

Power Amplifiers & Battery Chargers



The BPA Bridging Power Amplifier and DPA Digital Power Amplifier are designed for public address or voice alarm system application. They are specifically developed to meet the requirements of EN 54-16 and can therefore also be used as part of fire detection and fire alarm systems.

The BCU-4830A/BCU-4875A battery chargers are designed for secured battery backup and power sharing to PA/VA system and external power amplifier.

BPA
Bridging Power Amplifier



BCU-4830A / BCU-4875A
Advanced Monitored Battery Charger



DPA
Digital Power Amplifier



BPA

Bridging Power Amplifier



The BPA is a 2U 19" rack-mountable bridging power amplifier with extremely low power consumption (1.2W per channel) during standby mode; and transformer isolated for 100V, 50V, 8 ohm or 70V, 35V, 8 ohm speaker line. There are audio line inputs with a balanced XLR and phoenix connectors. The available models are listed as below:

- BPA-1240/BPA-1480/BPA-1000 (240W/480W/1000W x 1CH)
- BPA-2060/BPA-2120/BPA-2240/BPA-2480 (60W/120W/240W/480W x 2CH)

The BPA-2060, BPA-2120, BPA-2240, BPA-2480 can be bridged (recommend) or paralleled to double the wattage for each two channels. The BPA amplifier is designed to have protection of short-to-ground or short circuit, overload and overheat. It also provides an automatic wake-up signal detection, which can automatically wake up the amplifier from standby mode when detects audio input signal (> -40 dB). The BPA amplifier has a 115 VAC or 230 VAC mains supply and a 48 VDC battery backup input. The status LED on the front panel include power, fault, overload temp. and VU meter.

FEATURES

- 2 channels BPA-2060, BPA-2120, BPA-2240, BPA-2480 can be bridged (recommend) or paralleled to double the power wattage
- Full protection circuitry: overload, short-to-ground or short circuit on speaker lines and overheat
- Extremely low power consumption during standby mode
- Input gain control
- Amplifier outputs
 - EU type: 100V, 50V, 8 ohm
 - US type: 70V, 35V, 8 ohm

CERTIFICATIONS AND APPROVALS

Europe	Voice Alarm	EN 54-16 (Pending)
Europe	CE/EMI	EN 55032 (In process)
Europe	CE/EMC	EN 61000-3-2 EN 61000-3-3 EN 55020 (In process)
Europe	CE/LVD	EN 60065 (In process)
USA	Safety	UL 60065 (Pending)

CONTROLS AND INDICATORS

Front

- VU meter LEDs (-40 dB, -20 dB and 0 dB)
- Overheat LED
- Overload LED
- Power LED
- Power fault LED

Back

- AC power socket
- Power on/off switch
- LED disable switch for EN 54-16
- 48 VDC battery backup input
- Amp fault contact and on/off switch
- 1 or 2 (depend on model) channel audio output(s)
- 1 or 2 (depend on model) XLR line input(s) or euro-block terminal
- 1 or 2 (depend on model) XLR channel output(s) or euro-block terminal
- 1 or 2 (depend on model) channel input(s) gain and on/off switch
- Ground (GND) socket

BPA

Technical Specifications

ELECTRICAL

- AC power input
 - EU: 220 VAC ~ 240 VAC, 50/60 Hz
 - US: 100 VAC ~ 120 VAC, 50/60 Hz
- Power consumption (AC)

model	idle	1/2 full power	full power
BPA-1240	23VA	330VA	480VA
BPA-1480	24VA	625VA	872VA
BPA-2060	40VA	212VA	282VA
BPA-2120	30VA	345VA	458VA
BPA-2240	32VA	660VA	960VA
BPA-2480	34VA	1245VA	1745VA
BPA-1000	30VA	1280VA	1795VA

Idle: pilot tone -36 dB, 1/2 full power: alarm tone

- DC power input: 43 VDC ~ 56 VDC
- Power consumption (DC)

model	standby mode	idle	1/8 full power	1/2 full power	full power
BPA-1240	2.2W	16W	100W	274W	430W
BPA-1480	2.2W	17W	175W	585W	875W
BPA-2060	2.2W	28W	53W	154W	212W
BPA-2120	2.2W	21W	101W	278W	394W
BPA-2240	2.2W	22W	192W	548W	860W
BPA-2480	2.2W	23W	350W	1170W	1750W
BPA-1000	2.2W	20W	343W	989W	1536W

Idle: pilot tone -36 dB, 1/8 full power: speech, 1/2 full power: alarm tone

- Amplifier outputs
 - E (EU) type: 100V, 50V, 8 ohm
 - U (US) type: 70V, 35V, 8 ohm

AUDIO CHARACTERISTICS

- Frequency response: 50 Hz and 18 kHz (± 3 dB)
- SNR: > 86 dB
- THD+N: < =1% @ 1 kHz
- Input impedance: 22k ohm
- Crosstalk (100V): > 80 dB @ 42 dB, 0 dBu (1 kHz) in
- Crosstalk (70V): > 80 dB @ 39 dB, 0 dBu (1 kHz) in

LOUDSPEAKERS OUTPUTS

model	rated output power	rated load impedance	rated load capacitance
BPA-2060	60W	167 ohm (100V); 82 ohm (70V) 41.6 ohm (50V); 20 ohm (35V)	30 nF (100V); 62 nF (70V)
BPA-2120	120W	83 ohm (100V); 41 ohm (70V) 20 ohm (50V); 10 ohm (35V)	62 nF (100V); 120 nF (70V)
BPA-1240 BPA-2240	240W	41.6 ohm (100V); 20 ohm (70V) 10 ohm (50V); 5.1 ohm (35V)	120 nF (100V); 240 nF (70V)
BPA-1480 BPA-2480	480W	20 ohm (100V); 10 ohm (70V) 5 ohm (50V); 2.6 ohm (35V)	240 nF (100V); 470 nF (70V)
BPA-1000	1000W	10 ohm (100V); 4.9 ohm (70V) 2.5 ohm (50V); 1.2 ohm (35V)	470 nF (100V); 820 nF (70V)

*(1 min. at 40°C) (per CH)

MECHANICAL

- Dimensions (W x H x D)
 - BPA-1240: 426 x 88 x 295 mm (16.8 x 3.5 x 11.6 inch)
 - BPA-1480: 426 x 88 x 295 mm (16.8 x 3.5 x 11.6 inch)
 - BPA-2060: 426 x 88 x 356 mm (16.8 x 3.5 x 14 inch)
 - BPA-2120: 426 x 88 x 356 mm (16.8 x 3.5 x 14 inch)
 - BPA-2240: 426 x 88 x 376 mm (16.8 x 3.5 x 14.8 inch)
 - BPA-2480: 426 x 88 x 435 mm (16.8 x 3.5 x 17 inch)
 - BPA-1000: 426 x 88 x 390 mm (16.8 x 3.5 x 15.6 inch)
- Weight
 - BPA-1240: 10.5 kg (23.1 lbs)
 - BPA-1480: 13.5 kg (29.8 lbs)
 - BPA-2060: 13 kg (28.6 lbs)
 - BPA-2120: 13 kg (28.6 lbs)
 - BPA-2240: 16.2 kg (35.7 lbs)
 - BPA-2480: 22 kg (48.5 lbs)
 - BPA-1000: 21 kg (46.2 lbs)
- Mounting: 19" 2U rack
- Colour: RAL 7016

ENVIRONMENTAL

- Operating temperature: -5 °C ~ +55 °C (+23 °F ~ +131 °F)
- Storage temperature: -40 °C ~ +70 °C (-40 °F ~ +158 °F)
- Relative humidity: 20 % to 95 %
- Air pressure: 600 to 1100 hPa
- Heat dissipation
 - BPA-1240: 1512 BTU/hr
 - BPA-1480: 3044 BTU/hr
 - BPA-2060: 767 BTU/hr
 - BPA-2120: 1587 BTU/hr
 - BPA-2240: 3019 BTU/hr
 - BPA-2480: 6090 BTU/hr
 - BPA-1000: 6347 BTU/hr

ORDERING INFORMATION

- BPA-1240E/U/T: 240Wx1 BPamp
- BPA-1480E/U/T: 480Wx1 BPamp
- BPA-2060E/U/T: 60Wx2 BPamp
- BPA-2120E/U/T: 120Wx2 BPamp
- BPA-2240E/U/T: 240Wx2 BPamp
- BPA-2480E/U/T: 480Wx2 BPamp
- BPA-1000E/U/T: 1000Wx1 BPamp

Available types

E: 220-240Vac,OUT 100V/50V/8ohm
U: 100-120Vac,OUT 70V/35V/8ohm
T: 100-120Vac,OUT 100V/50V/8ohm

MODEL EXAMPLES

- BPA-1480E: 480Wx1 BPamp/220-240Vac,OUT 100V/50V/8ohm
- BPA-2240U: 240Wx2 BPamp/100-120Vac,OUT 70V/35V/8ohm