

MIL-E-55119A(EL)  
Amendment 4

- 12 September 1975  
SUPERSEDING  
Amendment 3  
15 March 1973

MILITARY SPECIFICATION

ELECTRO-ACOUSTICAL TRANSDUCER EQUIPMENTS

This amendment forms a part of Military Specification MIL-E-55119A(EL) dated 18 September 1963, and is approved for use by all Departments and Agencies of the Department of Defense.

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ADD: 2.1 (Specification) - L-P-393 (Plastic Molding Polycarbonate Resins, Injection and Extended)

ADD: 2.1 (Drawings) - DL-SM-A-317091 (M-80C/U)

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ADD: 3.2 (Construction) - DL-SM-A-317091 (M-80C/U)

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ADD: 3.6.3.1 (Signal to Noise Ratio (M-80C/U) - The signal to noise ratio of the microphone shall be not less than 17 db (signal over noise) when measured in accordance with 4.7.3.3.

ADD: 3.6.4 shall be changed to reflect the following: Dielectric strength, and insulation resistance - There shall be no evidence of insulation breakdown when the microphone is subjected to a voltage of 100 volts d.c. for 10 seconds applied between the terminals of the microphone and the insulated outer metal parts of the microphone. There shall be no decrease in insulation resistance below 1 megohm following the above test. (See 4.7.4)

ADD: 3.7.4 shall be changed to reflect the following: Dielectric strength, and insulation resistance - There shall be no evidence of insulation breakdown when the earphone is subjected to a voltage breakdown of 100 volts d.c. for 10 seconds applied between the terminals of the earphone and the insulated outer metal parts of the earphone. There shall be no decrease in insulation resistance below 1 megohm following the above test. (See 4.8.5)

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ADD: 3.8.9.1 (Shock Drop (See 4.13.9) (M-80C/U)) - The equipment shall be dropped at -40°F and shall be operable after the test of 4.13.9. Any physical damage shall be minor.

ADD: 3.10.1 - The end item equipment specified shall meet the following additional tests. (See 4.15)

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4.5 Replace (See 3.12) with (See 3.13)

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4.5.2 (Table IV - Group B Inspection) - Replace Immersion 3.8.4 - 4.13 with overload 3.7.2 - 4.8.4.

4.5.3 Delete entire paragraph and Table V.

4.5.3 ADD: Group C Inspection and Table V. This inspection comprises the tests listed in Table V and shall be performed on sample units which have passed both Group A and Group B inspections. Sampling comprises two phases, as follows:

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Table V - Group C Inspection

Inspection or Test	Req. Para.	Insp. Para.
C-1 Salt Spray	3.8.5	4.13.5
C-2 Blast	3.8.6	4.13.6
C-3 Temperature	3.8.1	4.13.1
Immersion	3.8.4	4.13.4
C-4 Moisture Resistance	3.8.2	4.13.2
C-5 Vibration	3.8.7	4.13.7
Bounce	3.8.8	4.13.8
Altitude	3.8.3	4.13.3
C-6 Drop	3.8.9	4.13.9
C-7 Switch Life	3.9	4.12

## 4.5.3.1 Delete Entire Paragraph

4.5.3.1 ADD: Initial Sampling. Twelve samples of the type units and two samples of the switch assembly shall be selected at random from the first 1,000 units produced on the order, or contract. These samples of the type units shall be subdivided into pairs, and designated as C-1 thru C-6. These pairs being subjected to Group C inspection, as shown in Table V. The two samples of the switch assembly, designated as C-7, shall be subjected to the switch life test listed in Table V.

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4.5.3.3 ADD: Production Sampling. Subsequent to the initial sampling, eight samples of type unit and two samples of the switch assembly, shall be selected, at random, from each 1,000 units produced on the order or contract. These samples comprise production quality-conformance, Group C inspection lots. The eight samples of the type unit shall be subdivided into pairs (as before) and designated as C-3 thru C-6. These pairs shall be subjected to Group C inspection (as before) as shown in Table V. The two samples of the switch assembly, designated as C-7 (as before) shall be subjected to the switch life test listed in Table V.

4.5.3.4 - Delete Entire Paragraph.

4.5.3.4 ADD: Orders for Less than 1,000 Units. Eight (8) samples of the type unit and two samples of the switch assembly, shall be selected at random from every 999 units or fraction thereof, produced in the order or contract. The eight (8) sample units shall be subdivided into pairs and subjected to Group C testing, C3, C4, C5 and C6, as shown in Table V. The two samples of the switch assembly, designated C-7, shall be subjected to the life test listed in Table V. The samples selected shall be from the start of the contract, from the first quality conformance inspection production lot.

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4.7.2 Distortion Test: Should read inclusive at each 100 cps in place of 1000 cps and at each 500 cps in lieu of 50 cps as stated.

4.7.3.2 Delete Entire Paragraph.

4.7.3.2 ADD: Signal Spectrum. By means of the apparatus previously used, provision shall be made also for the production of the following signal spectrum, Table VII at an rms sound pressure of 115 db above reference level of 0.0002 dyne per square centimeter. The "signal" source shall be the driver unit. The standard microphone shall be fitted with a baffle having the same size, shape and acoustical impedance as the microphone to be evaluated. The depth of the baffle shall be such as to position the diaphragm of the standard microphone in exactly the same position as that occupied by the diaphragm of the microphone undergoing evaluation. The standard microphone shall be placed so that the external front surface of the baffle is 1/4 inch in front of the sound source.

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4.13.3.1 Altitude should read "To an altitude of 15000 feet in lieu of 1500 feet".

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ADD: 4.15 - A potential of 500 volts (rms) 60 cycles shall be applied between any exposed metal parts of the switch (including the mounting screws and plate if used) and control circuit contacts of the terminating plug-connector. The duration of voltage application shall be 10 seconds. During the test there shall be no evidence of insulation breakdown and at the conclusion of the test, the insulation resistance shall not have decreased to a value below 1 megohm.

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