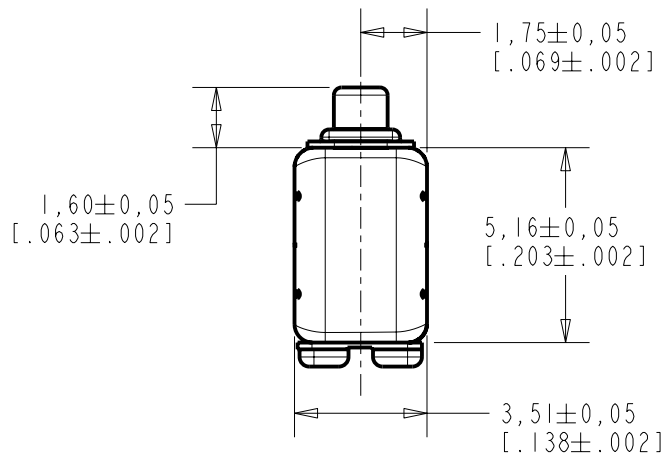

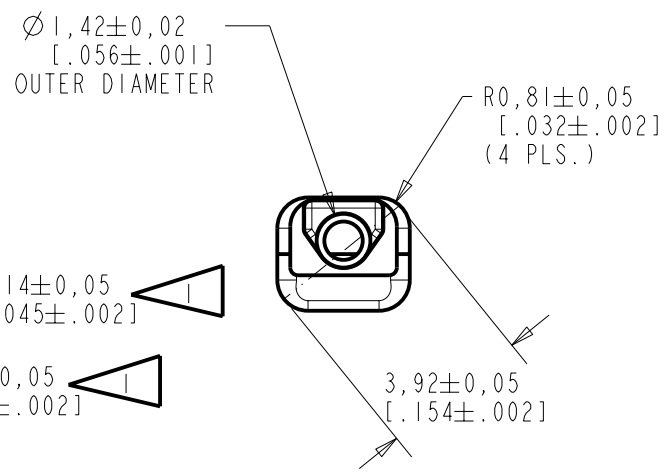
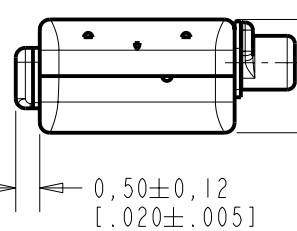
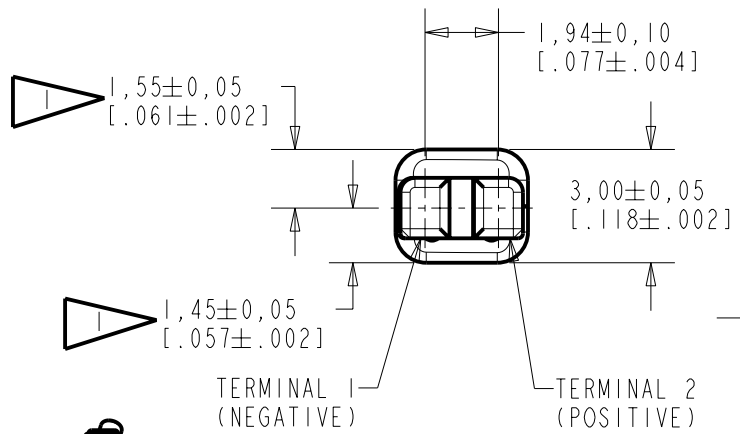


**WBHC-23911-000**  
SHT 1.1



NOTES:  
 LOCATED FROM TWO SURFACES FOR CUSTOMER CONVENIENCE. ONLY APPLICABLE FROM ONE SURFACE, NOT TO BE USED TOGETHER. HORIZONTAL LOCATION FOR TERMINAL CENTERED TO ±0,17 [0,007].



SCALE 2:1

NOMINAL WEIGHT  
.21 GRAMS

DIMENSIONS IN MILLIMETERS [INCHES]

| Revision | C.O. #    | Implementation Date | RELEASE LEVEL | REVISION |
|----------|-----------|---------------------|---------------|----------|
| B        | C10104863 | 10-16-06            | Released      | B        |
| A        | C10103801 | 2-2-06              |               |          |

**KNOWLES ELECTRONICS**  
ITASCA, ILLINOIS U.S.A.

|                      |  |                |
|----------------------|--|----------------|
| SCALE: 5:1           |  | DR. BY: DATE   |
| DO NOT SCALE DRAWING |  | MMM 2-2-06     |
| TITLE: RECEIVER      |  | WBHC-23911-000 |
| OUTLINE DRAWING      |  | SHT 1.1        |
|                      |  | CK. BY: DATE   |
|                      |  | GJP 2-6-06     |
|                      |  | APP. BY: DATE  |
|                      |  | GJP 2-6-06     |

# DESCRIPTION

NO DAMPING

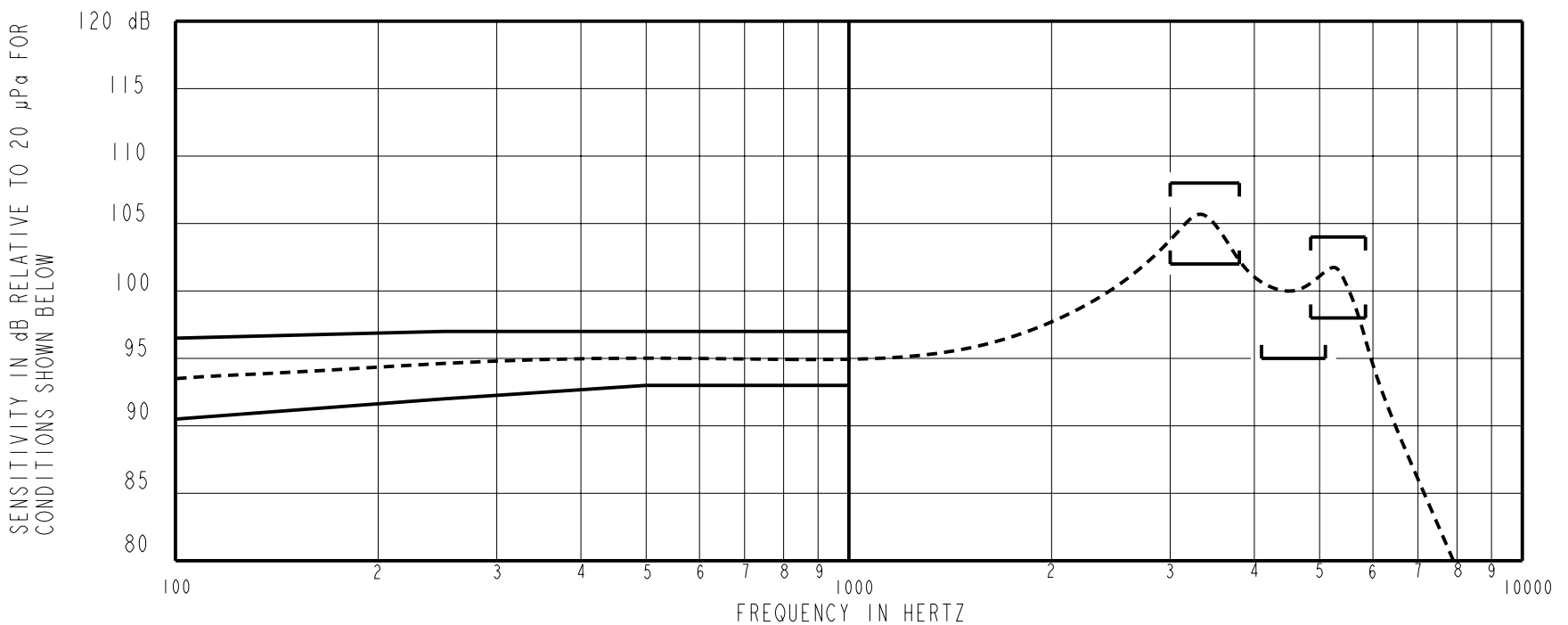
WBHC-23911-000

SHEET 2.1

THE WBHC-23911-000 IS A MAGNETIC BALANCED ARMATURE RECEIVER INTENDED FOR USE IN ITC AND CIC HEARING INSTRUMENTS. THE WBHC FAMILY OFFERS AN EXTENDED HIGH FREQUENCY RESPONSE IN THE SAME SIZE PACKAGE AS THE HC FAMILY. ALL WBHC UNITS HAVE SHOCK PROTECTION. THIS MODEL HAS MEDIUM IMPEDANCE AND IS UNDAMPED.

NOTE: SPECIFICATIONS FOLLOWED BY AN ASTERISK (\*) ARE 100% TESTED.

## CONSTANT VOLTAGE DRIVE RESPONSE



## ACOUSTICAL

### SENSITIVITY\*

DEVICE WILL PRODUCE THE SPL LISTED BELOW WITH THE TEST CONDITIONS DESCRIBED IN TABLE 3. NOMINAL SENSITIVITY AT 1 kHz IS dB RELATIVE TO 20 µPa. ALL OTHER VALUES IN dB RELATIVE TO THE SENSITIVITY AT 1 kHz.

| FREQUENCY (Hz)   | MINIMUM | NOMINAL | MAXIMUM |
|------------------|---------|---------|---------|
| 100              | -4.5    | -1.5    | +1.5    |
| 250              | -3.0    | -0.5    | +2.0    |
| 500              | -2.0    | 0.0     | +2.0    |
| 1000             | -2.0    | 95.0    | +2.0    |
| 3000-3800 PEAK   | +7.0    | +10.0   | +13.0   |
| 4100-5100 VALLEY | 0.0     | ---     | ---     |
| 4850-5850 PEAK   | +3.0    | +6.0    | +9.0    |

TABLE 1.

### TOTAL HARMONIC DISTORTION\*

DEVICE WILL NOT EXCEED TOTAL HARMONIC DISTORTION LEVELS LISTED BELOW.

| FREQUENCY (Hz) | DRIVE (V RMS) | DC BIAS (MA) | LIMIT (%) |
|----------------|---------------|--------------|-----------|
| 1100           | 0.336 V       | 0            | 5         |
| 1650           | 0.336 V       | 0            | 5         |
| 500            | 1.78 V        | 0            | 8         |

TABLE 2.

### TEST CONDITIONS

|                        |   |
|------------------------|---|
| NOMINAL SOURCE VOLTAGE | 0.336 Vrms, 0 Vdc BIAS                        |
| SOURCE IMPEDANCE       | < 1 Ω   |
| TUBING                 | 10 mm (.394) LONG, 1 mm (.039) ID.            |
| COUPLER CAVITY         | 2 CC SIMULATED ANSI S3.7 TYPE HA-3, (IEC 126) |

TABLE 3.

### POLARITY\*

POSITIVE SIGNAL APPLIED TO TERMINAL 2 WILL PRODUCE A DECREASE IN SOUND PRESSURE AT THE SOUND OUTLET.

## ELECTRICAL

|                      |            |   |
|----------------------|------------|---|
| DC RESISTANCE        | 177 Ω ±10% | * |
| IMPEDANCE @ 500 Hz   | 189 Ω ±15% | * |
| IMPEDANCE @ 1 kHz    | 207 Ω ±20% | * |
| INDUCTANCE @ 500Hz   | 9 mH ±15%  |   |
| CAPACITANCE @ 10 MHz | 4 pF ±20%  |   |

TABLE 4.

ISOLATION: THE CASE WILL BE ELECTRICALLY ISOLATED FROM THE COIL CIRCUIT\*

### MAGNETIC RADIATION

WORST CASE: FIELD WILL BE LESS THAN LEVEL STATED BELOW AT AMPLIFIER CLIPPING (.920 V).

124 dB re 1µA/m

DISTANCE OF 6.3 mm FROM CENTER OF RECEIVER

ANGLE OF 45 DEGREES FROM TUBE

## MECHANICAL

PORT LOCATION: 12C

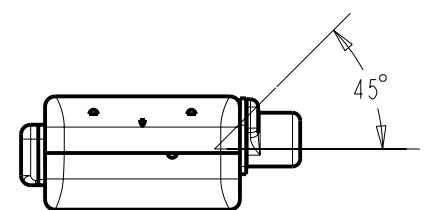
SOLDER TYPE: SAC305

### TEMPERATURE

OPERATING: SENSITIVITY WILL NOT VARY MORE THAN

+1/-3 dB FROM -17°C TO 63°C

STORAGE: -40°C TO 63°C



**KNOWLES ELECTRONICS**  
ITASCA, ILLINOIS U.S.A.

| Revision   | C.O. #    | Implementation Date | RELEASE LEVEL  | REVISION |
|--|-----------|---------------------|----------------|----------|
| B  | C10104863 | 10-16-06            | Released       | B        |
| A  | C10103801 | 2-2-06              |                |          |
| WHEN TEST LIMITS ARE USED TO ESTABLISH INCOMING INSPECTION ACCEPTANCE/REJECTION CRITERIA, CORRELATION OF TEST EQUIPMENT WITH KNOWLES IS ALSO REQUIRED FOR ELIMINATION OF EQUIPMENT AND TEST METHOD VARIATION |           |                     | DR. BY         | DATE     |
| TITLE: RECEIVER<br>PERFORMANCE SPECIFICATION   |           |                     | WBHC-23911-000 | 2-2-06   |
|  |           |                     | SHT 2.1        | 2-6-06   |
|  |           |                     | CK. BY         | DATE     |
|  |           |                     | GJP            | 2-6-06   |
|  |           |                     | APP. BY        | DATE     |
|  |           |                     | GJP            | 2-6-06   |