

INCH - POUND

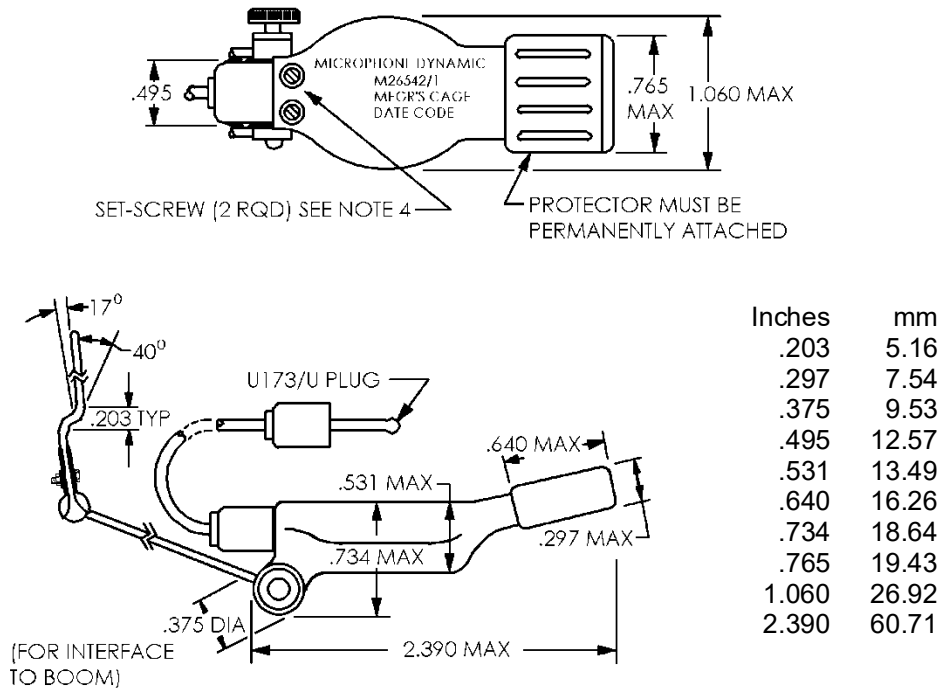
MIL-PRF-26542/1E
w/AMENDMENT 3
11 June 2026
SUPERSEDING
MIL-PRF-26542/1E
w/AMENDMENT 2
7 July 2015

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 sheet and MIL-PRF-26542.



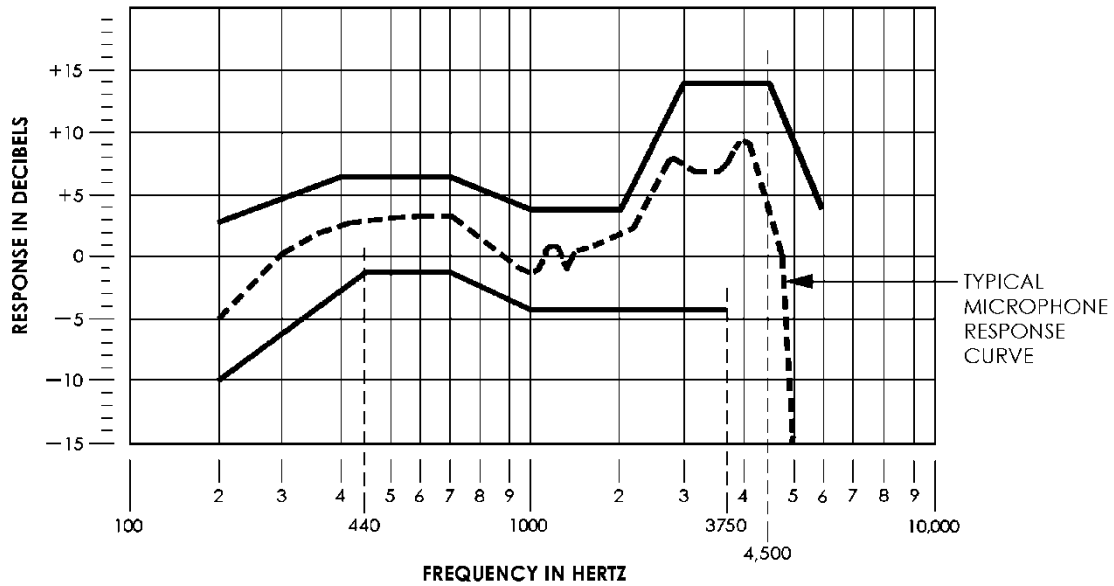
NOTES:

1. Quantity and configuration of sound ports optional.
2. 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.
3. Dimensions are in inches. Tolerance is ± 0.015 inch (0.38 mm), unless otherwise specified.
4. Screws shall hold the element securely, shall be either slotted or Allen type, and shall not protrude above the surface of the element.
5. Angular requirements of boom shall be met to provide interface to headset, and for adjustability.

FIGURE 1. Microphone assembly.



MIL-PRF-26542/1E
w/AMENDMENT 3

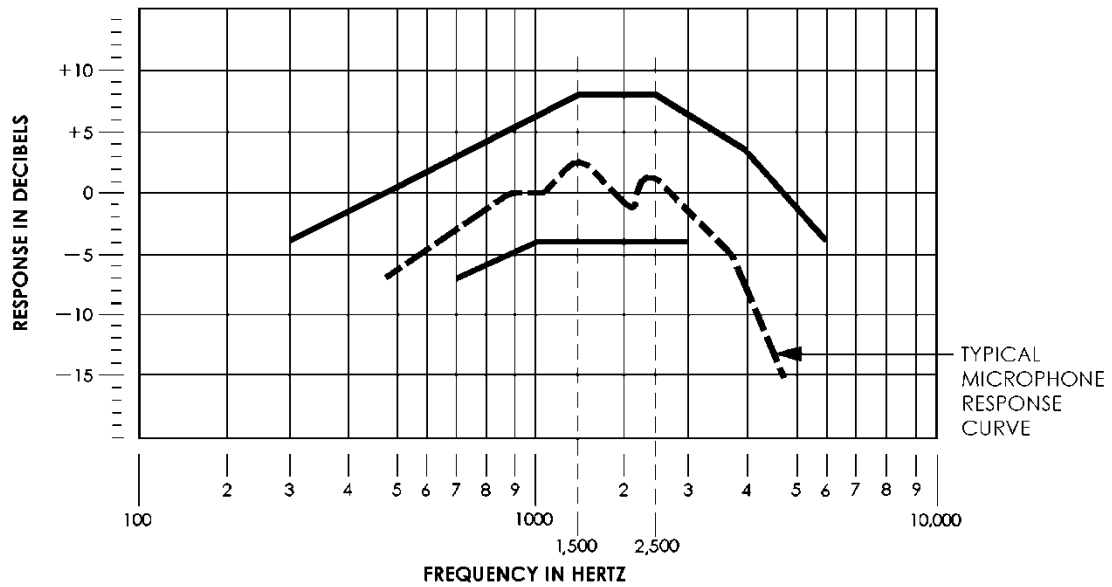


Frequency points	200 Hz	400 Hz	440 Hz	700 Hz	1,000 Hz	3,000 Hz	3,750 Hz	4,500 Hz	6,000 Hz
Upper limits (dB)	+2.50	+7.0	+7.0	+7.0	+3.75	+13.75	+13.75	+13.75	+3.0
Lower limits (dB)	-10.0	-2.60 1/	-1.50	-1.50	-4.25	-4.25	-4.25	---	---

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

FIGURE 2. Frequency response at ground level.

MIL-PRF-26542/1E
w/AMENDMENT 3



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	+5.62	+8.0	+8.0	+6.26	+3.50	-4.0
		<u>1/</u>	<u>1/</u>			<u>1/</u>		
Lower limits (dB)	---	-7.0	-4.0	-4.0	-4.0	-4.0	---	---

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

FIGURE 3. Frequency response at 25,000 feet.

MIL-PRF-26542/1E
w/AMENDMENT 3

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 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 (see MIL-DTL-22442/36), in accordance with either requirement for interface to oxygen gear, interchangeability, and environmental performance. The manufacturer shall meet the requirements of MIL-DTL-22442 in accordance with options specified in MIL-PRF-26542 for 'cable assemblies'. The microphone element shall provide a complete electrical and mechanical interface with the cable assembly.

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

Weight: 45 grams, maximum.

Performance.

Sensitivity at ground level: 49.77 dB - 55.79 dB (above 1 μ V) or 307.96 μ V - 615.88 μ V with a sound pressure level (SPL) input of 2.8 Pascals (Pa) 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: Sensitivity shall be within $\pm$ 3 dB of initial ground level sensitivity, when tested at a simulated 25,000 feet.

Frequency response envelope (FRE): The FRE 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 and 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.

Total harmonic distortion: Between 200 Hz to 6,000 Hz, 5 percent at 105 dB above 20 μ Pa.

Resistive load: 150 ohms $\pm$ 1.5 ohms.

MIL-PRF-26542/1E
w/AMENDMENT 3

Intended use: The microphone, including the boom and cord assembly, is intended for use in headset-microphones requiring noise-canceling communications at both ground level and altitude.

PIN: Consists of the letter M, the basic number of the specification sheet, and a dash number compiled from the code, as outlined in table I.

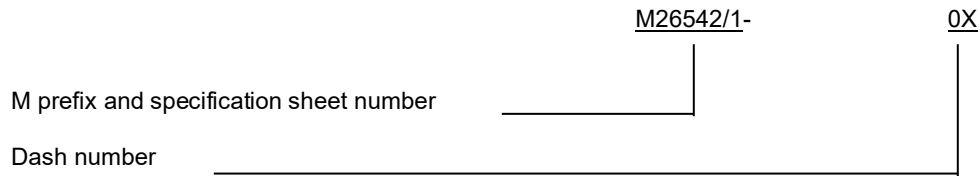


TABLE I. PIN designations.

PIN	Characteristics
M26542/1	Supplied with microphone element only.
M26542/1-01	Supplied with microphone element, boom, and cable assembly specified.

The microphone assembly shall be tested in accordance with the tests listed in table II.

MIL-PRF-26542/1E
w/AMENDMENT 3

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	

MIL-PRF-26542/1E
w/AMENDMENT 3

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

MIL-DTL-22442
MIL-DTL-22442/36
MIL-STD-129
USAF Drawing 67B1854
USAF Drawing 57B12662

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. 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.

CONCLUDING MATERIAL

Custodians:
Army - CR
Navy - EC
Air Force - 85
DLA - CC

Preparing activity:
DLA - CC
(Project 5965-2026-004)

Review activities:
Army - AR, AT, CR4
Navy - AS, OS

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>.