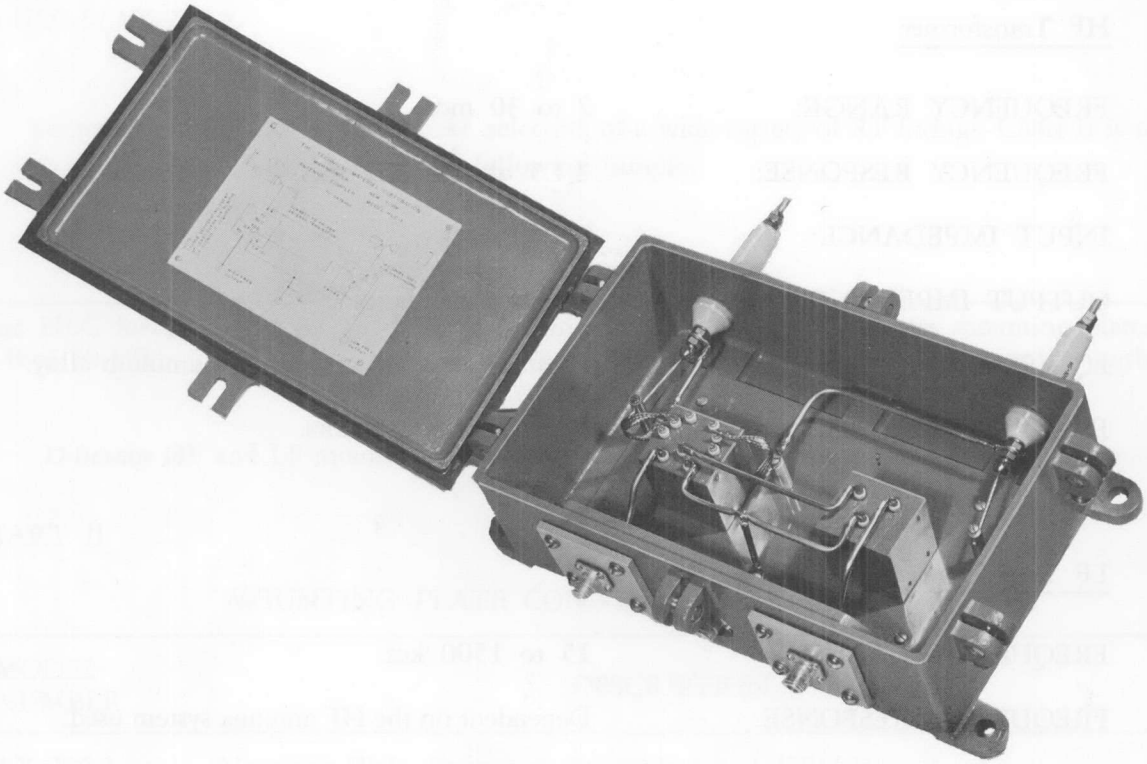
TECHNICAL BULLETIN NUMBER 8008

HF/LF Antenna Couplers
TMC Models HLC



TMC HF/LF Antenna Couplers, Models HLC, are designed to provide simultaneous high frequency and low frequency reception from a single antenna.

The coupler consists of two broadbanded transformers mounted in a JAN alloy cast aluminum case. The HF transformer provides a balanced input from a broadband 2-30 mc rhombic antenna to a 70 ohm unbalanced output. These transformers are similar to those used so successfully in the TMC Rhombic Antenna Couplers, Models RAC. The LF transformer provides a 70 ohm unbalanced output and is usable over the frequency range of 15 to 1500 kcs.

Models HLC may be used with any normal HF antenna system which utilizes open wire transmission lines from the coupler to the antenna system. HF reception is accomplished in a normal manner and is not affected by the addition of the LF transformer to the system. For LF reception the transmission lines become a part of the antenna and the system now appears as a top loaded vertical receiving antenna (see typical diagram). Obviously, an impedance match in this case over the frequency range of 15-1500 kcs must be a compromise, and 250 kcs is used as a design center.

The HLC couplers should be mounted on a suitable post at the base of the antenna. The aluminum case is weather resistant and is provided with built-in lightning arrestors.

Output connections are optional as listed in Chart II.

TECHNICAL SPECIFICATIONS, TMC MODELS HLC

HF Transformer

FREQUENCY RANGE:	2 to 30 mcs.
FREQUENCY RESPONSE:	±1.5 db 2 to 30 mcs.
INPUT IMPEDANCE:	See Chart I.
OUTPUT IMPEDANCE:	70 ohm unbalanced.
EQUIPMENT CASE:	Weather resistant, cast of an aluminum alloy.
INPUT TERMINALS:	Two ceramic insulators.

LF Transformer

FREQUENCY RANGE:	15 to 1500 kcs.
FREQUENCY RESPONSE:	Dependent on the HF antenna system used.
OUTPUT IMPEDANCE:	70 ohm unbalanced.
OUTPUT TERMINALS:	See Chart II.
COMPONENTS AND CONSTRUCTION:	Equipment is manufactured in accordance with JAN/MIL specifications wherever practicable.

CHART I

HF/LF ANTENNA COUPLER

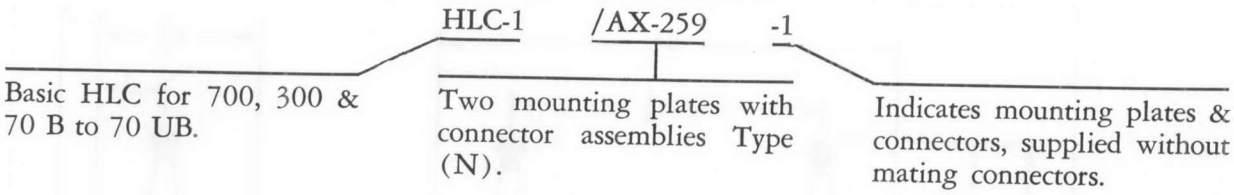
TMC MODEL NUMBER	FREQUENCY RANGE		INPUT IMPEDANCE	FREQUENCY RESPONSE	
	HF	LF	HF	HF	LF
HLC-1	2-30 Mc/s	15-1500 Kc/s	700, 300, & 70 B	±1.5 db	*
HLC-3	2-30 Mc/s	15-1500 Kc/s	600 B	±1.5 db	*

* DEPENDENT ON THE HF ANTENNA SYSTEM USED.

HF/LF Antenna Couplers

The new HLC listing shown in Chart I eliminates the HLC-2. The HLC-2 is still available as the HLC-1/AX-259-2.

To provide flexibility for customer selection of a wide variety of RF fittings, Chart II is used in conjunction with Chart I as per the following sample:



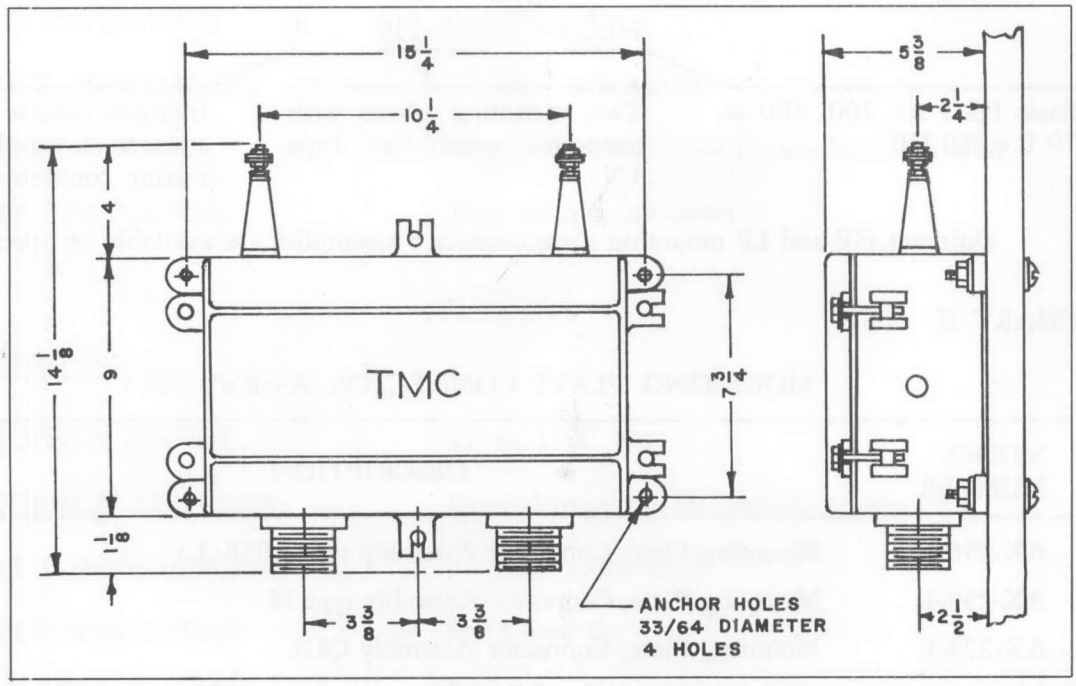
Different HF and LF mounting plate connector assemblies are available on special request.

CHART II

MOUNTING PLATE CONNECTOR ASSEMBLIES †

MODEL NUMBER	DESCRIPTION
AX-256-1	Mounting Plate, Connector Assembly type UHF(L)
AX-259-1	Mounting Plate, Connector Assembly type N
AX-273-1	Mounting Plate, Connector Assembly QDL
AX-274-1	Mounting Flange for RG-85/U
AX-277-1	Adapter Assembly, 3⅛" — 70 ohm to LC female
AX-281-1	Mounting Plate, Connector Assembly type UHF
AX-283-1	Mounting Plate, Connector Assembly type BN
AX-284-1	Mounting Plate, Connector Assembly type BNC
AX-285-1	Mounting Plate, Connector Assembly type HN
AX-286-1	Mounting Plate, Connector Assembly type C
AX-287-5	Mounting Plate, Connector Assembly type LC, 70 ohm w/mating plug
AX-289-1	Mounting Plate, Connector Assembly QDS
AX-310	Mounting Plate Assembly, ½" Stuffing Tube
ES-ST7875	End Seal, Styroflex, ⅞" 70 ohm

† Mounting plate connector assemblies and cable end connectors are priced separately.



DIMENSIONAL OUTLINE AND MOUNTING, MODEL HLC

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