



H.F. ANTENNA MULTICOUPLER

Model AMC 21 Series

TECHNICAL BULLETIN 204-4428

- 2-30 MHZ
- Completely Solid State
- Broad Frequency Coverage
- Wide Dynamic Range
- Minimum Noise Level
- Switchable Input Filters
- Protection Against Lightning Surges
- A.C. Line Filter
- Regulated Power Supply



TMC Model AMC-21() Solid State Antenna Multicoupler provides low noise optimum distribution of RF signals from 10 KHZ to 40 MHZ and meets the specifications outlined, independent of the number of plug-in modules selected. Cascading of several multicouplers does not introduce noticeable deterioration.

This series is specially designed for a wide variety of applications including both ship and shore installations for either military or commercial purposes. It contains a unique feature of being able to reduce detrimental effects of high level interfering signals, such as local broadcast stations, by inserting rejection filters between the antenna input and the amplifier section. This is accomplished by operation of a filter selector switch located on the front panel.

The multicoupler utilizes a unique low noise, wideband transistorized front end amplifier to drive a transistorized RF distribution system providing maximum effectiveness for coupling up to 16 receivers to one antenna. Maximum performance is achieved in any output module and is quite independent of loading or the number of modules used.

The extremely low power consumption of this solid state unit enables the stacking of these units in high density configurations without excessive heat failures and associated problems, and the size is such that many channels can be contained in a comparatively small volume.

THE TECHNICAL MATERIEL CORPORATION

TECHNICAL SPECIFICATIONS AMC-21 Series

OPERATING PARAMETERS

<p>Frequency Range Filter Options</p>	<p>Without filter: 100KHz-32MHz. A front panel control allows selection of one of three separate (optional) filters or a "Filter-Out" position. The choices of filters available are: F2 — Broadcast band "Stop filter; F3-H/F — "Cut-Off" (all frequencies above 2 MHz); F4-H/F — "Cut-Off" (all frequencies above 2 MHz).</p>
<p>Number of Outputs Input/Output Impedance Gain Frequency Response Noise Figure Isolation</p>	<p>Four, eight, twelve or sixteen. 50 ohms unbalanced. BNC-type connector. Optional: 75 ohms. Nominal + 2 db throughout operating frequency range. ± 1.0 db, 100KHz to 32MHz. Less than 7 db.</p>
<p>Output to Output Output to Input Desensitization</p>	<p>Better than 40 db down. Better than 55 db down. A 4.0 volt peak signal, 10% removed in frequency, will reduce to 100 microvolt signal maximum 3 db.</p>
<p>Intermodulation Distortion</p>	<p>Second order distortion products are at least 60 db below the level of either signal of a standard two-signal test where each signal is measured across the input and is 0.5 volts RMS for 75-ohm units and 0.4 volts RMS for 50-ohm units. Third order products are at least 65 db down.</p>
<p>VSWR Overload</p>	<p>Output: Better than 1.2-to-1. Input: Better than 1.8-to-1. Front-end protective device prevents component failure due to high RF voltages.</p>

SPECIAL FEATURES

<p>Monitoring Safety</p>	<p>Indicating fuseholders display status of primary power circuits continuously. Fuse and overload protection. High voltage points covered by protective plates and labeled.</p>
<p>Components/Construction</p>	<p>Manufactured in accordance with MIL-STD specifications wherever practicable. Solid-state throughout.</p>

ENVIRONMENTAL AND INSTALLATION

<p>Cooling Operating and Conditions Storage Conditions Primary Power Size and Weight Shipping Data</p>	<p>Convection. 0°C + 50°C, up to 95% Relative Humidity at MSL. -30°C to + 80°C, up to 95% Relative Humidity at MSL. 115/230 volts AC ± 10%, 48 to 400Hz, single phase. Consumption: Maximum 25 watts. 3.5" (8.9cm) high x 19" (48.3cm) wide x 14" (35.6cm) deep; 25 lbs./11.5 kg installed. Commercial packing for domestic U.S. shipment. One (1) container 6" x 24" x 18". Total weight and cube: 35 lbs./1.5 cu. ft.</p>
<p>Loose Items</p>	<p>Two (2) technical manuals (Operator/Installation/Service); AC Power Cord; Mating RF Conectors.</p>

ORDERING INFORMATION

<p>Models</p>	<p><i>Impedance</i> ↓ <i>Number of Outputs</i></p>	<p><i>Type of Filter Installed</i> ↓</p>	<p>(0) ◀ None (2) ◀ Broadcast stopband (3) ◀ High-pass (2-32MHz) (4) ◀ Low-pass (100KHz-2MHz) (2, 3, 4) ◀ All filters</p>
<p>AMC-21C-(4)-(50)-F (8) (75) (12) (16)</p>			

Example: AMC-21C-8-50F2 is a Model 21C series antenna multicoupler with 8 outputs, 50 ohm input/output impedance and contains a Broadcast stop-band filter.

ACCESSORY PRODUCTS are described in sections 4-9 of the General Catalog and include RF/antenna, terminal, data, connector and power equipment. **TECHNICAL SERVICES** in design, engineering, training, and related areas are described in section 10. **OPTIONS** are listed after each TMC product in Part A of the Price List.

Technical Specifications Are Subject to Change Without Notice.

THE TECHNICAL MATERIEL CORPORATION

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