



# **FM DEV/SWR/POWER AM MODULATION/FS FREQUENCY COUNTER**

Cat. No. B101G (PDC1000)

## **INSTRUCTION MANUAL**

### **METER SECTION**

#### **SWR**

- ▶ Connect to antenna and to transceiver by coaxial cables.  
(See Fig. 2)
- ▶ Set the function switch to "SWR/FS" position and pull the VR knob.
- ▶ Transmit a signal, then set the meter needle at "SET" position by rotating the VR knob.
- ▶ Push the VR knob without rotation, then the meter needle will indicate SWR value.

#### **POWER**

- ▶ Same connection as SWR measuring.
- ▶ Set the function switch to "POWER" position and the range switch to suitable position.

#### **FIELD STRENGTH**

- ▶ Remove all connections.
- ▶ Attach antenna on FS terminal.
- ▶ Set the switch to "SWR/FS" position and pull the VR knob.

#### **FM**

- ▶ Connect to DC power source (Red-plus, Black-minus).
- ▶ Set the POWER/SWR-CAL/DEV-MOD switch to "DEV/MOD" position.
- ▶ Set the DEV/MOD/DEV-MOD-CAL switch to "DEV-MOD-CAL" position.
- ▶ Set the DEV/MOD switch to "DEV" position.
- ▶ Set the meter needle at "CAL" position by rotating the VR knob.
- ▶ Set the DEV/MOD/DEV-MOD-CAL switch to "DEV" position.

## AM MODULATION

- ▶ Connect to Antenna and to Transceiver by coaxial cables.
- ▶ Set the POWER/SWR-CAL/DEV-MOD switch to "DEV/MOD" position.
- ▶ Set the DEV/MOD/DEV-MOD-CAL switch to "DEV-MOD-CAL" position.
- ▶ Set the DEV/MOD switch to "MOD" position.
- ▶ Set the meter needle at "CAL" position by rotating the VR knob.
- ▶ Set the DEV/MOD/DEV-MOD-CAL switch to "MOD" position.

A modulation degree of AM is expressed by an amplitude ratio of signal wave and carrier. But degree of FM is constant, so a modulation degree of FM is expressed by a deviation of frequency. Large deviation is better, but maximum deviation limited by bandwidth. In 27MHz band, the maximum deviation is usually 1-3KHz.

## SPECIFICATIONS

SWR .....	1:1 ~ 1:3
RF power .....	0 ~ 10, 0 ~ 100 and 0 ~ 1KW
FM modulation .....	0 ~ 3KHz (27MHz CB only)
Impedance.....	50Ω
Frequency.....	3 ~ 150MHz
.....	(for SWR POWER. Calibrated at 27MHz)
Power source .....	DC 13.8V ± 10% (for FM Freq.)

## FREQUENCY COUNTER SECTION

### FEATURES

1. Can be used as an ORDINARY Digital Frequency Counter.
2. Can be used as a Digital Frequency Display of TRANSMITTERS.

## HOW TO USE

### 1. As "ORDINARY" FREQUENCY COUNTER

A coaxial lead with RCA phono plug and 2 crocodile clips is required. Connect the RCA plug to the 'SIGNAL' socket and attach the clips to the device to be measured.

Finally, connect the 13.8Vac supply to the POWER INPUT lead (see Fig. 1).

Slide the POWER switch to ON.

Select the 'FREQ' switch to the appropriate position.:

VHF (Hi) or HF (Lo).

## 2. As FREQUENCY DISPLAY of "TRANSMITTER"

Connect the antenna cable to the "ANT" connector.

Connect a coaxial cable between the "TX" connector and the transmitter. (See Fig. 2).

### CAUTION

1. Isolate the power supply if the counter causes noise on other devices, as the counter employs the Dynamic Lighting System.
2. This counter includes a protection circuit, but too high an input voltage of measured frequency may burn IC. (Transmit Power 100W max.).
3. Too low input voltage of measured frequency may cause miscount. (Transmit Power 0.5W min.).
4. When strained frequency such as that of the multiplier is measured, use a simply tuning coil to get accurate frequency avoiding miscounting.

### SPECIFICATIONS

Frequency ranges .....Lo: 1 ~ 99MHz

.....Hi: 1 ~ 250MHz

Standard oscillating frequency .....10MHz  $\pm$  0.0005%

Input impedance .....1M $\Omega$  20pF

Input voltage .....40mV, 20V rms

Power supply .....DC 13.8V

Environment .....0 $^{\circ}$ C , 40 $^{\circ}$ C

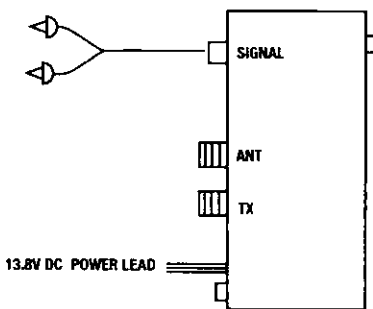


Fig. 1

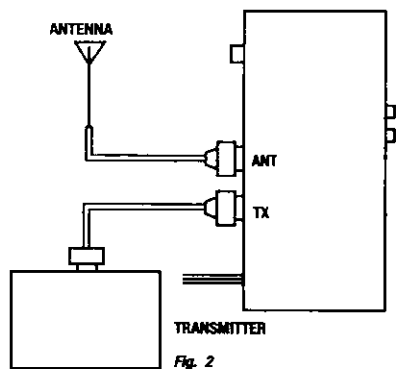


Fig. 2