

INCH-POUND

MIL-DTL-24223/3B(SH)

28 January 2014

SUPERSEDING

MIL-L-24223/3A(SH)

22 October 1986

DETAIL SPECIFICATION SHEET

LOUDSPEAKER, SHIPBOARD ANNOUNCING SYSTEMS
ENCASED, 70/95 VOLT, 80 VOLT-AMPERES

Reinstated after 28 January 2014 and may be used for
new and existing designs and acquisitions.

This specification is approved for use within the Naval Sea Systems Command, Department of the Navy, 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 sheet and MIL-DTL-24223.

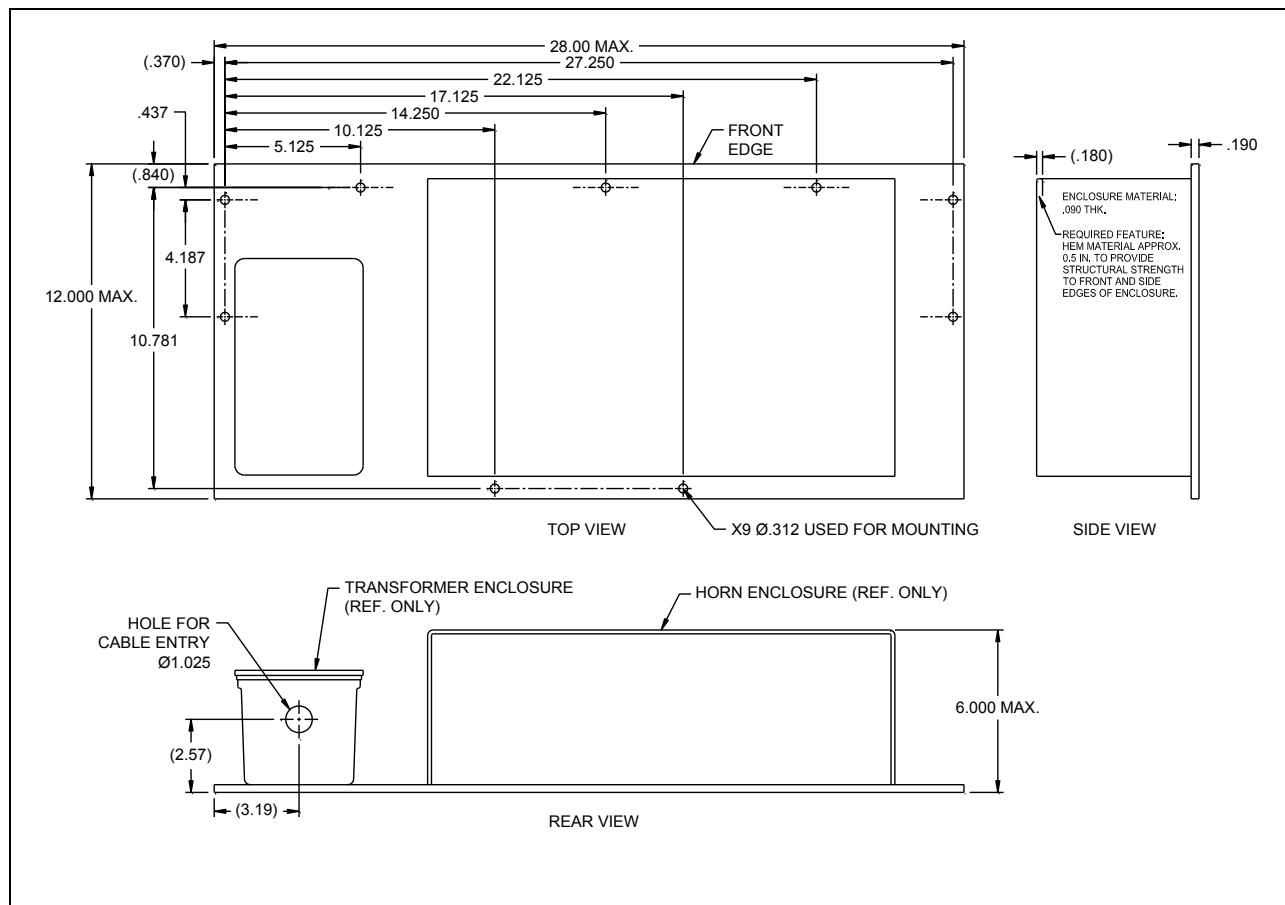


FIGURE 1. Mounting dimensions and cable entrance for LS-657()/SIC.

PHYSICAL REQUIREMENTS:

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Description: The type LS-657()/SIC loudspeaker shall be designed for deck mounting. A maximum of eight driver units shall be employed.

Dimensions and weight: See FIGURE 1 for dimensions. Weight shall not exceed 60 pounds.

Cable entrance: See FIGURE 1. Cable shall be installed using a stuffing tube. The stuffing tubes will be size 2 in accordance with ASTM F1836M. Stuffing tubes are not required unless otherwise specified. The type LS-657()/SIC shall be designed to accommodate cables entering the transformer enclosure via a shipbuilder-installed stuffing tube.

Degree of enclosure: Except for the opening required for acoustic radiation, the enclosure shall conform with the "totally enclosed" requirements of MIL-STD-108. The opening for acoustic radiation shall be covered with mesh or perforated metal not less than 0.032-inch thick. Mesh openings or perforations shall not be larger than $\frac{3}{32}$ inch. Where required for servicing internal assemblies, the mesh shall be removable.

Enclosure construction: Mounting base shall be aluminum sheet 6061-T4 in accordance with ASTM B209-10. Enclosure shall be aluminum sheet 5052-H32 in accordance with ASTM B209-10. The edge at the opening shall be double thickness. Wire connections shall be closed lug on a threaded terminal. At least one rear drainage hole is to be provided for internal drainage. Exterior surfaces shall drain when level. Application is shipboard, exterior, and unsheltered. The horn enclosure shall contain required driver(s) and terminal board (if required); the transformer enclosure shall contain the transformer assemblies and terminal board (if required). Both enclosures shall be provided with a removable cover (or horn assembly) to give access to all interior parts and the enclosure mounting holes. The enclosure covers shall be secured by means of screws engaging in tapped holes provided in the enclosure. Removing the cover shall not involve disturbance of incoming cables and terminal tubes. Part mounting fasteners shall be secured so as not to require demounting of the enclosure for part replacement. Parts shall be mounted so that their terminal markings are visible with the enclosure cover removed.

Coatings: Aluminum and aluminum alloy parts shall be pretreated and painted. The pretreatment shall be either anodized in accordance with MIL-A-8625, or chemically pretreated in accordance with MIL-DTL-5541. It shall then be primed with a single coat of epoxy primer conforming to MIL-PRF-23377, a second coat of epoxy paint formula 151 in accordance with MIL-DTL-24441, and two top coats silicone alkyd in accordance with MIL-PRF-24635. The color shall be haze gray, color No. 26270, in accordance with Fed. Std. 595C.

Input enclosure: Transformer and wiring terminal block shall be in a separate water tight enclosure. Application is shipboard, exterior, and unsheltered.

Speaker drivers: Speaker driver assemblies shall not exceed eight.

Horn assembly: No plastic material is allowed in the horn assembly, except for acoustic gaskets.

Mounting: All acoustical testing shall be performed with the complete assembly mounted on 4-foot by 8-foot by $\frac{3}{4}$ -inch sheets of plywood to simulate the deck mounted environment.

Marking: Internal marking shall be in accordance with FIGURE 3 herein.

PERFORMANCE REQUIREMENTS:

Power Input: Volt-ampere input specified in TABLE I shall provide at least sound pressure output, indicated in TABLE I.

Sound pressure output: Sound pressure output shall be measured at the distance identified in TABLE I.

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TABLE I. On-axis sound pressure output.

Type 80 VA (max)	Distance (FT)	Decibel (dB) ^{1/} Output in Warble Band (Hertz)					
		320 to 500	500 to 800	800 to 1,250	1,250 to 2,000	2,000 to 3,200	3,200 to 5,000
LS-657()/SIC	10	111	110	116	120	118	---
NOTE: ^{1/} dB re 0.0002 dynes/cm ² at the distance specified.							

Sound pressure distribution:

TABLE II. Off-axis sound pressure output.

Type 80 VA	dB Decrease In Relative Sound Pressure Output	
	30 Degrees Off-Axis (Horizontal Plane)	30 Degrees Off-Axis (Vertical Plane)
LS-657()/SIC	6.5	5

Frequency: Response shall be within the FIGURE 2 limits over the band shown.

Volume control: None required.

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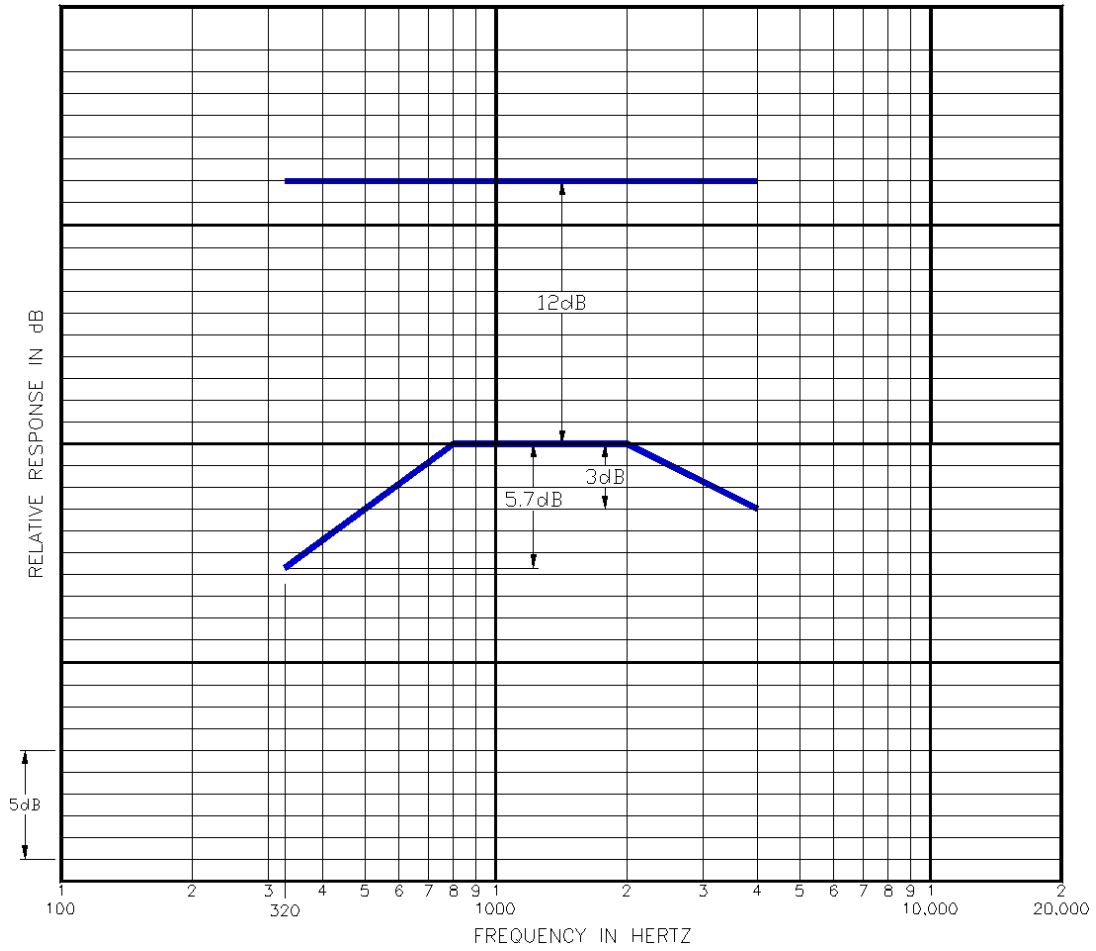


FIGURE 2. Frequency response limits.

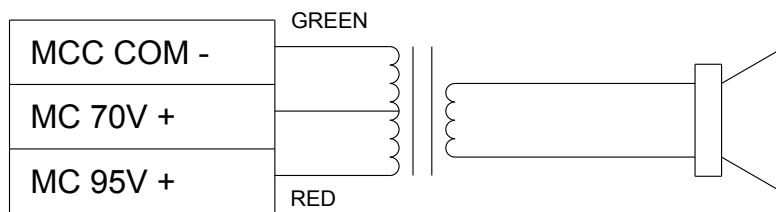


FIGURE 3. Wiring diagram and terminal designations.

ENVIRONMENTAL REQUIREMENTS:

Temperature: The operating temperature shall be -20.2 to 149 °F (-29 to 65 °C)

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Gun blast: After gun blast testing, the equipment shall show no damage and meet the acoustic performance after salt spray, vibration, and shock tests requirements of MIL-DTL-24223, except the level shall be within 3 dB of the values measured before the gun blast test. "Damage" is interpreted as evidence of rupture, fracture, tearing, or mechanical deformation that would impair the operation of the device.

CHANGES FROM PREVIOUS ISSUE: Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Preparing Activity:
Navy – SH
(Project 5965-2012-005)

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>.