

# CROSS NEEDLE TYPE SWR&POWER METER

## AV20/AV40

### OPERATION INSTRUCTION

#### GENERAL

AV20/AV40 CROSS NEEDLE SWR&POWER METER WITH A COUPLE OF METERS INDICATING FORWARD AND REFLECTED

POWER RESPECTIVELY. IT PROVIDES THE DIRECT READ OUT OF THE SWR AND OUTPUT POWER VALUE FROM THE CROSSING OF TWO POINTERS.

#### SETUP

CONNECT THE OUTPUT OF TRANSCEIVER TO THE "TX" CONNECTOR AND ANTENNA TO THE "ANT" CONNECTOR BOTH LOCATED ON THE REAR PANEL OF THE UNIT.

#### OPERATION

SELECT THE PROPER RANGE LO/HIGT ACCORDING TO YOUR TRANSCEIVER OUTPUT POWER USUALLY SELECT THE "HIGH" RANG FIRST IS STRONGLY SUGGEST.

\* FORWARD POWER

FOLLOW THE FORWARD SCALE AND READ IT OUT.

\*REFLECTED POWER

FOLLOW THE REFLECTED SCALE NAD READ IT OUT.

\*STANDING WAVE RATIO(SWR)

FOLLOW THE SWR CORRESPONDING SCALE FROM THE POINT OF POINTER CROSSING READ IT OUT REFER TO FIG.1

#### CAUTION

\*NO MECHANICAL SHOCK TO BE GIVEN THE UNIT AS IT EMPLOYS PRECISION METERS

\*DO NOT TRANSMIT WITH AN ANTENNA OUT OF TUNED OR OPEN CONDITION AS IT MAY BURN OUT THE METER BY HIGH VOLTAGE .

#### SPECIFICATION

FREQUENCY RANGY :1.8~200 MHZ AV20 ;140~525 MHZ AV40

INPUT IMPEDANCE :50 ohms

POWER RANGE :30W OR 300W AV20 ;15W~150W AV40 SWITCHABLE

POWER ACCURACY :10% AT FULL SCALE

MINI INPUT POWER:2W AV20 ;1W AV40

CONNECTOR : UHF ( M TYPE )

DIMENSION : 85Wx87Hx95D

WEIGHT : 290g AV20 ; 280g AV40

INPUT POWER : DC12V

#### NOTE:

IN CASE OF 220MHZ BAND MEASUREMENT BOTH FORWARD AND REFLECT POWER TO BE CONVERTED WITH THE FOLLOWING FORMULA .

DIRECT READ OUT IN THE SCALEx0.7=ACTUAL POWER

EX. WHEN DIRECT READ OUT SHOWS 10W, IT SHOULD BE 10Wx0.7=7W

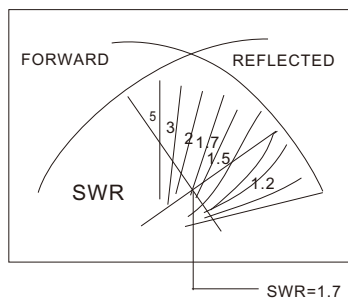
$$SWR = \frac{\sqrt{P_f} + \sqrt{P_r}}{\sqrt{P_f} - \sqrt{P_r}}$$

P<sub>f</sub>= FORWARD POWER  
P<sub>r</sub>= REFLECTED POWER

ACCESSORY: DC POWER INPUT CABLE ONE PIECE

FIG.1

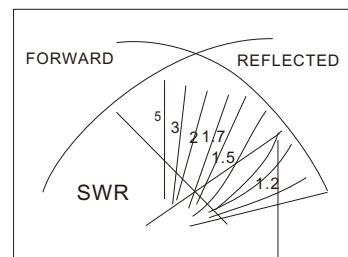
CORRECT READ IN SWR IS 1.7



The CORRECT READING IS READ THE CROSSING POINTER

FIG.2

FIG.2 SHOW A WRONG READ IN SWR SCALE



WRONG READ GET SWR=1.3 NOT TO READ THE END POINT