

AWM-30B

**AMERITRON
WATTMETER**

INSTRUCTION MANUAL



PLEASE READ THIS MANUAL BEFORE OPERATING THIS EQUIPMENT !

AMERITRON

**116 Willow Road
Starkville, MS 39759 USA
662-323-8211**

INTRODUCTION

The AWM-30B's cross-needle meter displays peak or average FORWARD power, peak or average REFLECTED power, and SWR.

The AWM-30B must have a power source, or the meter won't function. Power can be provided by an external 12 Vdc supply (negative ground only) or an internal 9 Volt "transistor radio" battery. The meter lamp will not illuminate unless an external supply is used.

Battery life is greatly increased through use of an RF controlled solid state battery switch. After a short period of inactivity, the battery is electronically disconnected.

Full scale forward and reflected power range is controlled by the left **METER** switch selecting 3000 watt (**HI**) or 300 watt (**LO**). If your transmitter runs more than 300 watts of peak output power, set this switch to the 3000 watt **HI** (in) position. If your transmitter has less than 300 watts of peak output, set this switch to the 300 watt **LO** switch position (out). Peak envelope power (PEP) is measured by placing the **PEAK** or **AVG** push button (middle **METER** button) in the **PEAK** (in) position.

Peak and average power values are equal with steady unmodulated carriers such as closed-key CW, RTTY, FSK, or FM. The meter reading on these modes will be the same in either peak or average modes. On SSB, the ratio of PEP to average power varies with different voice and modulation characteristics. With most voices, the PEP reading is three to five times higher than the average voice power reading.

Forward power is displayed on the left-hand **FORWARD** meter scale. This scale is calibrated from 0 to 300 watts and is read directly in the 300 watt **LO** **METER** position. Each picket (scale mark) represents 5 watts below 10 watts, 10 watts between 10 and 100 watts, and 25 watts between 100 and 300 watts. In the 3000 watt (**HI**) position, multiply the forward power scale 10 times (EXAMPLE: 50 = 500 and 150 = 1500 watts).

Reflected power is read on the right-hand **REFLECTED** meter scale. Full scale reflected power is 60 watts when the meter switch is in the **LO** position, and 600 watts in the **HI** position. This scale is marked with a picket every one watt below 10 watts and every 5 watts above 10 watts. This scale is also multiplied by 10 when using the **HI** meter power position.

Power readings are most accurate over the upper half of the meter scales. When measuring power with a less than perfect match, subtract reflected power from forward power. The result will be the true power.

SWR is read directly from nine red SWR curves that range from 1:1 to infinity. SWR is measured by observing the point where forward and reflected meter pointers cross. The SWR is indicated by the red curve closest to the pointer crossing point. No cumbersome or time consuming SWR sensitivity adjustments are required with this method.

The power meter is backlit with an internal lamp. The meter requires power from an external 12 Vdc source. A rear panel jack accepts a 2.1 mm coaxial plug with the center conductor positive (+) and the outer sleeve negative (-) for powering lamps and metering circuitry. The negative lead (outer sleeve) is grounded inside the tuner. A meter **ON / OFF** switch turns the meter lamp off and on, and also turns the meter circuitry off when using battery power.

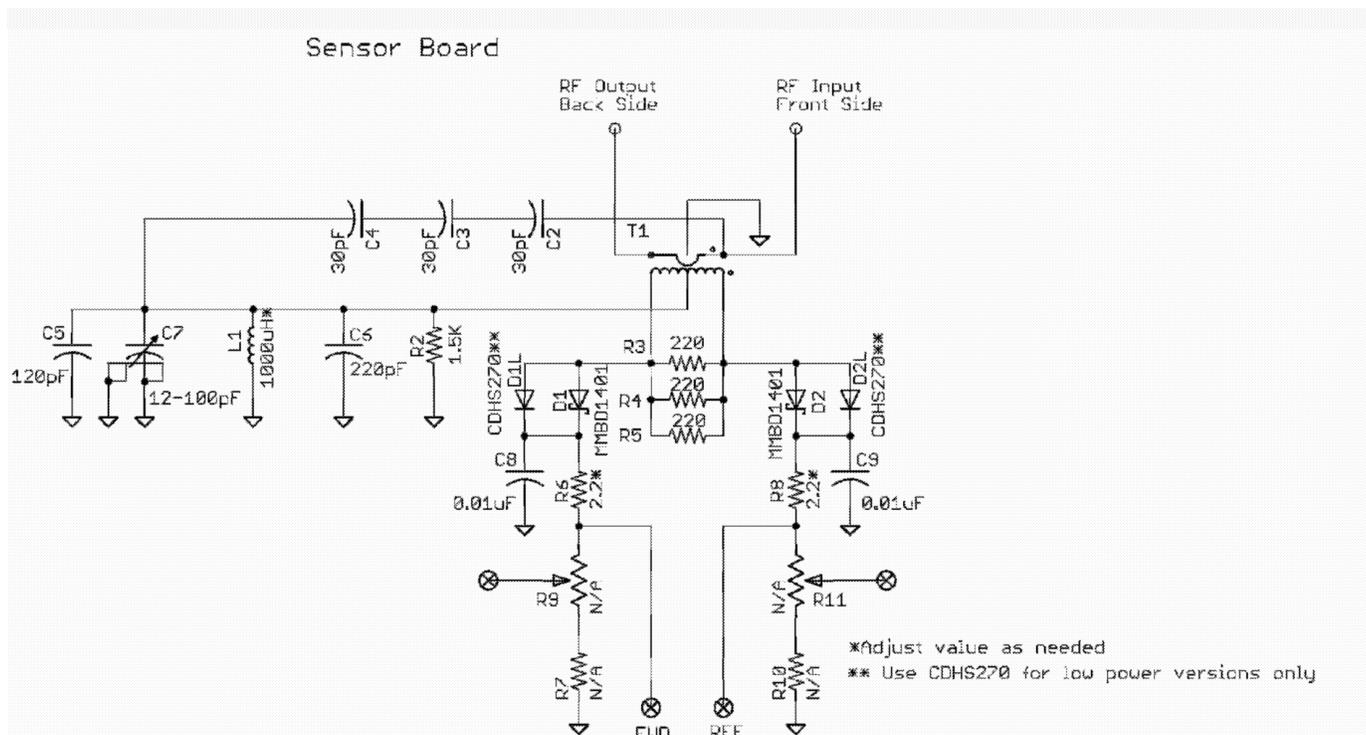
INSTALLATION

1. A power source must be connected for the power meter to operate. There are two choices:
 - a. Connect a 12 Vdc power source to the back of the tuner marked 12 VDC. This method will supply power to the meter amp.
 - b. Remove the top cover from the wattmeter and connect a standard 9 volt battery to the battery snap. Place the battery into the metal holder, and replace the top. When a 9 volt battery is used as the only power source, the meter lamp *will not* function.
2. Locate the wattmeter in a convenient location at the operating position.
3. Install the wattmeter between the transmitter and the desired antennas. Use good quality coaxial cable (such as RG-8/U) to connect the transmitter (or amplifier) to the rear panel connector marked “INPUT”.
4. Connect the antenna to the “OUTPUT”.

TECHNICAL ASSISTANCE

If you have any problem with this unit first check the appropriate section of this manual. If the manual does not reference your problem or your problem is not solved by reading the manual, you may call Ameritron at **662-323-8211**. You will be best helped if you have your unit, manual and all information on your station handy so you can answer any questions the technicians may ask.

You can also send questions by mail to Ameritron, 116 Willow Road, Starkville, MS 39759; by Facsimile (FAX) to 662-323-6551. Send a complete description of your problem, an explanation of exactly how you are using your unit, and a complete description of your station.



DISCLAIMER

Information in this manual is designed for **user purposes only** and is *not* intended to supersede information contained in customer regulations, technical manuals/documents, positional handbooks, or other official publications. The copy of this manual provided to the customer will *not* be updated to reflect current data.

Customers using this manual should report errors or omissions, recommendations for improvements, or other comments to Ameritron 116 Willow Road, Starkville, MS 39759. Phone: (662) 323-8211; FAX: (662) 323-6551. Business hours: M-F 8-4:30 CST.

AMERITRON

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LIMITED WARRANTY

Ameritron warrants to the original purchaser that this product shall be free from defects in material or workmanship for one year from the date of original purchase. During the warranty period, Ameritron (or an authorized Ameritron service facility) will provide free of charge both parts and labor necessary to correct defects in material or workmanship.

To obtain such warranty service, the original purchaser must:

- (1) Complete and send in the Warranty Registration Card.
- (2) Notify Ameritron or its nearest authorized service facility, as soon as possible after discovery of a possible defect, of:
 - (a) the model number and serial number, if any;
 - (b) the identity of the seller and the approximate date of purchase;
 - (c) a detailed description of the problem, including details on the equipment.
- (3) Deliver the product to the Ameritron or the nearest authorized service facility, or ship the same in its original container or equivalent, fully insured and with shipping charges prepaid.

Correct maintenance, repair, and use are important to obtain proper performance from this product. Therefore, carefully read the Instruction Manual. This warranty does not apply to any defect that Ameritron determines is due to:

- (1) Improper maintenance or repair, including the installation of parts or accessories that do not conform to the quality and specifications of the original parts.
- (2) Misuse, abuse, neglect or improper installation.
- (3) Accidental or intentional damage.

All implied warranties, if any, terminate one (1) year from the date of the original purchase.

The foregoing constitutes Ameritron's entire obligation with respect to this product, and the original purchaser and any user or owner shall have no remedy and no claim for incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damage, so the above limitation and exclusion may not apply to you.

This warranty gives specific legal rights and you may also have other rights, which vary from state to state.