BII-5060 Series Power Amplifier
Driving Sonar Transducer / Projector

DESCRIPTION
BII-5060 series is 200/260-watt (RMS) linear wideband power amplifier, which offers low distortion and low power consumption to underwater acoustic systems. BII-5060 series can also work as switch mode amplifiers whose power reaches 360/490W RMS.

APPLICATIONS

| Sub-bottom Investigation, Echo Sounding | Phantom Echo Generation, Phantom Clicks, Whistles and Pulse Trains |
| Navigation, Obstacle Avoidance | Acoustic Deterrent Devices |
| Underwater Wireless Communication/Modem | FSK, PSK and Spread Spectrum System |
| Psychoacoustic and AEP/ABR Experiments on Aquatic Mammals | Audiogram Studies / Audimetry |
| Inspection and Survey | Bioacoustic and Biological Research on Whales and Dolphins |

ABSOLUTE MAXIMUM RATINGS

| Minimum DC Supply Voltage: | +8 VDC |
| Maximum DC Supply Voltage: | +60 VDC |
| Output Peak Current: | 10 A |

SPECIFICATIONS

| Linear Power Amplifier | BII-5061 | BII-5065 |
| Source Level Capability: | 192.2+DI (Linear); 195+DI (Switch Mode) (dB re µPa) | 193.3+DI (Linear); 196.8+DI (Switch Mode) (dB re µPa) |
| Gain: | 32.5 dB or x42 | 34.32 dB or x52 |
| Full Power Bandwidth: | 135Hz to 100kHz | 135Hz to 50kHz |
| RMS Power Capability: (Linear Mode) | 200W@+48VDC; 138W@+36VDC; 78.2W@+24VDC. | 260W@+60VDC; 199W@+48VDC; 139W@+36VDC. |
| RMS Power Capability: (Switching Mode) | 360W@+48VDC; 270W@+36VDC; 176W@+24VDC. | 490W@+60VDC; 360W@+48VDC; 270W@+36VDC. |

Note: Forced-air cooling by a fan is a must to cool down the amplifier during service of full power and continuous waveform.

Supply Voltage: | +8 to +48 VDC | +8 to +60 VDC |
Size: | Round PCB, ØDxH=101.6x50.8 mm | Rectangular PCB, LxWxH=110x72x48mm |
Weight in Air: | 78 grams | 280 grams |

Miscellaneous

| Signal Type: | Pulse/Burst SINE, Chirp/FM, FSK and PSK, Arbitrary Waveform, Spread Spectrum, Marine Animal Sound, etc. |
| Input Impedance: | 100KΩ || 7pF |
| Maximum Input Level: | Linear Mode: 2 Vpp or (2*Supply Voltage -8Vpp)/Gain, whichever is less. |
| | Switch Mode: Pulse and Square Waveform: TTL/CMOS Level or 2Vpp to 5Vpp. |
| Max. Output Current: | 10 A |
| Stand-by Control Voltage: (Shut-down) | TTL/CMOS Compatible. Logic Low "0": ≤ 0.8V; Logic High "1": 2.4V to Supply Voltage Level. |
| | Logic High: Output enabled; Logic Low: Output Disabled. |
| Suggested DC Supply | Marine Battery, Automobile Battery, Fixed DC Linear Power Supply, Not Included. DO NOT use variable power supply whose maximum supply voltage is higher than the above rated voltage. DO NOT use switching mode DC power supply. |
| Quiescent Current: | Active: 59 mA, Shutdown: 24 mA |
| Mounting: | 4xØ4.87mm (Ø0.192") through-holes |
| Cable: | 6" or 0.15m wires |
| Connector: | Wire Leads |
| Operating Temperature: | -40°C to 85°C |
| Storage Temperature: | -50°C to 105°C |
**BII-5061 ST-BY SWITCH (Shutdown SWITCH)**

*OFF Position:* BII-5061 is in operating mode.

*DIO Position:* TTL/CMOS Logic High → BII-5061 is in operating mode.

TTL/CMOS Logic Low → BII-5061 is in Shutdown mode.

**BII-5061 TERMINALS and WIRINGS**

**Input and ST-by Terminal**
- Pin 1: ST-BY, White, 6" Wire
- Pin 2: COM, Black, 6" Wire
- Pin 3: IN+, Blue, 6" Wire
- Pin 4: IN-, Yellow, 6" Wire
- Pin 5: COM, Black, 6" Wire

**Output and Power Supply Terminal**
- Pin 1: +Vs, Red, 6" Wire
- Pin 2: +Vs, Red, 6" Wire
- Pin 3: COM, Black, 6" Wire
- Pin 4: OUT+, Blue, 6" Wire
- Pin 5: OUT-, Yellow, 6" Wire

**BII-5061 SUGGESTED WIRING:**

- Signal Source
- TTL/CMOS Signal
- DC Power Supply +8 to +48VDC
- Load

**BII-5061**

- IN +
- IN -
- ST-BY (Shutdown)
- COM
- +Vs
- COM
- OUT +
- OUT - DO NOT Connect Out - to COM

**Waring:** Outputs of Power amplifier are differential, DO NOT Connect Out + or Out - to COM.
**BII-5061 Physical Size:**

4 - Φ4.87mm (0.192 inch) mounting holes
Equally Spaced on 86.4mm (3.4inch) P.C.D.  
P.C.D.: Pitch Circle Diameter

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**BII-5061 SHIPMENT:**

1. Assembled BII-5061 board Qty.: 1
2. Input and ST-by Plug with 6" wires Qty.: 1
3. Output and Power Supply plug with 6" wires Qty.: 1

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**BII-5065 SUGGESTED WIRING:**

**Signal Source**
**TTL/CMOS Signal**
**DC Power Supply**
+8 to +60VDC

**Load**

**BII-5065**
- IN +
- IN -
- ST-BY (Shutdown)
- COM
- +Vs
- COM
- OUT +
- OUT -, DO NOT Connect Out - to COM

Waring: Outputs of Power amplifier are differential, DO NOT Connect Out + or Out - to COM.
BII-5065 Physical Size: LxWxH=110x72x48mm

Mounting Holes:
4xØ4.87mm

BII-5065 SHIPMENT:
1. Assembled BII-5065 boardQty.: 1
2. Input and ST-by Plug with 6" wiresQty.: 1
3. Output and Power Supply plug with 6" wiresQty.: 1