

# JAB Series

## 2 x 50 Watt Class D Audio Amplifier Board - JAB2 (AA-JA32171)



### Key Features

- 3.6 x 2.7 Inches PCB Size
- Bluetooth V4.0 APT-X + EDR, A2DP
- Lithium Battery Board Supported
- Bluetooth Control Port
- Higher Output Power with Power Adapter
- Anodizing Aluminum Heatsink (2 x 50 Watt)
- PBTL Configurable
- LED Indicators Ports

### Electrical Specifications

Specifications typical @ +20°C, Powered by 19V DC, unless otherwise noted. Specifications subject to change without notice.

Parameter	Conditions	Min.	Typ.	Max.	Units
Power Supply Range	-	12	19	24	VDC
Idle Power/Current	SD short to GND, BT Disconnected	-	37	50	mA
	BT Connected	-	42	55	mA
Standby Power/Current	SD short to GND, only when low power module available	-	2.9	5	mA
Battery Undervoltage Protection*	-	-	10.4	10.5	V
Constant Charging Voltage	-	-	12.3	12.7	V
Charge Current	-	-	0.5	1	A

(Power, Battery Charging & Bluetooth)

- 3.5mm AUX Port
- Volume Control Port (Potentiometer)

### Distributors



All Audio Amplifier boards are complied with ROHS and they are pre-tested with our power supply solution to comply with FCC and CE. We could provide FCC, CE and RoHs certifications for customers' convenience. The test reports will be provided upon requests by e-mails only for customers who apply for bulky purchase of MOV USD\$10,000 or MOQ 500pcs.

Ready for:



### Contact Info

- Email: info@wondom.com



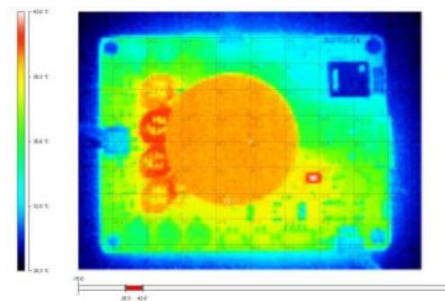
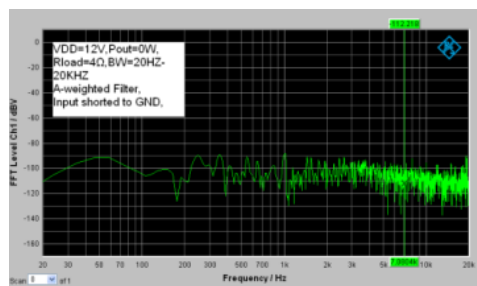
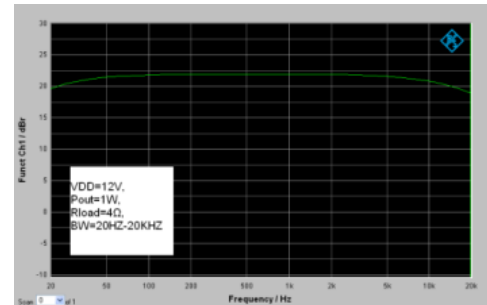
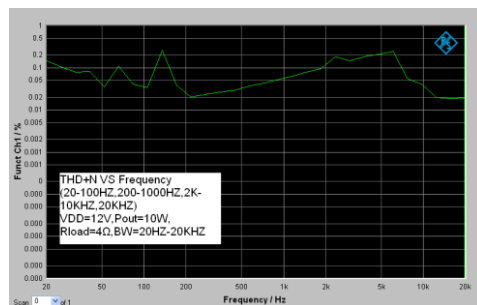
\*Battery Undervoltage Protection point is preset to 10.4V in order to protect Lithium-Ion battery, LiFePo4 battery is strictly prohibited and not supported by default. For any change to this battery protection setting, an MOQ of 500pcs will be applied.

### Typical Performance Graphs

Specifications typical @ +20°C, Powered by 19V DC, unless otherwise noted. Specifications subject to change without notice.

Parameter	Conditions	Min.	Typ.	Max.	Units
Gain	-	18	26	36	dB
Output Power	19V @ 4 Ω	2 x 50			W
THD	@ 4 Ω, 10W, 1kHz	-	0.02	-	%
Output Noise Level	A-weighting, Input Connected to GND	-	185	-	μV
SNR	10W @ 4 Ω, THD+N=1%	-	92	-	dB

### Typical Performance Graphs



Note:

Sure Electronics could modify the JAB series cutoff frequency by first order crossover filter according to customers' requirements. 500 pieces MOQ will be applied. Please feel free to contact with [info@sure-electronics.com](mailto:info@sure-electronics.com) for more detailed information.

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)

# LED lights for JAB2

	LED Status			Function
	LED1 (Bluetooth)	D4 (MPPT Charging)		
On Board	ON	/		Bluetooth working properly
	Blinking	/		Bluetooth searching for network
	/	Blinking or ON		MPPT Charging
	/	OFF		MPPT Charging finished
Extended Ports	J7 (Bluetooth)	J8 (MPPT)	J6 (Power)	
	/	Blinking or ON	/	MPPT Charging
	/	OFF	/	MPPT Charging finished
	ON	/	/	Bluetooth working properly
	Blinking	/	/	Bluetooth searching for network
	/	/	ON	Working
LED On Extension Board	Red LED (Power)	Green LED (Switch)		
	ON	ON		Working
	OFF	OFF		Not Working
	OFF	/		Power Disconnected

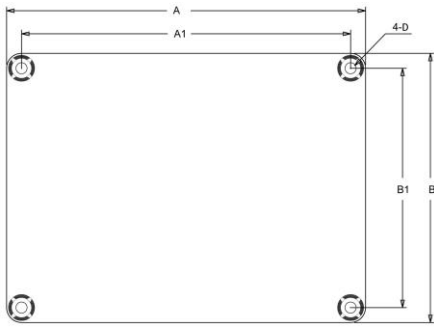
Diagram 1

Note:  
There are 3 colors for extended LED indicators, which are red, green and blue. The LED color for each port is at random.

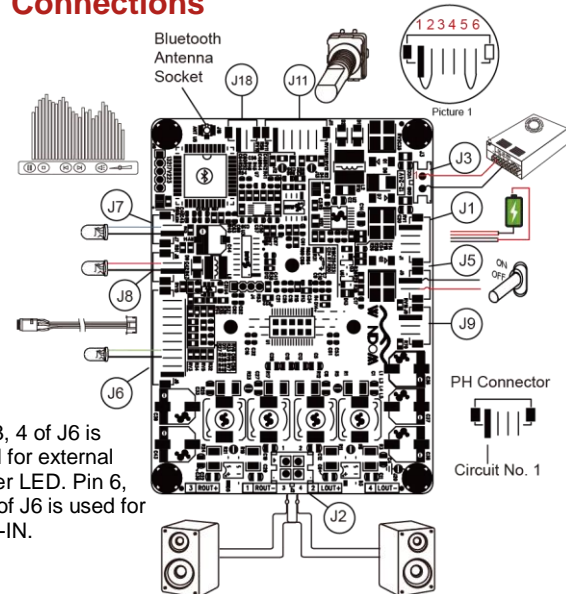
### Notes:

- The output power is rated at the condition THD+N 10%, 1kHz sine wave.
- This amplifier board employs power supply reverse polarity protection. Stresses beyond the power supply range maximum ratings may cause permanent damage.
- None typical load may cause rated power reduction.
- Dimensions mean length and width of PCB only, excluding excessive part out of the PCB outline.
- 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 promises all standard products life cycle more than 5 years. Sure Electronics reserves the right to update the version without notice and we will reserve the right to stop supporting or providing limited support for the old version to be compatible with new version. Please recognize PCB version of JAB series before using and refer to the matched documents. Any problem, please feel free to contact us.
- Some incompatibility problems may occur due to version update, like popping noise, which will not affect the normal use. 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.
- The range of Bluetooth connection is limited without the antenna.
- Two jumpers are provided on J11. Please do not remove them unless JAB2 is connected with JAB3.

## Mechanical Dimensions



## Connections



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

### Notes:

- All dimensions are typical in inches/mm
- Tolerance x.xx = ±0.02(±0.50)
- Height: (Tolerance x.xx = ±0.2inch/ 5mm)
- AA-JA32151:0.48inch/12.2mm
- AA-JA32472:0.48inch/12.2mm
- AA-JA32171:0.79inch/20.1mm
- The height of the boards is measured from the bottom of the boards to the top of the components.

### Power Connector: J3 PH-2Pin-3mm

Pin	Definition
1	VCC
2	GND

### Battery Charging Connector: J1 PH-4Pin-2mm

Pin	Definition
1	VBAT
2	VBAT
3	GND
4	GND

### Switch Control Connector: J5 PH-2Pin-2mm

Pin	Definition
1	GND
2	EN

### Volume Control Connector: J11 PH-6Pin-2mm

Pin	1	2	3	4	5	6
Definition	LIN	LOUT	GND	GND	ROUT	RIN

### Control Connection with JAB3 Connector: J9 PH-3Pin-2mm

Pin	Definition
1	STBY
2	GND
3	MUTE

### Speaker Output Connector: J2 Molex-4Pin-3mm

Pin	Definition
1	ROUT-
2	LOUT+
3	ROUT+
4	LOUT-

### LED Indicator Connector: J7, J8 PH-2Pin-2mm

Pin	Definition
1	LED-
2	ED+

### Bluetooth Control Connector: J18 PH-2Pin-2mm

Pin	Definition
1	GND
2	EN

### Extension Connector: J6 PH-10Pin-2mm

Pin	Definition
1	VCC
2	VCC
3	GND
4	LED1
5	KEY1
6	LIN
7	GND
8	RIN
9	KEY2
10	LED2



# WONDOM Audio Technology

Wonder Meeting with Melody!

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