

# B-81

## High Output Bone Transducer

#8506737

### Features

- Reliable performance
- Meets industry standards
- High maximum output, low distortion
- Mechanically robust
- Sensitivity: 119 dB re.1  $\mu$ N @ 1 VRMS & 1 kHz
- Total harmonic distortion: 1.1% @ 1 VRMS & 1 kHz
- Impedance: 12.5 ohm @ 1 kHz
- Secured plug concept
- RoHS compliant



The Gold  
Standard

of Audiometric Transducers

### Accessories:

- Cable, 2m, straight plug, item #8103211
- Cable, 2m, 30 degree plug, item #8107612
- P3333 Headband, item #8507213
- Pre-assembled headset (incl. P3333 headband and cable with 30 degree plug), item #8509840

### RadioEar B-81 Bone Transducer

The B-81 is the new audiometric Bone Conductor from RadioEar. This new and enhanced bone conductor achieves higher output levels at low frequencies with a superior distortion performance. With the B-81 it is now possible, for example, to reliably measure bone conduction thresholds up to 50 dBHL at 250 Hz.

The B-81 is based on the Balanced Electro-magnetic Separation Transducer (BEST principle), where static forces are counter-balanced so that non-linear distortion forces are reduced and maximum output levels can be increased. Furthermore, the robust mechanical construction results in a significantly improved shock resistance compared to conventional designs.

The B-81 is compatible with all standard headbands and high quality cables. It also has the capability of using a custom cable designed to securely attach the plug to the transducer body. This safety feature eliminates the possibility of accidentally unplugging the device while in use.

#### Audiometric Benefit

"The B-81 bone vibrator provides higher output and lower harmonic distortion compared to the B71. This may offer a significant clinical advantage. Conductive components of severe hearing losses that cannot be measured with the B71 vibrator may be measurable with the B-81. This is important for medical diagnosis and treatment, programming hearing aids, and determining cochlear implant candidacy."

Robert H. Margolis

Professor Emeritus, University of Minnesota



# Technical Specifications

## Technical Performance

- The maximum output of the B-81 can be increased by 5-20 dB over the whole frequency range and still not exceed 5.5% THD or 6 VRMS drive voltage in reference to the IEC-ANSI Type 1 standard values. At 250 Hz, the maximum output for B-81 (median 48 dB HL) meets the standard IEC 60645-1.
- Measurements performed on Brüel & Kjær 4930, Artificial Mastoid with static force 5,4N.
- Reference equivalent threshold force levels (RETFLs) for bone vibrators.

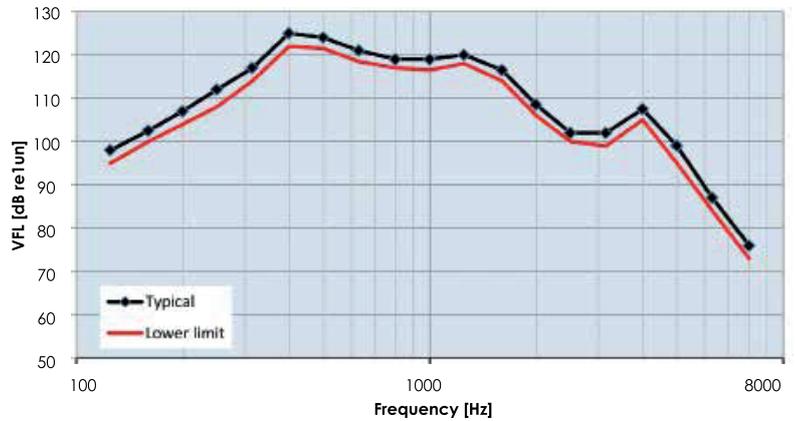
## Compliance Standards

- IEC 606045-1:2001: Electroacoustics – Audiological equipment. Part 1: Pure-tone audiometers
- ANSI/ASA S3.6-2010 American National Standard Specification for Audiometers
- ISO 389-3:1994: Acoustics – Reference zero for the calibration of audiometric equipment. Part 3: Reference equivalent threshold force levels for pure tones and bone vibrators.

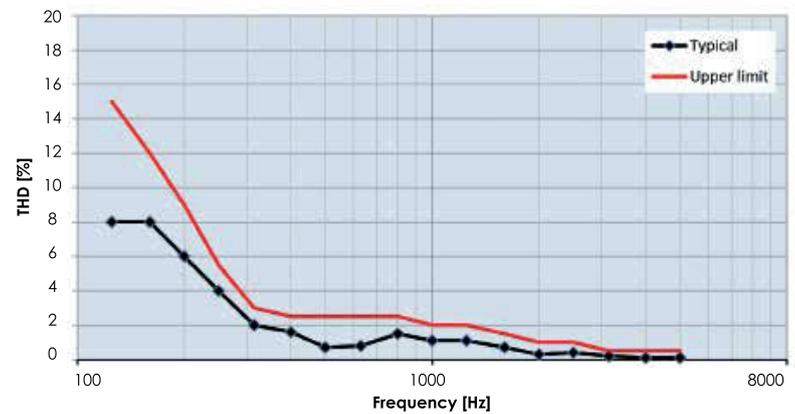
| Frequency Hz | Mastoid (dB re 1uN) | Forehead (dB re 1uN) | Forehead minus mastoid |
|--------------|---------------------|----------------------|------------------------|
| 250          | 67.0                | 79.0                 | 12.0                   |
| 315          | 64.0                | 76.5                 | 12.5                   |
| 400          | 61.0                | 74.5                 | 13.5                   |
| 500          | 58.0                | 72.0                 | 14.0                   |
| 630          | 52.5                | 66.0                 | 13.5                   |
| 750          | 48.5                | 61.5                 | 13.0                   |
| 800          | 47.0                | 59.0                 | 12.0                   |
| 1000         | 42.5                | 51.0                 | 8.5                    |
| 1250         | 39.0                | 49.0                 | 10.0                   |
| 1500         | 36.5                | 47.5                 | 11.0                   |
| 1600         | 35.5                | 46.5                 | 11.0                   |
| 2000         | 31.0                | 42.5                 | 11.5                   |
| 2500         | 29.5                | 41.5                 | 12.0                   |
| 3150         | 31.0                | 42.5                 | 11.5                   |
| 4000         | 35.5                | 43.5                 | 8.0                    |
| 5000         | 40.0                | 51.0                 | 11.0                   |
| 6000         | 40.0                | 51.0                 | 11.0                   |
| 6300         | 40.0                | 50.0                 | 10.0                   |
| 8000         | 40.0                | 50.0                 | 10.0                   |
| Speech       | 55.0                | 63.5                 | 8.5                    |

Table taken from ANSI standard (ANSI/ASA S3.6-2010) levels (RETFLs) for bone vibrators.

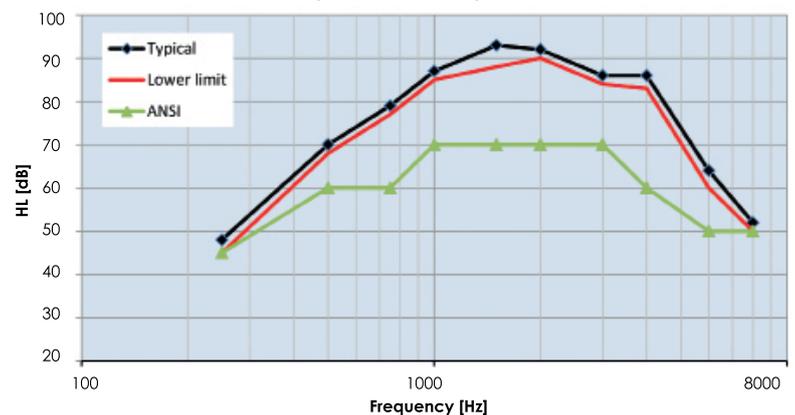
Graph 1: Vibratory Force Level (VFL)



Graph 2: Total Harmonic Distortion (THD) at Maximum Output



Graph 3: Maximum Output HL



## Dimensions

- Height – 16 mm
- Length – 31.7 mm
- Width – 18.2 mm
- Weight: 20 g

