

Real Strength
Full Protection
Active Indicator
High Sound Quality
Easy for Integration
Optimized Thermal Control
Four Fixed Gain Setting Available (Optional)



Mid-Power Audio Amplifier Board Series - Multichannel

For Desktop Amplifier, Multichannel Distribution,
High Fidelity System, Home DIY,
Vending Machines, Lifts, Interactive Kiosks,
Home Theater Receiver, Car Audio,
Background Music Systems, Musical Instrument Amplifiers,
Consumer Audio Applications, etc.

Preliminary

1 Overview



3 x 200Watt Class D Audio Amplifier Board - T-AMP (AA-AB35281)

- 6.00 x 4.50 inches PCB Size
- Output Power
200W@30Ohm 36V DC THD+N 10%
160W@30Ohm 36V DC THD+N 1%
- Active Indicator
- Optimized Heatsink Design
- Overcurrent Protection
- Overtemperature Protection
- 4-Screw Easy Installation
- Weight: 680g/1.50 lbs (±10%)
- Typical Load: 30Ohm
- Power Supply Range: DC 24V-36V



4 x 100Watt Class D Audio Amplifier Board - TDA7498 (AA-AB33184)

- 6.00 x 4.50 inches PCB Size
- Output Power
100W@60Ohm 36V DC THD+N 10%
70W@60Ohm 36V DC THD+N 1%
- Active Indicator
- Overcurrent Protection
- Overtemperature Protection
- Optimized Heatsink Design
- Low Noise Cooling Fan
- 4-Screw Easy Installation
- Four Fixed Gain Setting Available
- Weight: 580g/1.28 lbs (±10%)
- Typical Load: 60Ohm
- Power Supply Range: DC 14V-36V



4 x 100Watt Class D Audio Amplifier Board - T-AMP (AA-AB33182)

- 6.00 x 4.50 inches PCB Size
- Output Power
100W@40Ohm 27V DC THD+N 10%
69W@40Ohm 27V DC THD+N 1%
- Active Indicator
- BTL Configuration
- Overcurrent Protection
- Overtemperature Protection
- Optimized Heatsink Design
- Low Noise Cooling Fan
- 4-screw Easy Installation
- Weight: 600g/1.32lbs(±10%)
- Typical Load: 40Ohm
- Power Supply Range: DC 15V-27V



6 x 100Watt Class D Audio Amplifier Board - TDA7498 (AA-AB34181)

- 6.00 x 4.50 inches PCB Size
- Output Power
100W@60Ohm 36V DC THD+N 10%
70W@60Ohm 36V DC THD+N 1%
- Active Indicator
- Overcurrent Protection
- Overtemperature Protection
- Optimized Heatsink Design
- Low Noise Cooling Fan
- Four Fixed Gain Setting Available
- 4-screw Easy Installation
- Weight: 610g/1.34 lbs (±10%)
- Typical Load: 60Ohm
- Power Supply Range: DC 14V-36V

2 Applications



Soundbox



Jukebox



Desktop Audio



Jukecase



Coffee Machine



Vending Machine



Game Machine



Toy



ATM



Ticket Checker



Guide Machine



Recreational Vehicle



Yacht



Motorcycle



Home Furnishing



Hotel

3 Benefits

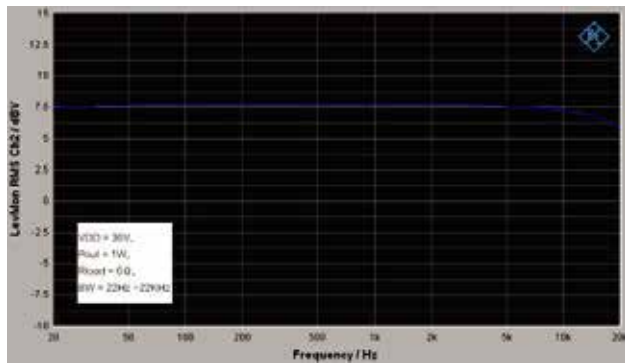
High Sound Quality

High sound quality is one of primary goals that this series focuses to achieve. All original and authorized components can help vastly reduce distortion caused by the output filters and compensate any frequency response variations due to the different loads connected to the amplifier. Besides, layout of the PCB is of great importance in this kind of amplifiers. In addition, ten years of experience contributes to such exceptional audio fidelity. Engineers of Sure Electronics, with ten years' experience of Hi-Fi and Hobby audio, have been dedicated to bringing sophisticated sound to customers through Class- D. With supreme features like signal loop and components optimization during design and measurement, we can provide better sound quality products, with higher SNR more than 94dB and lower THD+N as 0.053% (@60hm, 1W, 1kHz)*.

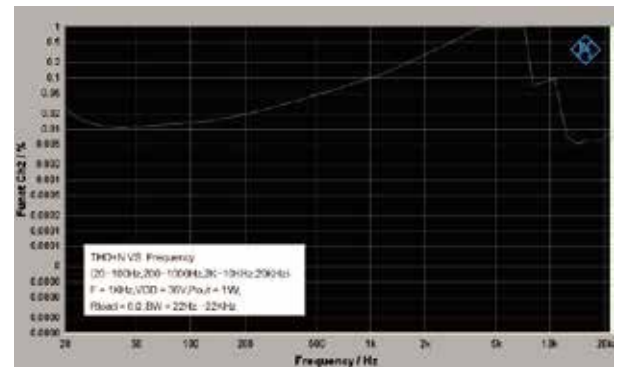
A low noise cooling fan is mounted atop the robust heatsink for a drastic reduction for the system temperature meanwhile making sure excellent hearing experience.

*Note: The SNR and THD+N is different from board to board. Please refer to datasheet for detailed information of each model.

Frequency Response

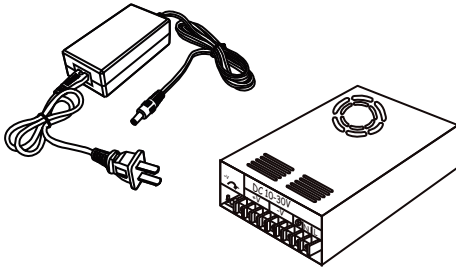


THD+N



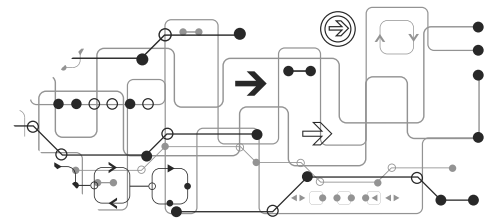
Power Supply Solution

For audio amplifier, performance depends on its quality, plus some external factors, like power supply. Sure Electronics provides full range power supplies from several watts to several kilo watts from Mean Well, Huntkey and Delta. All of three manufacturers are top five manufacturers of industry power supplies and power adapters. When comparing different solutions by cost, board space, efficiency and performance, they will provide good performance with high efficiency.



High Efficiency

All boards are very optimally designed to provide a low power consumption with superb efficiency. Sure Electronics has selected high efficiency chipset from companies that enjoy a great reputation for amplifier design. Elaborate PCB layout makes all amplifier boards in this series feature high efficiency no less than that of original chip.



Four Fixed Gain Setting Available (Optional)

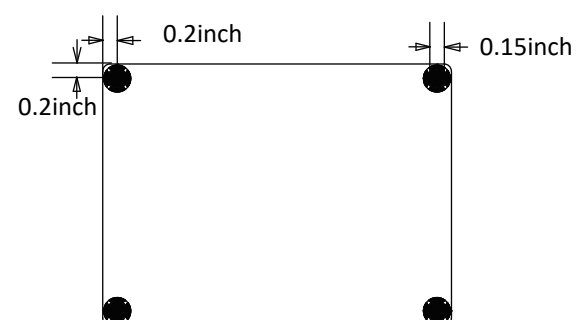
Four fixed gain setting is available to allow for volume control at the source. Please be aware that no potentiometer is provided to manually adjust the volume and a 50kΩ potentiometer can be installed by customers themselves, which may cause signal attenuation. It is recommended that the output signal amplitude is no larger than the power supply voltage once the input signal reaches the peak.

Real Strength for Any Applications

The entire series is designed with the fundamental concept of reliability and ruggedness and inherits Sure Electronics' coherent design style. With selected components integrated, the load capacity and robustness have been highly improved. Amplifier boards are tested by 1kW resistor dummy load and 2550W air conditioner in parallel. The whole series sustained tough extensive environmental testing to ensure the module robustness. These tests include e.g. thermal shock and cycling, humid condensing and non-condensing conditions and procession, which are made to ensure each amplifier can survive in the roughest industrial environment or subwoofer applications. For customers with requirements of high power and high reliability, this series is the fully-deserving choice with high cost-effective. Contact Sure Electronics with store@sure-electronics.com to feel the true RMS and real strength.

Easy for Integration

- Mounting holes facilitates installation and fixing.



- Several wiring methods facilitate connection: RCA Socket, Terminal Block.
- Uniform PCB design facilitates the system integration.

Multichannel solution

This series offers multichannel (3, 4 and 6 channels) solutions for customers, which means audio 2.0, 2.1, 4.0 and 6.0 system is available with standard products while no more configuration is needed. In addition, excellent design of the power ports which allows you to connect multiple amplifier boards in series through Terminal Block. This means customers can almost get any channels through combination.

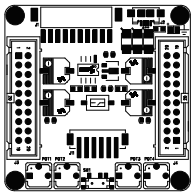
Audio System

2 | 0
 2 | 1
 4 | 0
 6 | 0
 . | .
 . | .

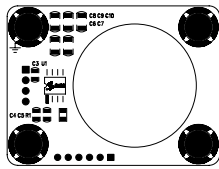
Full Set of Solution Available

As an audio solution provider, Sure Electronics is committed to offering full set of audio system solution for customers' requirements, from power supply to speaker, including signal transceiver, signal processor, crossover and so on. Considering the facilitation of system integration, we choose conventional but corresponding connectors on different products. This series can connect with Sure's volume control board, Bluetooth receiver board and DSP through RCA jack on each board for more functions assembly.

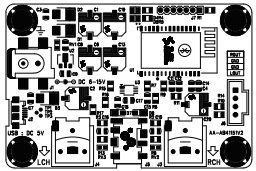
Please kindly be noticed that when using amplifier boards with other Sure's products such as Bluetooth receiver board, noise may occur due to potential difference if they are not connected in common ground. In this case, two boards should be powered by separate power supply or customers can connect 'GND' of two boards. Any problems please contact store@sure-electronics.com for technical support.



DSP



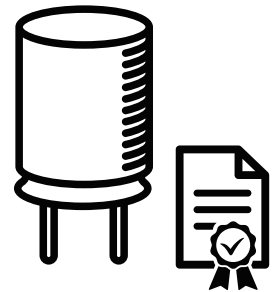
Volume Control Board



Bluetooth Receiver Board

Great Components from Great Suppliers

We always use IRF(now Infineon), Infineon, and other world grade MOSFET suppliers, we use only Nippon Chemi Corporation electron capacitors, original SAGAMI inductors in this series and all other components from original manufacturer or authorized distributors only. We can always provide commercial invoices from our suppliers - only original or authorized.



5 Years Product Life

Sure Electronics guarantees at least 5 years PLC (Product Life Cycle) to our customers, this means, once products are launched to the market, you can place order and get technical support from Sure Electronics and Sure Electronics' distributors within 5 years. For any halt production caused by the discontinued core materials, Sure Electronics will provide full pin to pin, screw to screw compatible solutions for you to ensure you a smooth Production Transition.

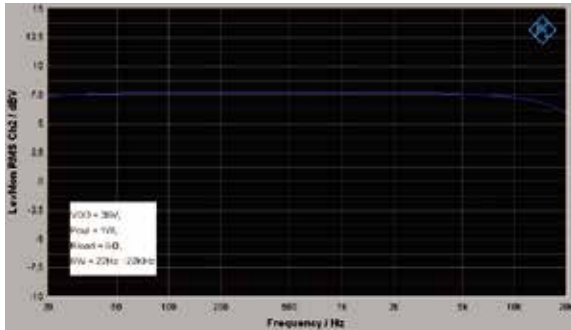
Zero Stock for Customers

Sure Electronics always prepares full back-up for customers, which greatly reduces the delivery time to fit for the customers' 'Just - in - Time' manufacturing and 'Zero Stock' Policy.

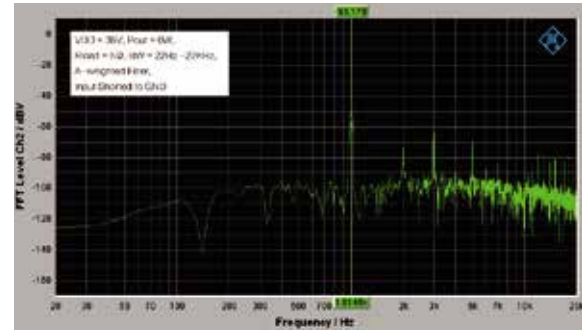
We guarantee each standard product at least 100 pieces inventory while best sellers have more than 1000 pieces inventory. This means Sure Electronics keeps at least 100K pieces circuit board in stock at any time. With more than 80 CBM of finished products and more than 100 CBM half-finished products, Sure Electronics can ship more than 98% requirements of our standard products to save customers' time and cost.

4 Typical Performance Graphs

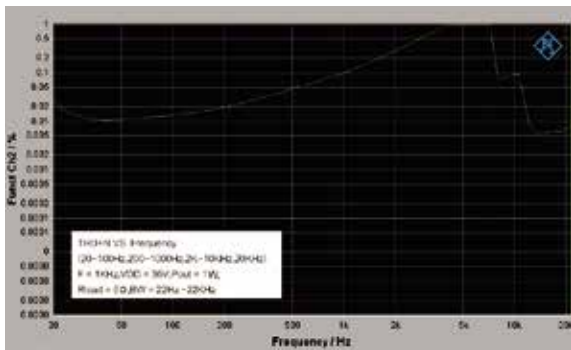
Frequency Response



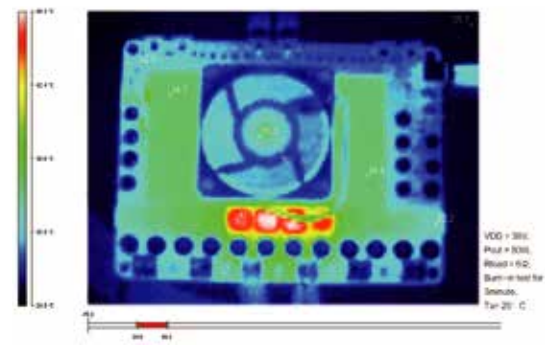
Noise Floor



Distortion Spectrum



Thermal Image

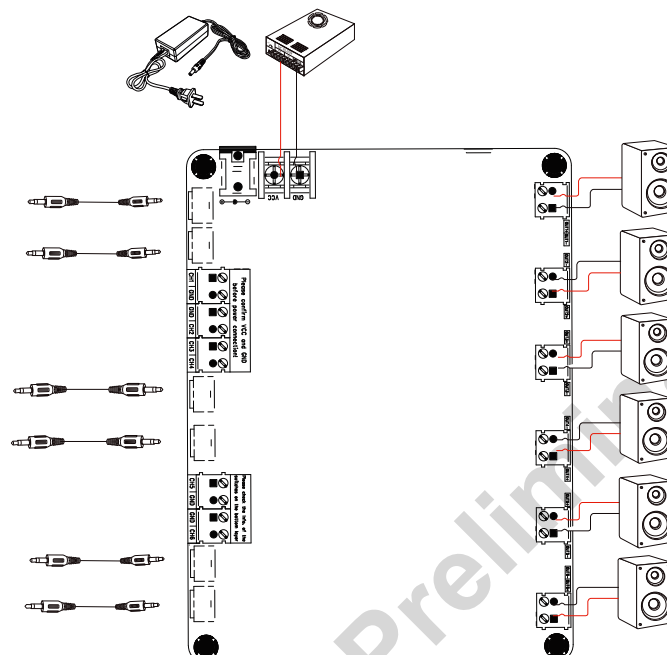


Typical performance graphs adopt from 6 x 100 Watt 6 Ohm Class D Audio Amplifier Board - TDA7498 (AA-AB34181). All parameters were tested with Rohde & Schwarz UPV audio analyzer (AES17 filter enabled) and Audio Precision AUX0025 filter. For customers who ask for more detailed specifications and parameter settings, please send an inquiry e-mail to store@sure-electronics.com.

5 Connection

Note:

This is simple wiring diagram for demonstration. The specific layout differs from boards. Please refer to manual for detailed information.



6 Model Selection Guide

Model Number	Output Power	Power Supply Range	Typical Load	Amplifier IC	Dimensions	Listed Price
AA-AB35281	3 X 200Watt	DC 24-36V	3Ω	T-AMP	6"X4.5"	\$64.90
AA-AB33184	4 X 100Watt	DC 14V-36V	6Ω	TDA7498	6"X4.5"	\$54.90
AA-AB33182	4 X 100Watt	DC 15-27V	4Ω	T-AMP	6"X4.5"	\$54.90
AA-AB34181	6 X 100Watt	DC 14V-36V	6Ω	TDA7498	6"X4.5"	\$64.90

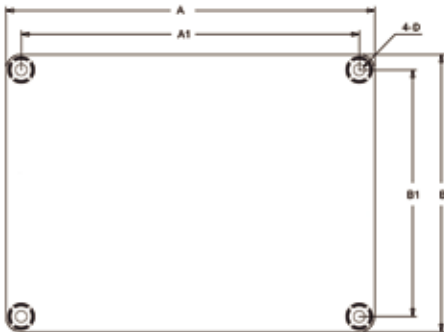
Notes:

1. Reliable power supply solutions can be provided for any audio applications. Sure Electronics is also a power supply provider of Mean Well, Delta and HuntKey. Send an e-mail to store@sure-electronics.com if you need a power supply solution.

2. The output power is rated at the condition THD+N 10%, 1KHz sine wave. None typical load may cause rating power reduction.

3. If you'll buy the same model of amplifier board for the second time at the MOQ 100, please inform us the version and time of last purchase in order to avoid application incompatibility brought by version upgrade.

7 Mechanical Dimensions



Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ± 0.02 (± 0.50)
- Sure Electronics provides connecting and dimensional diagrams for customers. Under no circumstance do we provide schematics.

Dimensions	A (inch/mm)	A1 (inch/mm)	B (inch/mm)	B1 (inch/mm)	D (inch/mm)
	6.00/152.40	5.60/142.24	4.50/114.3	4.10/104.14	0.15/3.8

8 Disclaimers

1. Sure Electronics reserves the right to wipe off the characters, logos and patterns on the surface of the chips without any notification. Any inquiries about the models of the chips will be ignored. Sure Electronics will guarantee all the chips are original ones and the performance and quality will not be affected by such operations.
2. Amplifier boards are recommended for experienced users only with the proper equipment to measure the voltage output of the power supplies. Failure to use the minimum recommended power supply voids the warranty of amplifier boards.
3. Sure Electronics only takes responsibility for the loss caused by the audio amplifier board itself. We are not responsible for any joint liability.
4. Power supply at rated voltage are required for operation to dedicate its full output potential for maximum output.

9 Contact Us



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