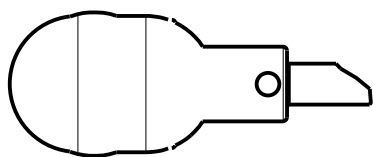


FB-EM-30347-000

SHT 1.1

**RED CONTROLLED**



TOP VIEW  
W/WINDSHIELD SHOWN  
SCALE 1:1

$\varnothing 19,0 \pm 0,3$   
[.748  $\pm$  .012]

$\varnothing 5,41^{+0}_{-0,20}$   
[.213  $\pm$  .008]

ADHESIVE BUILD UP  
TO BE 2mm MAX.

190  $\pm$  4  
[7.48  $\pm$  .16]

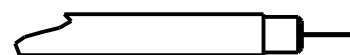
60  $\pm$  5  
[2.36  $\pm$  .20]

OUTPUT WHITE

+ve RED

-ve BLACK

PLASTIC HOUSING, BLACK



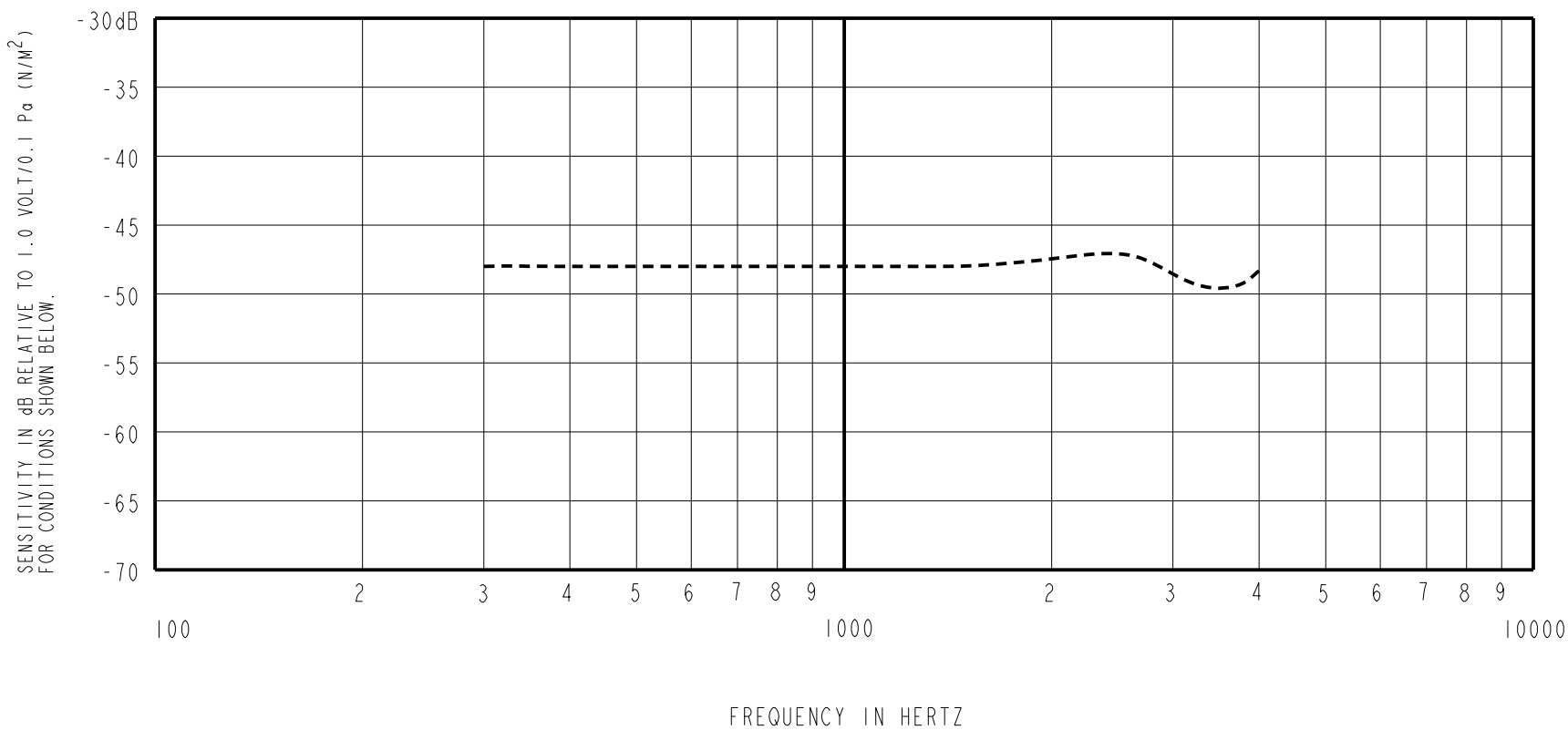
WIRES  
2mm STRIPPED & TINNED ENDS

| WIRE COLOR |        |       | WEIGHT<br>GRAMS |
|------------|--------|-------|-----------------|
| +ve        | OUTPUT | -ve   |                 |
| RED        | WHITE  | BLACK | ---             |

DIMENSIONS IN MILLIMETERS [INCHES]

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

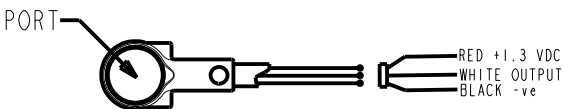
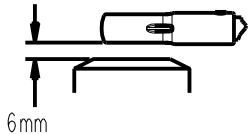
| Revision               | C.O. #    | Implementation Date | RELEASE LEVEL | REVISION     |
|------------------------|-----------|---------------------|---------------|--------------|
|                        |           |                     | Active        | D            |
|                        |           |                     |               |              |
| D                      | C40101206 | 3-7-13              |               |              |
| SCALE: 1:1             |           |                     | DR. BY TT     | DATE 6-26-08 |
| DO NOT SCALE DRAWING   |           |                     | CK. BY GJP    | DATE 7-15-08 |
| TITLE: BOOM MICROPHONE |           |                     | APP. BY GJP   | DATE 7-15-08 |
| OUTLINE DRAWING        |           |                     | SHT 1.1       |              |



| FREQUENCY | SENSITIVITY |       |       | DEVICE CONFORMITY<br>RANGE OF DEVIATION FROM 1KHz |      |
|-----------|-------------|-------|-------|---------------------------------------------------|------|
|           | MIN.        | NOM.  | MAX.  |                                                   |      |
| 300       | ---         | -48.0 | ---   | -3.0                                              | +3.0 |
| 1000      | -51.0       | -48.0 | -45.0 | 0.0                                               | 0.0  |
| 4000      | ---         | -47.0 | ---   | -3.0                                              | +5.0 |

NOTES:

- MICROPHONE TO BE FUNCTIONAL WITH 10 VDC SUPPLY.
- SENSITIVITY VALUES INDICATED ON THIS SPECIFICATION ARE VALID AT 50% HUMIDITY.
- TEST CONDITIONS:  
HEAD OF BOOM EXPOSED TO 74 dBSPL SWEPT SOUND FIELD AT 6mm FROM VOICE APERTURE.  
ARTIFICIAL VOICE:  
B & k 4227 MOUTH SIMULATOR.
- FOR MICROPHONE CAPSULE SPEC. SEE DRAWING EK-23132-C36 SHEET 2.1.
- SURVIVES 3m SUBMERSION BASED ON QUALIFICATION TESTING. 100% TEST 30 MINUTES 1m SUBMERSION; SENSITIVITY WITHIN 3dB OF INITIAL SENSITIVITY AFTER DRIED FOR 30 MINUTES AT ROOM TEMPERATURE.



LEAD IDENTIFICATION  
& TEST CIRCUIT

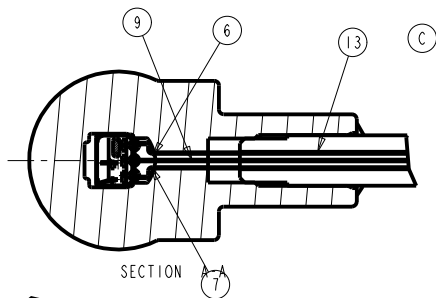
RED CONTROLLED

KNOWLES ELECTRONICS  
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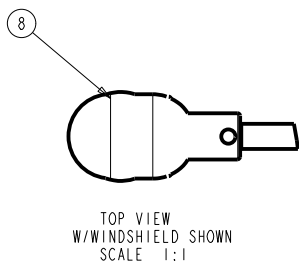
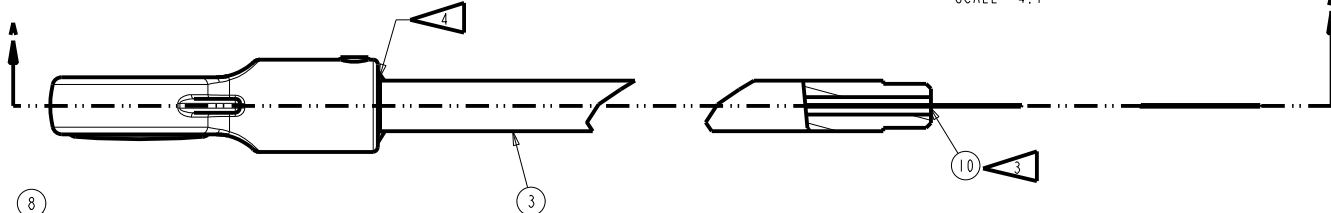
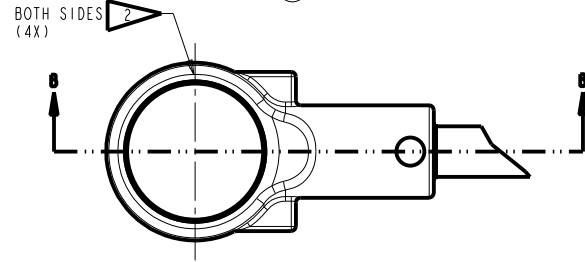
| Revision                                                                                                                                                                                                     | C.O. #    | Implementation Date | RELEASE LEVEL |         | REVISION |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------|---------------|---------|----------|
|                                                                                                                                                                                                              |           |                     | Active        |         | D        |
|                                                                                                                                                                                                              |           |                     |               |         |          |
| D                                                                                                                                                                                                            | C40101206 | 3-7-13              |               |         |          |
| 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     |
|                                                                                                                                                                                                              |           |                     |               | TT      | 6-26-08  |
| TITLE: BOOM MICROPHONE<br>PERFORMANCE SPECIFICATION                                                                                                                                                          |           |                     |               | CK. BY  | DATE     |
|                                                                                                                                                                                                              |           |                     |               | GJP     | 7-15-08  |
| FB-EM-30347-000<br>SHT 2.1                                                                                                                                                                                   |           |                     |               | APP. BY | DATE     |
|                                                                                                                                                                                                              |           |                     |               | GJP     | 7-15-08  |

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FB-EM-30347-000



RED CONTROLLED



- NOTES:
1. ITEM NUMBERS (SHOWN THUS **b**) ON DRAWING CORRESPOND WITH ITEM NUMBERS ON BILL OF MATERIAL.
  2. ATTACH ITEM **4** TO ITEM **1** IN 4 PLACES MINIMUM ON EACH SIDE USING CEMENT.
  3. SEAL BOOM END WITH ITEM **10**. BUILD UP TO BE 2mm MAX.
  4. SEAL WHOLE HEAD CAVITY WITH ITEM **9**, WIRE HOLE MUST BE FILLED, ADHESIVE BUILD UP TO BE 2mm MAX.

DIMENSIONS IN MILLIMETERS [INCHES]

| MATERIAL                                                                |  |                              |  | SEE BILL OF MATERIALS            |  |                                                                                       |  | FINISH      |  |                                                      |  | SCALE: 2:1                                     |  |                 |  | DO NOT SCALE DRAWING |  |  |  |
|-------------------------------------------------------------------------|--|------------------------------|--|----------------------------------|--|---------------------------------------------------------------------------------------|--|-------------|--|------------------------------------------------------|--|------------------------------------------------|--|-----------------|--|----------------------|--|--|--|
| REF. 10-1747                                                            |  | A C10107379                  |  | B C10107748                      |  | C C40100518                                                                           |  | D C40101206 |  | UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES |  | KNOWLES ELECTRONICS<br>ITASCA, ILLINOIS U.S.A. |  |                 |  |                      |  |  |  |
| RENAME IN PROVE<br>FROM FB-30347-000<br>TO FB-EM-30347-000<br>1-8-12-08 |  | SEE SHEET 4.1<br>00 11-25-10 |  | UPDATE THE REVISION<br>00 3-4-13 |  | THIRD ANGLE<br>PROJECTION                                                             |  | TITLE       |  | BOOM MICROPHONE<br>ASSEMBLY                          |  |                                                |  | FB-EM-30347-000 |  |                      |  |  |  |
|                                                                         |  |                              |  |                                  |  |  |  |             |  | SHEET                                                |  |                                                |  | 3.1             |  |                      |  |  |  |
|                                                                         |  |                              |  |                                  |  |                                                                                       |  |             |  |                                                      |  |                                                |  |                 |  |                      |  |  |  |

|                    |  |  |                                   |  |  |                      |  |  |
|--------------------|--|--|-----------------------------------|--|--|----------------------|--|--|
| FB-EM-30347-000    |  |  | KNOWLES ELECTRONICS               |  |  | FB-EM-30347-000      |  |  |
| Sheet 4.1          |  |  | ITASCA, ILLINOIS U.S.A.           |  |  | Sheet 4.1            |  |  |
| By TT Date 6-26-08 |  |  | Subject: BOOM MICROPHONE ASSEMBLY |  |  | Revision             |  |  |
| Ch. GJP 7-15-08    |  |  |                                   |  |  | C                    |  |  |
| App. GJP 7-15-08   |  |  |                                   |  |  | Release Level        |  |  |
|                    |  |  |                                   |  |  | Active               |  |  |
| COL. 1             |  |  | 2                                 |  |  | 3                    |  |  |
| Part or Dwg. no.   |  |  | Tot. Req.                         |  |  | Nomenclature:        |  |  |
| FB-218-500         |  |  | I                                 |  |  | HOUSING              |  |  |
| EK-23132-C36       |  |  | I                                 |  |  | MICROPHONE ASSEMBLY  |  |  |
| FB-189-167         |  |  | I                                 |  |  | FLEXIBLE BOOM 5.4 mm |  |  |
| FB-223             |  |  | I                                 |  |  | SCREEN DISC          |  |  |
| FB-234             |  |  | I                                 |  |  | MEMBRANE             |  |  |
| FB-074-000         |  |  | I                                 |  |  | WIRE BLACK           |  |  |
| FB-074-001         |  |  | I                                 |  |  | WIRE RED             |  |  |
| FB-042             |  |  | I                                 |  |  | WINDSHIELD           |  |  |
| 13-092-120101      |  |  | A/R                               |  |  | CEMENT               |  |  |
| 13-591             |  |  | A/R                               |  |  | SILICONE SEALANT     |  |  |
| 13-092-130102      |  |  | A/R                               |  |  | CEMENT               |  |  |
| FB-219             |  |  | I                                 |  |  | COVER, BOTTOM        |  |  |
| FB-074-003         |  |  | I                                 |  |  | WIRE WHITE           |  |  |

RED CONTROLLED

|          |                                                                |      |           |
|----------|----------------------------------------------------------------|------|-----------|
| REVISION | A                                                              | c.o. | C10107379 |
|          | B                                                              | c.o. | C10107748 |
|          | RENAME IN PRO/E FROM FB-30347-000 TO FB-EM-30347-000 T.8-12-08 |      |           |
|          | C                                                              | c.o. | C40100518 |
|          | FB-074-000 WAS                                                 |      |           |
|          | FB-070-050                                                     |      |           |
|          | FB-074-001 WAS                                                 |      |           |
|          | FB-070-049                                                     |      |           |
|          | ADD FB-074-003                                                 |      |           |
|          | 00 11-24-10                                                    |      |           |
|          | D                                                              | c.o. | C40101206 |
|          | FB-234 WAS FB-038                                              |      |           |
|          | 00 3-4-13                                                      |      |           |
|          |                                                                |      |           |

FB-EM-30347-000  
Sheet 4.1

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ITEM: 1004 PART: 000 PMW REV: 0