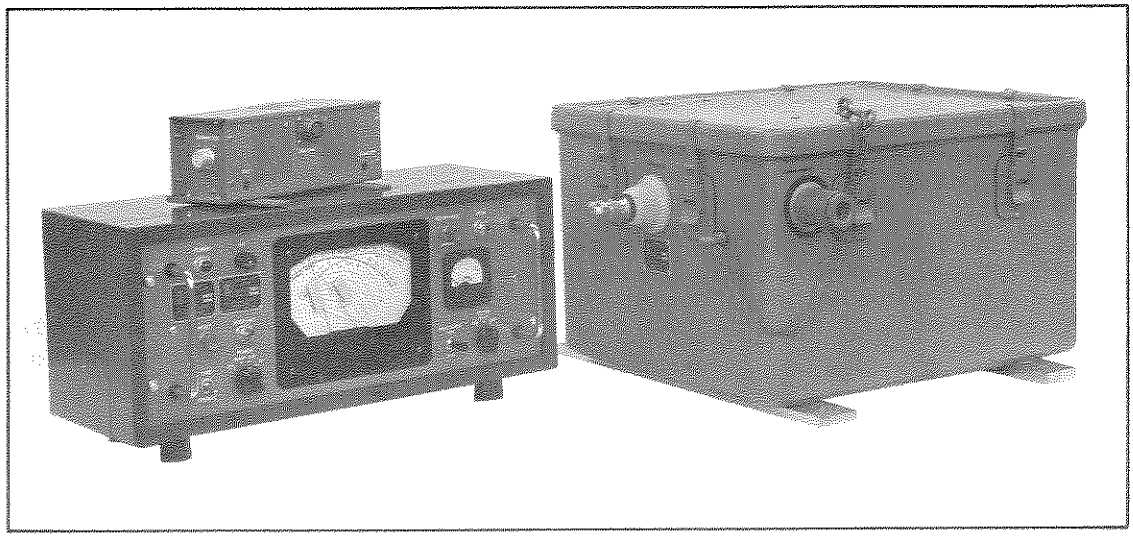
SALES SERVICE BULLETIN NUMBER 2001

Antenna Tuning System

TMC Model ATS-50-2 (AN/URA-27)

TMC Model ATS-70-2 (AN/URA-34)



PH-955

The TMC Model ATS-2 is a remotely controlled Antenna Tuning System designed to couple the unbalanced output of any 1 kw transmitter, within the 2-30 mc frequency range, to a suitable antenna. Instantaneous readings of forward power, reflected power, and voltage standing wave ratio aid in transmitter tuning and provide indications of transmission system efficiency.

The TMC Model ATS-2 system features a safety overload that opens the transmitter interlock circuit whenever the VSWR exceeds 4:1 or when power ratings are exceeded in the tune and operate position.

Remote control of variable reactance and resistance in the antenna tuning unit allows efficient operation of the complete system from the transmitter.

The Tuner is housed in a fiberglass weather-proofed box which contains a desiccant to prevent moisture from gathering around the components. The presence of moisture, which is indicated on the front panel of the control monitor, is detected by a humidity sensing element in the RF Tuner.

The Directional Coupler consists of a precision balanced RF bridge and is calibrated to operate in conjunction with a 50 or 70 ohm coaxial line.

TECHNICAL SPECIFICATIONS:

FREQUENCY RANGE:	2 to 30 megacycles.
POWER RATING:	
R. F. TUNER:	1000 watts input continuous at 100% modulation.
CONTROL MONITOR:	Input: 115/230 volts, 50/60 cycles, single phase, 150 watts.

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DIRECTIONAL COUPLER:	1000 watts continuous at 100% modulation for VSWR up to 2.5 to 1
TRANSMISSION LINE:	50 or 70 ohms.
INPUT IMPEDANCE:	Nominally 50 or 70 ohms unbalanced.
OUTPUT IMPEDANCE:	70 ohm system. Will match any antenna with a resistance of 7-650 ohms and -J850 to +J750 reactance to obtain a V.S.W.R. of less than 2.5. 50 ohm system: Will match any antenna with a resistance of 5-500 ohms and -J850 to +J750 reactance to obtain a V.S.W.R. of less than 2.5.
ATTAINABLE STANDING WAVE RATIO:	Better than 2.5 to 1.
DIRECTIVITY OF DIRECTIONAL COUPLER:	Better than 20 db with 1:1 VSWR
EFFICIENCY:	Better than 80% over the 2-30 mc range, when used with the TMC A-1486 35' antenna and Base Insulator.
PANEL CONTROLS: (CONTROL MONITOR)	POWER Switch METER Switch REACTANCE Switch RESISTANCE Switch TUNE/OPERATE Switch RESET Switch

INSTALLATION DATA:

	DIMENSIONS AND WEIGHT	
ATS-( )-TU-2	8 1/4" x 15 1/4" x 12"	49 lbs.
ATS-( )-CU-2	$3\frac{1}{2}$" x $3\frac{1}{2}$" x $9\frac{1}{2}$"	2 lbs.
ATS-MCU-2 (with cabinet)	$20\frac{1}{2}$" x $8\frac{1}{2}$" x 9 3/4"	25 lbs.
ATS-MCU-2 (cabinet removed for rack mounting)	19" x 7" x $7\frac{1}{2}$"	14 lbs.

SHIPPING DATA:

1. Size of box, $32\frac{1}{2}$" x 23 1/4" x 27" - (11.9 cu. ft.)
2. Weight, 175 lbs.

COMPONENTS AND CONSTRUCTION: Equipment is manufactured in accordance with JAN/MIL Specifications wherever practicable.

TMC MODEL NUMBER	MILITARY NOMENCLATURE	FSN w/o spares	FSN with spares
ATS-50-2	AN/URA-27	F-5985-709-7984	
ATS-70-2	AN/URA-34		
ATS-MCU-2	C-2995/URA-27		
ATS-()-TU-2	CU-772/URA-27		
ATS-50-CU-2	CU-773/URA-27		
ATS-70-CU-2	CU-820/URA-34		

TMC INSTRUCTION MANUAL NUMBER IN-214

ACCESSORY EQUIPMENT:	Remote Control Cable (Control Monitor to R. F. Tuner). CA-541-X (X indicates length in feet. Please designate when ordering cable). A-1486 ANTENNA AND BASE INSULATOR.
ANTENNA:	Stainless steel . . . . . 6 section Extended . . . . . 35 feet, 7 inches Collapsed . . . . . 6 feet, 4 inches Base OD . . . . . 1.5 inches Base ID . . . . . 1.37 inches Weight . . . . . 19 pounds
BASE INSULATOR:	Heavy Duty Compression Rating 10,000 lbs. Brass, chrome plated. Height: approx. 8 inches Mtg. Stud to fit Antenna ID. The antenna will withstand wind velocities of 60 mph when mounted with supplied base. When guy wires are installed, antenna will withstand velocities in excess of 100 mph.
SHIPPING DATA:	Antenna and Base Insulator shipped in one box 79'' x 8'' x 12 1/4'' (4.5 cu. ft.) Weight, 120 lbs.

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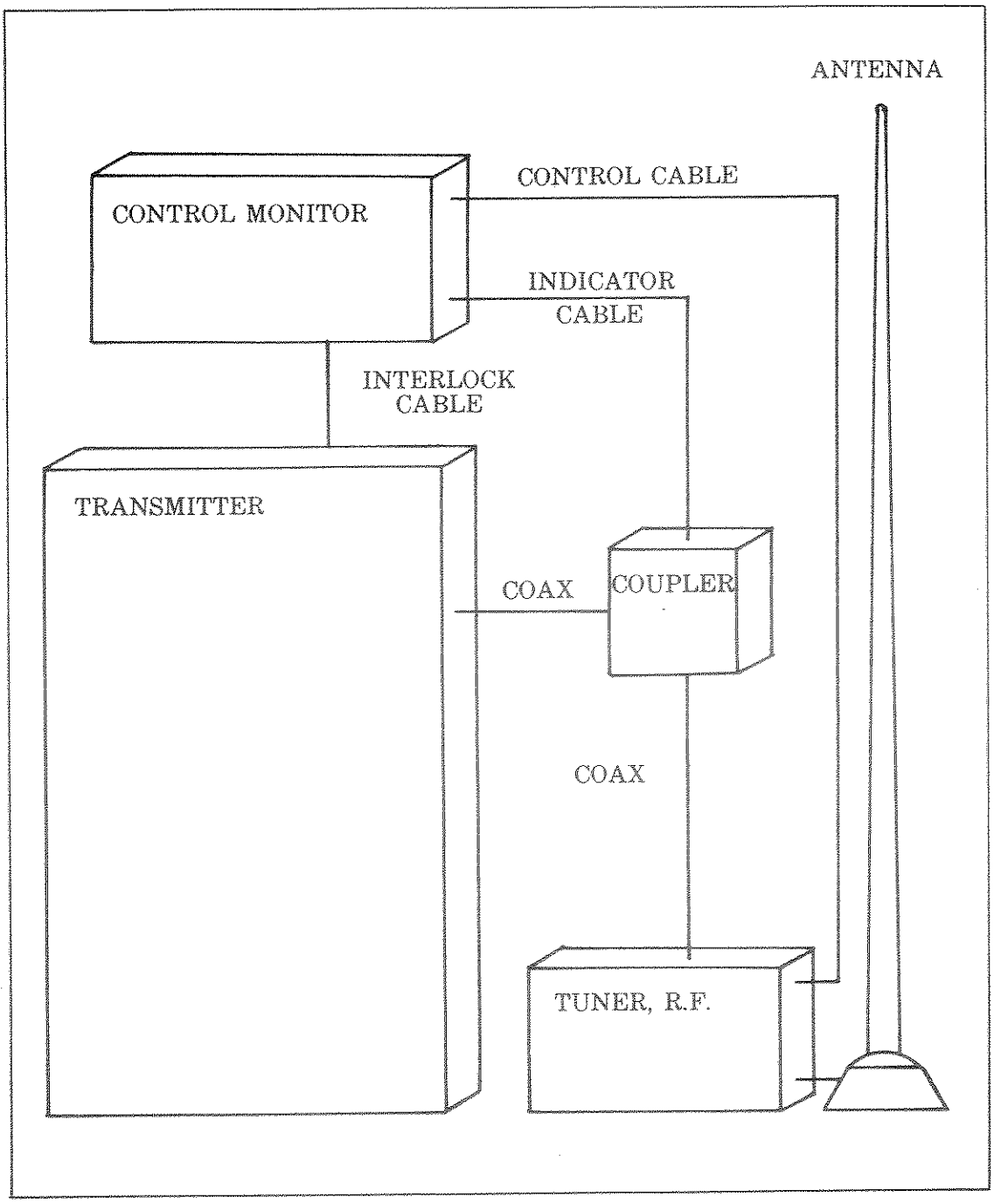

Block Diagram Model ATS-2 with Transmitter and Antenna