

# WHADDA WPI446 Digital Power Amplifier Module User Manual

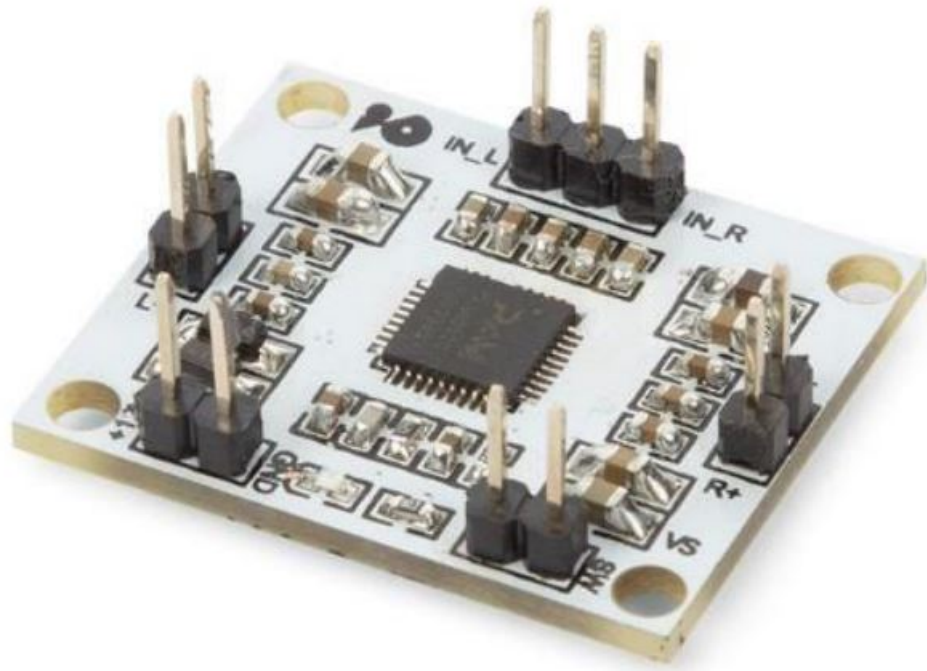
[Home](#) » [WHADDA](#) » WHADDA WPI446 Digital Power Amplifier Module User Manual 

## Contents

- [1 WHADDA WPI446 Digital Power Amplifier Module](#)
- [2 Product Information and Usage Instructions](#)
- [3 Introduction](#)
- [4 Safety Instructions](#)
- [5 General Guidelines](#)
- [6 What is Arduino](#)
- [7 Product Overview](#)
- [8 Specifications](#)
- [9 Connection](#)
- [10 Documents / Resources](#)
  - [10.1 References](#)



**WHADDA WPI446 Digital Power Amplifier Module**



## Product Information and Usage Instructions

### Product Overview

The Whadda PAM8610 digital power amplifier module (WPI446) is a stereo class-D audio amplifier with a power output of 10W per channel. It features a DC volume control, low Total Harmonic Distortion plus Noise (THD+N) of 0.1%, low Electromagnetic Interference (EMI), and high Power Supply Rejection Ratio (PSRR) for high-quality sound reproduction. The module also includes a 32-step DC volume control with a range of +32 dB to -75 dB.

### Safety Instructions

- Read and understand the entire user manual and all safety signs before using the amplifier.
- This product is designed for indoor use only.

### Specifications

- **Power Output:** 10W per channel (15W with 4 speakers)
- **Total Harmonic Distortion plus Noise (THD+N):** 0.1%
- **Electromagnetic Interference (EMI):** Low
- **Power Supply Rejection Ratio (PSRR):** Good
- **DC Volume Control Range:** +32 dB to -75 dB

### Connection

Recommended cables for connecting the WPI446 amplifier module are:

- **BTWF2:** 4x cables
- **BTWF3:** 1x cable

Please refer to the user manual for further details and instructions. For any damages during transit, do not install or use the device and contact your dealer.

## **Introduction**

### **To all residents of the European Union**

- Important environmental information about this product
- This symbol on the device or the package indicates that disposal of the device after its lifecycle could harm the environment. Do not dispose of the unit (or batteries) as unsorted municipal waste; it should be taken to a specialized company for recycling. This device should be returned to your distributor or to a local recycling service. Respect the local environmental rules.
- If in doubt, contact your local waste disposal authorities.
- Thank you for choosing Whadda! Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, do not install or use it and contact your dealer.

## **Safety Instructions**

Read and understand this manual and all safety signs before using this appliance.

For indoor use only.

- This device can be used by children aged from 8 years and above, and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of the device in a safe way and understand the hazards involved. Children shall not play with the device. Cleaning and user maintenance shall not be made by children without supervision.

## **General Guidelines**

- Refer to the Velleman® Service and Quality Warranty on the last pages of this manual.
- All modifications of the device are forbidden for safety reasons. Damage caused by user modifications to the device is not covered by the warranty.
- Only use the device for its intended purpose. Using the device in an unauthorized way will void the warranty.
- Damage caused by disregard of certain guidelines in this manual is not covered by the warranty and the dealer will not accept responsibility for any ensuing defects or problems.
- Nor Velleman Group nv nor its dealers can be held responsible for any damage (extraordinary, incidental, or indirect) – of any nature (financial, physical...) arising from the possession, use, or failure of this product.
- Keep this manual for future reference.

## **What is Arduino**

- Arduino® is an open-source prototyping platform based on easy-to-use hardware and software. Arduino® boards are able to read inputs – a light-on sensor, a finger on a button, or a Twitter message – and turn it into an output – activating a motor, turning on an LED, and publishing something online. You can tell your board what to do by sending a set of instructions to the microcontroller on the board. To do so, you use the Arduino

programming language (based on Wiring) and the Arduino® software IDE (based on Processing). Additional shields/modules/components are required for reading a Twitter message or publishing online. Surf to [www.arduino.cc](http://www.arduino.cc) for more information.

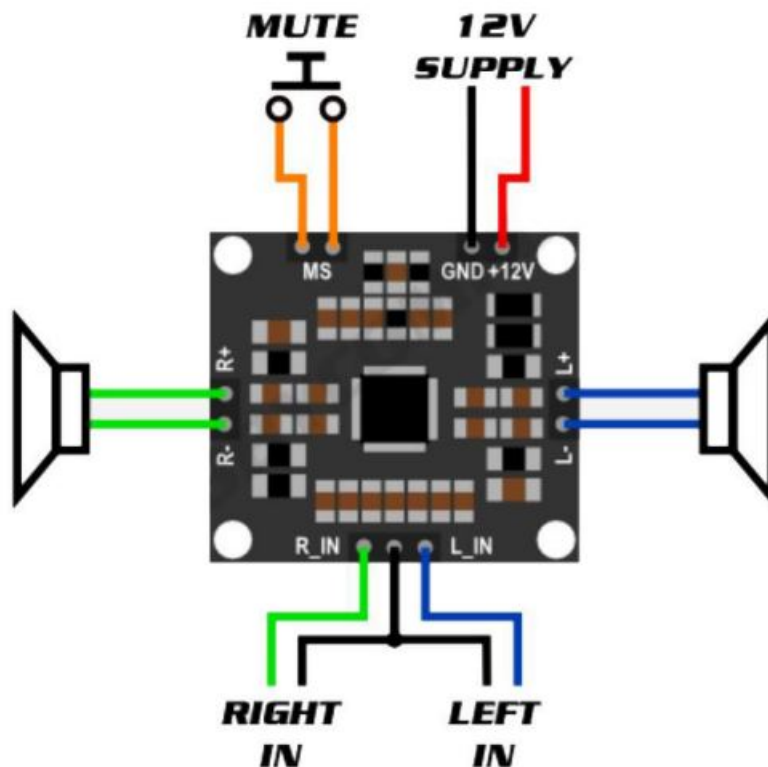
## Product Overview

- The WPI446 (PAM8610) is a 10 W (per channel) stereo class-D audio amplifier with DC volume control, which offers low THD+N (0.1%), low EMI, and good PSRR thus high-quality sound reproduction. The 32-steps DC volume control has a +32 dB to -75 dB range.
- 10 W @ 10% THD/channel output into an 8  $\Omega$  load at 13 V
- low noise: -90 dB
- over 90% efficiency
- 32-step DC volume control from -75 dB to + 32 dB
- shutdown/mute/fade function
- over current, thermal and short-circuit protection
- low THD+N
- low quiescent current
- pop noise suppression
- 4  $\Omega$  speakers can be used as well (gives max. 15 W). However, we recommend putting a small cooler on the PAM8610 if using 4  $\Omega$  loads.

## Specifications

- supply voltage (Vdd): 7-15 V
- input voltage range (Vi)
  - **mute**, Vref, volume, fade: 0-6.0 V
  - **SD**: -0.3 to Vdd
  - **RINN**, RINP, LINN, LINP: -0.3 to 6.0 V
- junction temperature range (Tj): -40 to 125 °C
- output power @ 8  $\Omega$ : 10 W

## Connection




**Recommended cables for connecting WPI446:** BTWF2 (4 x) and BTWF3 (1 x).

Modifications and typographical errors reserved

© Velleman Group nv. WPI446\_v01 Velleman Group nv, Legen Heirweg 33 – 9890 Gavere. [whadda.com](http://whadda.com)

## Documents / Resources

	<p><a href="#">WHADDA WPI446 Digital Power Amplifier Module</a> [pdf] User Manual</p> <p>WPI446 Digital Power Amplifier Module, WPI446, Digital Power Amplifier Module, Power Amplifier Module, Amplifier Module, Module</p>
---	--

## References

-  [Whadda - Exciting Electronics](http://Whadda - Exciting Electronics)