

INCH - POUND

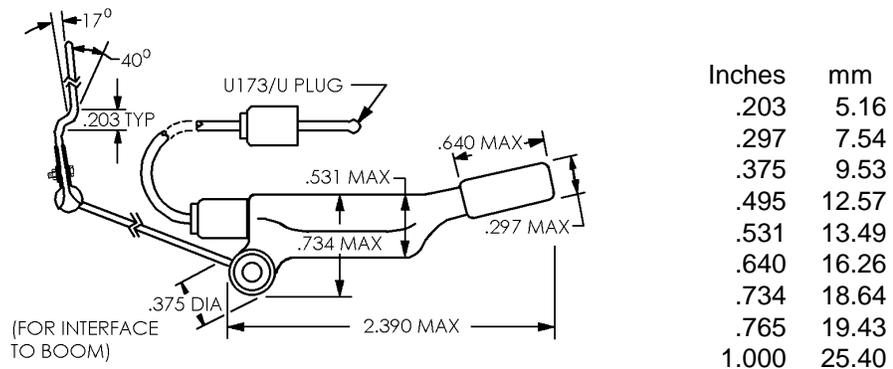
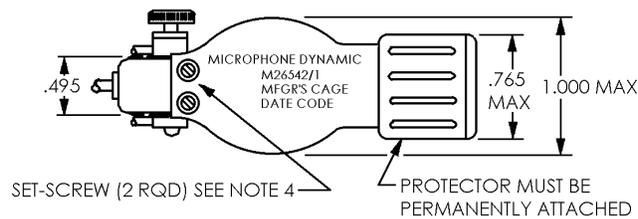
MIL-PRF-26542/1E
 16 July 2002
 SUPERSEDING
 MIL-PRF-26542/1D
 30 May 1997

PERFORMANCE SPECIFICATION SHEET

MICROPHONE AND MICROPHONE ASSEMBLIES,
 M26542/1, M26542/1-01

This specification 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 and MIL-PRF-26542.



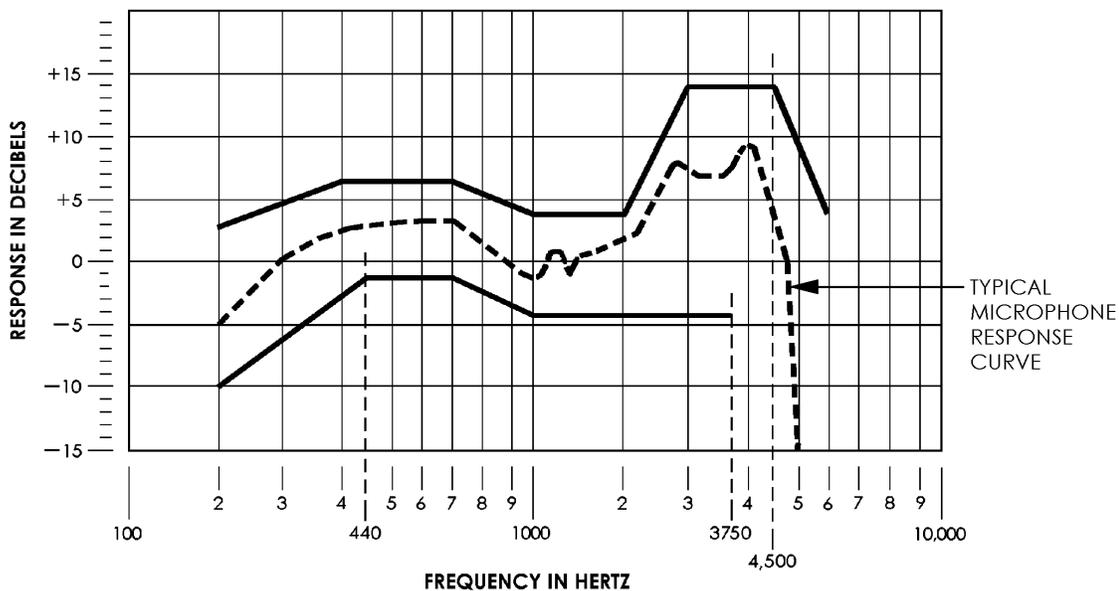
NOTES:

- Quantity and configuration of sound ports optional.
- The microphone element shall be marked with the same Part or Identifying Number (PIN) (i.e., M26542/1). The combined microphone-cable assembly PIN (i.e., M26542/1-01) shall appear on the packaging for that assembly in accordance with MIL-STD-129. Placement on surface shown is optional.
- Dimensions are in inches. Tolerance is $\pm .015$ inch, unless otherwise specified.
- Screws shall hold the element securely, shall be either slotted or allen type, and shall not protrude above the surface of the element.
- Angular requirements of boom shall be met to provide interface to headset, and for adjustability.

FIGURE 1. Microphone assembly.

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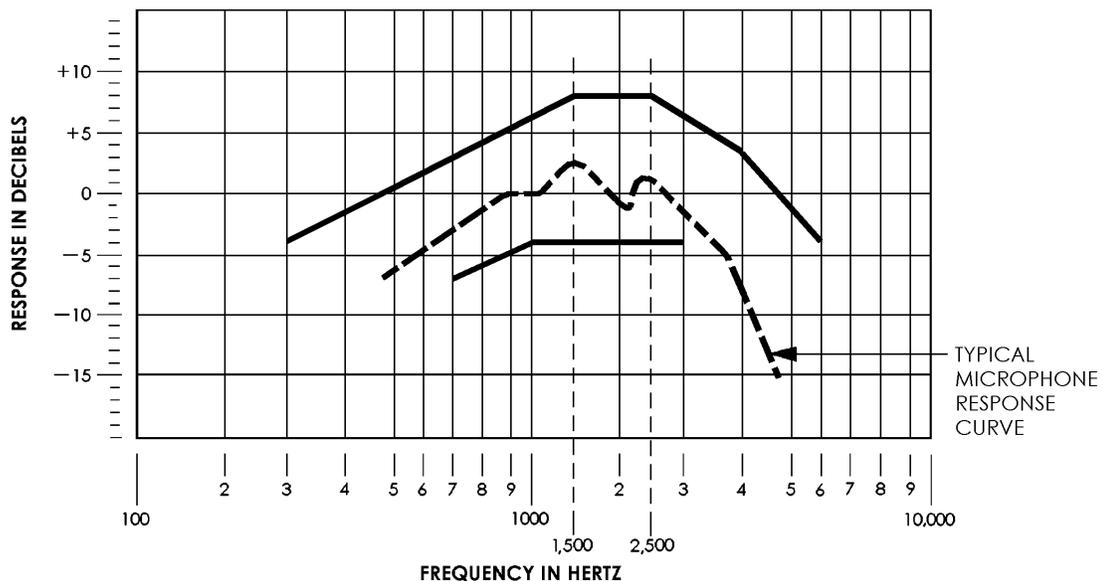
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Frequency points	200 Hz	400 Hz	700 Hz	1,000 Hz	3,000 Hz	3,750 Hz	4,400 Hz	6,000 Hz
Upper Limits (dB)	+2.50	+7.0	+7.0	+3.75	+13.75	+13.75	+13.75	+3.0
Lower Limits (dB)	-10.0	-2.60 1/	-1.50	-4.25	-4.25	-4.25	---	---

1/ dB limits between key break point are calculated, using slope method.

FIGURE 2. Frequency response at ground level.

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Frequency points	300 Hz	700 Hz	1,000 Hz	1,500 Hz	2,500 Hz	3,000 Hz	4,000 Hz	6,000 Hz
Upper Limits (dB)	-4.0	+2.32 (See note)	+5.62 (See note)	+8.0	+8.0	+6.26 (See note)	+3.50	-4.0
Lower Limits (dB)	---	-7.0	-4.0	-4.0	-4.0	-4.0	---	---

NOTE: dB limits between key break point are calculated, using slope method.

FIGURE 3. Frequency response at 25,000 feet.

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REQUIREMENTS

Component parts.

Boom:

Dimensions: Dimensions of the boom shall be in accordance with USAF Drawing 67B1854, for interchangeability with the next-higher-assembly headset-microphone.

Color: Boom shall be the same color as the microphone element.

* Finish: Shall be in accordance with MIL-PRF-26542, (see boom finish requirements).

* Operation: Shall be in accordance with MIL-PRF-26542, (see boom-operating force requirements).

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 PIN M22442/36-1 in accordance with either requirement ^{1/} for interface to oxygen gear, interchangeability, and environmental performance. The microphone element shall provide a complete electrical and mechanical interface with the cable assembly.

Plug assembly: U-173/U, in accordance with USAF Drawing 57B12662, or electrically and mechanically compatible part.

Weight: 45 grams, maximum.

Performance:

Sensitivity at ground level: 49.77 dB - 55.79 dB (re 1 μ V) or 307.96 μ V - 615.88 μ V with a Sound Pressure Level (SPL) input of 28 dynes/cm² at 1 kHz, when tested with the microphone sound port .187 \pm .015 inch (4.75 \pm .38 mm) from, and coaxial with, the opening of the artificial voice.

Sensitivity at altitude: Shall be within \pm 3 dB of initial ground level sensitivity tested at a simulated 25,000 feet.

* Frequency response envelope: Shall be as shown on figures 2 and 3, when tested with the microphone sound port .187 \pm .015 inch (4.75 \pm .38 mm) from, and coaxial with, the opening of the artificial voice. The response curves generated shall be on the same scale as shown on figures 2 & 3. 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 figures 2 and 3).

Impedance: 150.0 ohms \pm 1.5 ohms.

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^{1/} The manufacturer shall meet the requirements of MIL-DTL-22442 in accordance with options specified in MIL-PRF-26542 for 'cable assemblies'.

TABLE II. Parameter applicability.

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

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The margins of this specification are marked with asterisks 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 on the entire content irrespective of the marginal notations and relationship to the last previous issue.

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CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - EC
Air Force -11
DLA - CC

Preparing activity:

DLA - CC

(Project 5965-0351-001)

Review activities:

Army - AR, AT, AV, CR4
Navy - AS, OS
Air Force - 99