



The Standing Wave Ratio Analyzer Model SWR is intended for use with a 600 ohm two-wired balanced line or a 70/50 coaxial RF transmission cable. Due to its unique design, the multi-range direct-reading meter measures incident RF power, reflected RF power, and standing wave ratio simultaneously. No pre-calibration or computation of standing wave ratio is required as the meter is direct-reading. A multi-range switch provides settings of the meter to various sensitivities, thus permitting accurate measurements over an unusually wide power range, and the broadband design of the directional-coupler (associated with the meter) provides a frequency bandwidth of the equipment, usable from 2 to 30 megacycles.

The Standing Wave Ratio Analyzer is available in two models: -

- (a) Two-wired balanced RF line version - TMC Model SWR-600
- (b) Coaxial line version - TMC Model SWR-70  
- TMC Model SWR-50

The indication meter for both types is identical and plugs into either model. Thus, the complete unit comprises an indication meter plus a directional-coupler type RF pick-up network coupled to either a 600 ohm balanced RF transmission line or inserted in a 75/50 ohm coaxial cable.

The meter is a multi-range direct-reading RF power and standing wave ratio meter of unique design, adapted for standard 19" rack mounting, or portable use.

A flexible cable connects the directional-coupler unit to the indication meter, which allows for remote standing wave ratio and RF power readings, either as a portable device, or mounted on a standard 19" rack panel, associated with the transmitter for which the unit is fitted.

The Standing Wave Ratio Analyzer Meter is of unique design, having two independent meter movements fitted in one case. With this type of meter, the absolute incident and reflected power can be read simultaneously from the scales provided on the top of the instrument dial. Further, the disposition of the two meters in their mounting case determines an intersection point of the dual-movement meter pointers and indicates directly the standing wave ratio on a series of "isolines" located on the lower portion of the instrument dial. These analog "isolines" inscribed on the face of the

dial provide direct standing wave ratio readings at the power curve selected and exclude the necessity of any calibration of the measuring instrument prior to readings being taken. The dual-meter pointers are so shaped as to allow accurate readings at any intersection point in the power or standing wave ratio range selected.

TECHNICAL SPECIFICATIONS:

- MEASURING RANGE: Measures incident and reflected power, plus standing wave ratio, in the power range of 200/500/1000-2000-5000-20,000 watts.
- FREQUENCY RANGE: Essentially flat 2 to 20 megacycles with slight fall-off to 30 megacycles.
- ACCURACY: 5%
- POWER REQUIREMENTS: Nil. Battery or 110 volt AC 60 cycle source for dial illumination only.
- CONTROLS:
- (i) Power Range Switch located on indication meter.
  - (ii) Sensitivity push-button on indication meter for reading of low level reflected-power and standing wave ratio.
  - (iii) Dial illumination switch.
- PACKAGING:
- (i) The directional-coupler unit is packaged in a moulded fibre glass case, completely weather-proofed, which is clamped to the transmission line in the case of the balanced 600 ohm line unit, Model SWR-600, and inserted in the line in the case of the coaxial unit, Model SWR-70. A weather-proof plug is provided for connection of the flexible cable with the indication meter.
  - (ii) The Standing Wave Ratio Analyzer operates satisfactorily with a 50 foot length of cable provided with the equipment. This cable is flexible, rugged and weather-proof.
  - (iii) The Standing Wave Ratio Analyzer is designed to operate as a portable unit or in a standard 19" rack mounting. A handle is provided to attach to the indication meter when it is used as a portable unit for outside field checking.

The equipment is light and rugged and is designed to JAN/MIL requirements wherever practicable.

THE TECHNICAL MATERIEL CORPORATION  
700 FENIMORE ROAD MAMARONECK, NEW YORK  
COMMUNICATION ENGINEERS