

# **Operating Manual**

## **MT-2000A**

**Dentron**





# Installation

## Unpacking

Carefully remove the MT-2000A from the shipping carton and examine it for evidence of damage. Immediately notify the shipping company should any damage be found.

## Location

The MT-2000A will work properly in almost any location. Select a location on the operating table that will allow easy access to the control knobs.

## Connections

Connect the RF Output of your transmitter or transceiver to an SWR Bridge or Wattmeter (DenTron W-2). Connect the MT-2000A from the SWR Bridge or Wattmeter, using as short a length of 50 ohm coaxial cable as possible. We recommend cable such as RG-8/U. Connect the coaxial line of your antenna to the COAX connector on the MT-2000A rear panel. If you are using a Balanced Feed antenna system, or a long wire, connect them to the appropriately marked feed throughs on the MT-2000A rear panel. (See diagram below).

Note: When using Balanced Feed antenna systems, a jumper wire must be installed between one of the Balanced Feed terminals and the Single Wire terminal. If experiencing difficulty when tuning a random wire for 160 meters, place the jumper across the terminals as above. CAUTION: Remove this wire for other frequencies on single wire.

Note: NEVER CONNECT MORE THAN ONE ANTENNA TO THE MT-2000A AT A TIME.

A good ground is essential when using an antenna tuner. Connect a suitable ground with as short a lead as possible, directly to the ground connection on the MT-2000A. Then run your ground lead from the MT-2000A to your other station equipment, such as power supplies, transmitters, and receivers. See the ARRL Handbook or Bill Orr's Radio Handbook for details on suitable grounding.

### MT-2000A IN BASIC SYSTEM



# Description

The Model MT-2000A Antenna Tuner is a precision-built, compact, high performance instrument of advanced design, providing a maximum possible flexibility for the operator.

The MT-2000A is equipped with an antenna grounding switch and coax bypass switch.

The MT-2000A has been designed to match any transmitter (3000 Watts P.E.P. maximum) to a multitude of antenna systems, including coaxial lines, a long wire system, and a balanced feed line. The MT-2000A will tune any of these systems from 1.8-30 MHz and it will handle a full 3kw P.E.P. Built modularly, the MT-2000A makes the ideal addition to any HF communication system operating between 1.8-30 MHz.

## MT-2000A Specifications

Frequency Coverage: 1.8-30 MHz Continuous

Input Impedance: 50 ohms (Resistive)

Output Impedance:

Coax - 50 ohms nominal; may range from a few ohms to a high impedance.

Long Wire either High or Low Impedance

Balanced Line 75 to 600 ohms

Power Capability: 3000 watts P.E.P.

Insertion Loss: .5 db or less after tuning

Dimensions: 5½" high, 14" wide, 14" deep

Weight: 18 pounds

Front panel controls are provided for the adjustment of transmitter matching, antenna matching, inductance selector, antenna grounding, and coax bypass.

### Warning

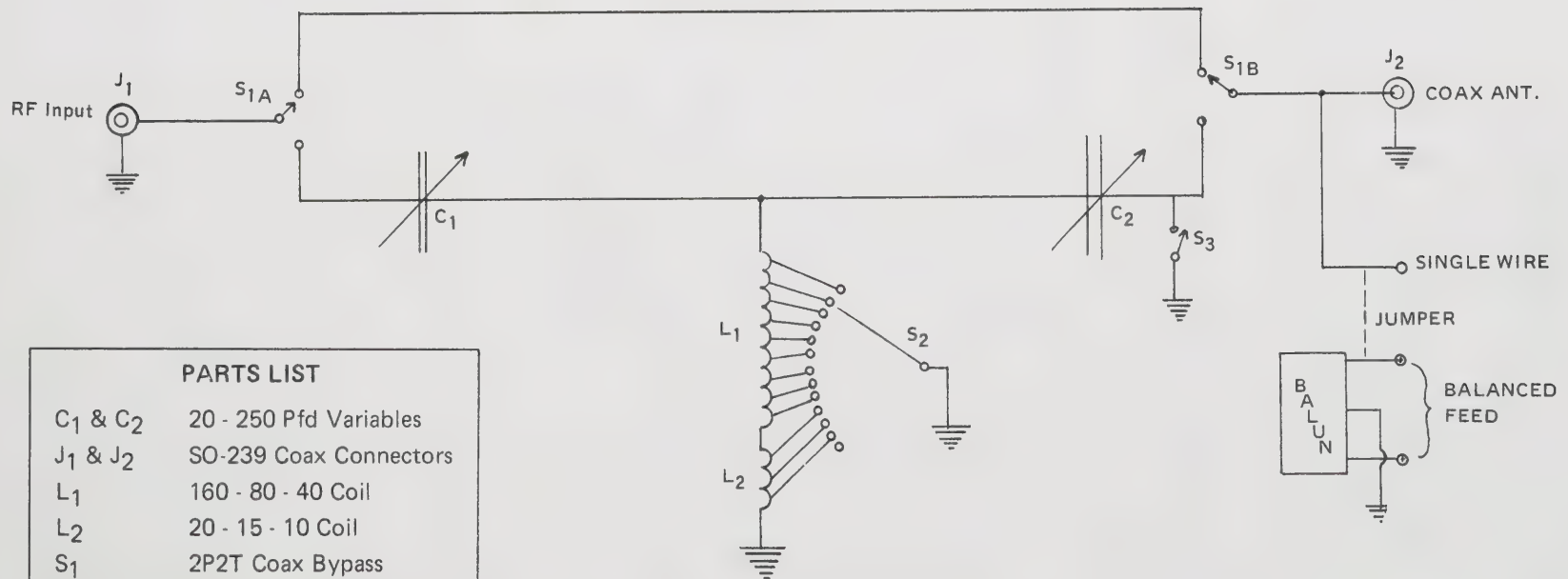
Do not put more than 100 Watts into the MT-2000A prior to tuning. Always tune with small powers. Only after tuning, increase driver gain to maximum output. Do not use the inductance selector, bypass, or antenna grounding switch with power applied to the MT-2000A.

# Operation

NOTE: NEVER CONNECT MORE THAN ONE ANTENNA SYSTEM TO THE MT-2000A AT A TIME.

1. Set the "Function" switch on "Tuner" Position. Note that this control only affects feedlines connected to the "Coax" antenna connector on the MT-2000A rear panel. Balanced or Long Wire antennas connected to the appropriate feed thru connectors on the rear panel will not be affected by the "Function" switch.
2. Set the "Lightning Protect - Operate" switch to "Operate." Note that to engage the lightning protection function of the MT-2000A, you must put the lightning switch in "Protect," and the "Function" switch in "Tuner."  
CAUTION: It is essential that you NEVER apply power to the MT-2000A under any conditions with the "Lightning Protect - Operate" switch in the "Lightning Protect" position. This will seriously damage the MT-2000A and possibly your transmitter as well.
3. Set "Transmitter Matching" and "Antenna Matching" controls to position 5.
4. Listen on receiver for maximum band noise while turning inductance selector for maximum noise.
5. Feed enough power through the system to get a reading on the reflected power meter. (DenTron W-2)
6. Rotate inductance control for a drop on this reading.
7. Adjust "Transmitter Matching" and "Antenna Matching" controls for a minimum reading on the reflected meter.
8. "A" is highest frequency; "R" is lowest frequency on "Inductor Switch."
9. For 20, 15, and 10 meter operation, "Transmitter" match control should be set to 8 instead of 5 as previously mentioned.

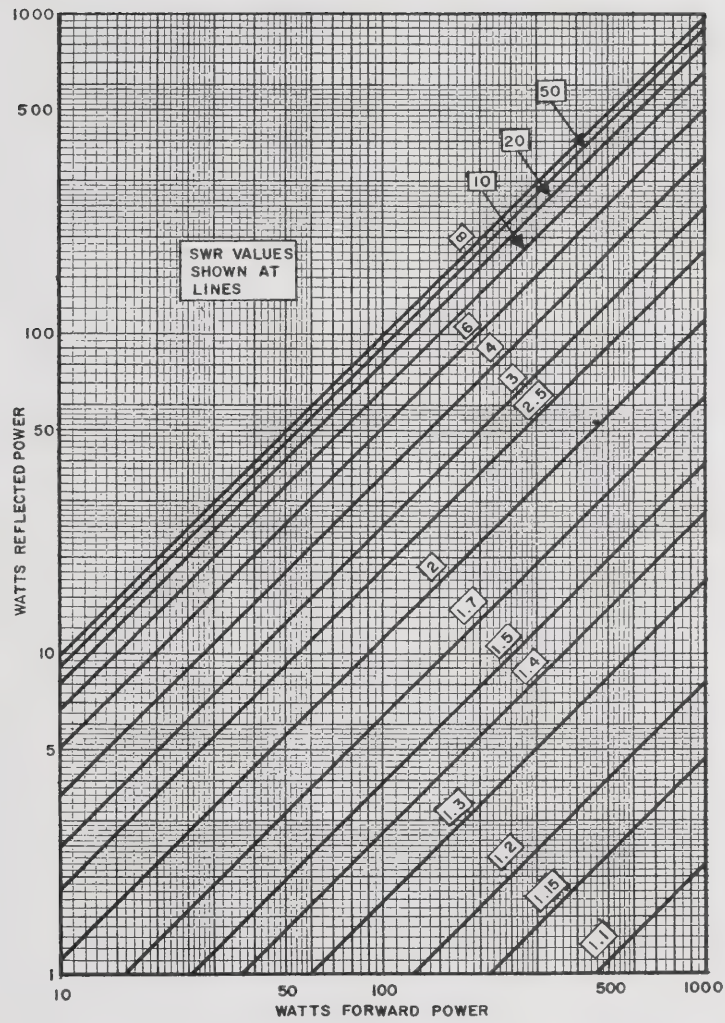
# MT-2000A



## PARTS LIST

C <sub>1</sub> & C <sub>2</sub>	20 - 250 Pfd Variables
J <sub>1</sub> & J <sub>2</sub>	SO-239 Coax Connectors
L <sub>1</sub>	160 - 80 - 40 Coil
L <sub>2</sub>	20 - 15 - 10 Coil
S <sub>1</sub>	2P2T Coax Bypass
S <sub>2</sub>	Inductance Switch
S <sub>3</sub>	Lightning Protect Switch





## Limited Warranty

DenTron Radio is proud of the quality and workmanship of its communication equipment. If properly installed and operated in accordance with our instruction manual, it will give reliable performance. DenTron Radio extends to you as an owner of a new DenTron Radio Product the warranty set forth below:

For ninety (90) days from the date of original retail purchase, **DENTRON RADIO CO.** will either repair or replace, at its option, free of charge, any part or parts found to be defective in material or workmanship. Transportation charges for any parts submitted for replacement under this warranty must be paid by the purchaser.

This warranty will not apply to any part which has become inoperative due to misuse, excessive use, accident, neglect, improper maintenance, alterations, or unless the unit has been operated and maintained in accordance with the instructions furnished.

This warranty will not apply where the unit has been used commercially or when the unit has been used in conjunction with accessories not manufactured by **DENTRON RADIO CO.**

All implied warranties are limited in duration to ninety (90) days from the date of original retail purchase.

The provisions of this warranty specifically exclude any warranty or remedies for incidental or consequential damages.

**SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.**

In order to obtain warranty service, send written notification to the following address: **DENTRON RADIO CO.**, Attn: Service Dept., 2100 Enterprise Parkway, Twinsburg, Ohio 44087.

Any written notification should include the model number of the unit, date and place of purchase, and a description of the defective part or condition. Do not return the unit or any parts unless requested to do so by **DENTRON RADIO CO.**

Although the return of the **DENTRON** Warranty Registration Card is not a condition precedent to warranty coverage and performance, the purchaser is encouraged to promptly return the Warranty Registration Card upon purchase in order to more easily facilitate the handling of any future service under these warranty provisions.

**THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.**

**DenTron**  
Radio Co., Inc.

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