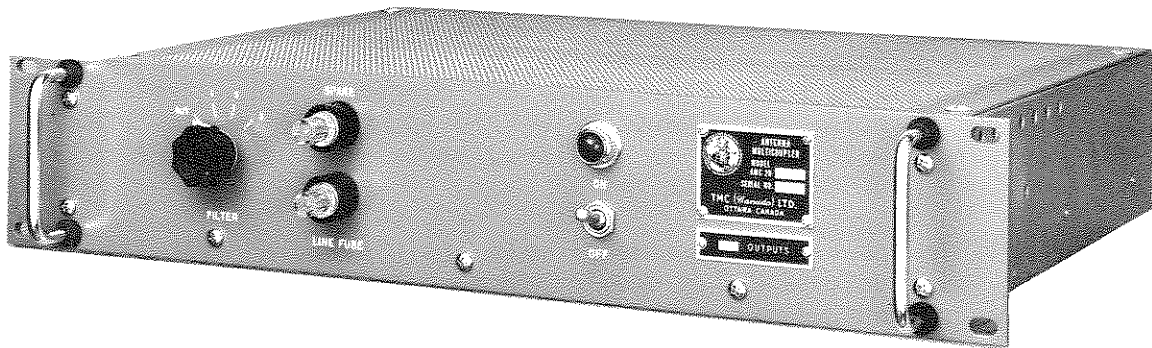




Solid State Antenna Multicoupler
TMC Model AMC-21- 8
AMC-21-16
AMC-21-24

JAN 24 1968



- * *Solid State*
- * *Wide Dynamic Range*
- * *Broad Frequency Coverage*
- * *Minimum Noise Level*
- * *Coupling up to 24 Receivers*
- * *Minimum deterioration by Cascading*

TMC Model AMC-21-() Solid State Antenna Multicoupler provides low noise optimum distribution of RF signals for 10 KHz to 40 MHz and meets the specifications outlined, independent of the number of plug-in modules selected. Cascading, the concept shown on the next page in block diagram form, 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.

The multicoupler utilizes a unique low noise, wideband transistorized front end amplifier to drive the transistorized RF distribution system, which provides maximum effectiveness for coupling up to 24 receivers to one antenna. The standard model will accommodate any number of receivers up to 16 without requiring any change, other than plugging in or removing an output module, (*Modules using up to 24 outputs are available on special order*). Maximum performance is achieved in any output module and is quite independent of loading or the number of modules used.

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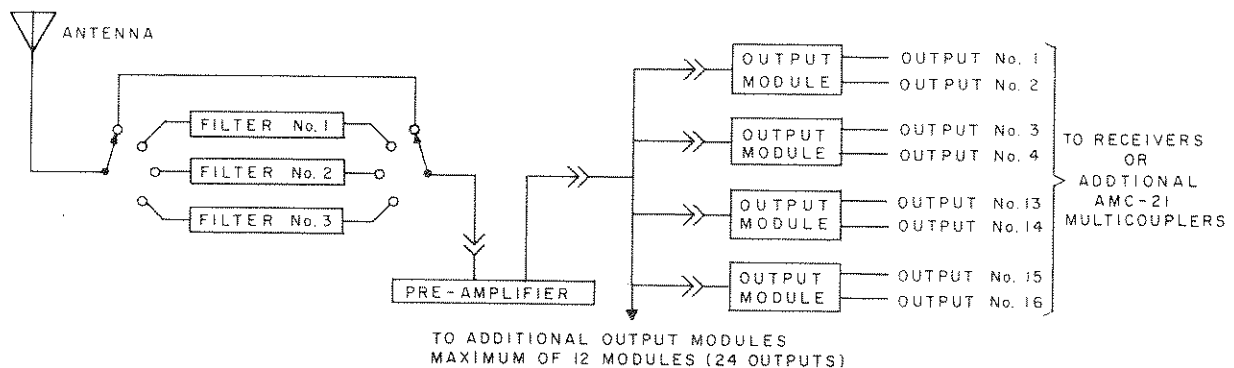
The attenuation of high level signals by the use of pads in the front end to achieve greater signal handling capabilities has been held to a minimum in order to preserve the signal plus noise/noise ratio of low level signals.

The multicoupler provides a nominal gain of 1 db with a frequency response of ± 1.0 db over a frequency range of 150 KHz to 32 MHz with a fall-off of 2 db at 100 KHz and 40 MHz. Other important characteristics include 60 db front-to-back isolation and an output jack-to-jack phase of $\pm 1^\circ$. The phase relationship from multicoupler to multicoupler is also maintained at $\pm 1^\circ$.

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.

In the application of this multicoupler in its operating environment, unused outputs do not have to be terminated and the number of modules used does not affect the operating parameters of the multicoupler.

SIMPLIFIED BLOCK DIAGRAM



Solid State Antenna Multicoupler
 TMC Model AMC-21- 8
 AMC-21-16
 AMC-21-24

TECHNICAL SPECIFICATIONS:

FREQUENCY RANGE:	150 KHz to 32 MHz (usable 10 KHz to 40 MHz).
GAIN:	Nominal 1db.
FREQUENCY RESPONSE:	\pm 1.0 db, 150 KHz to 32 MHz.
NOISE FIGURE:	Better than 7 db (typical 6.5 db).
VSWR:	Better than 1.5 to 1.
INPUT & OUTPUT IMPEDANCE:	50 ohms unbalanced. 70 ohms unbalanced optional.
NUMBER OF OUTPUTS:	Standard: 2 to 16. Optional: 2 to 24.
INTERMODULATION DISTORTION:	In no case are the second and third order intermodulation products less than 70 db below two 0.5 RMS signals.
BACK TO FRONT ISOLATION:	Better than 60 db down.
OUTPUT TO OUTPUT ISOLATION:	50 db.
OUTPUT PHASE BETWEEN JACKS:	\pm 1 degree.
FILTER OPTIONS:	<i>A front panel control allows selection of three separate (optional) filters and a "Filter-Out" position. The choices of filters available are:</i> <ol style="list-style-type: none"> a. H/F "Cut-Off" (all frequencies above 2 MHz). b. H/F "Band-Pass" (2 MHz to 32 MHz). c. Broadcast band "Stop" filter.
DESENSITIZATION:	2.0 volts RMS, 10% removed in frequency, will reduce a 100 microvolt signal by no more than 3 db.
ENVIRONMENTAL:	0° - 50°C with 95% R.H.
OVERLOAD:	A built-in, front end protective device prevents component failure due to high RF voltage (20 volts for a 50% duty cycle) at the input of the unit.

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TECHNICAL SPECIFICATIONS (continued):

MTBF: 20,000 hours, per RADC reliability handbook.

INPUT POWER: 115/230 volts a.c., 50/400 cps, single phase.

CONNECTORS: B.N.C.

POWER CONSUMPTION: 25 watts (16 output unit).

SIZE (in inches): 3 1/2 High x 19 Wide x 14 Deep.

WEIGHT: 25 pounds.

COMPONENTS & CONSTRUCTION: All equipment is manufactured in accordance with JAN/MIL specifications whenever practicable.

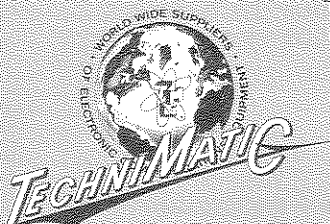
LOOSE ITEMS: RF Connectors and AC Cable.
Two Instruction Manuals.

OPTIONS/ACCESSORIES:

- a. *SPP () Patch Panel.*
- b. *Dynamic Test Meter Model MDTM-1.*
- c. *Plug-in Output Modules.*

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