

## Description

A unique two terminal miniature magnetic receiver utilizing Tibbetts' innovative patented construction for use in hearing instruments and communication devices requiring reliability, high sensitivity, and small size. Extended frequency response optimized for HFA on the specified acoustic terminations. Biased or unbiased models for use with Class A, Class D or other single-ended output amplifiers.

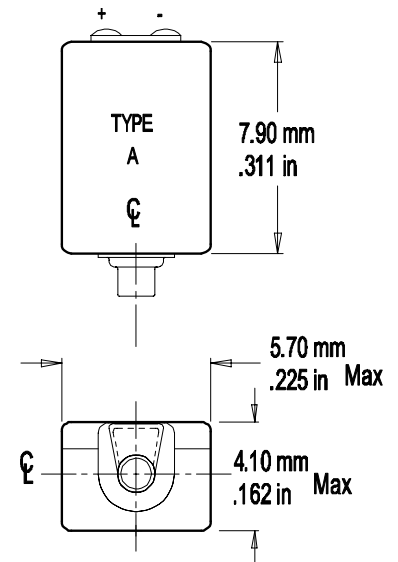
- Exceptional magnetic shielding
- Welded construction
- Unequaled shock resistance
- Low acoustic distortion
- Wide tolerance of bias current variations
- High acoustic pressure capability

## Model Numbers

Model numbers designate electrical and physical characteristics.  
 Example model number: 87-12A-xxx.

- "A" refers to the standard port tube location pictured to the right. Other configurations may be specially ordered. Please contact Tibbetts Customer Service for details.
- "-xxx" refers to electrical characteristics. Please refer to *83/85/87 Electrical Data Sheet* for available electrical specifiers.

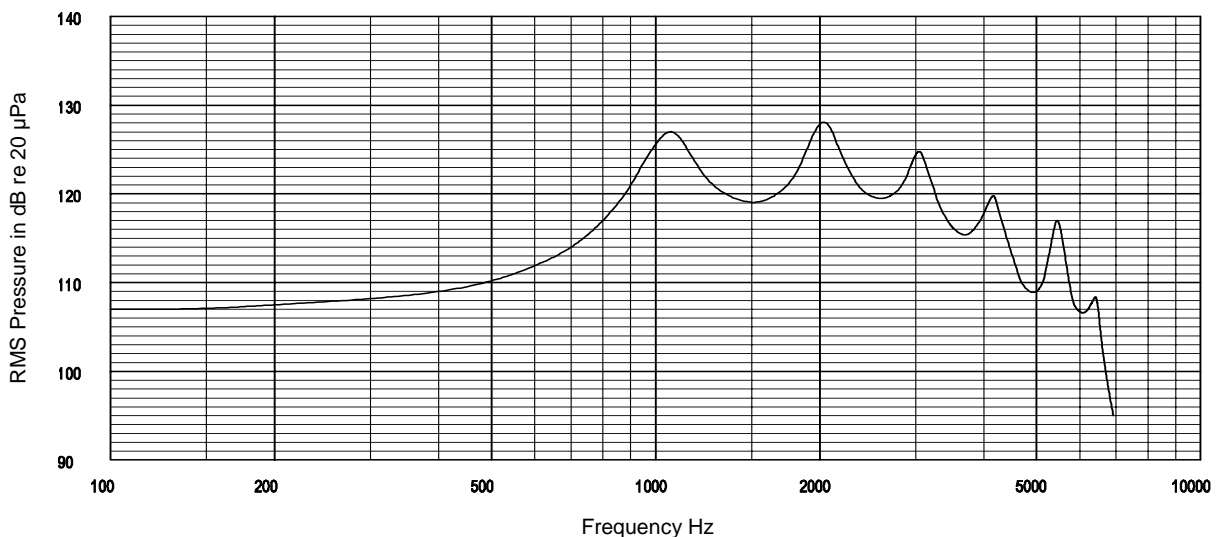
## Physical Dimensions



Port tube: 1.40mm (.055 in.) O.D. projecting  
 1.57mm (.062 in.)

Unit Volume: .179 cc (.011 cu. in.)  
 Unit Weight: 700 mg (.025 oz.)

## Acoustic Response



TEST CONDITIONS: Typical response measured under the following test conditions: constant current sources  $(1000/Z_R)^{1/2}$  ma rams with 8mm of 1mm plus 28mm of 1.5mm plus 25mm of 2mm plus 18mm of 3mm tubing into a 2cc coupler (ANSI S3.7 – 1973 Fig. 12).

## 83/85/87 Series Receiver

### General Specifications

Resistance Tolerance	±15%
Impedance Tolerance	± 20%
THD*, Maximum	10%
Sensitivity*, SPL @200 Hz	109 ± 3dB (Series 83 & 85) 107.5 ± 3dB (Series 87)

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- “-xxx” refers to electrical characteristics. Please see below for available Electrical Characteristics and Electrical Specifiers. Other characteristics custom designed on special order.

### Commonly Specified Electrical Characteristics

#### Series 83/85/87-12 2 Terminal Models

Electrical Specifier	Z Rated	Z 1kHz	DC Res 20°C	Bias MA
-309	203	257	42	4.50
-017	250	300	58	2.00
-117	250	300	58	0.00
-016	420	500	92	1.55
-001	525	600	105	1.50
-005	1100	1300	245	0.90
-003	1700	2050	520	0.78
-007	2100	2500	435	0.60

#### Series 83/85/87-13 3 Terminal Models

Electrical Specifier	Z Rated	Z 1kHz	DC Res 20°C	Bias MA
-024	48	56	11.3	0
-022	264	300	58	0
-014	275	320	70	0
-021	400	484	73	0
-011	410	500	92	0
-001	525	600	105	0
-006	875	1000	215	0
-020	950	1100	196	0
-023	1177	1348	250	0

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Z rated is specified and measured as the geometric mean of the impedance at 300 Hz and the maximum impedance below 5000 Hz