

INSTRUCTION

THE AV-200/400 and AV-600 or AV-1000 POWER&SWR meter is the most efficient tool in wide range of semi-professional Measuring And control instruments. the measured values can be easily read in the large scale instruments.

The AV-200/400 and AV-600 or AV-1000 is an insertion type RF wattmeter and can be permanently fitted into a transmission System for continuous monitoring of station working condition .

The unit can be work without external power supply . but with 13.8VDC power which permits to light up the Meter and shows the active led corresponding to the selected RF coaxial line (for AV-600 and AV-1000)

DESCRIPTION OF CONTROL

1 POWER/SWR reading meter

2 Indicator adjustment

3 Power range switch

4 Function switch

5 FWD /REFLECT POWER/OFF SWITCH

6 SWR calibration potential-meter

7 Average pep to pep switch

8 200W/400W select switch

9-12 Antenna connector(connect to the antenna with 50 ohm coaxial cable)

10-13 TX connector (connect to the radio with 50 ohm coaxial cable)

11 Power jack (13.8VDC) light up the meter and sensor 1 / sensor 2 led

14 led sensor 1

15 led sensor 2 (BANK2 ,BANK3 ,BANK4)

16 sensor1/sensor2 switch

REMARK :FIG1/FIG2 FOR AV-200/400

:FIG3/FIG4 FOR AV-600/1000

FIG1

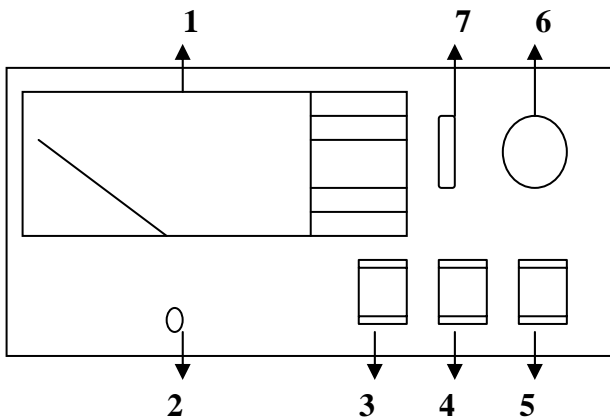


FIG2

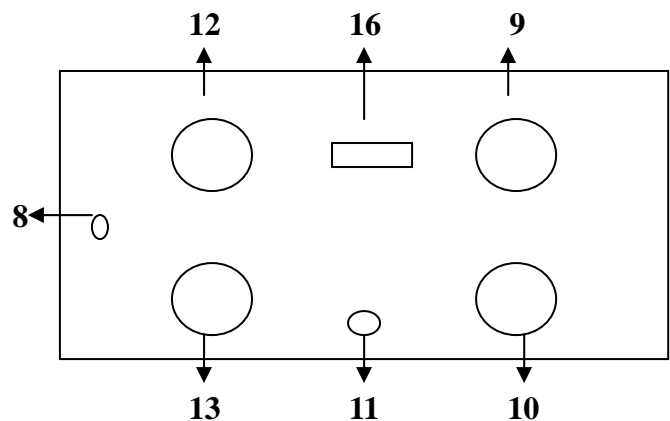
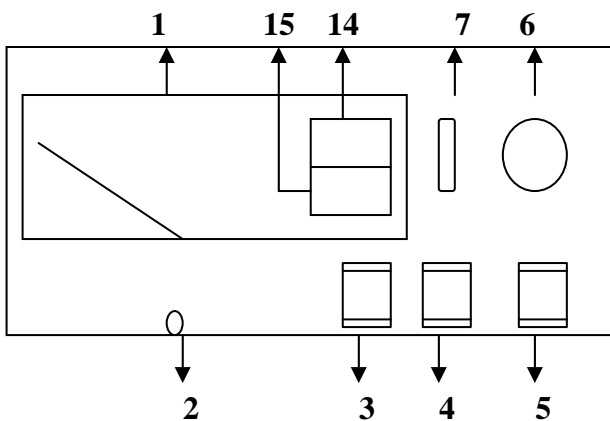
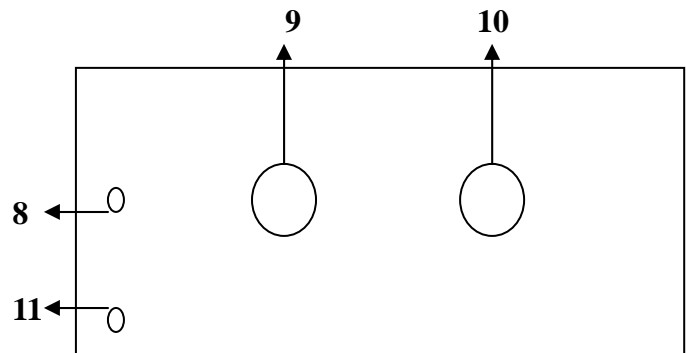


FIG3

FIG4

INSTALLATION

To install the AV-200/400 or AV-600/1000 simply connect coaxial cable directed to the antenna connector marked “ANT”, and The cable coming from the transmitter or from the linear amplifier to the connector marked “TX” AV-200/400 or AV-600/1000 is ready to operate.

POWER MEASUREMENTS

- 1 Select the RANGE (3) switch on the end-scale position value as to the power of the unit
- 2 Select the FUNCTION (4) switch in the power position
- 3 Select the POWER switch the FWD position to measure the direct power(from the radio to antenna) or REF position to measure the reflected power(from antenna to the radio)
- 4 Select the power value can be read on the corresponding scale.

SWR MEASUREMENTS

- 1 Select the RANGE (3) switch on the end-scale position value as to the power of the unit.
- 2 Select the FUNCTION (4) switch in the CAL position .
- 3 Let the radio transmit and adjust the instrument by turning the CAL knob, position the end-scale index in the CAL position.
- 4 Select the FUNCTION (4) switch in the SWR position
- 5 Read the SWR value in the above scale.

FIG5 (FOR AV-200 OR AV-400)

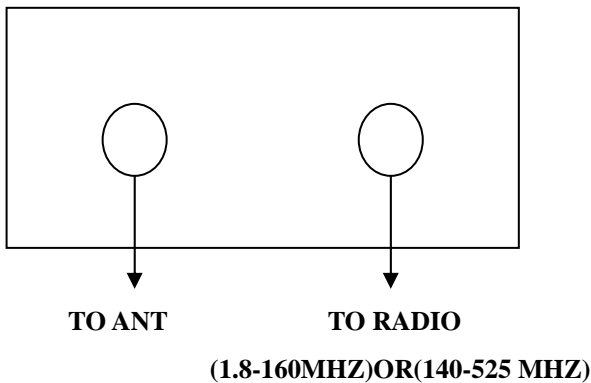
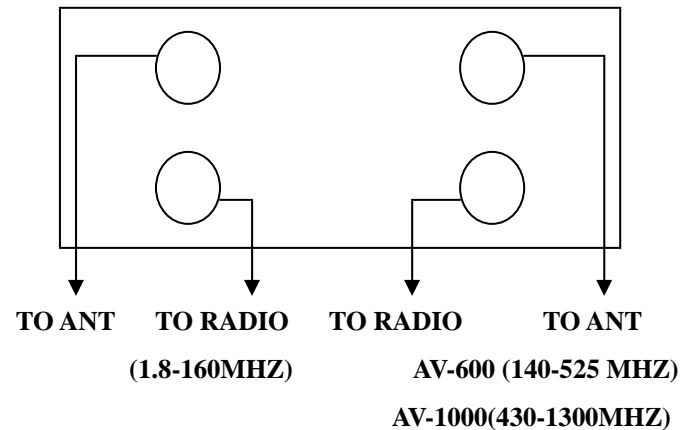


FIG6 (FOR AV-600 or AV-1000)



REMARK: SWR VS. REFLECT POWER

$$\text{SWR (STANDING WAVE RATIO)} = \frac{\sqrt{P_{\text{fwd}}} + \sqrt{P_{\text{rev}}}}{\sqrt{P_{\text{fwd}}} - \sqrt{P_{\text{rev}}}}$$

SWR	1.0	1.1	1.2	1.5	2.0	2.5	3.0
Prev%	0	0.22	0.8	4	11.1	8.4	25.0

SPECIFICATION

FREQUENCY RANGE:1.8~160 MHZ(AV-200,AV-600 ,AV-1000) , 140~525 MHZ (AV-400,AV-600) , 430~1300MHZ(AV-1000)

POWER MEASURE RANGE :0.5~400W(5W/20W/200W/400W) , AV-1000(430-1300MHZ) only 200W 200/400W SWITCH DISABLE

MINIMUM POWER INPUT :0.5W

PRECISION.....5W RANGE ±5% , 20W RANGE ±7.5% , 200W RANGE ±10% , 400W RANGE ±12.5%

SWR:.....1~INFINITY

IMPEDANCE:.....50ohm

INPUT LOSS:.....0.2db (1.8~160 MHZ) , (140~525MHZ) , 0.3db(430-1300MHZ)

DEMISION:.....15X6.5X10CM

WEIGHT:.....720gr.(AV-600) , 630gr.(AV-200/400) , 730gr.(AV-1000)