

THIS EASY-TO-BUILD PREAMPLIFIER HAS made a great deal of difference with my frequency counter. Although my counter has a sensitivity of 25 mV, many signals from mixers, oscillators, and IF strips were too weak to get a stable readout on the counter. Some were so weak that I could not get any reading at all. By using the preamplifier with a short length of shielded cable and chip leads, signals that previously could not generate a readout at all generated precise and stable readouts on the counter.

With stronger signals, no direct connection is necessary—just placing the clip leads in the vicinity of the oscillator circuit results in a stable pickup!

The whole preamplifier is made with common junk-box parts and the physical layout is exactly as shown in the schematic (Fig. 1). The preamplifier and the battery fit inside a 2 × 2 × 4-inch aluminum box; the input and output cables enter from opposite sides of

the box. The DPDT switch is used to bypass the circuit when amplification is not needed. And, of course, the LED reminds you to turn it off.

The preamplifier can also be used for many other purposes. For example, the unit was also tested as a receiver preamplifier and increased received signal strength about 6 "S" units at 30 MHz.

I also built a line tap so that I could measure the frequency directly at the output of a transmitter. The entire circuit for that consists of two diodes, one resistor and one capacitor, and is housed in a metal box as shown in Fig. 2. The line tap simply picks off a low-amplitude signal for measurement by the frequency counter. The antenna is still used as the load for the transmitter.

The line tap can be connected to transmitters with an output power of between 1 watt and 250 watts. Connect the line tap as shown.

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