

The **PAM8610 Digital Audio Amplifier Board** is a compact, high-efficiency Class-D stereo amplifier module designed to deliver outstanding sound quality while consuming minimal power. With a maximum output of **2 × 15W stereo channels**, this amplifier board is an excellent choice for audio enthusiasts, hobbyists, and professionals who need a reliable, lightweight, and low-power solution for portable audio systems, DIY projects, and embedded electronics applications.

Powered by a wide input voltage range of **7V to 15V**, the PAM8610 amplifier module offers flexibility and adaptability across different setups. Whether you're building a **DIY speaker system**, upgrading an existing audio project, or integrating sound into an embedded system, this amplifier board provides the **clarity, power, and efficiency** needed for modern digital audio applications.



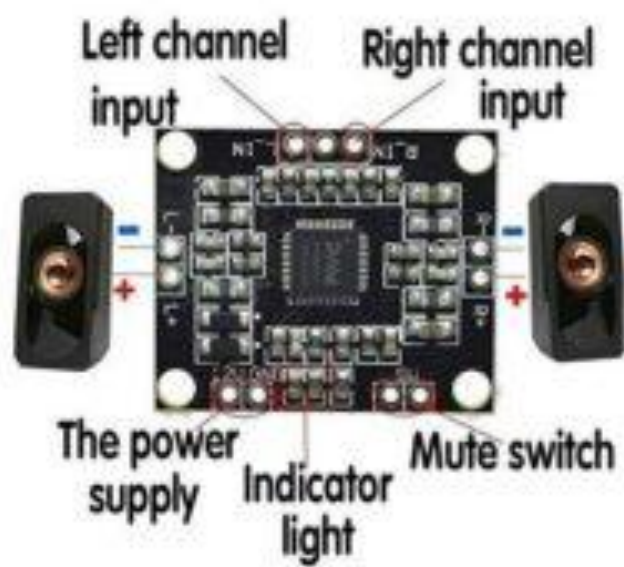
Key Features of the PAM8610 Digital Audio Amplifier Board

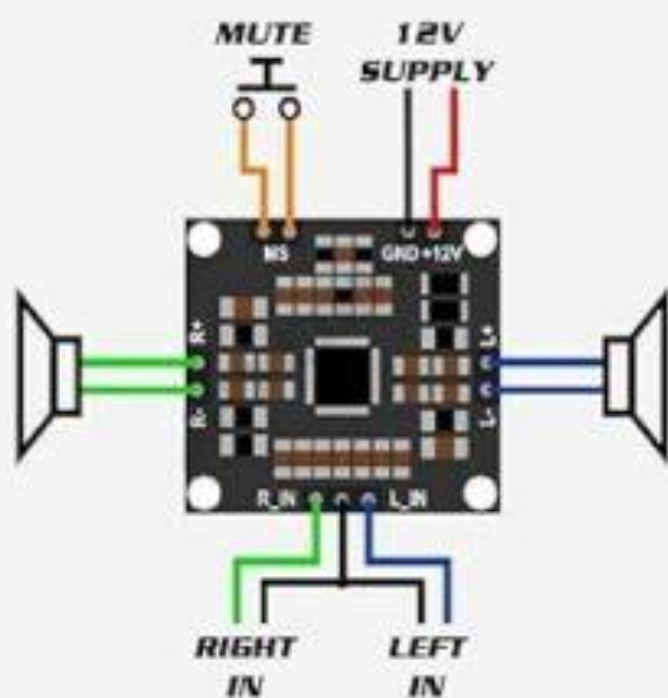
- **High Output Power:** Supports **2 × 15W dual channel stereo output**, providing clear and powerful sound in a compact size.
- **Wide Voltage Range:** Operates efficiently within **7V–15V**, making it compatible with a variety of power supplies, including batteries and DC adapters.
- **High Efficiency Class-D Technology:** Minimizes power loss and heat generation, ensuring energy efficiency and longer operating life.
- **Compact Size & Lightweight:** Designed to fit easily into portable devices, DIY enclosures, or embedded systems without adding bulk.

- **Low Distortion Audio:** Provides clean, noise-free sound with low Total Harmonic Distortion (THD), making it suitable for high-fidelity applications.
 - **Thermal and Short-Circuit Protection:** Built-in safety mechanisms prevent damage, ensuring durability and long-term reliability.
 - **Ease of Integration:** Simple interface for connecting input and output signals, making it beginner-friendly and suitable for quick prototyping.
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Technical Specifications

- **Chipset:** PAM8610 Class-D audio amplifier IC
- **Output Power:** $2 \times 15\text{W}$ @ 8Ω load, 12V power supply
- **Operating Voltage:** 7V – 15V DC
- **Channels:** Dual Channel Stereo (Left + Right)
- **Efficiency:** $> 90\%$ (Class-D design)
- **Total Harmonic Distortion (THD):** $\leq 0.1\%$
- **Signal-to-Noise Ratio (SNR):** $> 90\text{ dB}$
- **Board Dimensions:** Compact PCB design (typically around $30\text{mm} \times 25\text{mm}$, may vary by version)
- **Protection Features:** Over-temperature protection, short-circuit protection, and overload protection





Applications of the PAM8610 Digital Audio Amplifier

This versatile amplifier board can be used in a wide range of **DIY and professional audio projects**, including:

- **Portable Bluetooth Speakers:** Integrate with a Bluetooth audio receiver to build your own wireless sound system.
- **Home Audio Projects:** Use as a mini amplifier for personal desktop or bookshelf speakers.
- **DIY Multimedia Systems:** Ideal for custom-built MP3 players, CD/DVD players, or small home theater systems.
- **Educational Projects:** A great tool for electronics students and hobbyists learning about amplifier circuits.
- **Robotics and Embedded Systems:** Add sound output to robots, smart devices, or interactive projects.
- **Car Audio Upgrades:** Use it as a compact, low-power solution for in-vehicle sound systems.

Why Choose the PAM8610 Amplifier Board?

The **PAM8610 Digital Audio Amplifier** stands out because of its **balance between performance, efficiency, and affordability**. Unlike bulky traditional amplifiers, this Class-D amplifier provides high output with **minimal heat and energy consumption**, making it ideal for portable and battery-powered projects. Its small footprint allows integration into compact enclosures without sacrificing sound quality.

Furthermore, the built-in protection features ensure **safe operation**, giving users peace of mind during continuous use. Whether you are an electronics hobbyist, a DIY audio builder, or a professional engineer, this amplifier board provides an **easy, reliable, and cost-effective** solution for all your audio amplification needs.

Conclusion

The **PAM8610 Digital Audio Amplifier Board 2x15W Dual Channel Stereo 7–15V** is a powerful, efficient, and compact solution for anyone who needs high-quality audio amplification in a small form factor. With its Class-D technology, wide operating voltage, and multiple protection features, it delivers **crystal-clear sound** while remaining energy-efficient and highly reliable. Whether for **DIY projects, portable audio systems, or educational purposes**, this amplifier module is an essential tool for modern electronics and audio enthusiasts.

