

INCH-POUND
MIL-PRF-87819/5A
w/AMENDMENT 1
23 February 2015
SUPERSEDING
MIL-PRF-87819/5A
30 September 2009

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 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-87819.

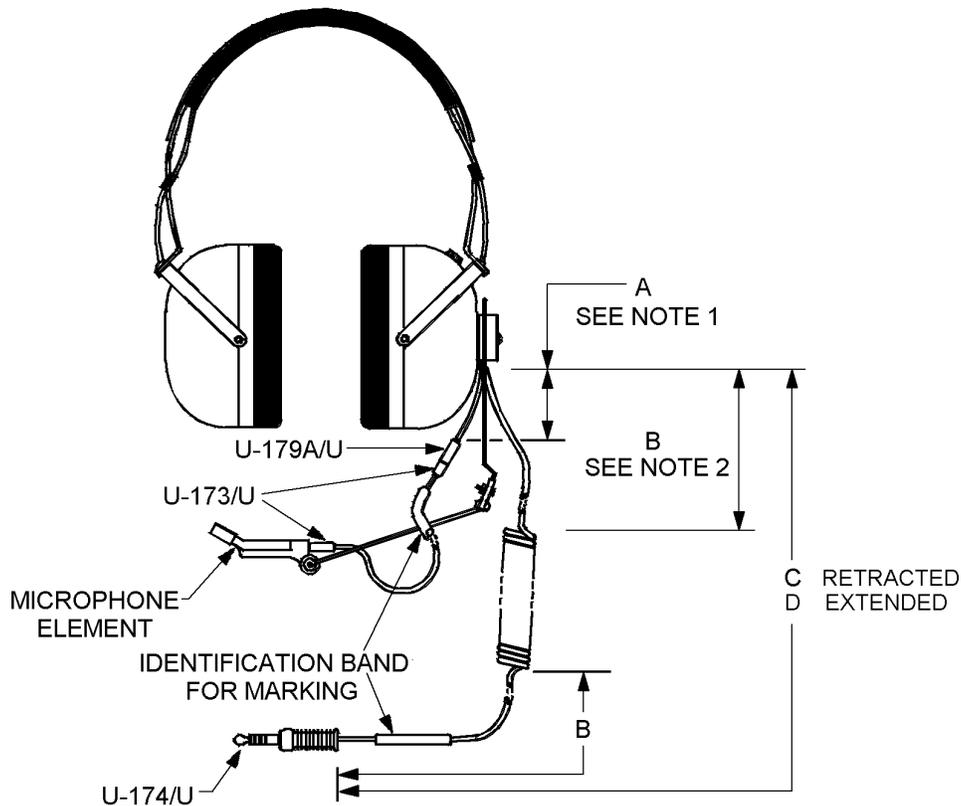


FIGURE 1. Headset-microphone assembly, M87819/5-01.



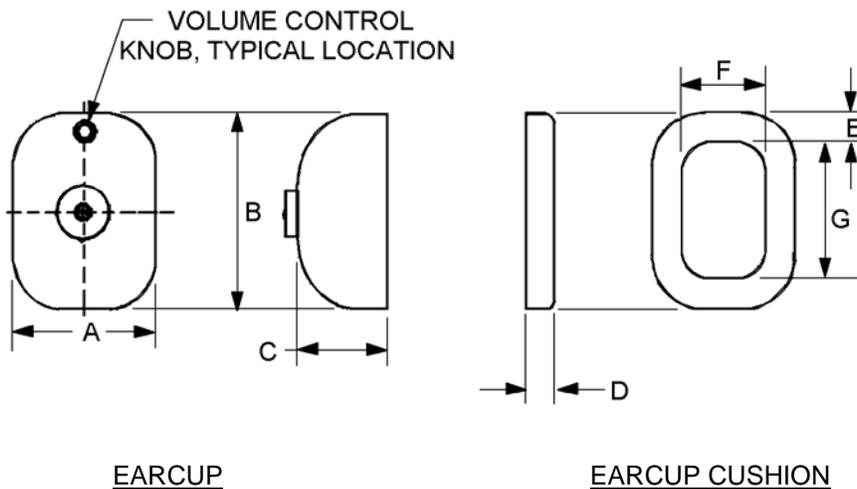
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Letter	Inches		mm	
	Design dimension	Tolerances	Design dimension	Tolerances
A	1.50	+ 0.50 – 0.00	38.1	+ 12.7 – 0.0
B	6.0	± 2.0	152.4	± 50.8
C (Retracted)	16.0	± 4.0	406.4	± 101.6
D (Extended)	60.0	Minimum	1,524.0	Minimum

NOTES:

1. Length "A" of cord between Part or Identifying Number (PIN) U-179A/U connector and its entry into earcup, for interface to oxygen mask.
2. Cord "C/D" shall include length "B" of straight portion of cord between its termination and the beginning of the coiled portion.
3. Cord "C/D" shall have the retracted and extended lengths shown, for movement around the console.
4. Dimensions are in inches. Unless otherwise specified, tolerance is ± 0.015 inch. Metric equivalents are given for information only.

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



Letter	Dimension		Description
	Inches	mm	
A	3.250 ± .010	82.6	width, earcup
B	4.500 Max	114.3	height, earcup
C	2.200 Max	55.9	depth, earcup (outwards, from head)
D	0.500 Max	12.7	depth, earcup cushion (uncompressed)
E	0.625 Min	15.9	width, earcup cushion
F	1.625 Min	41.3	width, earcup cushion ear-opening
G	2.680 Min	68.1	height, earcup cushion ear-opening

NOTES:

1. The maximum dimensions of the earcup cushion shall not exceed the outer dimensions of the earcup.
2. Dimensions are in inches. Unless otherwise specified, tolerance is ± 0.015 inch. Metric equivalents are given for information only.

FIGURE 2. Earcup envelope and earcup cushion dimensions.

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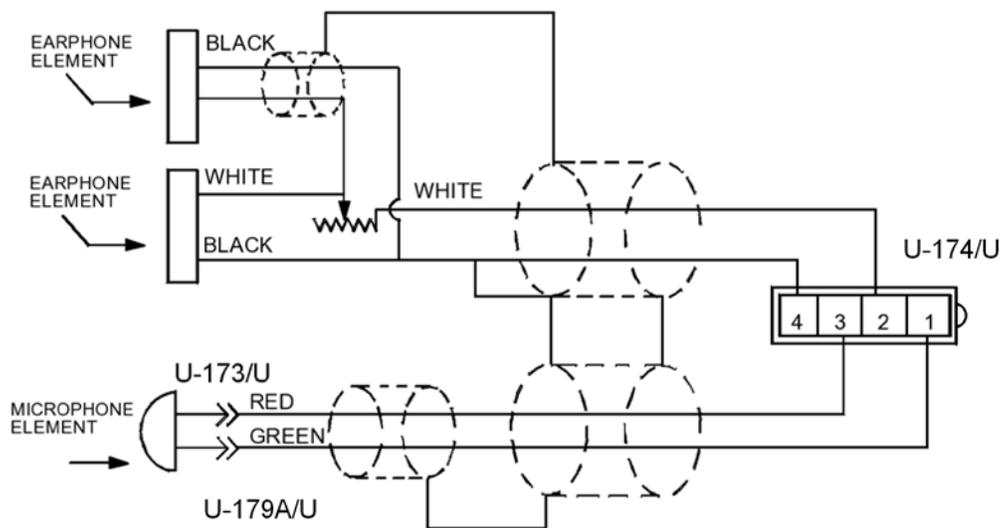


FIGURE 3. Wiring diagram.

REQUIREMENTS:

Design and construction:

Dimensions

and configuration: See figures 1 and 2.

Color:

The color shall be as specified in MIL-PRF-87819.

Headband

pressure:

Headband pressure shall be sufficient to allow the part to meet the attenuation requirements of MIL-PRF-87819 and this specification sheet, 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 MIL-PRF-87819 and this specification sheet. 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 MIL-PRF-87819 and this specification sheet, including Shock (drop) and Attenuation.

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Headband
adjustment:

The "Headband minimum adjustment" (see MIL-PRF-87819, figure titled: "Anthropometric headband adjustment requirements") shall apply, as follows: "Headband minimum adjustment range with headband pad removed. With dimension 'A' set at 5.58 inches (141.7 mm) (5.33 + 1/2 earcup cushion depth), dimension 'B' shall be adjustable to 4.81 inches (122.2 mm) (4.56 + typical headband cushion depth) minimum. With dimension 'A' set at 6.75 inches (171.5 mm) (6.50 + 1/2 earcup cushion depth), dimension 'B' shall be adjustable to 6.19 (157.2 mm) (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 specified in MIL-STD-1472.

The "Earcup yoke angular deflection" (see MIL-PRF-87819, figure titled: "Anthropometric headband adjustment requirements") shall apply, as follows: "Angular deflection 'C' \pm 5 degrees with respect to axis 'E', maximum."

Microphone
assembly:

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

The boom shall be as specified in Air Force (CAGE 97151) 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.

Wiring Diagram:

See figure 3.

Connectors:

Connectors shall be PIN U-179A/U and PIN U-174/U as specified in MIL-DTL-9177/2 and PIN U-173/U as specified in Air Force (CAGE 97151) drawing 57B12662, or electrically and mechanically compatible part as approved by the qualifying activity. See figure 1.

Earcup:

The earcup dimensions shall be as specified on figure 2.

Earcup Finish:

The finish shall be smooth, without appreciable texture, to accommodate rapid cleaning.

Earcup cushion:

The earcup cushion's dimensions shall be as specified on figure 2. The earcup cushion shall be clearly marked with the manufacturer's cage code and part number, located on the underside surface.

Earphone element:

The earphone element shall be either PIN H-143/AIC as specified in MIL-PRF-25670/2 (2 required), or an equivalent lightweight, altitude-capable transducer meeting hearing-protective standards, as approved by the qualifying activity.

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Volume control: The volume control shall PIN RV6NAYSA1O1A, as specified in MIL-PRF-94/3, or equivalent as approved by the qualifying activity. Dimensions of the knob shall not exceed 0.438 inch (12.3 mm) in height and 0.813 inch (20.7 mm) in diameter. The volume control and knob shall not bind, stick, or restrict the movement of the microphone boom assembly, earcup or yoke.

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

PIN: M87819/5-01.

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

Attenuation: Testing for attenuation shall be as specified in 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	1	2	3	4	6	8	11	13	15	16	17

Freq.(Hz)	1,000	1,250	1,600	2,000	2,500	3,150	4,000	5,000	6,300	8,000
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 ^{1/}	19	20	21	22	22	22	21	20	19	14

^{1/} Eyeglasses shall be PIN HGU-4/P, as specified in MIL-PRF-87819.

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TABLE II. Performance characteristics.

Inspection ^{1/}	Qualification	Group A	Group B	Group C
Subgroup 1				
Visual and mechanical	X	X		X
Acoustic quality	X	X		X
Attenuation	X			X
Speech intelligibility	X			
Headset system Sensitivity	X			
Subgroup 2				
Headband pressure	X		X	X
Headband flexing	X			X
Twist and pull	X			X
Shock (drop)	X			X
Fungus	X			
Vibration	X			X
Temperature	X			X
Subgroup 3				
Temperature shock	X			X
Humidity	X			X
Salt fog	X			X
Subgroup 4				
Cable isolation	X			X

^{1/} See MIL-PRF-87819, for inspection details.

Intended use. Headset-microphone PIN 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 U. S. Air Force (Air Force Research Laboratory (AFRL) 711th HPW/RHCB (Battlespace Acoustics) Wright-Patterson AFB OH 45433). Its enlarged earcushion opening alleviates certain pain (e.g., ear tip '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 PIN 358-1506V-1 [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).

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.

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Referenced documents. In addition to MIL-PRF-87819, this document references the following:

MIL-DTL-9177/2
MIL-PRF-25670/2
MIL-PRF-26542/2
MIL-PRF-94/3
MIL-STD-1472
67B1854
57B12662

CONCLUDING MATERIAL

Custodians:
Air Force - 85
DLA-CC

Preparing activity:
DLA - CC

(Project 5965-2014-008)

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>.