



RECEIVING ANTENNA MULTICOUPLER

Model AMC-2X4

Product Bulletin 1B03210

10 KHz to 40 MHz Operation

Completely Solid State

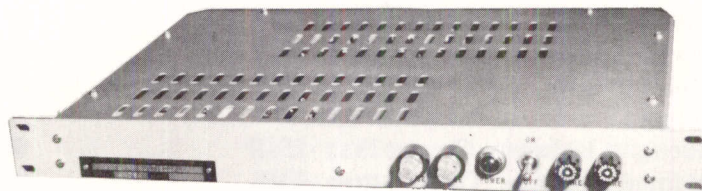
Wide Dynamic Range

Minimal Phase Differential

The dual four-output AMC-2X4 is a broadband antenna-to-receiver coupling device that permits the use of up to eight communications receivers with two common antennas. It is capable of working with any receiver operating in the LF/MF/HF region and is effectively transparent to the RF energy received at the antenna. The multicoupler is totally solid state and broadbanded, making it ideal for either shipboard or shore station operation in both commercial and military service.

The AMC-2X4 is engineered to provide the best possible isolation of receivers connected to it. This is done by using individual buffer amplifiers to significantly reduce the amplitude of signals re-radiated from the receivers and block interference with adjacent receivers or the common antenna system. The low-noise amplifiers used in the multicoupler are capable of handling large signals and yield an overall insertion gain without introducing objectionable intermodulation of the received signal. They provide a constant input and output impedance for a VSWR better than 1.5-to-1 over the entire operating frequency range.

The AMC-2X4 multicoupler is designed to operate with any communications receiver - whether or not engineered by TMC. This "stand-alone" quality makes it universally compatible with existing stations, thereby simplifying the technician's task of incorporating the equipment in any communication system without modification.



Extremely Low Noise Factor

Compact, Rugged Construction

The AMC-2X4 is designed for mounting in a standard equipment cabinet. The solid state circuitry and slim-line chassis eliminates heat-related problems and allows the stacking of multicouplers - one above the other - in the equipment rack. With the exception of the front panel switch, there are no operating controls. Adjustments at the TMC factory are completed prior to shipment so that the unit can immediately be placed in service upon receipt. Connections for antenna inputs, receiver outputs, and primary power are conveniently located on the rear panel.

The AMC-2X4 is constructed of aluminum alloys with the front panel and back plane bolted to channels forming the sides of the unit. Component circuit cards are mounted to this chassis internally and isolated to prevent coupling of unwanted energy. Top and bottom cover plates provide additional protection and isolation. All external hardware is stainless steel for operation under the most severe environmental conditions.

This multicoupler is an extension of the popular AMC and LMC series. TMC has been manufacturing for the past 30 years. Designed for low-cost, reliable operation over long periods of time, the AMC-2X4 is a further example of TMC's tradition in supplying only field-proven designs to the world telecommunications market. Listed on the next page are antennas and other accessory products that complement the AMC-2X4.

TECHNICAL SPECIFICATIONS

GENERAL

Frequency Range	10KHz-40MHz without filter
Number of Outputs	Four outputs: LF/MF section Four outputs: HF section
I/O Impedance	50-ohms unbalanced (50U)
Optional:	70-ohms unbalanced (70U) BNC-type connector
Insertion Gain	Nominal +2dB over range
Frequency Response	+/-1.0dB, 10KHz-32MHz
Off-band Rejection	>30dB DC-1.4MHz, 46-1000MHz
Noise Figure	Less than 7dB
Output/output Isolation	Greater than -55dB
Output/input Isolation	Greater than -60dB
Phase Differential	+/-2° maximum, output-output
Desensitization	<3dB drop of 100uV signal when 8V(P-P) 2-6MHz signal is applied
Intermod Distortion	Second order: greater than -60dB Third order: greater than -70dB
VSWR	Output: better than 1.2-to-1 Input: better than 1.5-to-1
MTBF	20,000 hours

ENVIRONMENTAL

Cooling	Convection
Ambient Conditions	0°C to +50°C; Up to 95% R.H. Storage: -30°C to +80°C
Primary Power	115/230VAC, 48-62Hz Maximum 30 watts
Size	1.75H x 19W x 12D inches 4.4H x 48.3W x 35.6D cm.
Weight	8 lbs (3.8Kg) installed
Line Filters	>40dB attenuation 14KHz-150MHz

SPECIAL FEATURES

Monitoring	Indicating fuseholders display status of primary power circuits
Safety	Fuse and overload protection. HV points covered and labelled.
Components Construction	Solidstate circuits throughout Aluminum alloy chassis with stainless steel hardware
Overload Protection	Front-end devices prevent circuit failure from high RF voltages

ACCESSORIES AND ORDERING INFORMATION

AMC-2X4/50U Optional Filters*	Receiving Multicoupler /F2 Low pass /F4 Broadcast Stopband /F5 Bandpass 2-32MHz	50-ohm operation
AMC-2X4/70U Optional Filters*	Receiving Multicoupler /F1 Bandpass 2-32MHz /F2 Low Pass /F4 Broadcast Stopband * For additional data on receiving filters see Product Bulletin 1B02202.	70-ohm operation
BSP-1/2/3 LMC-8/16/32 VMC-8 VRA Series	Bridging Speaker Panel LF/MF Antenna Multicoupler VHF Antenna Multicoupler Vertical Receiving Antenna	Product Bulletin 1B03215 Product Bulletin 1B03207 Product Bulletin 1B03212 Product Bulletin 1B03201
2B03210 2D03210 3A03210	90-day Initial Spare Parts Two-year Maintenance Spare Parts Technical Manual	2C03210 2F03210 One-year Operating Spare Parts Replace Modules Operation/Installation/Maintenance

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