

INSTRUCTION

THE AV-201 and AV-601 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-201 and AV-601 or 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 13.8DC power which permits to light up the Meter and shows the active led corresponding to the selected RF coaxial line (for AV-601)

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/1KW 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/AV-400/AV-201

:FIG3/FIG4 FOR AV-601

FIG1

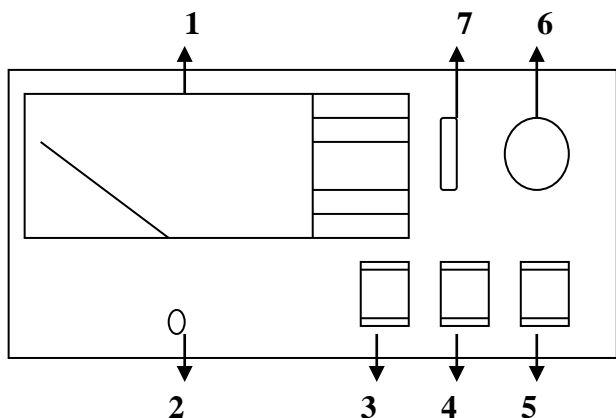


FIG2

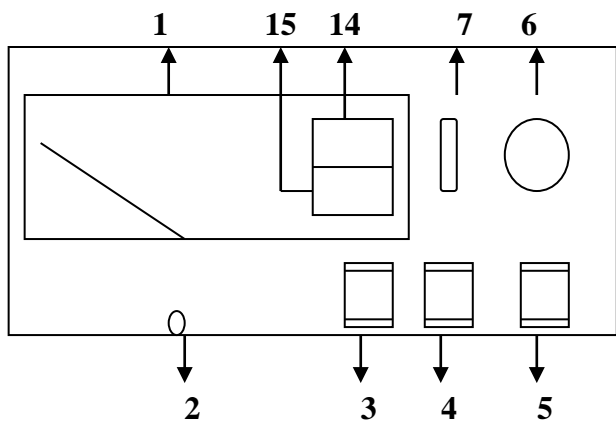
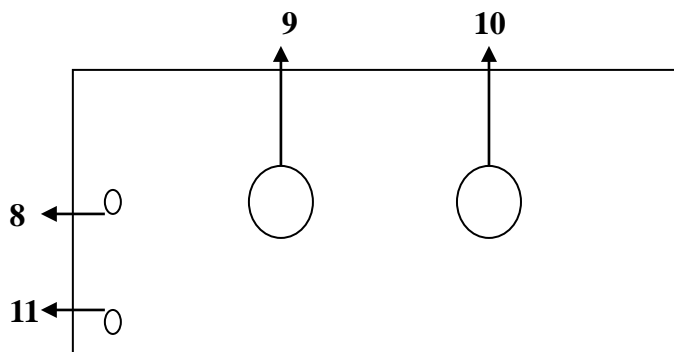


FIG3

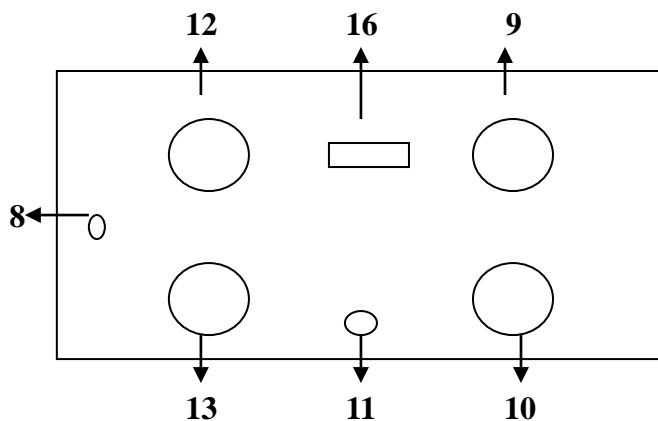


FIG4

INSTALLATION

To install the AV-201 or AV-601 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-201/or AV-601 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-201)

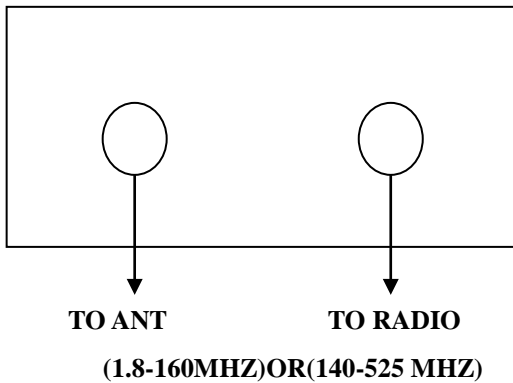
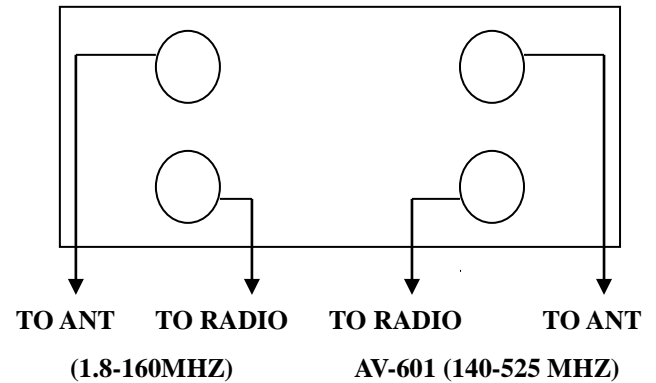


FIG6 (FOR AV-601)



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-201,AV-601 ,) , 140~525 MHZ (AV-401,AV-601)

POWER MEASURE RANGE :....0.5~1KW(5W/20W/200W/1KW) FOR AV-201 AND AV-601 HF BAND

1KW input condition (1KW 10 SECONDS ON 50 SECONDS OFF) if continuous 1KW input will burn the sensor .

POWER MEASURE RANGE :....0.5~400W(5W/20W/200W) FOR AV-601 UHF BAND

400W input condition (400W 25 SECONDS ON 35 SECONDS OFF) if continuous 400W input will burn the sensor .

MINIMUM POWER INPUT :.....0.5W **Maximum continuous input 200W**

PRECISION.....5W RANGE $\pm 5\%$, 20W RANGE $\pm 7.5\%$, 200W RANGE $\pm 10\%$, 400W RANGE $\pm 12.5\%$
1KW RANGE $\pm 15\%$

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-601) , 630gr.(AV-201)