

# Brick Series

## 1 x 2000 Watt 2 Ohm Class D Audio Amplifier Brick DBKL8 - T-AMP (AA-BK31382)



### Key Features:

- Output Power  
2000W @20hm 100V DC THD+N 10%  
1500W @20hm 100V DC THD+N 1%
- Power and Clip Indicator
- Reverse Polarity Protection
- Signal Level Sensor System
- Flexible Connection and High Power Density
- Differential and Single-ended Optional
- High Level and Low Level Gain Adjustable
- Temperature Control Fan
- Full Protection
- Optimized Heatsink Design
- Weight: 716g/1.58 lbs (±10%)
- 3.90inch x 3.90inch PCB size

### Electrical Performance

Specifications typical @ +25°C, powered by 100V DC, unless otherwise noted. Specifications subject to change without notice.

| Parameter                 | Conditions                         | Min.    | Typ. | Max. | Units |   |
|---------------------------|------------------------------------|---------|------|------|-------|---|
| Number of Channels        | -                                  | -       | 1    | -    | -     |   |
| Minimum Load Impedance    | -                                  | -       | 2    | -    | Ω     |   |
| Efficiency                | 2000W @20hm, 100V, 1kHz            | -       | 90   | -    | %     |   |
| Nominal Power Requirement | -                                  | -       | 1200 | -    | W     |   |
| Operating Voltage         | -                                  | 48      | 100  | 120  | V     |   |
| Idle Power                | Signal detected<br>(Load 4 Ohm)    | Fan on  | -    | 15   | -     | W |
|                           |                                    | Fan off | -    | 14   | -     |   |
|                           | No Signal detected                 |         | -    | 1.2  | -     | W |
| Standby Power             | SD Connected to GND, Fan OFF       | -       | 1    | -    | W     |   |
| Switching Frequency       | SD Floating@100V                   | -       | 700  | -    | kHz   |   |
| Power Consumption         | 1/4 of max output power@40hm, 100V | -       | 450  | -    | W     |   |
|                           | 1/8 of max output power@40hm, 100V | -       | 250  | -    |       |   |
| Control Standby           | Pull down to GND current *         | -       | 100  | -    | μA    |   |

Note: \* When SD is floating, the pull up voltage is 10.1 V with the amplifier working.

### Audio Performance

Specifications typical @ +25°C, powered by 100V DC, unless otherwise noted. Specifications subject to change without notice.

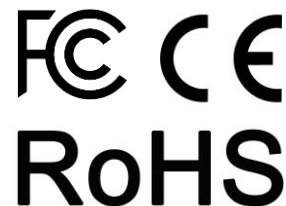
| Parameter          | Conditions                            | Min.                        | Typ.   | Max. | Units |      |
|--------------------|---------------------------------------|-----------------------------|--------|------|-------|------|
| Input Sensitivity  | 1000W @20hm, 100V, 1kHz               | SE                          | Gain H | -    | 0.6   | Vrms |
|                    |                                       |                             | Gain L | -    | 1.0   |      |
|                    | DIFF                                  | Gain H                      | -      | 0.65 |       |      |
|                    |                                       | Gain L                      | -      | 0.9  |       |      |
| SNR                | 200W @40hm A-weighting                | SE                          | Gain H | -    | 95    | dB   |
|                    |                                       |                             | Gain L | -    | 96    |      |
|                    | DIFF                                  | Gain H                      | -      | 94   |       |      |
|                    |                                       | Gain L                      | -      | 95   |       |      |
| THD+N              | 10W@40hm, 1kHz                        | SE                          | Gain H | -    | 0.02  | %    |
|                    |                                       |                             | Gain L | -    | 0.03  |      |
|                    | DIFF                                  | Gain H                      | -      | 0.08 |       |      |
|                    |                                       | Gain L                      | -      | 0.08 |       |      |
| Input Impedance    | SE                                    | SE                          | Gain H | -    | 15    | kΩ   |
|                    |                                       |                             | Gain L | -    | 15    |      |
|                    | DIFF                                  | Gain H                      | -      | 15   |       |      |
|                    |                                       | Gain L                      | -      | 15   |       |      |
| Output Noise Level | A-weighting<br>Input Connected to GND | SE                          | -      | 400  | uV    |      |
|                    |                                       | DIFF                        | -      | 350  |       |      |
| DC Offset          | @40hm, 100V                           | -                           | 50     | -    | mV    |      |
| Bandwidth          | @40hm, 100V                           | 20                          | -      | 20k  | Hz    |      |
| Gain               | @40hm, 1_kHz                          | Gain (H)                    | -      | 40   | dB    |      |
|                    |                                       | Gain (L)                    | -      | 36   |       |      |
|                    | Output monitor                        | Gain=350W @20hm, 100V, 1kHz | -      | -39  |       | -    |

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)



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:

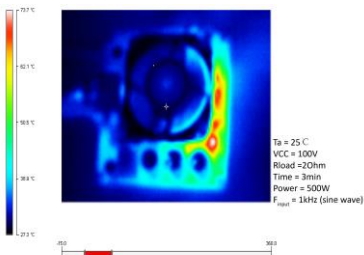
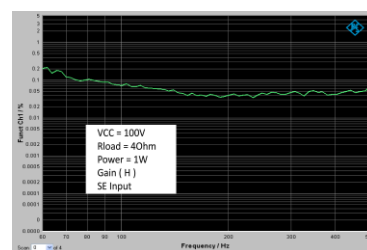
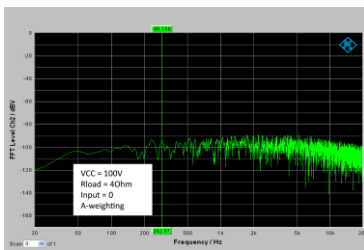
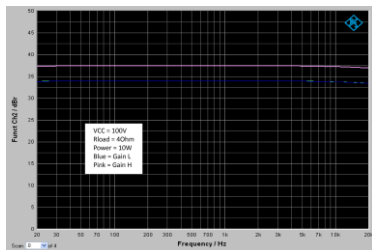


### Contact info

• Email:  
info@sure-electronics.com



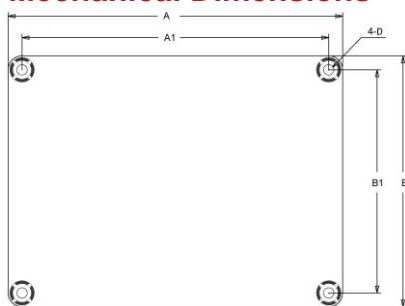
# Typical Performance Graphs



| Test                             | Temperature | Duration/ Operation |                              |
|----------------------------------|-------------|---------------------|------------------------------|
| Burn In Test                     | 25°C        | 25°C                | 48hours                      |
| Low Temperature, Operating       | 0°C         | 0°C                 | Checking startup performance |
| High Temperature, Operating      | 55°C        | 55°C                | 2hours                       |
| Change of Temperature, Operating | 0°C         | 50°C                | On customers' requirement    |

The tests above are carried out under regular conditions. Please contact us directly if you require test reports under extreme conditions, especially for industrial and military purpose.

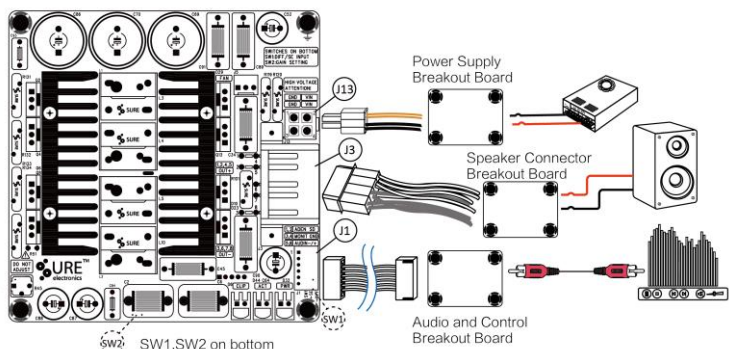
## Mechanical Dimensions



| Dimensions | A (inch/mm) | A1 (inch/mm) | B (inch/mm) | B1 (inch/mm) | D (inch/mm) |
|------------|-------------|--------------|-------------|--------------|-------------|
| #1         | 3.90/99.06  | 3.50/88.9    | 3.90/90.06  | 3.50/88.9    | 0.14/3.60   |

- Notes:**
- All dimensions are typical in inches/mm
  - Tolerance x.xx = ±0.02(±0.50)

## Connections



### Audio Input Connector:

- J1 JST Connector

| Pin | Function |
|-----|----------|
| 1   | ADEN     |
| 2   | SD       |
| 3   | MONT     |
| 4   | GND      |
| 5   | AUDIN-   |
| 6   | AUDIN+   |

### Speaker Output Connector:

- J3 TE Connector

| Pin     | Function |
|---------|----------|
| 1,2,4,5 | OUT-     |
| 3,6,7,8 | OUT+     |

### Audio Input Mode Switch:

- SW1 Slide Switch

| Setting | Function     |
|---------|--------------|
| UP      | Single-ended |
| DOWN    | Differential |

### Gain Control Switch:

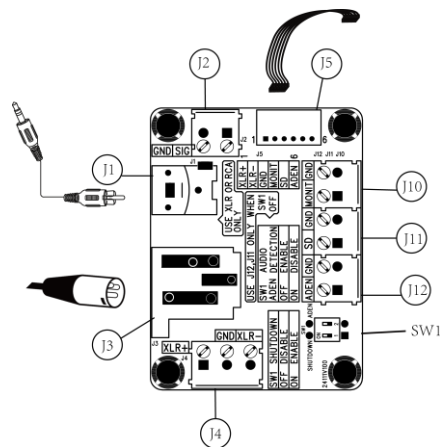
- SW2 Slide Switch

| Setting | Function |
|---------|----------|
| Left    | High     |
| Right   | Low      |

### Power Supply Connector:

- J13 Fastfit JR Header

| Pin | Function |
|-----|----------|
| 1,3 | GND      |
| 2,4 | VIN      |



### Audio Input Connector:

(Use XLR or RCA Only)

J1, RCA

J2, Line-in

| Pin | Definition |
|-----|------------|
| ■   | SIG        |
| ●   | GND        |

J3, J4, XLR

| Pin | Definition |
|-----|------------|
| ■   | XLR+       |
| ●   | GND        |
| ●   | XLR-       |

### Control Connector:

J11

| Pin | Definition |
|-----|------------|
| ■   | SD         |
| ●   | GND        |

### Audio Output Connector:

J5, 6 pin cable

| Pin | Definition |
|-----|------------|
| ■   | XLR+       |
| ●   | XLR-       |
| ●   | GND        |
| ●   | MONIT      |
| ●   | SD         |
| ●   | ADEN       |

### Signal Detection Connector:

J10

| Pin | Definition |
|-----|------------|
| ■   | MONIT      |
| ●   | GND        |

J12

| Pin | Definition |
|-----|------------|
| ■   | ADEN       |
| ●   | GND        |

### Switch:

SW1, Use J11, J12 Only When SW1 OFF

| Pin | Definition           | State | Function |
|-----|----------------------|-------|----------|
| 1   | SHUTDOWN             | ON    | ENABLE   |
|     |                      | OFF   | DISABLE  |
| 2   | AUDIO ADEN DETECTION | ON    | DISABLE  |
|     |                      | OFF   | ENABLE   |



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