

High Power Mono Series

1 x 600 Watt 2 Ohm Class D Audio Amplifier Board - TAS5630B (AA-AB31241)



Key Features:

- Output Power
600W@20Ohm 48V DC THD+N 10%
350W@20Ohm 48V DC THD+N 1%
- Power and Shutdown Indicator
- Support Volume Control Board
- PBTL Architecture
- Temperature Control Fan(optional)
- Full Protection
- Optimized Heatsink Design
- 4-screw Easy Installation
- Weight:538g/1.19 lbs (±10%)

Distributors: 50inchX1 53inch



All these boards are per-tested with our power supply solution to comply with FCC and CE. For all customers who need those information, please contact our distributor or Sure Electronics. RoHS compliant will need an MOQ of 1000pcs per order.

Ready for:



Contact info

• Email:
info@sure-electronics.com



Electrical Specifications

Specifications typical @ +25°C, Powered by 48V DC, unless otherwise noted. Specifications subject to change without notice.

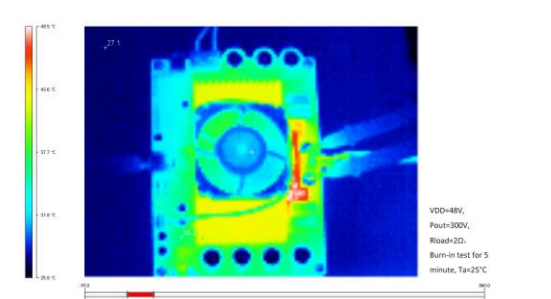
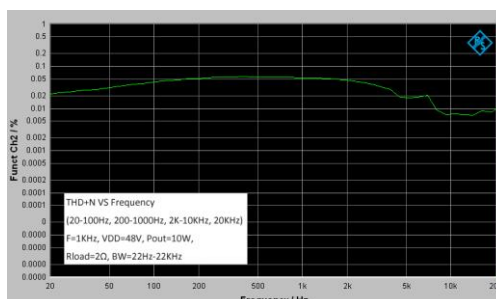
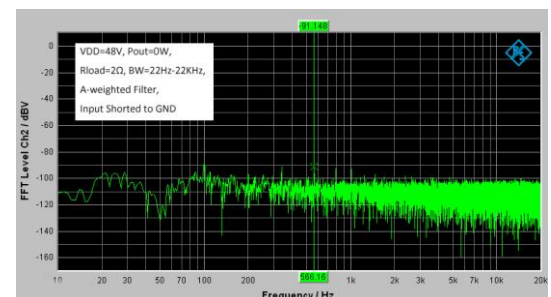
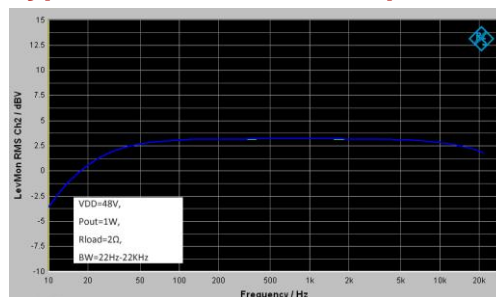
| Parameter | Conditions | Min. | Typ. | Max. | Units |
|--------------------------|------------------------------|------|------|------|-------|
| Power Supply | - | 25 | 48 | - | VDC |
| Idle Power | SD Floating, FAN ON | - | 6 | 9 | W |
| | SD Floating, FAN OFF | - | 4.9 | 8 | W |
| Standby Power | SD Connected to GND, FAN OFF | - | 1 | 3 | W |
| Maximum Current | 600W @ 20Ohm | - | 13.5 | - | A |
| Efficiency | 600W @ 20Ohm | 90 | - | 95 | % |
| Minimum Load Impedance | - | - | 1.5 | - | Ω |
| Switching Frequency | SD Floating | - | 390 | - | KHz |
| Fan Active @ Temperature | - | - | 50 | - | °C |

Audio Performance

Specifications typical @ +25°C, Powered by 48V DC, unless otherwise noted. Specifications subject to change without notice.

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|------------------------|-------------------------------------|------|-------|------|-------|
| Gain | K1 ON ,K2 ON GAIN 23dB | - | 23 | - | dB |
| | K1 ON ,K2 OFF GAIN 29dB | - | 29 | - | dB |
| | K1 OFF, K2 ON GAIN 33dB | - | 33 | - | dB |
| | K1 OFF, K2 OFF GAIN 35dB | - | 35 | - | dB |
| Input Sensitivity(RMS) | GAIN 23dB | - | 3.5 | 4.6 | V |
| | GAIN 29dB | - | 1.7 | 2.2 | V |
| | GAIN 33dB | - | 1.1 | 1.4 | V |
| | GAIN 35dB | - | 0.9 | 1.2 | V |
| Input Impedance | - | 13 | - | 16.7 | KΩ |
| Output Power | @2Ω THD+N 1% | - | 350 | - | W |
| | @2Ω THD+N 10% | - | 600 | - | W |
| Bandwidth @ ±3dB | @2Ω | 20 | - | 20K | Hz |
| THD | @2Ω, 10W, 1KHz | - | 0.056 | 0.1 | % |
| | @2Ω, 50W, 1KHz | - | 0.103 | 0.2 | % |
| Output Noise Level | A-weighting, Input Connected to GND | - | 255 | 510 | μV |
| SNR | 350W @2Ω THD+N 1% | - | 94 | 96 | dB |

Typical Performance Graphs

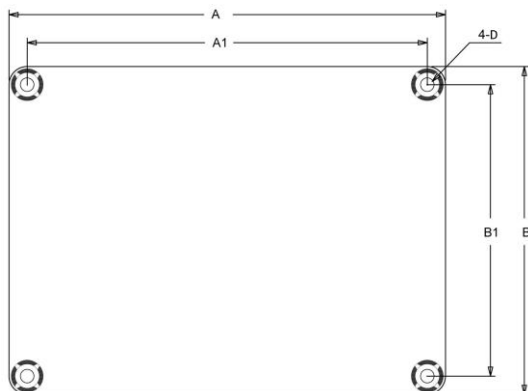


All parameters were tested with Rohde & Schwarz UPV audio analyzer (AES17 filter enabled) and Audio Precision AUX0025 filter. For authorized distributors and OEM customers who need more detailed performance graphs and parameter settings, please send an inquiry e-mail to us. (Not available for retail customers)

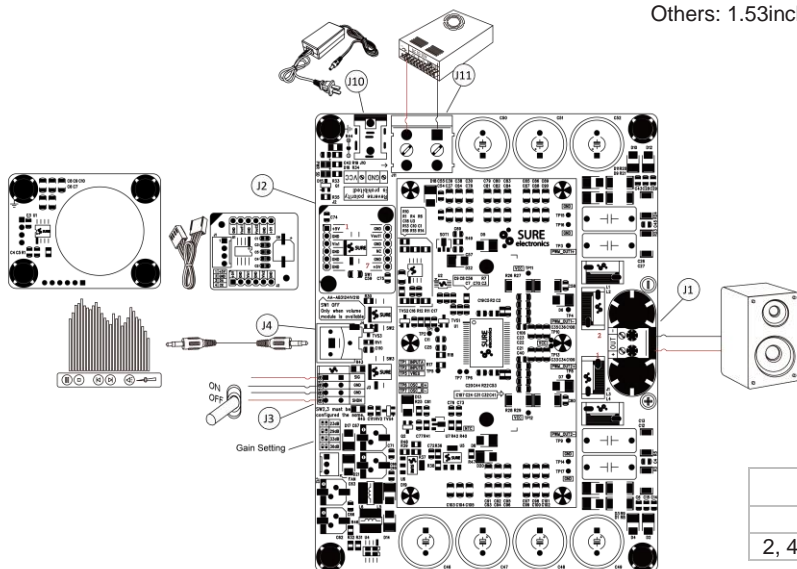
Model Selection Guide

| Model Number | Output Power | Power Supply Range | Typical Load | Amplifier IC | Dimensions |
|--------------|--------------|--------------------|--------------|--------------|--------------|
| AA-AB31184 | 1 X 100Watt | DC 10-24V | 2Ω | TPA3116 | 3.6"X2.7" #1 |
| AA-AB31371 | 1 X 220Watt | DC 15-36V | 4Ω | TDA7498E | 4.8"X3.6" #2 |
| AA-AB31282*1 | 1 X 200Watt | DC 15-36V | 3Ω | T-AMP | 4.8"X3.6" |
| AA-AB31194*1 | 1 X 300Watt | DC 15-40V | 3Ω | T-AMP | 4.8"X3.6" |
| AA-AB31315*1 | 1 X 400Watt | DC 15-44V | 3Ω | T-AMP | 4.8"X3.6" |
| AA-AB31511*1 | 1 X 500Watt | DC 15-50V | 3Ω | T-AMP | 4.8"X3.6" |
| AA-AB31243 | 1 X 600Watt | DC 25-48V | 2Ω | TAS5630B | 4.8"X3.6" |
| AA-AB31191 | 1 X 300Watt | DC 20-36V | 2Ω | TAS5613 | 6"X4.5" #3 |
| AA-AB31241 | 1 X 600Watt | DC 25-48V | 2Ω | TAS5630B | 6"X4.5" |
| AA-AB31316*2 | 1 X 400Watt | DC 15-36V | 1.5Ω | T-AMP | 6"X4.5" |
| AA-AB31513*2 | 1 X 500Watt | DC 15-40V | 1.5Ω | T-AMP | 6"X4.5" |
| AA-AB31242*2 | 1 X 600Watt | DC 15-40V | 1.5Ω | T-AMP | 6"X4.5" |
| AA-AB31321*2 | 1 X 800Watt | DC 15-46V | 1.5Ω | T-AMP | 6"X4.5" |
| AA-AB31512 | 1 X 500Watt | DC ±55-±65V | 4Ω | IRS2092 | 6"X4.5" |
| AA-AB31431 | 1 X 750Watt | DC ±55-±75V | 4Ω | IRS2092 | 6"X4.5" |

Mechanical Dimensions



Connections



Notes:

- The output power is rated at the condition THD+N 10%, 1kHz sine wave.
- All amplifier boards don't employ power supply reverse polarity protection. Stresses beyond the power supply range maximum ratings may cause permanent damage.
- None typical load may cause rating power reduction.
- Dimensions mean length and width of PCB only, excluding excessive part out of the PCB outline.
- If any model within product series is out of stock, another model with compatible size and function, featuring more rating output power will be sent as the substitute without notice. For example, *1 AA-AB31282's alternative model is AA-AB31194. *2 AA-AB31316's alternative model is AA-AB31513.
- All parameters were tested with Rohde & Schwarz UPV audio analyzer (AES17 filter enabled) and AP AUX0025 filter. Linear Power Supply units were used for testing.
- Sure Electronics promise all standard products life cycle more than 5 years. Sure Electronics reserve the right to update the version without notice. All the products sent to retail customers are the latest version. We will provide back-to-order service (100 Pieces MOQ needed) for our distributors in 5 years.
- Suggested power supply solution:
Mean Well MW 48V 12.5A 600W AC/DC Switching Power Supply SE-600-48 UL/CUL (PS-SP11142)
500W BOOST Converter for CAR Audio - TL494 (PS-SP12148)
If you have other power supply requirements, please feel free to contact us.

| Dimensions | A (inch/mm) | A1 (inch/mm) | B (inch/mm) | B1 (inch/mm) | D (inch/mm) |
|------------|-------------|--------------|-------------|--------------|-------------|
| #1 | 3.60/91.44 | 3.30/83.8 | 2.70/68.6 | 2.40/61.0 | 0.14/3.6 |
| #2 | 4.80/121.92 | 4.40/111.76 | 3.60/91.44 | 3.20/81.28 | 0.14/3.60 |
| #3 | 6.00/152.40 | 5.60/142.24 | 4.50/114.3 | 4.10/104.14 | 0.14/3.60 |

Notes:

- All dimensions are typical in inches/mm
- Tolerance x.xx = ±0.02(±0.50)
- Height:
AA-AB31184: 0.93inch/23.6mm
AA-AB31282, AA-AB31316: 0.95inch/24.2mm
AA-AB31512, AA-AB31431: 2.50inch/61.3mm
Others: 1.53inch/37.5mm

Power Supply Connector:

- J10 DC Jack 5.5mm/2.5mm
- J11 Terminal Block RJ128 (optional)

| Pin | Function |
|-----|----------|
| ■ | GND |
| ● | VCC |

Speaker Output Connector:

- J1 Terminal Block RJ128

| Pin | Function |
|-----|----------|
| 1 | OUT1+ |
| 2 | OUT1- |

Audio Input Connector:

- J4 RCA Jack

Shutdown Control Connector:

- J3 Terminal Block RJ141V

| Pin | Function |
|-----|----------|
| ■ | SIG |
| ● | GND |
| ● | GND |
| ● | SHDN |

Volume Control Board Socket (SW1 OFF when module available)

- J2

| Pin | Function | Pin | Function | Pin | Definition |
|-----------------------|----------|-----|----------|-----|------------|
| 1, 7 | +5V | 3 | Vin1 | 9 | NC |
| 2, 4, 5, 6, 8, 10, 12 | GND | 11 | Vout1 | | |



Sure Electronics

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