



305 Airport Road, Oceanside, California 92054 U.S.A.

INSTRUCTION MANUAL

HF PEAK READING SWR/WATT METER

WM-2000A

GENERAL

WM 2000A is especially designed for HF ham radio. Therefore this meter measures power and SWR more accurately than wide frequency range meter on HF.

Both PEP and RMS indication.

The directional coupler has flat frequency response and is sensitive by use of current transformer and you are free from power calibration between 1.8 and 30 MHz.

UNDERSTANDING PEP

With an SSB transmitter the output power occurs only sporadically during voice transmission and has no direct relationship between the peak and average power. The ratio of peak to average power varies widely with voices of different characteristics.

The power contained in the signal at the maximum peak is the basic transmitter rating. It is called the peak envelope power (PEP) for short. This makes the Peak Reading Wattmeter essential for SSB.

General power meters indicate average or RMS (root mean square) value and calibrated by using a continuous sine wave signal which a voice modulated signal definitely is not. Such a power meter means little in peak envelope power of SSB.

SPECIFICATIONS

Measuring method	Directional coupler
Impedance	50 ohm
Frequency range	1.8 - 30 MHz
Power indication	RMS PEP
Power measuring range	0 - 200, 1k, 2k Watts 3 ranges
SWR measuring range	1:1 - 3:1
Accuracy	+7% Power +3% SWR (bridge error)
Connector	SO 239
Power source PEP only	117V AC 4VA
Dimensions & weight	205 x 100 x 130 (m/m) 1.6 Kg

INSTALLATION

Disconnect the antenna cable from your transmitter and connect it to the ANTENNA receptacle of WM 2000A.

Connect between your transmitter and TRANSMITTER receptacle with 50-ohm coax cable. Plug the AC cable into a 117V outlet while PEP measurement.

OPERATION

POWER MEASUREMENT

- 1 Choose the power mode which you want to measure then set the power mode switch to RMS or PEP
- 2 Choose your convenient power range with selector switch 20, 200 or 1000 Watts
- 3 Activate your transmitter and read the power on the power scale
- 4 This power meter is stable against load condition However SWR should be as close to 1:1 to get accurate power reading

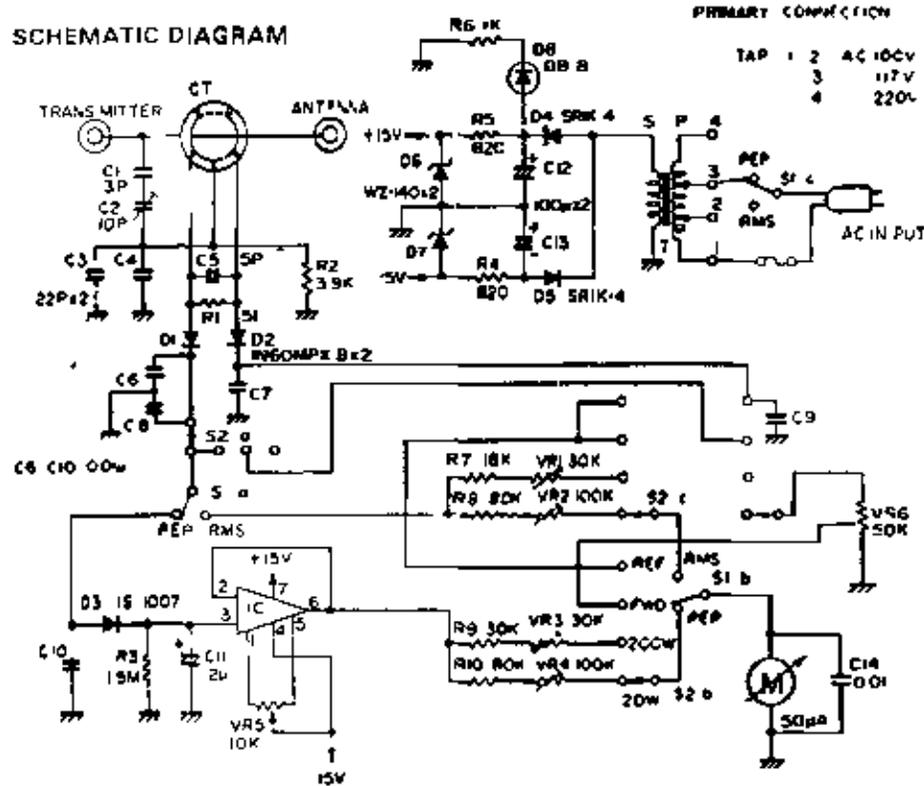
SWR MEASUREMENT

- 1 For the protection of the meter movement, turn the SWR SENS knob to fully counter clockwise
- 2 Set the selector switch to FWD and activate your transmitter Then turn the SWR SET knob to get full scale (SET)
- 3 At above condition just turn the selector switch to REF then read the SWR value on the SWR scale
- 4 If you transmit continuous wave you may read by any mode RMS or PEP

CAUTION

- 1 Make sure the cable connections are tight
- 2 Do not disconnect the coax cable while transmitting
- 3 When the SWR is remarkably high such as far over 3:1 reduce the power and make antenna matching then transmit with full power
- 4 Power mode switch is common use with power switch to turn it to RMS while resting

SCHEMATIC DIAGRAM

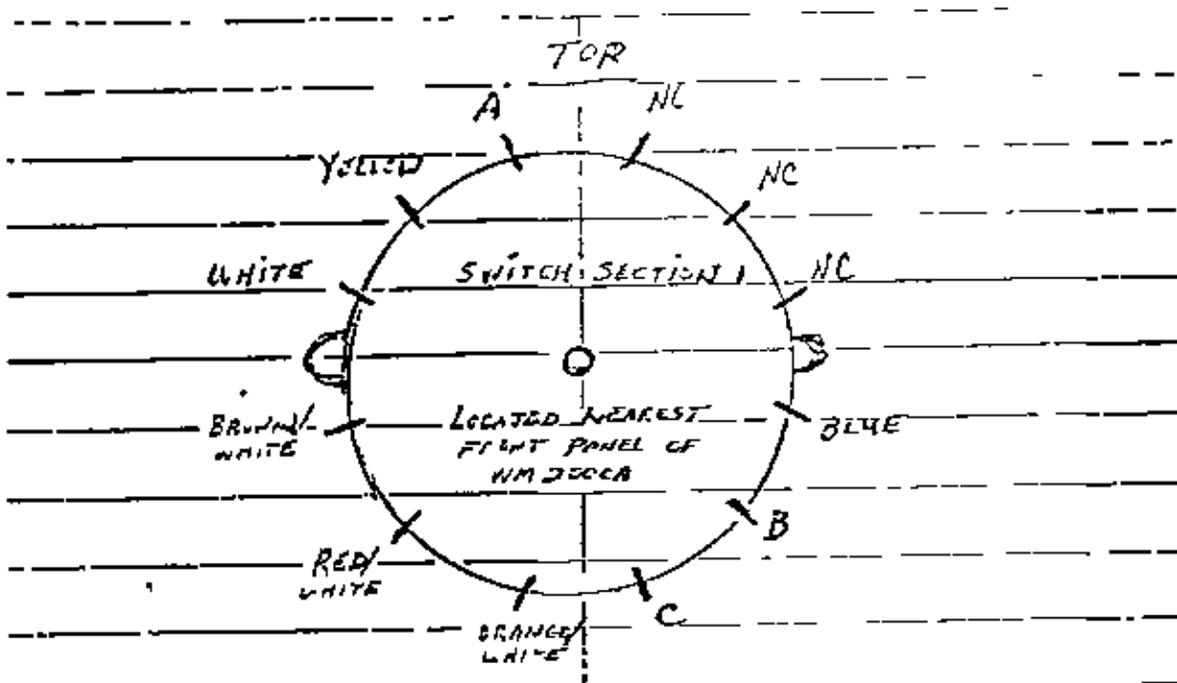


CALIBRATION PROCEDURE FOR
644A 6M-2000A WATTMETER

Before beginning the calibration of the 6M-2000A, it is essential that the meter movement be adjusted to mechanical "zero." Also in order to obtain an accurate calibration it is necessary to utilize a transmitter capable of providing 1000 watts output.

- A. Connect 6M-2000A in series with a most accurate wattmeter that is terminated into a 50 ohm dummy load.
- B. Adjust transmitter output so that full scale deflection is obtained as indicated on test wattmeter for each range. The potentiometers concerned are listed below.

<u>RANGE</u>	<u>MODE</u>	<u>ADJUST</u>
200W	WIS	Bottom Front Pot
1000W	RIS	Bottom Middle Pot
2000W	RME	Bottom Rear Pot
200W	PEP	Top Bottom Front Pot
1000W	PEP	Top Bottom Middle Pot
2000W	PEP	Top Bottom Rear Pot



Rear view of the range selector switch

