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INCH-POUND
MIL-DTL-11134G
17 November 2008
SUPERSEDING
MIL-H-11134F (CR)
18 September 1990

DETAIL SPECIFICATION

HANDSET H-33 ( )/PT

Inactive for new design after 30 March 1999.

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers one type of handset having a carbon microphone; designated as Handset H-33 ( )/PT (see 6.1 and 6.4).

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-C-10544	-	Connectors, Plug & Receptacle (Electrical), Audio, Waterproof, Ten Contact, Polarized)
MIL-DTL-14072	-	Finishes for Ground Electronic Equipment.

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-202	-	Test Methods for Electronic and Electrical Component Parts.
MIL-STD-810	-	Environmental Test Methods and Engineering Guidelines.
MIL-STD-13231	-	Marking of Electronic Items.

(Copies of these documents are available online at http://assist.daps.dla.mil/quicksearch/ or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

Comments, suggestions, or questions on this document should be addressed to Defense Supply Center, Columbus, ATTN: DSCC-VAI, P.O. Box 3990, Columbus, OH 43218-3990, or email to Sound@dscc.dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at http://assist.daps.dla.mil.

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2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation or contract.

DRAWINGS

COMMUNICATIONS-ELECTRONICS COMMAND

SC-DL-105364	-	Handset H-33( )/PT
SC-D-22580	-	Plug, Connector U-161/U Assembly
SC-C-61800	-	Microphone Element M-35/U
SC-D-76326	-	Handle Assembly
SC-C-105379	-	Receiver Element Assembly.
SC-B-105380	-	Insert

US NAVY

SK-N-864	-	Simulated Gunblast Production Equipment

(Copies required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract. (see 6.2).

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI S1.10	-	Calibration of Microphones
ANSI S1.12	-	Laboratory Standard Microphones, Specs for
ANSI S3.7	-	Method For Coupler Calibration of Earphones

(Copies of these documents are available online from http://www.ansi.org or from the American National Standard Institute, 25 West 43 Street, 4th Floor, New York, NY 10036.)

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 258	-	Test Procedure for Close Talking Pressure Type Microphones

(Copies of these documents are available online from http://www.corporate-communication@ieee.org or from the IEEE Operations Center, 445 Hoes Lane, Piscataway, New Jersey 08854-1331.)

2.4 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3 REQUIREMENTS

3.1 First article. When specified (see 6.2), the contractor shall furnish sample units for first article inspection (see 6.3) in accordance with paragraph 4.2.

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3.2 Construction. The equipment shall be constructed in accordance with the requirements of this specification and Drawings and Data List SC-DL-105364 (including the requirements for parts, materials and processes thereon) (see 4.3).

3.2.1 Pure tin. The use of pure tin, as an underplate or final finish, is prohibited both internally and externally. Tin content of handsets and components and solder shall not exceed 97 percent, by mass. Tin shall be alloyed with a minimum of 3 percent lead, by mass (see 6.6).

3.2.2 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible, provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.3 Finish. The equipment shall be finished in accordance with MIL-DTL-14072 and the equipment component drawings were specified (see 4.3).

3.4 Marking. Marking shall be in accordance with MIL-STD-13231 (see 4.3).

3.5 Performance characteristics.

3.5.1 Insulation resistance. The insulation resistance between connector pins intended to be insulated from each other and between all pins connected together and external metal shall be 10 megohms minimum. (see 4.6.2.1)

3.5.2 Operation. The handset shall transmit and receive intelligible voice signals without buzzing, rattling or other spurious sounds. Transmission shall be possible only with the push-to-talk switch depressed. (see 4.6.2.2)

3.5.3 Microphone (M-35/U).

3.5.3.1 Microphone element. Microphone element dimensions shall be in accordance with drawing SC-C-61800.

3.5.3.2 Response. (see 4.6.2.3.1)

a. With the plane of the acoustic entrance vertical, a bias current of 85 milliamperes (dc) and a sound pressure input of 2.8 pascals (Pa), the power output of the microphone in the range of 300 to 4,000 Hertz (Hz) shall fall within the envelope on figure 1. For any bandwidth indicated below for the various frequency ranges, the change in response from the lowest to the highest frequency in the band shall not exceed the limits shown.

Bandwidth (Hz)	Frequency Range (Hz)	Changes in	Response (dB)
100	300-1,000	0	+3
300	1,000-2,000	-1	+5
300	2,000-3,000	-2	+1
200	3,000-3,500	-3	+2.5
500	3,500-4,000	-5	+3

b. The response of the microphone shall be within 5 db of the response obtained in a., above, when measured with the microphone rotated in a vertical plane +90, -90, +45 and -45 degrees.

c. With the plane of the acoustic entrance vertical, a bias voltage of 1.5 volts (dc) and a sound pressure input of 2.8 Pa, the power output of the microphone shall be not less than the values shown.

Frequency (Hz)	Response (dB above 1 mV)
300	9
500	14
1,000	22
2,000	28
3,000	29

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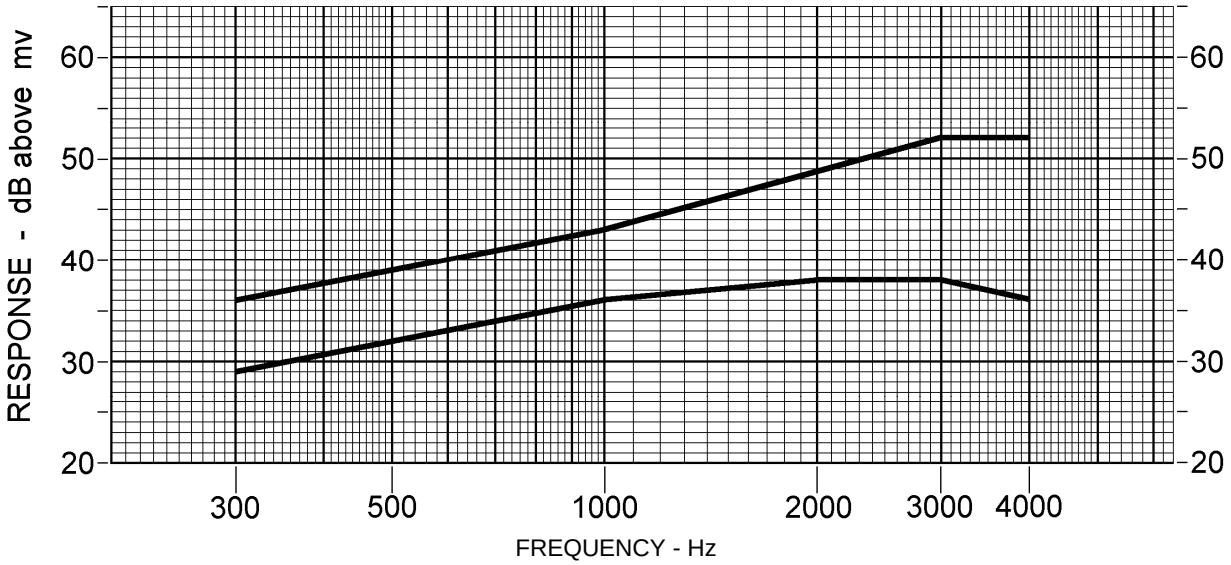
3.5.3.3 Impedance. Thu output impedance of the microphone shall be 40 ohms +20% (see 4.6.2.3.2).

3.5.3.4 Unagitated current. With a bias voltage of 6 volts (dc) and a load resistance of 30 ohms, the bias current through the microphone prior to agitation shall not exceed 125 milliamperes (dc) (see 4.6.2.3.3).

3.5.3.5 Carbon noise. Carbon noise shall not exceed 2.25 millivolts (mV) (see 4.6.2.3.4).

3.5.3.6 Aging. The frequency response of the microphone following vibration shall be within 2 dB of the response prior to aging. In addition, carbon noise shall not exceed 12.7 mV and the impedance shall not have increased by more than twice the value prior to aging (see 4.6.2.3.5).



Frequency points Hz	300	1,000	2,000	3,000	4,000
Upper limits (dB)	+36.0	+43.0	+49.0	+52.0	+52.0
Lower limits (dB)	+29.0	+36.0	+38.0	+38.0	+36.0

FIGURE 1. Microphone response limit curves.

3.5.4 Earphone.

3.5.4.1 Earphone receiver element. Earphone receiver element dimensions shall be in accordance with earphone drawing SC-C-105379 and insert drawing SC-B-105380 with finish E300 (see 3.3).

3.5.4.2 Response. The acoustic output of the earphone shall be within the limits shown on figure 2, when 2 milliwatts (mW), 1.1 volts at frequencies in the range of 300 to 4,000 Hz is applied to the test circuit (see 4.6.2.4.1).

3.5.4.3 Overload. The earphone shall show no more than 3 dB change from its original response curve, after being subjected to the test specified in 4.6.2.4.2.

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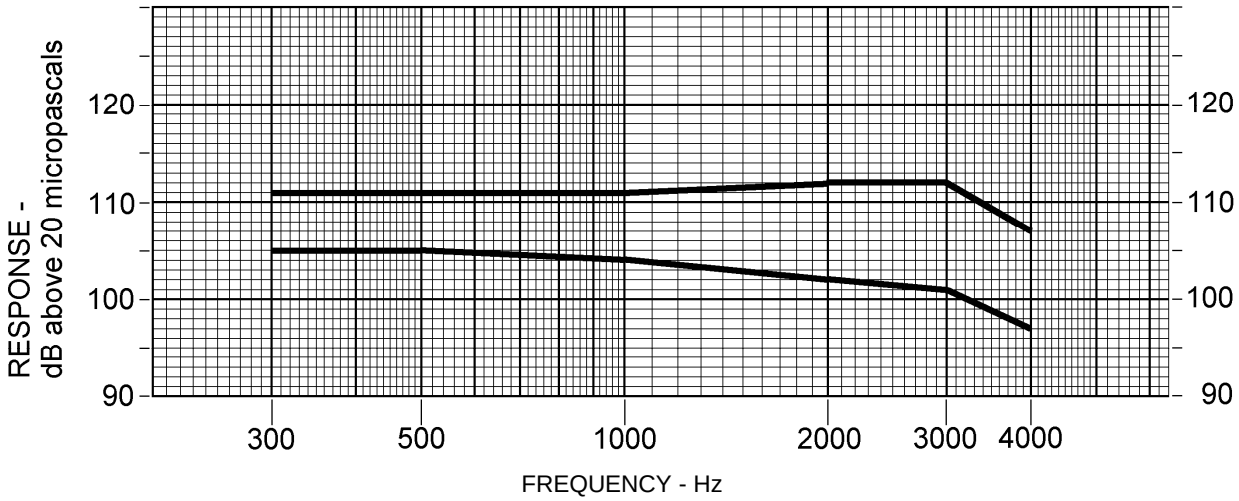
3.5.4.4 Impedance. The input impedance of the earphone at 1,000 Hz shall be 300 ohms + 50 or – 30 ohms (see 4.6.2.4.3).

3.5.5 Push-to-talk switch. See 4.6.2.5.

3.5.5.1 Make-break sequence. The microphone contacts shall make, before the control contacts make. The control contacts shall break, before the microphone contacts break (see 4.6.2.5.1).

3.5.5.2 Endurance. The switch shall be capable of 500,000 make-break operations when tested in accordance with 4.6.2.5.2.



Frequency points Hz	300	500	1,000	2,000	3,000	4,000
Upper limits (dB)	+111.0	+111.0	+111.0	+112.0	+112.0	+107.0
Lower limits (dB)	+105.0	+105.0	+104.0	+102.0	+101.0	+97.0

FIGURE 2. Earphone response limit curves.

3.5.6 Handle assembly. The handle assembly shall be in accordance with drawing SC-D-76326 with one of three types of inserts made of aluminum alloy 2011 with finish E511 (see 3.3).

3.5.7 Connector plug U-161/U. Connector plug U-161/U shall be in accordance with drawing SC-D-22580 and MIL-C-10544.

3.6 Environmental. The equipment shall meet the following environmental conditions.

3.6.1 Temperature.

3.6.1.1 Low. During and after testing as specified in 4.7.1.1, the equipment shall meet the requirements of 3.5.3.1 and 3.5.4.1 with no more than a 2 dB change in response.

3.6.1.2 High. During and after testing as specified in 4.7.1.2, the equipment shall meet the requirements of 3.5.3.1 and 3.5.4.1 with no more than a 2 dB change in response.

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3.6.2 Humidity. The equipment shall exhibit no physical damage such as corrosion, rust, blistering, swelling or deterioration of parts and materials, and shall meet the requirements of 3.5.3.1 and 3.5.4.1 during the operating times specified in 4.7.2.

3.6.3 Altitude (Elevation). The equipment shall meet the requirements of 3.5.3.1 and 3.5.4.1 with no more than a 5 dB change in frequency response at altitudes up to 10,000 feet above sea level after storage at 50,000 feet above sea level (see 4.7.3).

3.6.4 Leakage (Immersion). The equipment shall meet the requirements of 3.5.1, 3.5.3.1, and 3.5.4.1 following the test of 4.7.4. There shall be no evidence of water leakage into the handset.

3.6.5 Blast. The equipment shall meet the requirements of 3.5.3.1 and 3.5.4.1 with no more than a 4 dB change in frequency response for the microphone and 1.5 dB for the earphone following thirty (30) rounds of blast at a peak pressure of 9.5 pound-force per square inch (psi) (see 4.7.5).

3.6.6 Vibration. The equipment shall meet the Requirements of 3.5.1 and 3.5.2, following the tests of 4.7.6.

3.7 Interchangeability. Like units, and replaceable parts shall be physically and functionally interchangeable, without modification of such items or of the handset. For more information on handsets like units, assemblages, subassemblies, and replaceable parts see 4.8 and 6.6.

3.8 Workmanship. Handsets shall be processed in such a manner as to be uniform in quality and shall be free of cracks, chips, sharp edges, and burrs. Handsets shall be free from defects that will affect life, serviceability, performance or appearance (see 4.5). For more information see 6.7.

4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

a. First article inspection (see 4.2).

b. Inspections covered by subsidiary documents (see 4.3).

c. Conformance inspection (see. 4.4).

4.2 First article. Unless otherwise specified in the contract or purchase order, the first article inspection shall be performed by the contractor.

4.2.1 First article units. The contractor shall furnish nine (9) first article units of Handset H-33 ( )/PT.

4.2.2 First article inspection. The first article inspection shall consist of the inspections specified in subsidiary documents covering the items listed in 4.3, and the inspections specified for group A, group B. and group C (see table I, table II, & table III respectively). The inspections shall be performed in the following order: 4.3, group A and group B for all units; and group C as specified in table III. After completion of group C environmental tests, conforming units shall be re-inspected and shall pass all group A inspection.

4.2.3 Failures. One or more failures shall be cause for refusal to grant first article approval.

4.3 Inspections covered by subsidiary documents. The following shall be inspected under the applicable subsidiary documents as part of the inspection required by this specification, and the inspection requirement specified in the contract or purchase order:

ITEM	WHERE REQUIRED
Construction	3.2
Finish	3.3
Marking	3.4

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4.4 Conformance inspection. The contractor shall perform the inspection specified in 4.3, 4.4.1 through 4.4.4. This does not relieve the contractor of his responsibility for performing any additional inspection, which is necessary to control the quality of the product and to assure compliance with all specification requirements.

4.4.1 Group A inspection. Units presented for acceptance shall be inspected for conformance with the criteria specified in table I. Lots shall be formed and subjected to the sampling plan as indicated.

4.4.1.1 Order of inspection with group A. Group A inspection shall be performed in an order satisfactory to the government, except that the operational inspection shall be last.

TABLE I. Group A inspection.

Inspection	Requirement Paragraph	Inspection Paragraph	Sampling plan Table
Visual & Mechanical (Major)	3.8	4.5	IV
Visual & Mechanical (Minor)	3.8	4.5	V
Electrical			
Insulation Resistance	3.5.1	4.6.2.1	IV
Operation	3.5.2	4.6.2.2	IV
Microphone			
Response	3.5.4.1	4.6.2.3.1	IV
Impedance	3.5.4.2	4.6.2.3.2	IV
Earphone			
Response	3.5.4.1	4.6.2.4.1	IV
Impedance	3.5.4.2	4.6.2.4.3	IV

4.4.2 Group B inspection. Group B inspection shall be performed on inspection lots that have passed group A inspection and on samples selected from units that have been subjected to and met the group A inspection. This inspection shall conform to requirements in table II.

4.4.2.1 Group B sampling plans. The group B sampling plans shall be as specified in table II.

4.4.2.2 Order of inspection within group B. Group B inspection shall be performed in an order satisfactory to the government.

TABLE II. Group B inspection.

Inspection	Requirement Paragraph	Inspection Paragraph	Sampling plan Table
Make-break sequence	3.5.5.1	4.6.2.5.1	V
Interchangeability	3.7	4.8	VI
Microphone			
Unagitated circuit	3.5.3.4	4.6.2.3.3	V
Earphone			
Overload	3.5.4.2	4.6.2.4.2	V

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4.4.3 Group C inspection. Group C inspection shall be performed on units that have passed group A and group B inspection. The inspection shall consist of the inspection specified in table III.

4.4.3.1 Sampling for group C inspection. For subgroup I, two samples each of the handset shall be selected at random from each 500 units or fraction thereof produced. Each sample shall be tested to all tests of the subgroup. For subgroup II, five samples shall be selected at random from each 1,000 units or fraction thereof produced. One sample shall be tested against each test. For subgroup III, two samples shall be selected at random from each 2,000 units or fraction thereof produced. One sample shall be tested against each test. The first samples of each test subgroup shall be selected from the first production lot.

4.4.3.2 Group C failures. Actions required relative to group C failures shall be as specified in the contract or purchase order.

4.4.4 Reinspection of conforming group C sample units. Unless otherwise specified, sample units which have been subjected to and passed group C inspection may be accepted on contract provided all damage is repaired and the sample units are re-subjected to and pass group A and group B inspection.

TABLE III. Group C inspection.

Inspection	Requirement paragraph	Inspection paragraph
Subgroup I		
Carbon noise	3.5.3.5	4.6.2.3.4
Leakage (Immersion)	3.6.4	4.7.4
Subgroup II		
Temperature	3.6.1	4.7.1
Humidity	3.6.2	4.7.2
Altitude (Elevation)	3.6.3	4.7.3
Vibration	3.6.6	4.7.6
Aging	3.5.3.6	4.6.2.3.5
Subgroup III		
Endurance	3.5.5.2	4.6.2.5.2
Blast	3.6.5	4.7.5

4.4.5 Rejection and retest. When one or more items fail to meet the specification, acceptance of all items will be withheld until the extent and cause of failure are determined. After corrections have been made, all necessary tests shall be repeated.

4.4.5.1 Sampling plan. Accept on zero, for general inspection as specified in table IV, table V or table VI.

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TABLE IV. Sampling plan for group A inspection. 1/

Lots Size	Sample Size
2 to 12	*
13 to 150	13
151 to 290	20
291 to 500	29
501 to 1,200	34
1,201 to 3,200	42
3,201 to 10,000	50
10,001 to 35,000	60
35,001 to 150,000	74
150,001 to 500,000	90
500,001 and over	102

* Indicates entire lot must be inspected.
1/ Acceptance number in all cases is zero.

TABLE V. Sampling plan for group A and B inspections. 1/

Lot Size	Sample Size
2 to 3	100%
4 to 25	3
26 to 50	5
51 to 90	6
91 to 150	7
151 to 290	10
291 to 500	11
501 to 1,200	15
1,201 to 3,200	18
3201 to 10,000	22
10,001 and above	29

1/ Acceptance number in all cases is zero.

TABLE VI. Sampling plan for group B inspection. 1/

Lot Size	Sample Size
2 to 15	2
16 to 25	3
26 to 90	5
91 to 150	6
151 to 290	7
291 to 500	9
501 to 1,200	11
1,201 to 3,200	13
3,201 and above	15

1/ Acceptance number in all cases is zero.

4.5 Visual and mechanical. The equipment shall be examined for compliance with 3.8.

4.6 Performance requirements.

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4.6.1 Test equipment and procedures. Except as otherwise specified herein, test equipment and procedures shall conform to IEEE 258 and ANSI S3.7.

a. The secondary sound pressure reference standard shall be Type L (not N or H) pressure microphone conforming to ANSI S1.12 and calibrated in accordance with ANSI S1.10.

b. The distance from the face of the microphone to the plane of the opening of the artificial voice shall be 0.25 inch. The voltage across the voice coil of the artificial voice shall be calibrated to provide a sound pressure level of 2.8 Pascals in the frequency range of 300 to 4,000 Hz.

c. In the test circuit on figure 2 of IEEE 258, R_L is 40 ohms non-inductive, C is 100 microfarad, Ebb is 24 volts dc and the variable resistor is 250 ohms.

d. The sound pressure level of 2.8 Pa (103 dB) shall be used in place of the 94 dB specified in IEEE 258.

e. Microphone and earphone tests 4.6.2.3 and 4.6.2.4 shall be performed on the elements only. All other tests shall be performed with the elements installed in the handset. Measurements shall be made at the connector U-161/U terminals.

f. Continuous trace response data are required for the microphone element.

4.6.2 Methods of inspection.

4.6.2.1 Insulation resistance. The assembly shall be tested in accordance with method 302, test condition B, of MIL-STD-202 to meet the requirements of 3.5.1. There shall be no evidence of arcing or insulation breakdown during the test.

4.6.2.2 Operation. Establish a test circuit by providing a battery bias supply between connector pins E and C, connect pin C to pin B through a 100 mf capacitor, and connect pin D to pin F and pin H to pin A. Speak into the microphone. Side-tone shall be heard in the earphone only when the push-to-talk switch is depressed (see 3.5.2).

4.6.2.3 Microphone.

4.6.2.3.1 Response. (see 3.5.3.2)

a. Perform the power response test of the microphone in the vertical position with a bias current of 85 ma dc and determine compliance with 3.5.3.2 a.

b. Perform the power response test of the microphone as specified in 4.6.2.3.l a above, with the microphone rotated in a vertical plane +90, -90, +45 and -45 degrees and determine compliance with 3.5.3.2 b.

c. Perform the power response test of the microphone as specified in 4.6.2.3.l a above, with the bias supply of the battery and variable resistor replaced with a bias battery of 1.5 volts dc and determine compliance with 3.5.3.2 c.

4.6.2.3.2 Impedance. Using the test circuit of 4.6.2.3.l a, 1,000 Hz, measure the voltage (dc) across the microphone and the direct current flowing through it and determine that their ratio complies with 3.5.3.3.

4.6.2.3.3 Unagitated current. The microphone under test shall not be preconditioned (agitated) prior to this test. Use the test circuit as in 4.6.2.3.l a, except that the bias voltage and variable resistor combination shall be replaced with a bias battery of 6 volts dc and the load resistor reduced to 30 ohms. During a 10 minute period, measure the peak current flowing through the microphone for compliance with 3.5.3.4.

4.6.2.3.4 Carbon noise. Using the test circuit as in 4.6.2.3.l a, except that the bias current shall be adjusted to 170 milliampere dc and the sound pressure level shall be 7.0 Pa, perform the test in accordance with the IEEE 258 and determine compliance with 3.5.3.5.

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4.6.2.3.5 Aging. Perform the measurements of frequency response, impedance and carbon noise, before and after the vibration sweep specified in IEEE 258 to determine compliance with 3.5.3.6.

4.6.2.4 Earphone.

4.6.2.4.1 Response. Constant-available-power (2 mW) frequency response measurements shall be made at 300, 500, 1,000, 2,000, 3,000 and 4,000 Hz. Response measurements shall be made in accordance with ANSI S3.7 in a type-1 earphone coupler except that the coupling weight shall be one kilogram. Determine compliance with 3.5.4.2.

4.6.2.4.2 Overload. Operate the earphone at 10 volts, 400 Hz, for a period of 10 hours. Repeat the response tests at the 2 milliwatt level for compliance with 3.5.4.3.

4.6.2.4.3 Impedance. Using the procedures described an ANSI S3.7, measure the impedance at 1,000 Hz for compliance with 3.5.4.4.

4.6.2.5 Push-to-talk switch.

4.6.2.5.1 Make-break sequence. Connect suitable low current lamp indicating circuits to pins F and H of the connector (control circuit) to pins E and D of the connector (microphone circuit). Slowly operate and release the push-to-talk switch and determine compliance with 3.5.5.1.

4.6.2.5.2 Endurance. Connect a variable resistive load in series with 24 volts dc between connector pins F and H (control circuit) and adjust the load to one ampere. Operate the switch to full travel and off at a rate of 25 to 60 cycles per minute for a total of 500,000 cycles. At the conclusion of the test, determine compliance with 3.5.5.1, and 3.5.5.2.

4.7 Environmental conditions.

4.7.1 Temperature.

4.7.1.1 Low. The equipment shall be tested in accordance with method 502, procedure I of MIL-STD-810. The storage temperature shall be -55° C, maintained for 4 hours, and the operating temperature shall be -40° C. Prior to, during and following the test, the equipment shall meet the requirements of 3.6.1.1.

4.7.1.2 High. The equipment shall be tested in accordance with method 501, procedure I of MIL-STD-810. The storage temperature shall be 70° C, maintained for 2 hours and the operating temperature shall be 65° C. Prior to, during and following the test, the equipment shall meet the requirements of 3.6.1.2.

4.7.2 Humidity. The equipment shall be tested in accordance with method 507, procedure I of MIL-STD-810, with measurements made during the last 5 hour period of each cycle. Prior to, during and following the test, the equipment shall meet the requirements of 3.6.2.

4.7.3 Altitude. The equipment shall be tested in accordance with method 500, procedure I of MIL-STD-810. Prior to, during and following the test, the equipment shall meet the requirements of 3.6.3.

4.7.4 Leakage (immersion). The equipment shall be tested in accordance with method 512, procedure 1 of MIL-STD-810 and meet the requirements of 3.6.4 prior to and following the test.

4.7.5 Blast. Mount the handset under test on the carriage of the Simulated Gun Blast Producing Equipment in accordance with SK-N-864 with the front edge of the earphone element in the test plane and with its axis coincident with that of the explosion chamber. Subject the handset to 30 rounds of blast at peak pressure of 9.5 psi. Determine compliance with 3.6.5.

4.7.6 Vibration. The equipment shall be tested in accordance with method 201 of MIL-STD-202. Determine compliance with 3.6.6.

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4.8 Interchangeability and dimensional inspection. The dimensions listed in the drawings referenced shall be gauged to determine conformance to the physical interchangeability requirements of 3.7 to the following, microphone element (see 3.5.3.1), earphone receiver element (see 3.5.4.1), handle assembly (see 3.5.6), and connector U-161/U (see 3.5.7). When a dimension is not within specified or design limits, it shall be considered a major defect.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature, which may be helpful, but is not mandatory.)

6.1 Intended use. Handset H-33( )/PT utilizes a 300 ohm earphone element, a 40 ohm carbon type microphone, a push-to-talk switch and a six foot (extended) retractile cord terminating in a ten pin audio connector (U-161/U). It is intended for use with radio equipment such as the AN/GRC-106.

6.2 Acquisition requirements. Acquisition documents must specify the following:

a. Title, number, and date of this specification.

b. When first article inspection is required (see 3.1).

c. Packaging requirements (see 5.1).

6.3 Nomenclature. The parentheses in the nomenclature will be deleted or replaced by a letter identifying the particular design: for example H-33W/PT. The contractor should apply for nomenclature in accordance with the applicable clause in the contract.

6.4 Interchangeability. Interchangeability information for handsets like units, assemblages, subassemblies, and replaceable parts can be obtained from MIL-HDBK-454, guideline 7 (see 3.7).

6.5 Workmanship. For additional information in workmanship related to handsets refer to MIL-HDBK-454, guideline 9 (see 3.8).

6.6 Tin whisker growth. The use of alloys with tin content greater than 97 percent, by mass, may exhibit tin whisker growth problems after manufacture. Tin whiskers may occur anytime from a day to years after manufacture and can develop under typical operating conditions, on products that use such materials. Conformal coatings applied over top of a whisker-prone surface will not prevent the formation of tin whiskers. Alloys of 3 percent lead, by mass, have shown to inhibit the growth of tin whiskers. For additional information on this matter, refer to ASTM-B545 (Standard Specification for Electrodeposited Coatings of Tin) (see 3.2.1).

6.7 Environmental. Environmental pollution prevention measures are contained in the packaging material. Refer to the procuring activity for recommended disposability methods.

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6.8 Environmentally preferable material. Environmentally preferable materials should be used to the maximum extent possible to meet the requirements of this specification. As of the dating of this document, the U.S. Environmental Protection Agency (EPA) is focusing efforts on reducing 31 priority chemicals. The list of chemicals and additional information is available on their website http://www.epa.gov/osw/hazard/wastemin/priority.htm. Use of these materials should be minimized or eliminated unless needed to meet the requirements specified herein (see Section 3).

6.9 Subject term (keyword) listing.

40 ohm carbon type microphone
300 ohm earphone
Connector U-161/U
Artificial voice
Pressure microphone
Push-to-talk

6.10 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

CONCLUDING MATERIAL

Custodians:
Army – CR
DLA – CC

Preparing activity:
DLA – CC

(Project 5965-2007-003)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at http://assist.daps.dla.mil.