ARMACO

MODEL E558

INDICATOR FOR SWR, POWER OR RF FIELD STRENGTH

As the new owner of this **ARMACO** test equipment with many features, you should carefully read this instruction manual - you can then reap the benefit of the many advantages of the E558.

FEATURES:

The **ARMACO** SWR/PWR FIELD STRENGTH indicator is a handy compact device for amateur, CB or professional use in observing the operation of a transmitter. The standard bridge method of comparing the power supplied to and reflected from the antenna system is used for Standing Wave Ratio (SWR) measurements. For RF power measurement a portion of the signal is sampled rectified by a diode and the resultant DC current is used to operate the meter. Continuous monitoring of the transmitter output is possible by leaving the **ARMACO** instrument in the circuit at all times. The **ARMACO** E558 can also be used as a field strength indicator by disconnecting it from the antenna circuit and using it separately with small pickup antenna that is supplied.

INSTALLATION AND SWR MEASUREMENTS:

1. Using a short co-axial cable of 3 feet or less, such as **ARMACO** A130, connect the **ARMACO** E558 between the transmitter and the antenna.
2. Set the SWR/PWR switch to SWR position and the FWD/REF switch to FWD or forward position. Set the adjustment control knob to left or minimum position.
3. Turn on the transmitter and slide the adjustment control knob to the right until full meter deflection is attained, that is until the pointer is at "SET" position.
4. Now move the FWD/REF switch from the FWD position to the REF (reflected) position and read the SWR (standing wave ratio) directly on the meter scale.
5. A perfect match of the antenna system to the transmitter will be indicated by a SWR of 1:1. Adjustments to the antenna and/or feed line should be made to achieve the lowest SWR possible. A reading of 1:2 is excellent, a reading of 1:3 is good and a reading of 1:4 or 1:5 is acceptable. The user may wish to refer to antenna matching articles in the various CB or amateur publications such as the ARRL Handbook.
6. The transmitter power required for SWR operation varies with frequency - about 20 watts at 3.5MHz (80 meters) 15 watts at 7 MHz and proportionally lower power at higher frequencies.

RF POWER MEASUREMENT:

1. Set the RF/PWR switch to PWR position and set the range switch to the appropriate power position, either 10W or 100W (if unsure, start with the 100W position).
2. When the transmitter is turned on, read the pointer position and multiply by ten if on the 100W position.
3. The RF power indication will be inaccurate if the SWR exceeds the unacceptable amount of 1:5.

MONITORING:

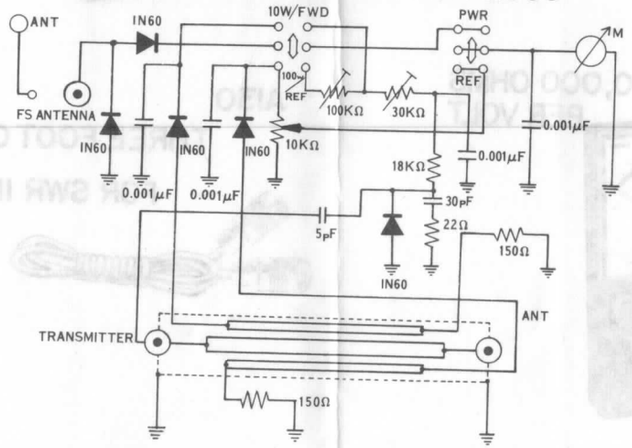
The **ARMACO** E558 can be left continuously in the circuit for monitoring transmitter output of up to 1000W. Set the FWD/REF switch to FWD and the PWR/SWR switch to SWR and adjust the slide control for a meter deflection of about mid-scale. Any abnormal variation in the transmitter or antenna system will be immediately detected. Of course, negligible power is consumed.

RF FIELD STRENGTH INDICATION:

The **ARMACO** E558 incorporates a special circuit for measuring comparative radio frequency field strengths. For this measurement the indicator is removed from the circuit and the short antenna provided is connected to the FS antenna terminal. A pair of diodes rectifies the RF current and the resultant DC current is used to actuate the 100 microampere movement.

1. Set FWD/REF switch to FWD or upper position.
2. Set PWR/SWR switch to PWR.
3. Put the short antenna in vertical position in FS ANT socket.
4. Put the **ARMACO** E558 near the transmitter or antenna system (usually in same room or building is satisfactory).
5. With transmitter operating move the "LEVEL ADJUST" for a convenient reading of the meter, usually at 8 on the FS scale.
6. Now, any adjustments to the transmitter or antenna system will be indicated by an upward or downward movement of the meter pointer. Of course an upward movement would mean improved radiation. A proper location for the **ARMACO** E558 FS INDICATOR will depend upon power of the transmitter, location in relation to the transmitter or antenna etc.

For modernistic appearance, the sensitive movement used on the **ARMACO** E558 instrument is spring mounted. It will move with pressure on the bezel, but this does not indicate any fault. Nothing should ever wear out on your **ARMACO** E558 but the sensive movement could be damaged by dropping or by excess current. Should a new movement ever be required, a replacement can be immediately received, postage prepaid, by forwarding $9.00 to:

ARMACO SERVICE CENTRE
P.O. BOX 58010
VANCOUVER, B.C.
CANADA V6P 6C6

SCHEMATIC DIAGRAM FOR E558