

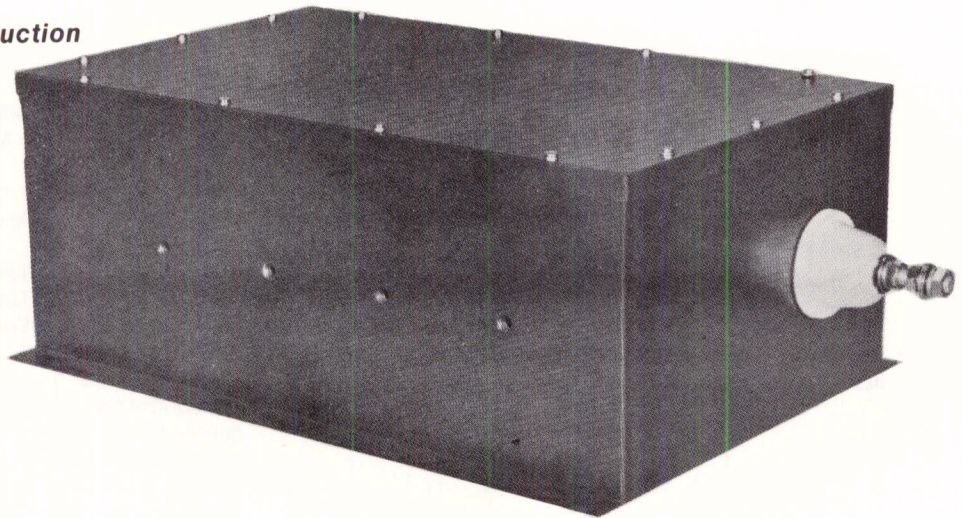


H.F. ANTENNA TUNING UNIT

Model ATU

- *Operating range 2-30MHz*
- *Eight pre-tuned channels*
- *Remote control with manual override*
- *350 or 1000 watts PEP*
- *Milli-second switching*
- *Compact, rugged construction*

TECHNICAL BULLETIN 204-4424



The ATU series of TMC antenna tuning units are designed to couple the output of a multi-channel transmitter or transceiver with nominally 50 ohms output impedance to a suitable antenna such as a 35-foot vertical. Impedance matching — required in any transmitter system to optimize the transfer of RF power to the antenna — is provided in the ATU for up to eight pre-set channels in the 2 to 30MHz frequency range. The tuner is pre-adjusted at the factory for specific channel frequencies, eliminating the need for lengthy adjustments prior to operation in the field. Since the electrical characteristics on site may differ from the initial set-up, variable capacitor elements are provided in each ATU for fine tuning into the antenna. Eight holes on the top of the ATU case provide access to the capacitors without removing the tuning elements from the case. An accessory SWR indicator, Model SWR-1K, can be provided to assist in measuring the relative efficiency of coupling from transmitter to antenna.

Two basic models of the ATU series are available: the ATU-350, capable of handling up to 350 watts PEP, and the ATU-1000 for 1000 watt PEP operation. Channel selection is automatic with the application of an external + 24-volt DC level applied to the appropriate pins on the tuner's remote jack. This voltage is normally derived from the transmitter power supply, through one wafer on the channel switch to the antenna tuner control cable. As an option, an auxiliary switch panel with DC supply can be provided. This method slaves the tuner to the channel switch, instantly setting up the entire system.

The ATU series are housed in all-weather, metal cases and are normally mounted at the base of the antenna. Mounting taps are provided for bulkhead or upright post mounting. A porcelain insulator terminal is provided on the housing for connection to an antenna lead-in strap. RF input and control cable jack are also provided for cabling to an associated transmitter or transceiver for remote channel selection.

THE TECHNICAL MATERIEL CORPORATION

TECHNICAL SPECIFICATIONS ATU SERIES

STANDARD MODELS	ATU-350 350W HF Antenna Tuning Unit ATU-1000 1000W HF Antenna Tuning Unit
TECHNICAL CHARACTERISTICS	
Frequency Range	2-30MHz on eight pre-set channels each tuned to one carrier operating frequency.
Input RF Power	ATU-350 350 watts PEP; 175 watts average CW ATU-1000 1000 watts PEP; 500 watts average CW
Input Impedance	50 ohms nominal, unbalanced.
Output Impedance	Designed to match any antenna with a 10 to 1000 ohm impedance over the frequency range. Tuning elements are optimized at operating frequencies prior to shipment.
Tuning	Pre-set and switched to proper channel by remote selection. + 24 volts DC required for proper operation.
Tuning Accuracy	Better than 1.5-to-1 VSWR
Tuning Time	Switched in less than one second
ENVIRONMENTAL AND INSTALLATION	
Cooling	Convection
Operating Conditions	-20° to + 65°C, up to 95% Relative Humidity at MSL
Storage Conditions	-30°C to + 80°C, up to 95% Relative Humidity at MSL
Primary Power	+ 24 volts DC +/-5%
Size and Weight	ATU-350: 5.8" (14.7cm) high x 8.8" (22.4cm) wide x 12.0" (30.5cm) deep; 15.5 pounds/7.1 kg ATU-1000: 7.5" (19.0cm) high x 17.5" (44.5cm) wide x 21" (53.3cm) deep; 25 pounds/11.4 kg
Shipping Data	Commercial packing for U.S. shipment ATU-350: One (1) container — 8" x 12" x 15"; Total weight and cube — 24 lbs./1.0 cu. ft. ATU-1000: One (1) container — 10" x 21" x 24"; Total weight and cube — 35 lbs./3 cu. ft.
Loose Items	Two Technical Manuals (Operator/Installation/Service)
ACCESSORIES (Option)	
CA480-36	RF Power Cable
CA1815	DC Control Cable
DTA-10	Dipole Antenna
DTA-11	Long Wire Antenna
RCP-11	Remote Switching Panel with DC supply
SWR-1K	Standing Wave Ratio Indicator
VTA-2	Vertical Antenna, 35-foot Stainless
VTA-3	Vertical Antenna, 35-foot Fiberglass
ORDERING INFORMATION	
Models	ATU-350-1 Single Channel 350W HF Antenna Tuning Unit through ATU-350-8 Eight Channel 350W HF Antenna Tuning Unit ATU-1000-1 Single Channel 1000W HF Antenna Tuning Unit through ATU-1000-8 Eight Channel 1000W HF Antenna Tuning Unit

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

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