

## TURNING ON THE COUNTER

To turn on the counter, set POWER OFF/ON to ON.

## SETTING THE INPUT IMPEDANCE

You can select an input impedance of 50 ohms or a high-impedance setting. Set the input impedance switch to 50 ohms if you connected the supplied antenna or an optional 50 ohms coaxial cable. Set the switch to HiZ if you connected an optional high-impedance probe, such as an oscilloscope probe.

## SETTING THE FREQUENCY RANGE

To ensure accurate measurements, set the frequency range switch to the position that corresponds to the frequency you want to measure.

Set the switch to DOWN to measure frequencies between 1 and 50 MHz. Set it to UP to measure frequencies between 50 MHz and 1.3 GHz (gigahertz).

Note: If the measured frequency is in a range other than that indicated by the switch setting, the meter might give incorrect results.

## SETTING THE GATE SPEED

You can select from two gate speeds: slow and fast.

The slow gate speed (the default setting) updates the display every 1.28 S. This setting provides the maximum display resolution (least significant digit is in units of 100 Hz).

The fast gate speed updates the display more quickly (every 128 mS) but shows a lower resolution (least significant digit is kilohertz).

Press GATE SPEED to toggle between a fast and slow gate speed.

## MEASURING FREQUENCIES

The counter's display shows all measurements in Megahertz (MHz).

After you turn on the counter and set the input impedance, frequency range, and gate speed, do the following to measure frequencies.

If you connected an antenna, fully extend the antenna and be sure the input impedance switch is set to 50 ohms. Then turn on the device whose frequency you want to measure.

For example, to check the transmission frequency of a channel on a CB radio, turn on the CB. Then select the desired channel and press the CB's talk button. The counter's display shows the channel's transmission frequency.

If you connected an optional cable, you can measure frequencies from an oscilloscope or other high-impedance input probe. Be sure the input impedance switch is set to HiZ. Then turn on the device whose frequency you want to measure.

Caution: Any input signal should not exceed 1.4 V peak-to-peak. Measuring signals with a higher voltage could damage the counter.

Note: When you do input a specific frequency, the display shows random frequencies.

## USING THE BACKLIGHT

The counter's display has a backlight to help you see the display in low light conditions.

To turn on the backlight, press BACK LIGHT. The backlight stays on for about 10 seconds. To keep the light on for an extended period of time, press and hold down BACK LIGHT for at least 2 seconds. The backlight stays on until you turn off the counter.

(LB/all-06/30/94)

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Frequency Counter (220-0305)      Operation      Faxback Doc. # 6777

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Frequency Counter (220-0305) Power Sources Faxback Doc. # 6776

## CHOOSING A POWER SOURCE

You can power the meter from a standard AC outlet or from four AA batteries (alkaline or rechargeable nickel-cadmium).

## USING AC POWER

You can power the counter from a standard AC outlet using a 9V adapter (such as Radio Shack Cat. No. 273-1455, not supplied).

Caution: Use only an AC adapter that supplies 9 volts DC, delivers at least 300 milliamps, and has a center negative plug that properly fits the counter's DC 9V jack. Using an adapter that does not meet these specifications could damage the counter or the adapter.

Connect the adapter's barrel plug to the counter's DC 9V jack (on the counter's left side). Then plug the adapter's other end into a standard AC outlet.

## USING BATTERY POWER

You can power the counter using four AA batteries. For the longest battery life, use alkaline batteries (Radio Shack Cat. No. 23-552). You can also use nickel-cadmium rechargeable batteries (Cat. No. 23-125).

### Installing the Batteries

Follow these steps to install the Batteries.

1. Loosen the screw on the counter's battery compartment cover. Then remove the cover.
2. Install the batteries as shown inside the compartment.
3. Set the counter's battery type switch according to the type of batteries you installed. Use a small, pointed tool, such as a small screwdriver, to set the switch.

Set the switch to the appropriate position-ALKALINE for alkaline batteries or NI-CAD for rechargeable nickel-cadmium batteries.

Warning: If you installed alkaline or other non-rechargeable batteries, do not connect the AC adapter to the counter with the switch in the NI-CAD position. Doing so activates the counter's charging circuit. Trying to charge non-rechargeable batteries can cause the batteries to leak or explode, possibly causing personal injury.

4. Replace the battery compartment cover.

To ensure consistent operation, replace alkaline batteries about every 12 months.

## RECHARGING NICKEL-CADMIUM BATTERIES

To recharge nickel-cadmium batteries, connect the AC adapter to the counter when the batteries are installed and set the battery-type switch to NI-CAD.

## LOW VOLTAGE INDICATION

When the battery voltage becomes too low, or there is a low AC voltage condition, the counter might display incorrect measurements. The display shows a low-voltage condition by lighting the rightmost decimal point on the display.

## CONNECTING THE ANTENNA

The counter has a standard BNC-type connector. To connect the supplied antenna, place it over the counter's connector as shown. Then slightly push down on the antenna's connector and turn it clockwise until it locks.

Note: You can also connect an antenna that is tuned to the frequency band of the signal you will measure (not supplied).

#### CONNECTING AN OPTIONAL COAXIAL CABLE

If you want to measure RF frequencies directly, connect a 50 ohms coaxial cable or an oscilloscope probe to the counter. The cable must end in a male BNC connector.

(LB/all-07/12/94)