

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

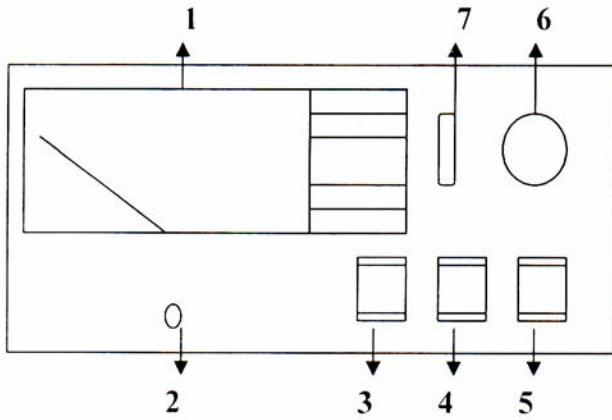


FIG2

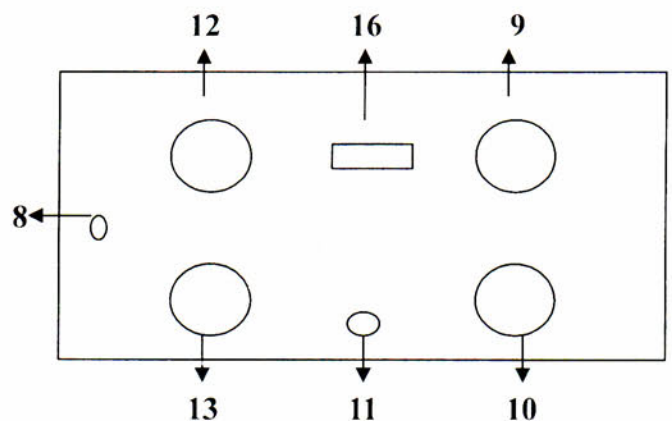
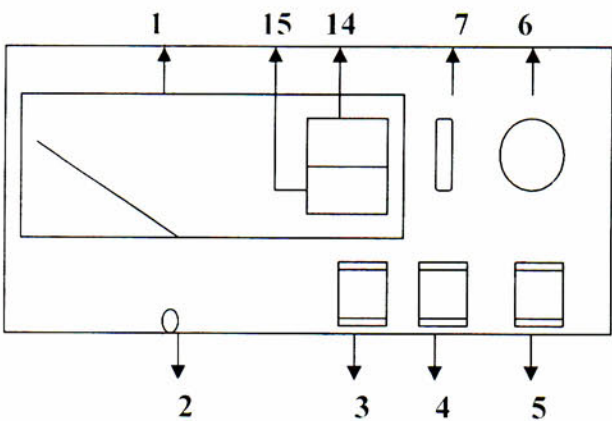
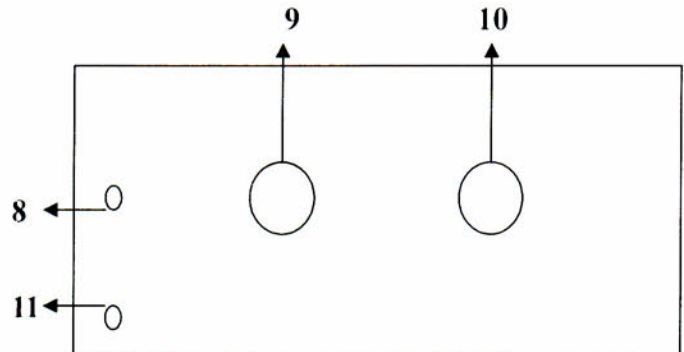


FIG3

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". The 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)

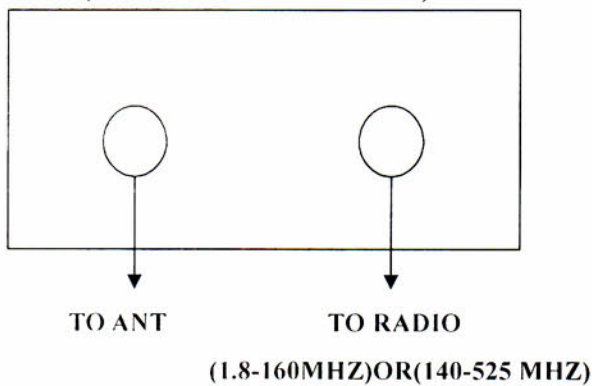
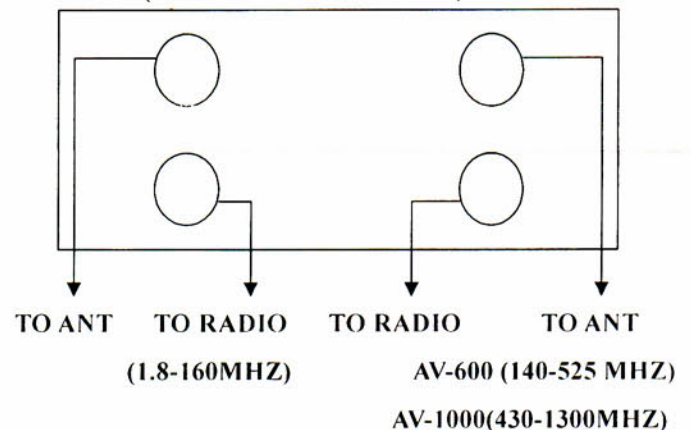


FIG6 (FOR AV-600 or AV-1000)



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)