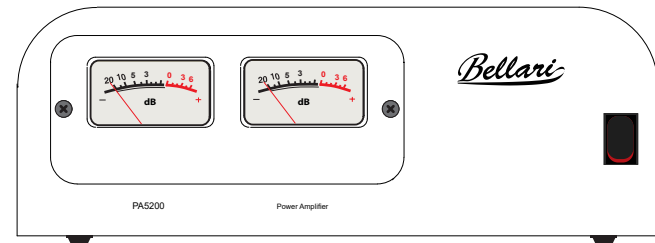


What's in the box?

- 1 - PA5200 proudly made in Salt Lake City, UT
- 1 - Owner's Manual
- 1 - IEC power cord
- 1 - Love for audio, Decades of experience building and designing

Bellari

PA5200 Stereo Power Amplifier



SPECIFICATIONS:

Nominal Output Power	50 watts @ 2 ohms 50 watts @ 4 ohms 50 watts @ 8 ohms
Power Stage Gain:	27.2 dB
Input Impedance:	22k
Connection Output Impedance:	1.6 to 16 ohm speakers
Output Impedance:	< 0.32 ohms from 20 Hz to 20 kHz (Measured under 8 ohms)
Dampening factor:	> 100
Frequency Response:	20Hz-20Khz, +0 /- 0.1db 4Hz-143KHz, +0 /-3dB
Phase shift:	0 Deg.
Volume Max gain:	27.2 dB no load
THD:	.015% @ 1KHz
Rise Time:	< 0.9 μ s
Slew Rate:	> 20 V/ μ s, peak-peak
DC Output Voltage:	$\pm$ 0 mV
Crosstalk:	< - 95 dB from 20Hz to 20kHz
S/N Ratio:	>100 dB unweighted
Size:	9.8"w x 8"d x 3.75"h
Weight:	12 lbs

Bellari

Bellari
Salt Lake City, UT
11/25

Connection guide

Thanks so much for picking up the Bellari PA5200! We put a lot of care and time into designing and building this amp, and we hope it makes your music sound amazing. We truly appreciate the chance to be part of your love for great sound. Making audio gear is our passion, and we're always happy to help. Every Bellari product is hand-built right here in Salt Lake City, Utah, by people who genuinely care about quality music.

INTRODUCTION

The PA5200. At every design stage we focused on one thing, sound quality.

We assemble the PCB's at our Salt Lake City factory. We then flow-solder the PCB's and send them to post-flow assembly, where we add the fragile components by hand. We test the PCB's and then send them to mechanical assembly, where the PA5200 is completed and tested again. The boxes we use are made in a facility just a few miles away. Even the outbound shipping boxes, biodegradable peanuts, and printing materials are made in the U.S.

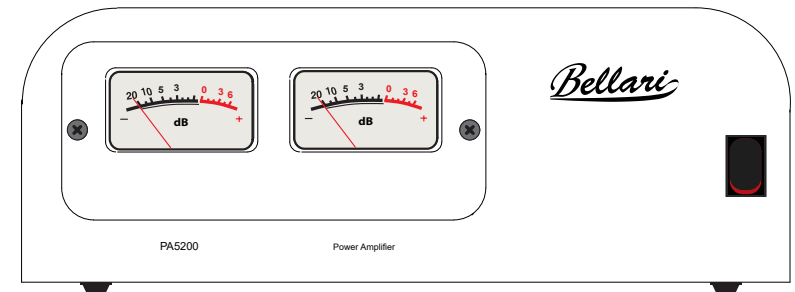
Yes, some of the parts we use—such as the power cord, jacks, knob, and IC's—are not made by us and come from countries outside the U.S. However, we pride ourselves on keeping as much as we can here, including 100% of the product development and design. Even this manual was written in the U.S. by us.

OPERATION - CONNECTION

The PA5200 is a stereo power amplifier. Connect your preferred input RCA. Connect a pair of speakers to the outputs. Adjust to your desired level with your preamp.

FRONT PANEL

POWER: The main power switch for the unit. This a true OFF switch that completely disconnects the unit from power - it is not a standby mode switch

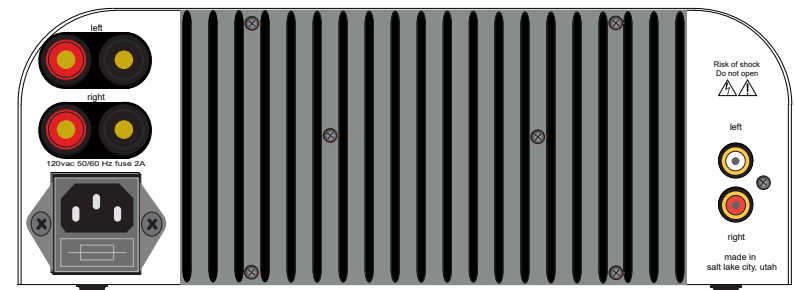


REAR PANEL

RIGHT and LEFT OUTPUT: For connection to your speakers.

RCA INPUT: Source input (preamp, DAC, Phono Pre or other player).

Power in: For connection to the included power cord.



Q: How do you get those wattage results on the PA5200?

A: With an overbuilt power supply and an output section far larger than needed. For example, the PA5200's output stage is more than twice what's required for its rated wattage

Q: Why is audio so complicated and weird?

A: Audio isn't complicated—it's personal. People prioritize different aspects of sound for different reasons. Some spend a lot on cords, cables, or amplifiers because it makes them happy. That's the point: enjoyment. The only issue arises when someone tries to justify their choices to others; everyone experiences gear differently, and there's no universal standard for "happiness in sound."

Q: Why is it so difficult to connect my speakers to the terminals? Was this a design mistake?

A: No, it was intentional—we designed the amplifier to be very compact, which affected the terminal layout.

The PA5200 is a compact power amplifier built to drive high-end speakers properly without taking up much space. While an amp's basic job is to make signals louder, it actually has to take the small signal from your preamp and convert it into the precise current needed to move your speaker's voice coils quickly enough to reproduce sound accurately. It's a job to deliver real power while preserving the subtle details that make music come alive.

The PA5200 uses a DMOS architecture with a unique approach: it can deliver 50 watts into almost any load—8, 4, 2, and even 1.6 ohms. We designed it this way because many modern low-impedance speakers can drop below 3 ohms at certain frequencies, especially near crossover points. Most amps struggle here, often triggering protection circuits and leaving gaps in the music.

Speakers are not simple resistors—their impedance changes dramatically across frequencies. A good power amp must remain stable and clean, no matter the load, whether it's a straightforward 6-ohm speaker or a demanding 1.6-ohm dip. Historically, only high-end speakers required this level of amp performance, but even many modern, more affordable designs now have challenging impedance swings.

The PA5200 can handle these, ensuring you hear every detail without drops or distortion. Even challenging speaker models, which can dip to 2.8 ohms, are no problem. This amplifier brings high-end performance into a smaller, more versatile package.

Q: Why do some amplifiers cost thousands of dollars?

A: Many high-end amps are produced in small batches by boutique manufacturers who understand how to properly drive low-impedance speakers. It's craftsmanship and engineering focused on performance, not mass production.

Q: Are they really worth it—even the \$20K ones?

A: Absolutely. If your speakers demand precise current delivery at specific frequencies, these amps aren't just "nice to have"—they're essential for accurate sound.

Q: I understand, but tens of thousands?

A: Here's the truth: a large portion of that cost is in the chassis. Many of these amps are machined from solid blocks of aluminum, and the chassis alone can account for around 90% of the price. Sure, they look amazing—but it's not all about aesthetics.

Q: I think I get it, but some of those amps have thousands of watts. What gives?

A: I've done extensive testing on this. In most listening environments, you're simply not using anything near 1000 watts—or even 100 watts. Unless you're at a live performance with a line-array speaker system, the reality is that you only need between 2.7 and 11 watts to get an excellent sound level.

Here's a rough guide for a standard-sized room with bookshelf speakers:

2.7 watts gets you about 82 dB at the listening position—loud enough to enjoy music but still low enough to carry on a conversation with someone next to you.

4 watts brings you to 85 dB, where talking to someone nearby becomes difficult without raising your voice.

8 watts gets you to 88 dB—no chance for casual conversation.

10.7 watts pushes the volume close to what your neighbors might notice, easily going above 90 dB.

These are approximations; room size, speaker efficiency, and many other factors can shift numbers. Testing—first with Jim Fosgate and later with David DiFrancesco—confirmed these results.

Q: Well, that sounds great, but I have very large speakers—so clearly I need a large amp...?

A: Actually, the tests above were done with bookshelf speakers in both two- and three-way designs. As your speakers get larger, assuming all other factors are similar, you generally need less power than you would for a small bookshelf speaker. Larger speakers often produce more acoustic output with the same or less electrical power.