55103-2 immunity requirements for E2 electromagnetic environment.
- Initial turn on inrush current: 11.8 A (230 VAC, 50 Hz), 11.7 A (120 VAC, 60 Hz)
- Inrush current after AC mains interruption of 5 seconds: 10.6 A (230 VAC, 50 Hz), 10.8 A (120 VAC, 60 Hz)

This product conforms to all applicable EU directive requirements. The complete declaration of conformity can be found at: www.Bose.com/compliance.
This product conforms to all applicable Electromagnetic Compatibility Regulations 2016 and all other applicable UK regulations. The complete declaration of conformity can be found at: **www.Bose.com/compliance**
This symbol means the product must not be discarded as household waste, and should be delivered to an appropriate collection facility for recycling. Proper disposal and recycling helps protect natural resources, human health and the environment. For more information on disposal and recycling of this product, contact your local

municipality, disposal service, or the shop where you bought this product.

Overview

Put the power where you need it. PowerShare amplifiers deliver outstanding audio performance and reliability with patented technologies inherited from the field-proven PowerMatch line — now with added flexibility. Using innovative technology, the PowerShare PS604D (PS404D) shares power across all output channels and delivers 600 (400) watts for installed applications. This means you can distribute the total 600 (400) watts asymmetrically across all outputs or use any individual output to deliver full power. And with support for both low- and high-impedance loads up to 100V, it's easy to adapt PowerShare amplifiers to a wide range of applications. ControlSpace Designer software allows for Ethernet-based configuration and quick setup of external control options. With onboard Dante® audio networking, you have the flexibility to place PowerShare amplifiers away from source locations and closer to loudspeakers. This unique set of features and technologies makes PowerShare one of the most versatile, high-performance amplifiers available today.

Product Features

PowerShare Technology
Distribute the total 600 (400) watts asymmetrically across all outputs using patented PowerShare technology, which allows each output to deliver full power. Instead of selecting amplifier power based on the needs of the largest zone, you now have the freedom to use total amplifier power in any application. This enables more flexibility during the initial design, or later on-site when making unplanned changes that take advantage of surplus power.

Load-independent Outputs
Configure any channel for low-impedance (4-8 Ω) or high-impedance (70/100V) applications without bridging or using jumpers.

Integrated Dante Audio Networking
Support four audio input channels from a Dante network and mix onboard analog inputs with digital Dante inputs as selected in ControlSpace Designer software.

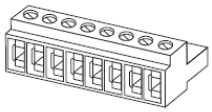
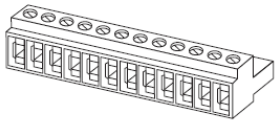
Dual Feedback Loop System
Improve performance and reliability. The Dual Feedback Loop system, inherited from the field-proven Bose Professional PowerMatch amplifier line, allows for continuous monitoring and control of both the current and voltage delivered to each output load. This combination provides improved linearity and lower distortion while protecting loudspeakers.

ControlSpace Networking
Configure using ControlSpace Designer software for inclusion into larger networked audio systems where end-user controllers and scheduling events can control amplifier parameters.

Integrated Loudspeaker Processing
Adjust various parameters using ControlSpace Designer software: nine-band PEQs, matrix mixing, crossover, limiters, delay, mute/output polarity, and more.

Auto-standby
Save power — PowerShare amplifiers can be configured to automatically enter standby mode when the audio signal falls below a set threshold, then wake when audio returns.

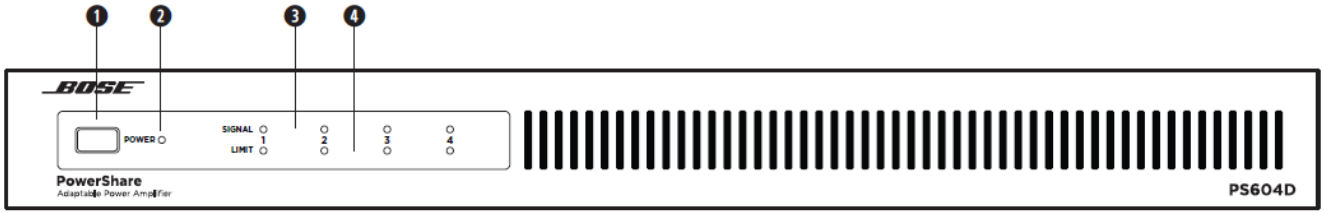
Package Contents
Your PowerShare amplifier will come with the following accessories:

Accessories		PS604D	PS404D
	AC power cord	1	1
	2-pin Euroblock (black)	1	1
	8-pin Euroblock (green)	1	1
	12-pin Euroblock (green)	1	1

Product Details

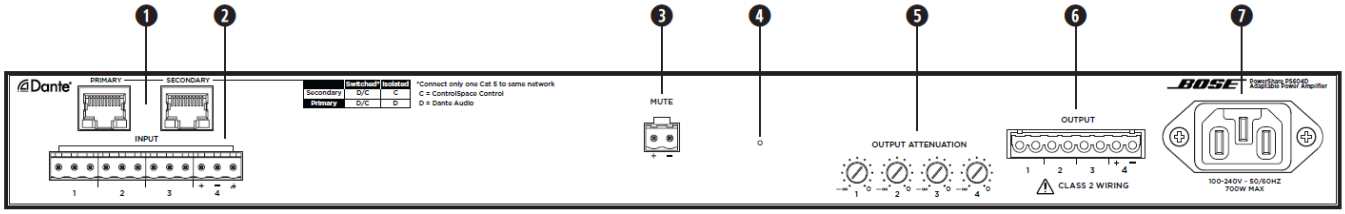
PowerShare PS604D/PS404D

Front Panel



❶ **Power switch:**	On/Off AC power.	
❷ **Power LED:**	Power or fault state indication.	**Green (solid):** Power is on **Green (blinking):** Unit is in standby mode **Amber (solid):** Thermal fault **Red (solid):** Power supply fault
❸ **Input Signal LED:**	Each LED operates independently.	**Green:** Signal present **Amber:** Input is near clipping **Red (solid):** Indicates a fault **Red (blinking):** Input is clipping
❹ **Output Limit LED:**	Each LED operates independently.	**Amber:** Amplifier limiting an output **Red (solid):** Indicates a fault **Red (blinking):** Amplifier muted

Rear Panel



1. **Dante ports:** Ethernet ports for connection of Dante® and ControlSpace devices. Transports up to four digital

audio channels between a Dante device and the amplifier. The amplifier supports a THRU path for daisy-chaining to other Dante devices in switched mode. Dante audio and ControlSpace control can be separated using Isolated mode.

2. **Analog Input**: Line-level input for balanced analog audio signals.
3. **Mute port:** Normally open or normally closed (consult ControlSpace Designer help system) dry contacts can mute all outputs.
4. **Reset button:** Resets the amplifier to factory default settings (see Resetting the PS604D/PS404D on page 14). t Output Attenuation controls: Output attenuation controls for each output. Turn the controls clockwise to decrease attenuation and counter-clockwise to increase attenuation.
5. **Analog Output:** Eight-pin Euroblock connector for loudspeaker connections.
6. **Power input:** Power cord connection (IEC 60320-C14 inlet). Removing the power cord when the amplifier is on is equivalent to powering down using the front panel power switch, and is an acceptable power-down method.

Installation

Setting Up the PowerShare Amplifier
The asymmetrical PowerShare capability of the amplifier is easy to use and does not require software to configure. Set the output trims according to the power you want distributed to each output load and the amplifier ensures that the 600 watts (PS604D), or 400 watts (PS404D), power is not exceeded. In scenarios where more power is demanded from the amplifier, the amplifier will automatically limit all outputs equally until the power demand is reduced.

How to Set Up a PowerShare Amplifier:

1. Starting with the amplifier power OFF, make all required power and audio connections.
2. All configuration is done within ControlSpace Designer software:
    - A. Connect the PC or laptop to either amplifier's Dante port, or connect to the amplifier via a network switch.
    - B. Turn the amplifier ON.
    - C. Start the ControlSpace Designer software on your PC or laptop and configure each signal processing block as required for the application. See the ControlSpace Designer help system for details.
    - D. Inputs are analog by default to ensure audio can pass through the amplifier with no programming necessary. Use ControlSpace Designer to change each input from analog to Dante® as necessary.
3. If using CC-D ControlCenter digital zone controller(s) for remote control, rotate each Output Attenuation control fully clockwise to 0 dB attenuation. This enables each CC-D zone controller to attenuate over the full range. To have the CC-D operate across a limited range, increase the output attenuation as needed by rotating the Output Attenuation control counter-clockwise.
4. If all outputs are set to drive 70/100-volt Hi-Z loudspeakers, rotate each corresponding Output Attenuation control to 0 dB attenuation. Set each loudspeaker tap to the appropriate setting. Based on the total loudspeaker tap settings, the amplifier will adapt and deliver the required power to each output. The total amplifier wattage can be distributed in any way across all amplifier outputs.
5. If all outputs are set to drive 4-8 Ω Low-Z loudspeakers, rotate each Output Attenuation control until the desired levels are reached. Play a signal containing the highest normal program or pink noise input level. Ensure the material is near the input sensitivity for best noise performance. Observe the Output Limit LED for the output being adjusted. If the signal level is higher than the protection limit for the loudspeaker, the Output Limit LED will light amber. Increase the attenuation until the Output Limit LED does not light, or only occasionally lights. The

total amplifier wattage can be distributed in any way across all amplifier outputs.

6. Since each output is configurable to drive either Hi-Z or Low-Z loudspeakers, the amplifier can support mixed-impedance installations. In this setup, first configure the Hi-Z channels before configuring the Low-Z channels.
7. When setting up the amplifier, monitor the Input Signal LEDs for input clipping and the Output Limit LEDs for output limiting to ensure the amplifier is working within proper operating conditions. Make adjustments if necessary.

Technical Considerations:
When a loudspeaker EQ is selected in ControlSpace Designer, the appropriate crossover and VPk and VRMS limiters for that loudspeaker are automatically loaded. Adjusting the Output Attenuation control of a single channel does not affect the level of other channels. The only exception is if the amplifier is attempting to deliver more than the total amplifier wattage. If the total amplifier power is exceeded, the amplifier will limit all outputs simultaneously and equally until the demand is reduced. If the demand remains too high, the amplifier will gradually limit to an average of 200 watts continuously.

There are multiple ways to adjust output power in a PowerShare amplifier application:

- Adjust input signal level relative to the sensitivity setting of the amplifier.
- Adjust the Matrix level in ControlSpace Designer.
- Adjust the Out levels in ControlSpace Designer.
- Adjust the Output Attenuation controls of the amplifier.
- Adjust the CC-D ControlCenter digital zone controller(s) settings.
- Adjust the limiter settings for each output using ControlSpace Designer software.
- Adjust the transformer tap settings of any connected Hi-Z loudspeakers.

PowerShare Amplifier Network Connection
Before configuring your PowerShare PS604D/PS404D, download the latest version of ControlSpace Designer at BoseProfessional.com.

Establish Network Connection
Connect the PS604D/PS404D either directly to a PC, or through an Ethernet switch via one of the two Dante ports. Ensure that the PC is on the same subnet as the PS604D/PS404D using one of the following methods:

- Set the PC to DHCP and connect a DHCP server to the network. Both the PS604D/PS404D and the PC will obtain an IP address from the DHCP server.
- Set the PC to DHCP and without a DHCP server. Both the PS604D/PS404D and the PC will obtain an AutoIP-assigned IP address (link-local).

For more information, see the ControlSpace Designer software help system.

ControlSpace Designer Configuration
If all the network connections and settings are done correctly, ControlSpace Designer should automatically identify the PowerShare amplifier on the network. With a network connection in place and ControlSpace Designer software installed, use the Hardware Manager tool inside ControlSpace Designer to scan and update the amplifier firmware. For full details on using ControlSpace Designer to configure, control, and monitor the amplifier or systems built with Bose Professional networked system electronics, consult the ControlSpace Designer help system.

Resetting the PS604D/PS404D

The reset procedure can be used on a PowerShare PS604D or PS404D amplifier to clear the project file (programming defaults) and network settings. Reset your amplifier to clear all device settings to start from a factory default version. resolve network issue where the IP address is unknown. The IP address will default to DHCP and if DHCP server is not available, a link-local address will be used. diagnose/resolve problems with a bad or incompatible project file.

The reset procedure can be done with the following steps. Read the whole procedure before following the steps.

1. If possible, back up your CSD design before doing a reset because the amplifier's settings will be cleared and default settings will be restored.
2. Turn the power off with the Power switch.
3. Wait over 10 seconds for power to fully discharge.
4. Use a paper clip (or similar tool) to depress the Reset button in the rear panel of the amplifier.
5. While depressing the Reset button, press the Power switch to turn the device power back on. The Input Signal LEDs will light green.
6. Continue depressing the Reset button until the Input Signal LEDs are lit for four seconds, then release the Reset button. The Input Signal LEDs will blink rapidly if the reset procedure was successful.

Importance of Proper Ventilation

For placement of the amplifier, keep the following in mind:

- Make sure that air can circulate freely from left to right for adequate ventilation. There are vents on the sides.
- The temperature of the rack should be controlled to ensure that amplifiers are not exposed to ambient temperatures exceeding 40 °C (104 °F).
- Do not cover or block amplifier vents.
- Do not place the amplifier in an enclosed space, such as a cabinet.
- Make sure the chassis is protected from heat and kept away from direct heat sources, such as heating vents and radiators.

The two fans in each amplifier run together at a variable speed. The fans will spin faster as the internal temperature increases in order to keep the amplifier out of thermal shutdown when operating at 40 °C (104 °F) or less, and at 200 watts of continuous power or less.

CAUTION: Do not allow the chassis to exceed the maximum operating temperature of 40 °C (104 °F). Be aware of conditions in an enclosed rack that may increase the temperature above room-ambient conditions. If the amplifier becomes too hot, it will go into a thermal protection mode and mute all outputs.

Rack Mounting

PowerShare amplifiers are designed to fit standard 48-centimeter (19 in) rack equipment, occupying 1 rack-unit (RU) in height, requiring a mounting depth of 40.1 centimeters (5.8 in) from the front rack rail. Use four fasteners with washers (not supplied) to mount the amplifier front panel rack ears to the equipment rack rails.

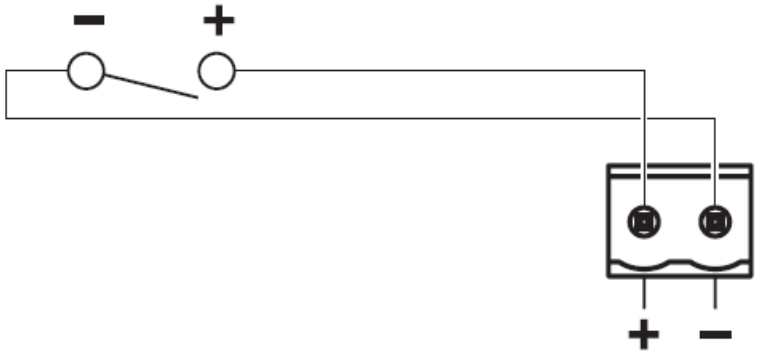
CAUTION: Only use the mounting hardware recommended by the rack manufacturer.

Mute with Standard Contact Closure

The amplifier is designed to mute all outputs either when the Mute contacts are shorted together, or when the Mute

contacts are opened, depending on the amplifier configuration.
The default state is Normally Open (NO), where a short across the mute connector will mute all outputs. The mute polarity can be inverted to Normally Closed (NC), where an open across the mute connector will mute all outputs, using ControlSpace Designer.
Note: All Limit LEDs will blink red when the amplifier is muted from software, or from the rear panel mute connector.

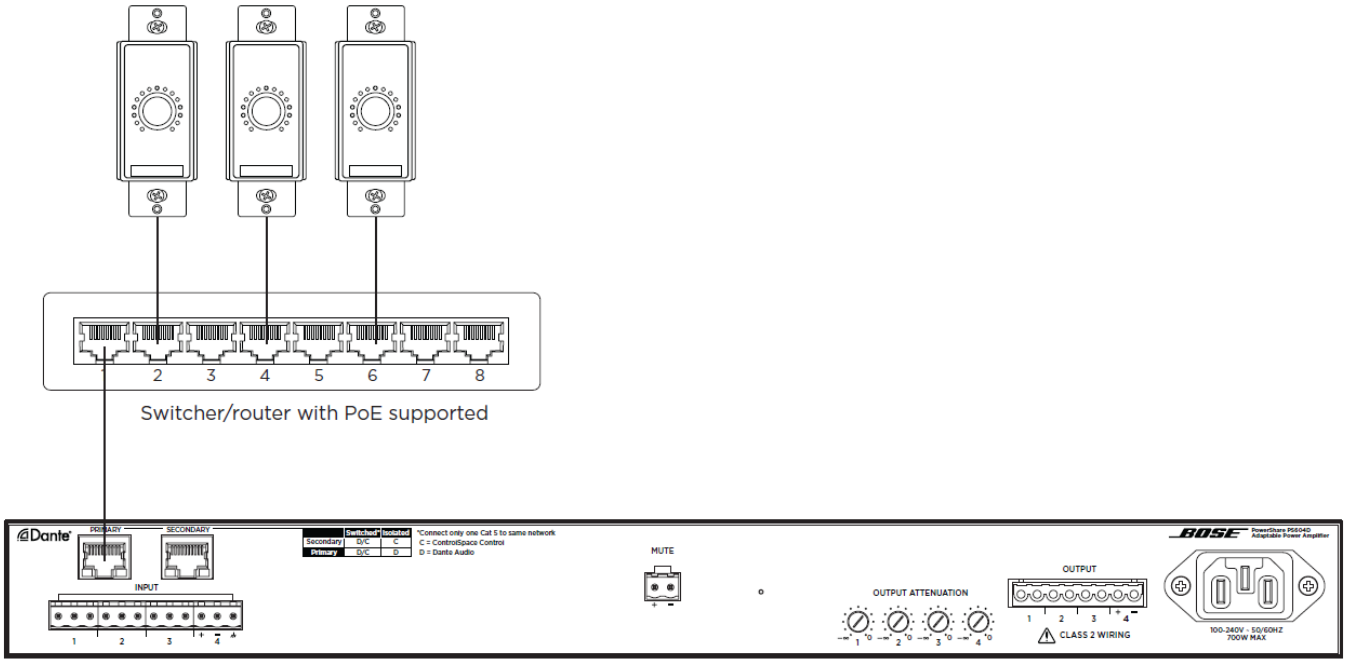
Use the included 2-pin Euroblock.



Remote Volume Control

Control Center Digital Zone Controllers

Remotely control the volume of the PS604D and PS404D amplifiers with Bose Professional ControlCenter digital zone controllers (CC-1D, CC-2D, and CC-3D). Use CC-1D for volume control and use CC-2D and CC-3D for volume and source control. A CC-D can be connected to a PS604D/PS404D directly to one of the two Dante ports using a standard Cat 5 cable. CC-D controllers must be connected via a PoE network switch. Configure your CC-D controllers using ControlSpace Designer. For more information on ControlCenter digital zone controllers, visit BoseProfessional.com.



Technical Information

Troubleshooting

Problem	What to do

No power	Turn on power. Green LED on front panel will be visible when power is on. Make sure t he power cord is plugged in. Try a different AC outlet that is working with another piece of equipment.
Power is on, but no sou nd	Make sure the input source is turned on. Verify that there is an input signal from the source. Check the cable connections from the source to the amplifier. Make sure the **Output Attenuation** controls are not turned down to mute. If a CC-D digital zone controller is connected to the amplifier, make sure the volume c ontrol on the zone controller is turned up. If a contact closure is connected to the **Mute** port on the rear panel, check the switch t o ensure the mute function has not been triggered. Make sure that loudspeaker tap settings are set correctly. Check that the amplifier has adequate ventilation. Improper ventilation could cause th e amplifier to go into thermal protection mode and no audio will be heard. Ensure that the output wiring is correct. A short circuit will cause the amplifier to go int o protection mode and no audio will be heard. Check **Matrix** and **Out** levels using ControlSpace Designer. Check Dante® subscripti ons if applicable.
Power is on, but sound is low	Verify that the audio input source output is turned up to a nominal level. Check the ca ble connections from the source to the amplifier. Make sure the **Output Attenuation** controls are not turned down too low. If a CC-D digital zone controller is connected to the amplifier, make sure the volume c ontrol on the zone controller is turned up. Make sure that loudspeaker tap settings are set correctly. Check **Matrix** and **Out** level s using ControlSpace Designer.
Sound is distorted	Verify that the **Signal LED** on the front panel is not red. If it is red, reduce the source output level, or increase the amplifier analog input sensitivity to 12 dBu. If the input source signal is clean, verify that the loudspeakers are not overdriven or d amaged. Check the loudspeaker tap setting. Using ControlSpace Designer software, verify that the audio input signal indicator bloc ks are not showing solid red or flashing red. If they are, reduce the input pre- gain sett ing to where the input is no longer clipping (red). Using ControlSpace Designer software, verify that the audio output signal indicator bl ocks are not solid red or flashing red. If they are, and the input indicators are green, u se the Designer software to reduce the output gain or any intermediary gain in the sig nal path. If the input source signal is clean when it enters the system, and the input and output i ndicators are green, verify that the loudspeakers are not being overdriven and are not damaged.

Unnatural sound	Verify that the proper EQ preset is selected for the loudspeakers being used.

No PS604D/PS404D network connectivity with ControlSpace Designer running on PC	Verify that the amplifier is fully booted. The **Power** LED should appear solid green. Verify that the LAN settings on the TCP/IP Ethernet device you are using on the PC are set correctly: If not using a DHCP server, the network properties of the PC should be set to **Automatic** to connect with PowerShare at link-local. Check firewall settings on the PC, unblock all ports. Verify that the proper Host Network Interface Card Name is selected in ControlSpace Designer Hardware Manager. Verify that the **Current Project Settings Network Address** and **Subnet Mask** within ControlSpace Designer Hardware Manager match the network, whether using DHCP or link-local (link-local uses Subnet Mask **255.255.0.0**). Verify that there is not another device connected to the network with the same IP address. Refer to the ControlSpace Designer help system for detailed steps to ensure the amplifier is on the same network as the PC running ControlSpace Designer.
No PS604D/ PS404D Dante® audio subscriptions or audio	Ensure the amplifier's Dante IP address is on the same network as the other Dante devices in the system. To change the amplifier's Dante IP, use Audinate's Dante Controller software, or consult the ControlSpace Designer help system. Sometimes it can be helpful to change the PC's network settings from static IP to DHCP to view and change the Dante IP address.

AC Current Draw and Thermal Dissipation Information

PS604D
The amplifier rated channel power for the PS604D is 600 W, distributed across four outputs.

PS604D AC Current Draw and Thermal Dissipation (120 VAC, 60 Hz)						
Test Signal & Power Level	**Load Configuration (All channels driven)**	**Total Audio Output, W**	**Line Current, A**	**Thermal Dissipation, Max**		
				Watts	**BTU/hr**	**kCal/hr**
Power On, Idling		0	0.63	76	258	65
1/8th Rated Power IEC268 Bandlimited Pink Noise	4-8 Ω	75	1.60	117	399	101
1/8th Rated Power IEC268 Bandlimited Pink Noise	70/100V	75	1.40	93	317	80
1/3rd Rated Power IEC268 Bandlimited Pink Noise	4-8 Ω	200	2.85	142	485	122
1/3rd Rated Power IEC268 Bandlimited Pink Noise	70/100V	200	2.70	124	423	107
PS604D AC Current Draw and Thermal Dissipation (230 VAC, 50 Hz)						
Test Signal & Power Level	**Load Configuration (All channels driven)**	**Total Audio Output, W**	**Line Current, A**	**Thermal Dissipation, Max**		
				Watts	**BTU/hr**	**kCal/hr**
Power On, Idling		0	0.33	76	259	65
1/8th Rated Power IEC268 Bandlimited Pink Noise	4-8 Ω	75	0.80	109	372	94
1/8th Rated Power IEC268 Bandlimited Pink Noise	70/100V	75	0.74	95	325	82
1/3rd Rated Power IEC268 Bandlimited Pink Noise	4-8 Ω	200	1.50	145	495	125
1/3rd Rated Power IEC268 Bandlimited Pink Noise	70/100V	200	1.40	122	416	105

PS404D

The amplifier rated channel power for the PS404D is 400 W, distributed across four outputs.

PS404D AC Current Draw and Thermal Dissipation (120 VAC, 60 Hz)						
Test Signal & Power Level	**Load Configuration (All channels driven)**	**Total Audio Output, W**	**Line Current, A**	**Thermal Dissipation, Max**		
				Watts	**BTU/hr**	**kCal/hr**
Power On, Idling		0	0.63	76	258	65
1/8th Rated Power IEC268 Bandlimited Pink Noise	4-8 Ω	50	1.25	100	341	86
1/8th Rated Power IEC268 Bandlimited Pink Noise	70/100V	50	1.20	94	321	81
1/3rd Rated Power IEC268 Bandlimited Pink Noise	4-8 Ω	133	2.10	119	406	102
1/3rd Rated Power IEC268 Bandlimited Pink Noise	70/100V	133	2.00	107	365	92
PS404D AC Current Draw and Thermal Dissipation (230 VAC, 50 Hz)						
Test Signal & Power Level	**Load Configuration (All channels driven)**	**Total Audio Output, W**	**Line Current, A**	**Thermal Dissipation, Max**		
				Watts	**BTU/hr**	**kCal/hr**
Power On, Idling		0	0.33	76	259	65
1/8th Rated Power IEC268 Bandlimited Pink Noise	4-8 Ω	50	0.66	102	347	88
1/8th Rated Power IEC268 Bandlimited Pink Noise	70/100V	50	0.60	88	300	76
1/3rd Rated Power IEC268 Bandlimited Pink Noise	4-8 Ω	133	1.10	120	409	103
1/3rd Rated Power IEC268 Bandlimited Pink Noise	70/100V	133	1.00	97	331	83

Technical Specifications

PS604D

Power Rating		
Amplifier Power	4 × 150 W (THD+N < 0.04% 1 kHz, 4–8 Ω, 70/100 V)	
Maximum Power per Channel	600 W @ 4–8 Ω, 70/100 V	
Gain (Low-Z mode)	32.0 dB	
Gain (70 V mode)	35.0 dB	
Gain (100 V mode)	38.0 dB	
Audio Performance		
Frequency Response	4–8 Ω: 20 Hz to 20 kHz (± 0.5 dB @ 1 W); 70/100 V: Same as 4–8 Ω with 50 Hz high-pass filter	
Channel Separation (Crosstalk)	> 85 dB @ 1 kHz, > 65 dB @ 20 kHz	
Signal to Noise Ratio	100 dB (at rated power, A-weighted)	
Audio Inputs	**Analog**	**Dante®**
Input Channels	4 balanced	4 digital
Connectors	12-pin Euroblock	RJ-45 (primary)
Input Impedance	20 kΩ	—
Maximum Input Level	20 dBu (at 12 dBu sensitivity setting)	—
Sensitivity	4 / 12 dBu (low/high sensitivity)	—
Audio Outputs	**Analog**	**Dante**
Outputs	4	4 digital
Connectors	8-pin inverted Euroblock	RJ-45 (secondary)
Integrated DSP		
A/D and D/A Converters	24-bit / 48 kHz	
Processing Functions	Matrix mixer, loudspeaker EQ, real-time 9-band PEQ, VPk/VRMS limiters, delay, band pass, mute/ output polarity inversion	
Audio Latency	< 1 ms (Analog input to analog loudspeaker output)	

Indicators and Controls		
Power LED	Solid green: Power is on. Blinking green: Unit is in standby mode. Solid amber: Thermal fault. Solid red: Supply fault.	
Input Signal LED	Green: Signal present. Amber: Input is near clipping. Red: Input is clipping. Solid red: Indicates a fault.	
Output Limit LED	Amber: Amplifier limiting an output. Blinking red: Amplifier muted. Solid red: Indicates a fault.	
Controls, Front Panel	Power On/Off	
Controls, Rear Panel	Output attenuators	
Electrical		
Mains Voltage	100 VAC to 240 VAC (±10%, 50/60 Hz)	
AC Power Consumption	120 VAC: 14 W (Standby), 700 W (Max)	230 VAC: 14 W (Standby), 700 W (Max)
Mains Connector	Standard IEC (C14)	
Maximum Inrush Current	14.14 A (230 VAC / 50 Hz), 8.04 A (120 VAC / 60 Hz)	
Protections	High temperature, output short, extra high frequency (EHF), excessively low or high AC line voltage	
Physical		
Dimensions (H × W × D)	44 mm × 483 mm × 414 mm (1.7 in × 19.0 in × 16.3 in)	
Shipping Weight	7.8 kg (17.2 lbs)	
Net Weight	6.4 kg (14.1 lbs)	
Cooling System	Microprocessor controlled, variable speed fans, left to right air flow	
General		
Inputs (Control)	Mute input control	

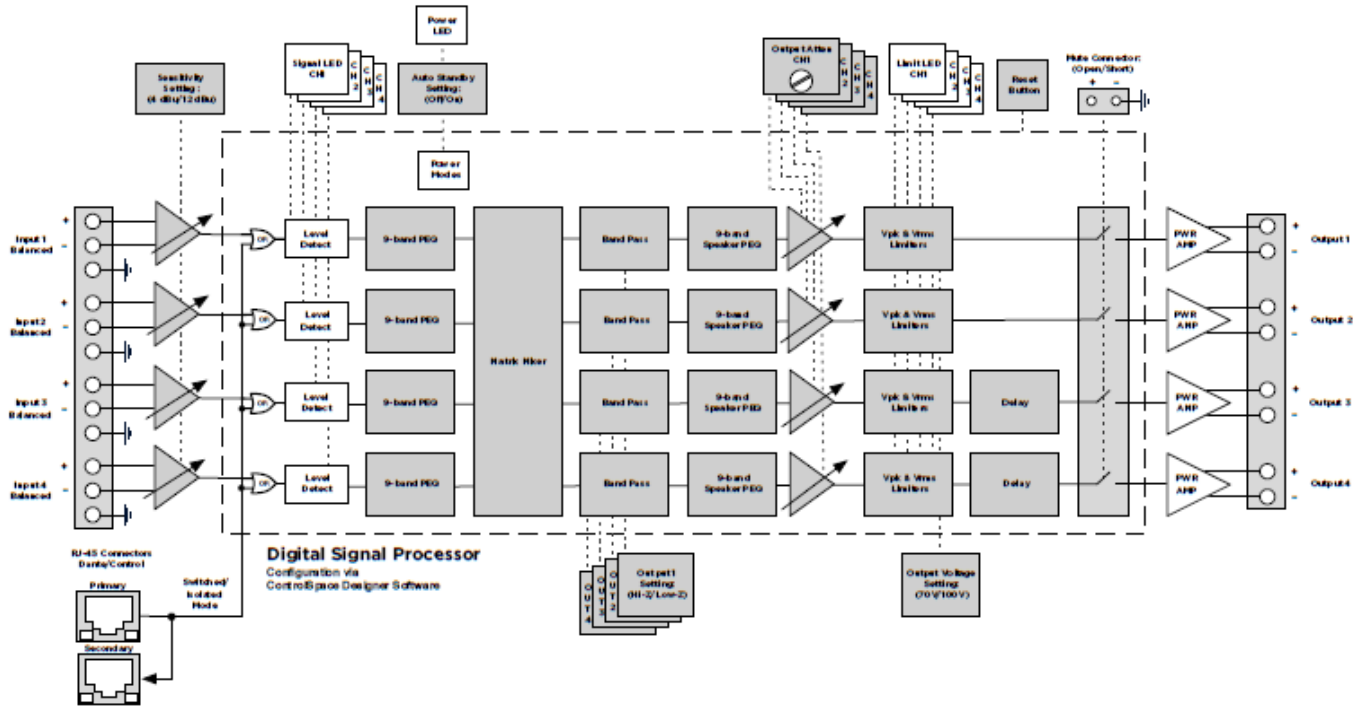
PS404D

Power Rating	
Amplifier Power	4 × 100 W (THD+N < 0.04% 1 kHz, 4–8 Ω, 70/100 V)

Maximum Power per Channel	400 W @ 4–8 Ω, 70/100 V	
Gain (Low-Z mode)	30.2 dB	
Gain (70 V mode)	35.0 dB	
Gain (100 V mode)	38.0 dB	
Audio Performance		
Frequency Response	4–8 Ω: 20 Hz to 20 kHz (± 0.5 dB @ 1 W); 70/100 V: Same as 4–8 Ω with 50 Hz high-pass filter	
Channel Separation (Crosstalk)	> 85 dB @ 1 kHz, > 65 dB @ 20 kHz	
Signal to Noise Ratio	100 dB (at rated power, A-weighted)	
Audio Inputs	**Analog**	**Dante®**
Input Channels	4 balanced	4 digital
Connectors	12-pin Euroblock	RJ-45 (primary)
Input Impedance	20 kΩ	—
Maximum Input Level	20 dBu (at 12 dBu sensitivity setting)	—
Sensitivity	4 / 12 dBu (low/high sensitivity)	—
Audio Outputs	**Analog**	**Dante**
Outputs	4	4 digital
Connectors	8-pin inverted Euroblock	RJ-45 (secondary)
Integrated DSP		
A/D and D/A Converters	24-bit / 48 kHz	
Processing Functions	Matrix mixer, loudspeaker EQ, real-time 9-band PEQ, VPk/VRMS limiters, delay, band pass, mute/ output polarity inversion	
Audio Latency	< 1 ms (Analog input to analog loudspeaker output)	
Indicators and Controls		
Power LED	Solid green: Power is on. Blinking green: Unit is in standby mode. Solid amber: Thermal fault. Solid red: Supply fault.	
Input Signal LED	Green: Signal present. Amber: Input is near clipping. Red: Input is clipping. Solid red: Indicates a fault.	

Output Limit LED	Amber: Amplifier limiting an output. Blinking red: Amplifier muted. Solid red: Indicates a fault.	
Controls, Front Panel	Power On/Off	
Controls, Rear Panel	Output attenuators	
Electrical		
Mains Voltage	100 VAC to 240 VAC (±10%, 50/60 Hz)	
AC Power Consumption	120 VAC: 14 W (Standby), 500 W (Max)	230 VAC: 14 W (Standby), 500 W (Max)
Mains Connector	Standard IEC (C14)	
Maximum Inrush Current	14.14 A (230 VAC / 50 Hz), 8.04 A (120 VAC / 60 Hz)	
Protections	High temperature, output short, extra high frequency (EHF), excessively low or high AC line voltage	
Physical		
Dimensions (H × W × D)	44 mm × 483 mm × 414 mm (1.7 in × 19.0 in × 16.3 in)	
Shipping Weight	7.8 kg (17.2 lbs)	
Net Weight	6.4 kg (14.1 lbs)	
Cooling System	Microprocessor controlled, variable speed fans, left to right air flow	
General		
Inputs (Control)	Mute input control	

Block Diagrams



PowerShare PS604D and PS404D.

Documents / Resources

	BOSE PS604D Adaptable Power Amplifiers [pdf] Installation Guide PS604D Adaptable Power Amplifiers, PS604D, Adaptable Power Amplifiers, Power Amplifiers, Amplifiers

References

- User Manual