

# CROSS NEEDLE TYPE SWR&POWER METER

## SX20/SX40

### OPERATION INSTRUCTION

#### GENERAL

SX20/SX40 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 AND 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 SX20 ; 140~525 MHZ SX40

INPUT IMPEDANCE : 50 ohms

POWER RANGE : 30W OR 300W SX20 ; 15W~150W SX40 SWITCHABLE

POWER ACCURACY : 10% AT FULL SCALE

MIN. INPUT POWER : 2W SX20 ; 1W SX40

CONNECTOR : UHF (M TYPE)

DIMENSION : 85Wx67Hx95D

WEIGHT : 290g SX20 ; 280g SX40

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 SCALE  $\times 0.7$  = ACTUAL POWER

EX. WHEN DIRECT READ OUT SHOWS 10W, IT SHOULD BE  $10W \times 0.7 = 7W$

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

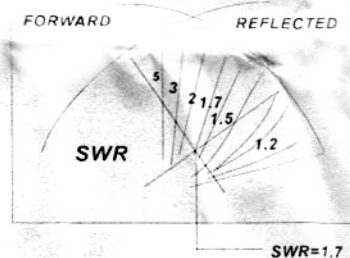
$P_f$  = FORWARD POWER

$P_r$  = REFLECTED POWER

ACCESSORY: DC POWER INPUT CABLE ONE PIECE

FIG. 1

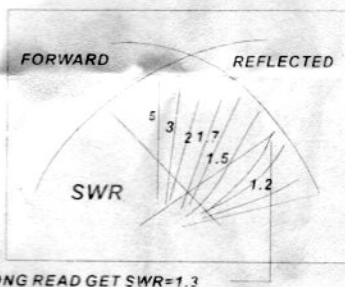
CORRECT READ IN  
SWR IS 1.7



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