

INCH-POUND

MIL-PRF-26542/10C  
12 September 2012  
SUPERSEDING  
MIL-PRF-26542/10B  
30 May 1997

PERFORMANCE SPECIFICATION SHEET

MICROPHONE ASSEMBLY, M-138/G

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

The requirements for acquiring the product described herein shall consist of this specification sheet and  
MIL-PRF-26542.

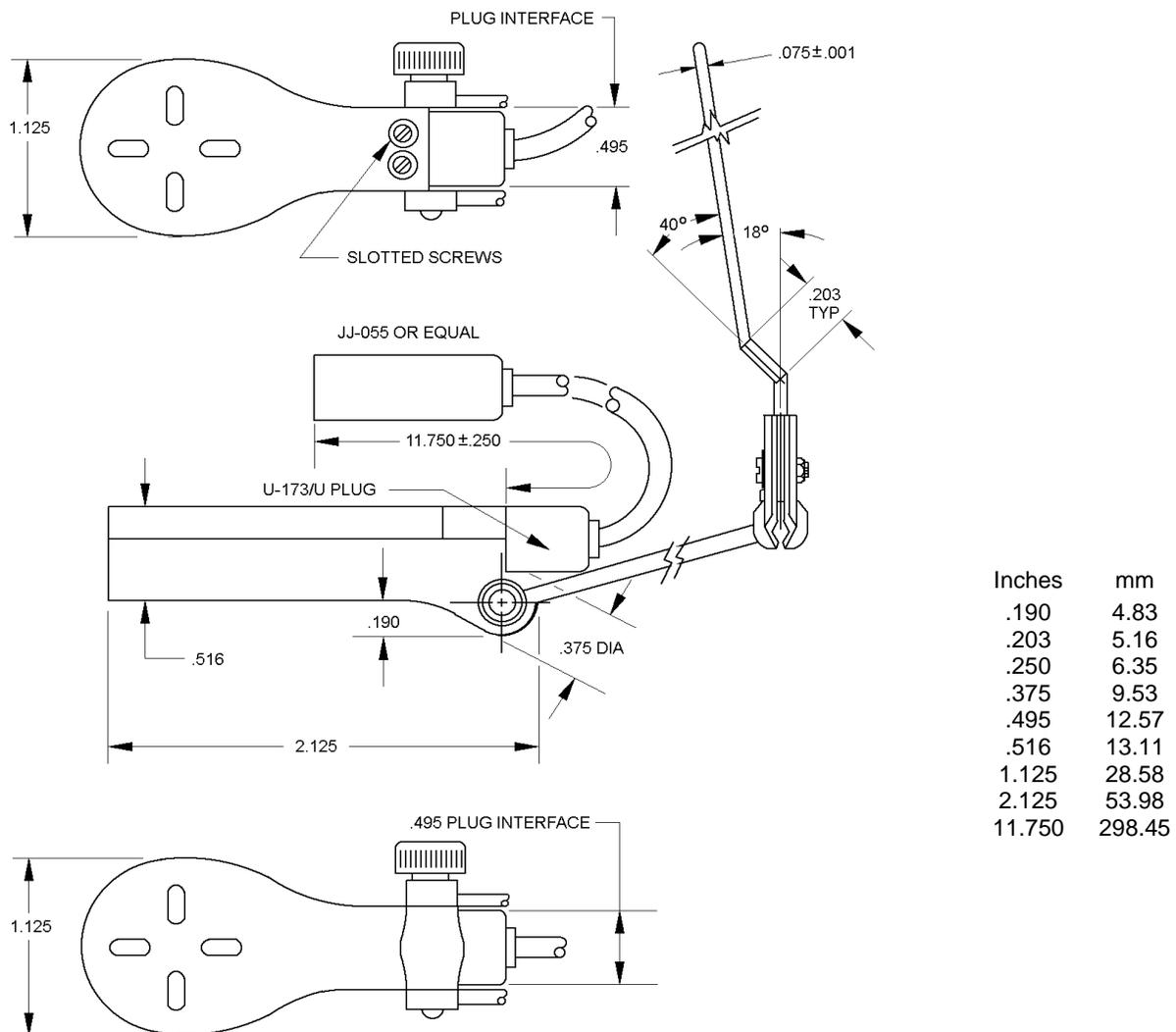
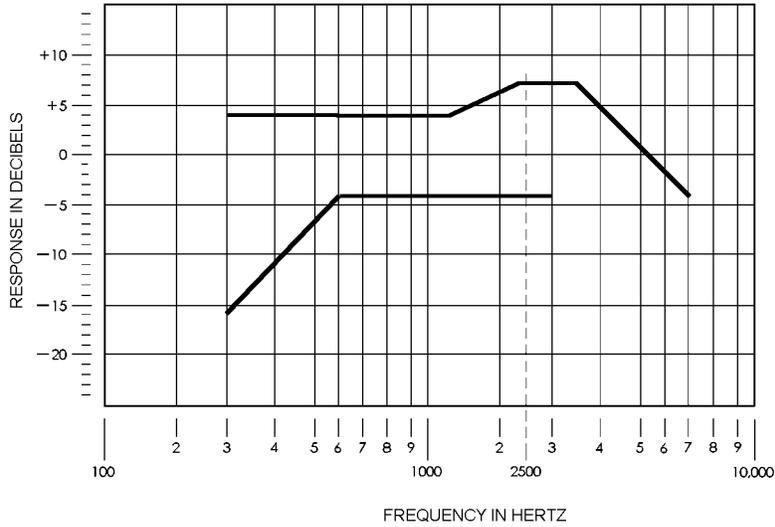


FIGURE 1. Microphone assembly.

NOTES:

1. Dimensions are in inches. Tolerances are  $\pm .015$  inches,  $\pm 2$  degrees of angle, unless otherwise specified.
2. Quantity and configuration of sound apertures is optional.
3. Location of marking on surface shown is optional.
4. Set-screws shall hold the microphone securely to the cable assembly, be of slotted or Allen type, and recessed.
5. Metric equivalents are given for general information only and are based upon 1 inch = 25.4 mm.

FIGURE 1. Microphone assembly - Continued.



Frequency points (Hz)	300	600	1,400	2,300	3,000	3,500	7,000
Upper Limits (dB)	+4.0	+4.0	+4.0	+7.0	+7.0	+7.0	+1.0
Lower Limits (dB)	-16.0	-4.0	-4.0	-4.0	-4.0	-----	-----

FIGURE 2. Frequency response.

REQUIREMENTS:

Component parts:

Microphone element: Shall be in accordance with figure 1.

Boom:

- Dimensions: Dimensions of the boom shall be in accordance with USAF Drawing 67B1854, for interchangeability with the next-higher-assembly.
- Color: Boom shall be the same color as the microphone element.
- Finish: Shall be in accordance with MIL-PRF-26542, titled "Boom finish".
- Operation: Shall be in accordance with MIL-PRF-26542, titled "Boom operating force".
- Material: Shall be constructed from a high-strength, corrosion-resistant metal, meeting or exceeding the environmental and durability requirements of MIL-PRF-26542.

Cable assembly: The cable assembly shall be Part or Identifying Number (PIN) M22442/38-1 in accordance with MIL-DTL-22442/38 and meet either requirement <sup>1/</sup> for interface to oxygen gear, interchangeability, and environmental performance. The microphone element shall provide a complete electrical and mechanical interface with the cable assembly.

1/ NOTE: The cable assembly shall meet the qualification requirements of MIL-DTL-22442, in accordance with the 2 (two) options as specified in the "Cable assemblies", see MIL-PRF-26542.

Plug assembly: U-173/U in accordance with USAF Drawing 57B12662 or electrically and mechanically compatible part, on microphone end, JJ-055 type in accordance with MIL-J-641/8, p/n M641/8-1 or equal on the free end.

Performance:

Sensitivity at ground level: -56 dBm at 1,000 Hz with an input SPL of 2.8 Pascal's (28 dynes/cm<sup>2</sup>). "dBm" is the power ratio in decibels (dB) of the measured power referenced to one milliwatt (mW).

Sensitivity at altitude: Sensitivity shall be within 3 dB relative to the ground level sensitivity, when altitude tested at 15,000 feet.

Frequency response at ground level: Shall be in accordance with figure 2. The response curves generated shall be on the same scale as shown in figure 2. The response curve shall not exceed the upper and lower limit curves of the stationary Frequency Response Envelope, within the frequency ranges identified in the appropriate chart (see figure 2).

Impedance: 150.0 ohms ± 15 ohms.

Resistive load: 150.0 ohms.

The microphone assembly shall be tested in accordance with the tests specified in table I.

TABLE I. Parameter applicability.

Inspection	Qualification tests	Group "A" tests	Group "B" tests	Group "C" tests
<u>Group I</u>				
Visual and mechanical inspection	X	X		
Sensitivity of ground level	X	X		
Sensitivity at altitude	X			X
Frequency response at ground level	X	X		
Frequency response at altitude				
Impedance	X	X		
Noise cancellation characteristics				
Effect of external magnetic field				
Stray magnetic field				
Linearity				
Talk-out				
Dielectric withstanding voltage	X			
Signal-to-noise	X		X	
Distortion	X		X	
Interchangeability	X			
<u>Group II</u>				
Thermal shock	X			X
Humidity	X			X
Drop	X			X
Pressure equalization				
Explosive decompression				
Salt fog	X			X
<u>Group III</u>				
Vibration	X			X
Bounce	X			X
Altitude	X			X
Moisture barrier seal				
Immersion	X			X
<u>Group IV</u>				
Fungus	X			
<u>Group V</u>				
Gun blast	X			

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based upon the entire content, regardless of the marginal notations and relationship to the last previous issue.

Referenced documents. In addition to MIL-PRF-26542, this document references the following:

- USAF Drawing 57B12662
- USAF Drawing 67B1854
- MIL-J-641/8
- MIL-DTL-22442
- MIL-DTL-22442/38

CONCLUDING MATERIAL

Custodians:

Army – CR  
Navy – EC  
Air Force – 85  
DLA – CC

Preparing activity:

DLA - CC

(Project 5965-2012-012)

Review activities:

Army – AT, AV, CR4  
Navy – AS, OS  
Air Force – 99

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 <https://assist.dla.mil>.