

INCH-POUND

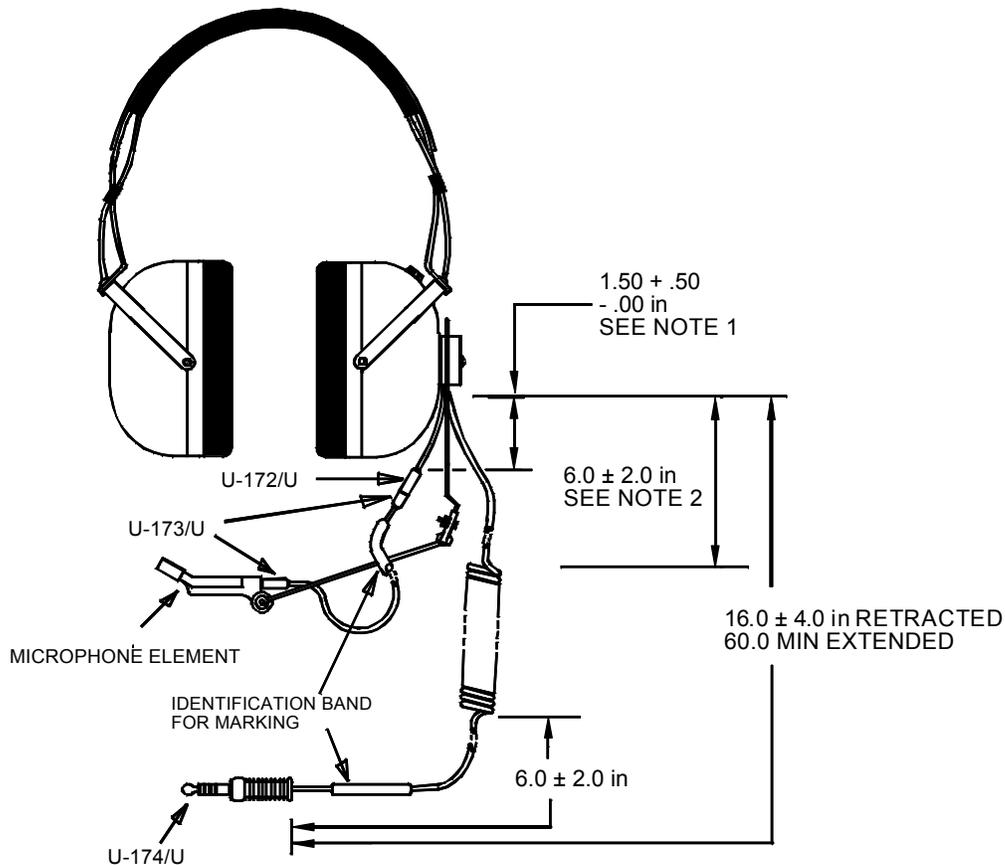
MIL-PRF-87819/5(USAF)  
30 January 1997

PERFORMANCE SPECIFICATION SHEET

HEADSET-MICROPHONE, HEARING PROTECTIVE TYPE  
MODERATE AMBIENT NOISE LEVELS, UP TO 105 dB, ENLARGED EARCUP,  
INFLIGHT AIRCREW HEADSET-MICROPHONE,  
M87819/5-01

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

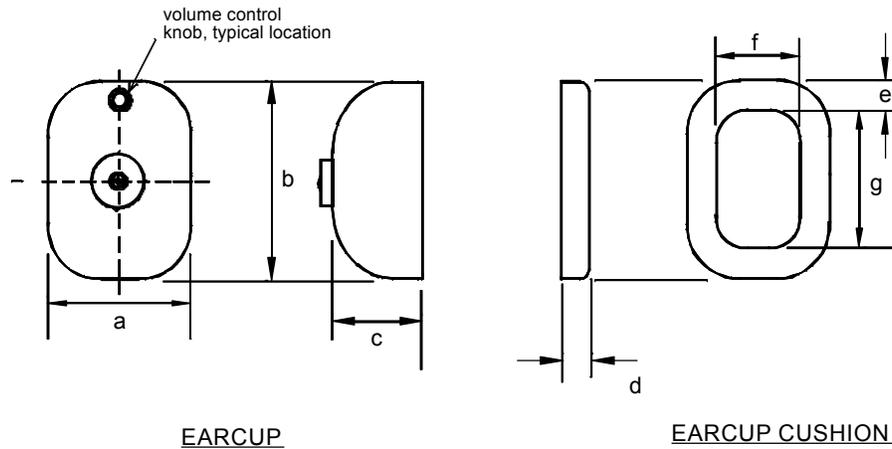
The requirements for acquiring the product described herein shall consist of this specification and MIL-PRF-87819.



NOTES:

1. Length of cord between U-172/U connector and its entry into earcup, for interface to oxygen mask.
2. Length of straight portion of cord between its termination and the beginning of the coiled portion.

FIGURE 1. Headset-microphone assembly, M87819/5-01.



Letter	Dimension	Description
a	3.250 in $\pm$ .010 in	width, earcup
b	4.500 in, MAX	height, earcup
c	2.200 in, MAX	depth, earcup (outwards, from head)
d	0.500 in, MIN	depth, earcup cushion (uncompressed)
e	0.625 in, MIN	width, earcup cushion
f	1.625 in, MIN	width, earcup cushion ear-opening
g	2.680 in, MIN	height, earcup cushion ear-opening

NOTE: The maximum dimensions of the earcup cushion shall not exceed the outer dimensions of the earcup.

FIGURE 2. Earcup Envelope, and Earcup Cushion Dimensions.

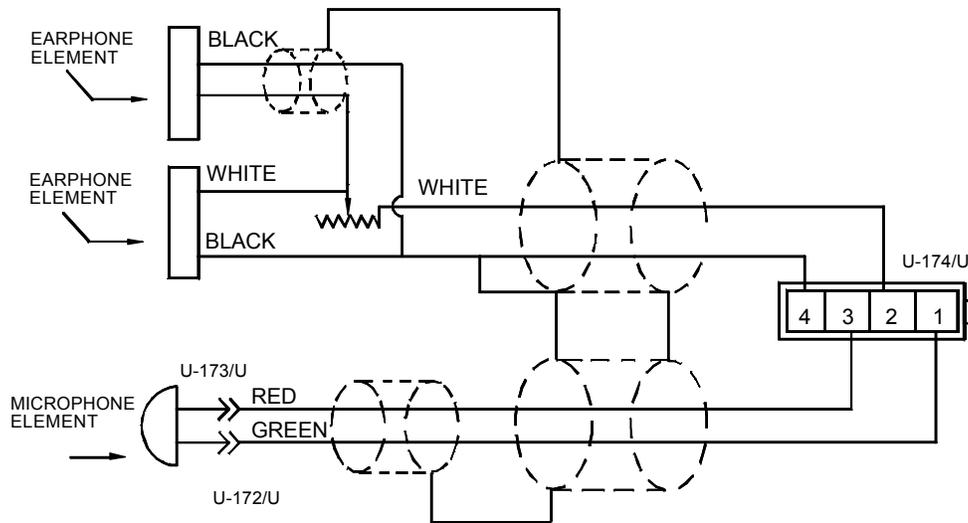


FIGURE 3. Wiring Diagram.

REQUIREMENTS:

Design and construction:

Dimensions and configuration: See figures 1 and 2.

Color: The color shall be in accordance with MIL-PRF-87819.

Headband Pressure: Headband pressure shall be sufficient to allow the part to meet the attenuation requirements of this specification, not to exceed 2.4 lb.

Headband Parts: The headband shall include those components necessary to allow the part to meet the performance requirements of this specification. The components shall be shielded in a manner minimizing the possibility of entangling the user's hair.

Headband and yoke dimensions: The headband and yoke dimensions shall allow the headset to meet the performance requirements of this specification, including Shock (drop) and Attenuation.

Headband adjustment: MIL-PRF-87819, Figure 2, Note 3 re-wording shall apply:  
"Headband minimum adjustment range with headband pad removed. With dimension 'A' set at 5.58 in (5.33 + 1/2 earcup cushion depth) dimension 'B' shall be adjustable to 4.81 in (4.56 + typical headband cushion depth) minimum. With dimension 'A' set at 6.75 in (6.50 + 1/2 earcup cushion depth) dimension 'B' shall be adjustable to 6.19 (5.69 + 1/2 typical headband cushion depth) maximum." These dimensions accommodate the 5th percentile female head breadth and head height, respectively, through the 95th percentile male aviator head breadth and head height, respectively, as listed in MIL-STD-1472D.

MIL-PRF-87819, Figure 2, Note 5 re-wording shall apply:  
"Angular deflection 'C'  $\pm$  5 degrees with respect to axis 'E', maximum."

Microphone assembly:

Microphone shall be military part number M-87/AIC, in accordance with MIL-M-26542/2 (1 required), or an equivalent noise-canceling, lightweight, altitude-capable microphone as approved by the qualifying activity.

The boom shall be in accordance with Air Force drawing 67B1854, or other boom providing equivalent adjustability (fine and coarse), and adherence to the Reparability and Shock (drop) requirements of MIL-PRF-87819, as approved by the qualifying activity.

Volume control: The volume control shall be military part number RV6NAYSA101A, per MIL-R-94/3, or equivalent as approved by the qualifying activity. Dimensions of the knob shall not exceed 0.438 inches in height and 0.813

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inches in diameter. The volume control and knob shall not bind, stick, or restrict the movement of the microphone boom assembly, earcup or yoke.

Wiring Diagram: See figure 3.

Plug assemblies: U-172/U; U-174/U per MIL-C-9177/2(USAF) and U-173/U per Air Force Drawing 57B12662, or electrically and mechanically compatible part as approved by the qualifying activity.

Earcup: The earcup dimensions shall conform to those shown in figure 2.

Earcup Finish: Shall be smooth, without appreciable texture, to accommodate rapid cleaning.

Earcup cushion: The earcup cushion's dimensions shall conform to those shown in figure 2. The earcup cushion shall be clearly marked with the manufacturer's cage code and manufacturer's part number, located on the underside surface.

Earphone element: The earphone element shall be either military part number H-143/AIC in accordance with MIL-PRF-25670/2 (2 required), or M25670/3-01 in accordance with MIL-PRF-25670/3(USAF) (2 required), or an equivalent lightweight, altitude-capable transducer meeting USAF hearing-protective standards, as approved by the qualifying activity.

Weight: 1.45 lb. maximum, when weighed without cord and connectors.

Part or Identifying Number (PIN) shall be: M87819/5-01.

Performance characteristics: See table I,II and MIL-PRF-87819.

Attenuation: Testing for attenuation shall be per MIL-PRF-87819 with the exception that table I specified herein shall be used for attenuation values.

TABLE I. Attenuation values.

Freq. (Hz)	63	80	100	125	160	200	250	315	400	500	630	800
Minimum attenuation (dB) mean minus 2 X standard deviation	3	3	4	5	7	9	12	14	16	18	19	20
Minimum attenuation (dB) mean minus 2 X standard deviation with eyeglasses	1	1	2	3	4	6	8	11	13	15	16	17

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Freq. (Hz)	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000
Minimum attenuation (dB) mean minus 2 X standard deviation	21	21	22	22	22	22	22	21	21	20
Minimum attenuation (dB) mean minus 2 X standard deviation with eyeglasses	19	20	21	22	22	22	21	20	19	14

NOTE: Eyeglasses shall be in accordance with MIL-PRF-87819.

TABLE II. Performance characteristics.

Inspection	Requirements Paragraph	Test Paragraph	Qualification	Group A	Group B	Group C
<u>Subgroup 1</u>						
Visual and mechanical	3.3, 3.4, 3.6, 3.7	4.7.1	X	X		X
Acoustic quality	3.5.1	4.7.2	X	X		X
Attenuation	3.5.2	4.7.3	X			X
Speech Intelligibility	3.5.3	4.7.4	X			
Headset System Sensitivity	3.5.4	4.7.5	X			
<u>Subgroup 2</u>						
Headband Pressure	3.5.12	4.7.13	X		X	X
Headband Flexing	3.5.13	4.7.14	X			X
Twist and Pull	3.5.11	4.7.12	X			X
Shock (drop)	3.5.5	4.7.6	X			X
Fungus	3.5.6	4.7.7	X			
Vibration	3.5.7	4.7.8	X			X
Temperature	3.5.8	4.7.9	X			X
<u>Subgroup 3</u>						
Temperature Shock	3.5.9	4.7.10	X			X
Humidity	3.5.10	4.7.11	X			X
Salt Fog	3.5.15	4.7.16	X			X
<u>Subgroup 4</u>						
Cable Isolation	3.5.14	4.7.15	X			X

Intended use: Headset-microphone M87819/5-01 is a moderate ambient noise level headset-microphone, providing communication within the noise conditions encountered in-flight in transport aircraft, as well as limited maintenance activities outside certain fighter and transport aircraft. For a listing of the aircraft and noise environments for which this headset provides acceptable protection, refer to the USAF Human Systems Center (HSC), Armstrong Laboratory, Bioacoustics and Biocommunications branch (AL/CFBA), Wright-Patterson AFB, OH. It's enlarged earcushion opening alleviates certain pain (e.g., eartip 'hot-spots') associated with extended wear (in excess of 5 hours). This headset should only be used in conjunction with quick-don oxygen mask harness part number

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358-1506V-01 (or equal; see Technical Order (T.O.) 15X5-4-10-1), and not with its smaller predecessor. This is a field-reparable part, the repair of which is described in T.O. 12R2-2AIC-222CL-1 (copies of this document are available from the Air Force Custodian).

CONCLUDING MATERIAL

Custodian:  
Air Force - 85

Preparing activity:  
Air Force - 85

Review activity:  
DLA-CC

(Project 5965-0241)