

**MODEL: AC257U-B4-8****10" BASS-MID****400W**

## Description

The AC257U-B4A is an Australian made economical ferrite bass-mid 10" loudspeaker with a useful upper limit of 4.6kHz. This model offers excellent bass performance, high efficiency, and wide frequency range with a clear pleasant reproduction quality suitable for wide range of applications.

The latest technology applicable to high power loudspeakers construction has been incorporated without compromise. The magnet components are FEM optimized and "E"-coated for longevity.

The air dried cone is made in house from local and imported paper fibers including Kevlar for maximum stiffness with damping. High efficiency wide frequency range and good cone rigidity is achieved with a deep curvilinear paper cone. The speaker resonance was chosen to offer high power handling, high sensitivity and reliable performance in bass applications. The cone body is terminated with a sealed damped accordion cloth surround and finished with a paper dust-cap to enhance bass performance and control mid and high frequency response.

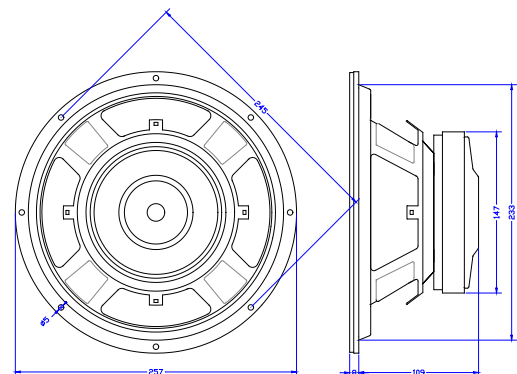
Reliable performance and 200W AES rating is achieved with a 50mm voice coil and state of art high temperature adhesives.

The AC257U model is engineered and hand crafted to the highest and strictest tolerances to meet the demanding requirements of professional sound reinforcement systems.

## Application

High-quality bass sound reinforcement applications in the frequency range 39Hz to 4.6KHz for applications where economy light weight and big performance in a small enclosure is an important consideration i.e. electric bass, live music clubs, music playback systems, fold-back and other general applications. In the correct enclosure and under controlled conditions we recommend each AC257U-B4A be driven by a power amplifier capable of delivering 50 to 400 watts into 8 ohms providing the incoming signal is processed to avoid over excursion at low frequencies.

*Refer: -C257U-B4A-8 application notes for enclosure details*



## Mounting Details

Baffle opening diameter:

front mounting 233 mm

Mounting pattern:

Eight 5.0 mm holes eqi-spaced on a 245mm P.C.D.

Flange thickness 8.3mm

**Technical Data**

*Typical measured Thiele/Small parameters*

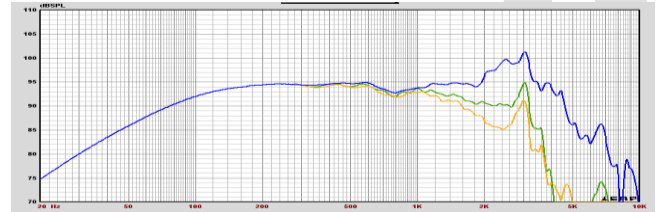
|                              |        |              |
|------------------------------|--------|--------------|
| AES power rating             |        | 200 watt     |
| Program power rating         |        | 400 watt     |
| #Rated nominal impedance     | Z      | 8 ohms       |
| Rated frequency range        |        | 40 – 4.6kHz  |
| Reference sensitivity        |        | 95.0 dB SPL  |
| Resonance frequency          |        | 50 Hz        |
| Mechanical Q                 | Qm     | 8.2          |
| Electrical Q                 | Qe     | 0.32         |
| Total spk. Q                 | Qts    | 0.311        |
| Diaphragm mass               | Mmd    | 31.1 gms     |
| Effective diaphragm diameter |        | 21.6 cm      |
| Effective diaphragm area     | Sd     | 0.0363 sq.m. |
| Vol. equiv to spk compliance | Vas    | 55.0 litres  |
| Mechanical compliance        | Cms    | 0.292 mm/N   |
| BL product                   | Bl     | 14.4 T.m     |
| Voicecoil diameter           | d      | 50 mm        |
| Voicecoil material           |        | copper       |
| Voicecoil DC resistance      | Re     | 6.1 ohms     |
| Voicecoil inductance         | Lvc    | 1.3 mH       |
| Voicecoil height             |        | 16.0 mm      |
| Height of air-gap            | Hg     | 8 mm         |
| Peak linear displacement     | Xpk    | 5.0 mm       |
| X Damage peak to peak        | Xpk-pk | 19.6 mm      |
| Reference efficiency         |        | 2.0 %        |
| Speaker total mass           |        | 3660 gms     |

# Also available in 4 and 16 ohm impedance  
 Specifications subject to change without notice.

**Notes**

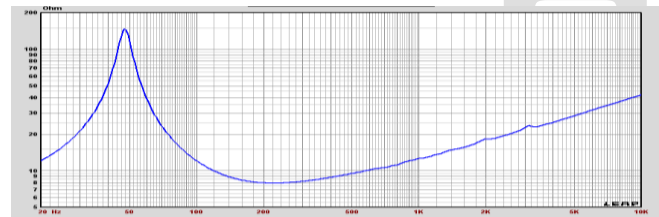
- (1) AES power is determined according to AES2-1984 standard in free-air. Power calculated on minimum impedance.
- (2) Reference sensitivity is SPL at 1W at 1m derived from Thiele/Small parameters.
- (3) Frequency range is the useful frequency range for this transducer when mounted in its recommended enclosure.
- (4) Thiele/Small parameters are derived after the loudspeaker was preconditioned and are a better representation of the long term parameters in use.
- (5) Peak linear displacement Xpk derived from Klippel XBL when XBL is 82%.

**Frequency Response**



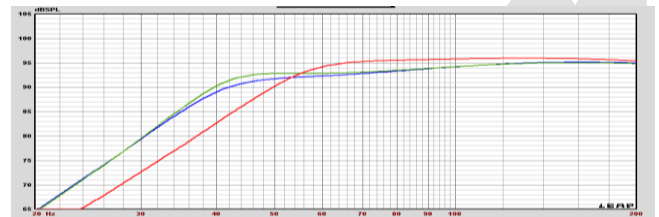
Infinite baffle sound pressure response recorded at 2.83V or nominal one watt at one meter.  
 Blue curve is on axis spl response  
 Green curve is SPL at 30 degrees off axis.  
 Orange curve is SPL at 40 degrees off axis

**Impedance plot**



Free-air impedance magnitude plot.

**Vented System SPL Response**



LEAP5 half space simulated vented spl response at 2.83V/1W at one meter for:

- Red curve - 35 litre vented cabinet with 58Hz vent tuning.
- Green curve - 50 litre vented cabinet with 45Hz vent tuning.
- Blue curve – 42 litre vented cabinet with 45Hz vent tuning.