INCH-POUND

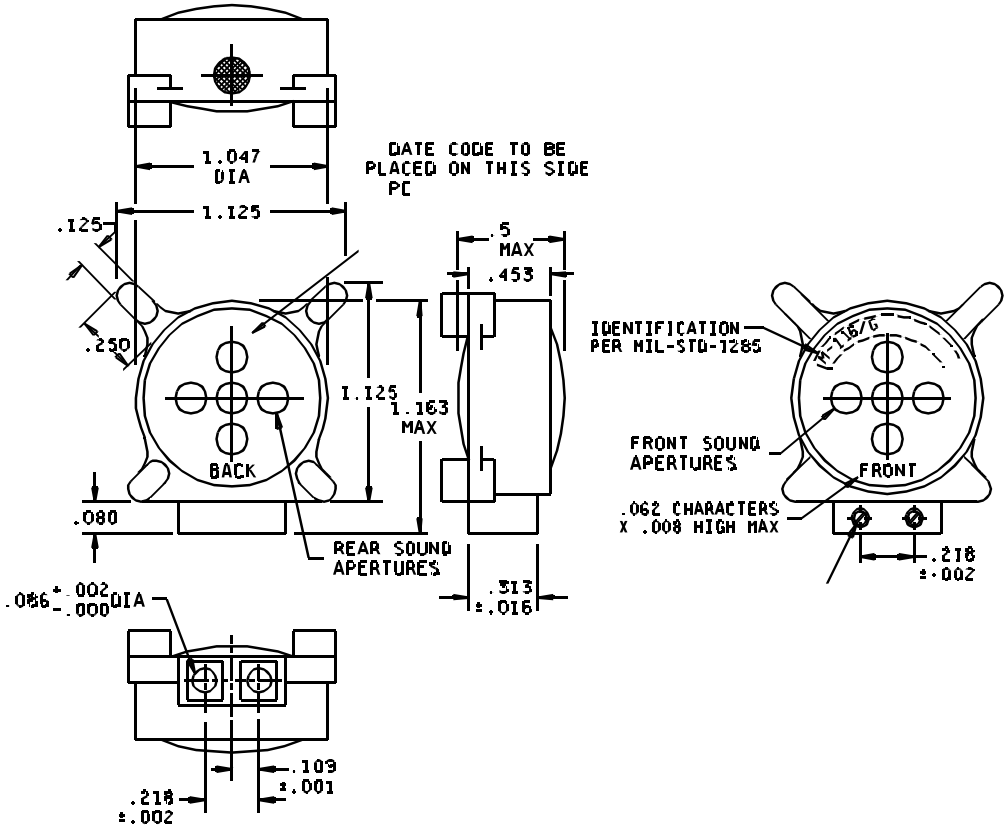
MIL-PRF-26542/8B
30 May 1997
SUPERSEDING
MIL-M-26542/8A
29 March 1985

PERFORMANCE SPECIFICATION SHEET

MICROPHONE AND MICROPHONE ASSEMBLY, DYNAMIC, M-116( )/G AND M26542/8-01

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 and MIL-PRF-26542.

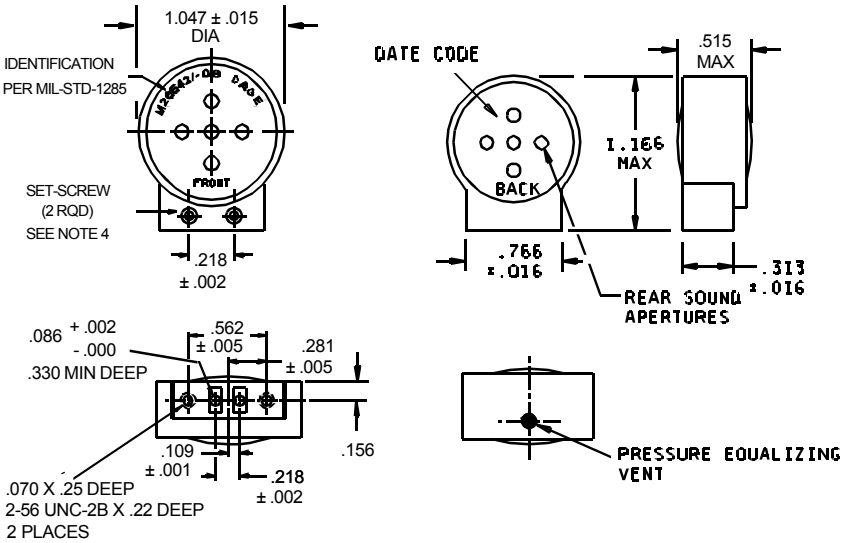


NOTES:

1. Configuration and number of sound apertures is optional.
2. Dimensions are in inches. Tolerance is ±.015, unless otherwise specified.
3. Set-screws shall hold the unit securely to the bracket, slotted for consistency with US Army field-repair procedures and tooling.

FIGURE 1. Microphone element M-116( )/G.
(B) denotes changes

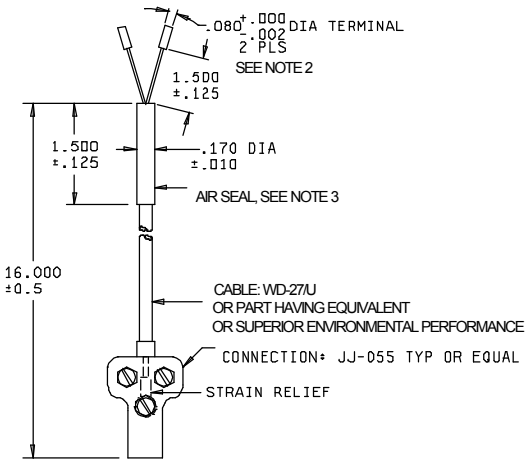
DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.



NOTES:

1. Dimensions are in inches. Tolerance is ±.015, unless otherwise specified.
2. Configuration and number of sound apertures is optional.
3. Location of marking on surface shown is optional.
4. Set-screws shall enable the unit to mount securely to the associated bracket, and shall be of type slotted, for consistency with US Army field-repair procedures and tooling. Shall be recessed.

Ⓑ FIGURE 2. Microphone element M26542/8-01.



NOTES:

1. Dimensions are in inches. Tolerance is ±.015, unless otherwise specified.
2. Dimensions shall be as shown, here, for interface to the microphone element, and elsewhere, for interface to the gas-mask assembly (cable-entry grommet and electronic connections).
3. Materials and dimensions shall provide air-seal when installed in the gas-mask assembly, while also meeting the environmental performance requirements of this specification. Material shall be synthetic rubber, oil-resistant with medium volume-swell, durometer of 50 ± 5, tensile strength of 500 psi, min elongation 300%, and low-temperature brittleness resistance to -40 °C when tested against ASTM D2137, Method A (F1). Seal color shall be red to identify as leak-proof.

FIGURE 3. Cable assembly.

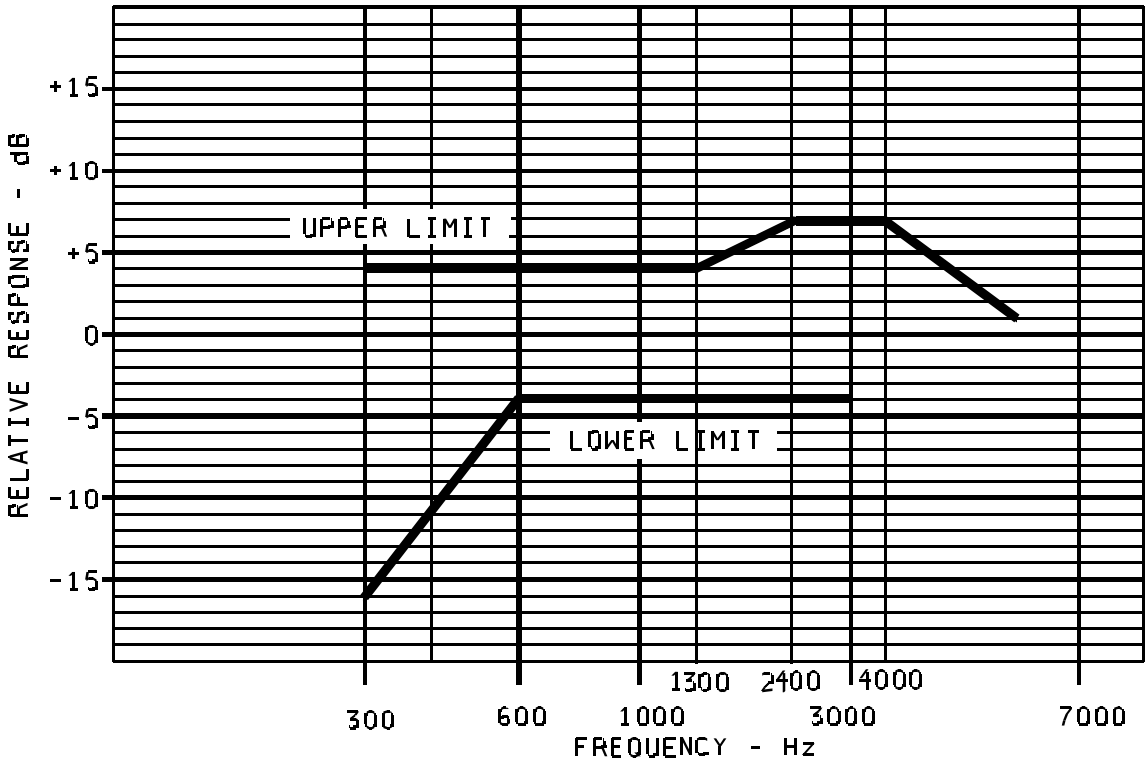


FIGURE 4. Frequency response.

REQUIREMENTS:

Component parts:

(B) Microphone element: Shall be in accordance with figure 1 or 2, as specified.

Cable assembly: Shall be in accordance with figure 3.

Plug assembly: JJ-055 type or electrically and mechanically equivalent part.

Performance:

Sensitivity at ground level: Not less than 56 dB (re 1 μV) or 630.95 μV with an SPL input of 28 dynes/cm^2 at 1 kHz.

(B) Sensitivity at altitude: Within 3 dB of ground level sensitivity when measured at 10,000 feet.

Frequency response envelope shall be as shown on figure 4 (between 300 Hz to 3,000 Hz).

Frequency response at altitude: ±5 dB of ground level response when measured at 10,000 feet.

Impedance: 150.0 ohms ±20 percent.

Total harmonic distortion: Between 300 Hz to 3,000 Hz, 5 percent at 114 dB relative to 20 micropascals.

Resistive load: 150.0 ohms.

Weight: 18 grams less cord.

Blast: Shall meet the requirements of MIL-PRF-26542.

Air stop: When supplied with a cable (see figure 3), immerse the microphone end of the cable in water to a depth that will cover the air stop portion. Apply 4 pounds of air pressure to the connector end of the cable for 10 minutes. The air stop shall not allow passage of air.

Intended use: This microphone is used in the M42 Series gas-mask, in US Army applications including Tanker crews.

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

Ⓑ TABLE I. Part number designations.

Part or Identifying Number	Characteristics
M-116()/G	Supplied with cable assembly, and per the dimensional requirements of figure 1.
M26542/8-01	Supplied without cable assembly, and per the dimensional requirements of figure 2. Part shall also meet the dimensional requirements of MIL-PRF-26542/4.

Ⓑ TABLE II. Parameter applicability.

Inspection	Requirement paragraph	Test paragraph	Qualification tests	Group "A" tests	Group "B" tests	Group "C" tests
Group I						
Visual and mechanical inspection	3.1, 3.4, 3.5	4.5.1	X	X		
Sensitivity at ground level	3.5.1	4.5.2.2	X	X		
Sensitivity at altitude	3.5.2	4.5.2.3	X			
Frequency response at ground level	3.5.3	4.5.2.4	X	X		
Frequency response at altitude	3.5.4	4.5.2.5	X			
Impedance	3.5.5	4.5.3	X	X		
Noise cancellation characteristics	3.5.7.1	4.5.5.1				
Effect of external magnetic field	3.5.8	4.5.6				
Stray magnetic field	3.5.9	4.5.7				
Linearity	3.5.10	4.5.8				
Talk-out	3.5.11	4.5.9	X	X		
Dielectric withstanding voltage	3.5.12	4.5.10	X			
Signal-to-noise	3.5.7	4.5.5	X		X	
Distortion	3.5.6	4.5.4	X		X	
Interchangeability	3.5.13	4.5.11	X		X	
Air stop	See requirements	See requirements	X	X		
Group II						
Thermal shock	3.5.14	4.5.12	X			X
Humidity	3.5.15	4.5.13	X			X
Drop	3.5.16	4.5.14	X			X
Pressure equalization	3.5.17	4.5.15	X			X
Explosive decompression	3.5.18	4.5.16				
Salt fog	3.5.19	4.5.17	X			X
Group III						
Vibration	3.5.20	4.5.18				
Bounce	3.5.21	4.5.19	X			X
Altitude	3.5.22	4.5.20	X			X
Moisture barrier seal	3.5.23	4.5.21				
Immersion	3.5.24	4.5.22	X			X
Group IV						
Fungus	3.5.25	4.5.23	X			
Group V						
Gun blast	3.5.26	4.5.24	X			

CONCLUDING MATERIAL

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

Review activities:
Army - AR, AT, AV, EA, ME
Navy - AS, OS
Air Force - 99
DLA - ES

Preparing activity:
Air Force - 85

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