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of
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CIRCLE 50 ON READER SERVICE COUPON

Dentron Jr. Monitor Tuner

This little bundle can make almost any match

THE DENTRON JR. MONITOR tuner is a compact 160-through-10 meter amateur band antenna tuner that does a surprisingly good job in handling a variety of antennas. In the midst of redesigning my station and changing equipment, this small package arrived, and I put it through its paces.

Specifications. The tuner is small, measuring just 3¼-inches by 5½-inches by 7-inches (excluding the mobile mounting bracket). It is capable of handling 300 watts transmitter output power into several types of feedlines: Coax (50 or 75 ohm), balanced line (300 or 450 ohm), or an end-fed random wire. The tuner will cover, continuously, 1.8 through 30 MHz.

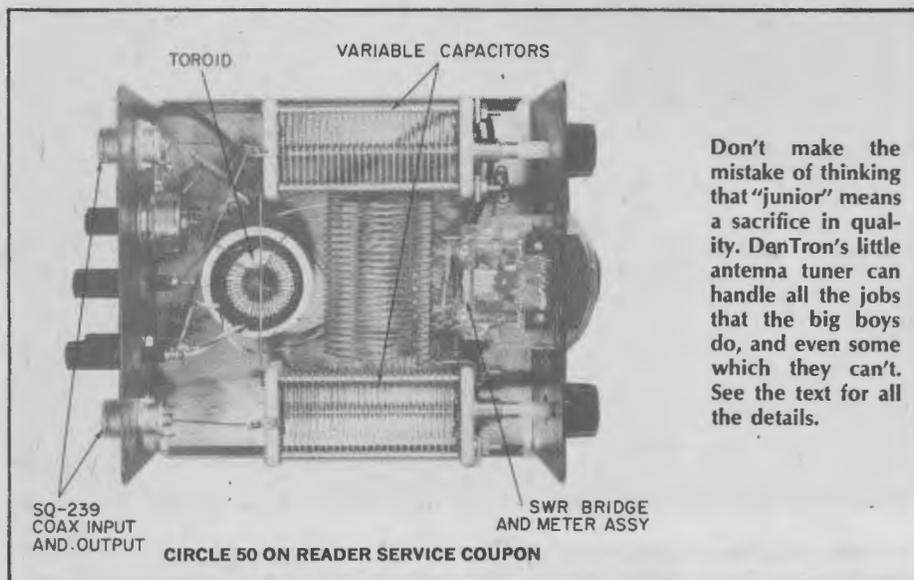
A unique feature is the built-in relative output meter. A network of resistors and a diode sample the RF output, and the user need only peak the controls for maximum deflection of the needle.

The tuner includes a mobile mounting bracket for under dash installations. Also, four large rubber feet permit stacking of equipment without scratching the cases of the tuner and the other equipment.

The Circuit. The circuit design is basic: Two 20 through 200-pF variable capacitors with a 12-position switch selecting taps on an inductor. The coax input and all outputs are on the rear apron.

Hooking it up. As with all antenna tuners, an effective ground is a must. In a mobile installation, DenTron suggests you do not depend upon the mobile bracket for ground, and that you connect at least a #14 wire between the ground post and auto chassis ground.

In the home, the usual grounding is appropriate: A ground rod (best case), a cold water pipe, or power line neutral (worst case).



Don't make the mistake of thinking that "junior" means a sacrifice in quality. DenTron's little antenna tuner can handle all the jobs that the big boys do, and even some which they can't. See the text for all the details.

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If you're using a random wire, it should be at least a quarter wavelength long on the lowest band you intend to operate on.

Although the manual doesn't mention a counterpoise with the random wire, I would recommend attaching a quarter wave counterpoise for each band operated on. Although not necessary, a counterpoise helps to prevent RF at the operating position from affecting equipment.

A counterpoise is not needed for use with a balanced feedline or with coax.

Using the Tuner. One antenna here at W2XQ for 160-through-10 meters is an end-fed 135-foot random wire, erected in an inverted-L configuration. A ground rod's connecting wire and a 6-band counterpoise are connected to the antenna tuner. The DenTron Jr. Monitor tuner handled all bands easily. There were two surprises, in that the DenTron could lower the SWR to a point less than what a 20-year-old workhorse tuner (a Johnson 275-watt matchbox) could do, and also that the DenTron has enough inductance to load 160 meters.

The DenTron had no problems handling coaxial antennas on the bands the antennas were designed for, but a 75 meter coaxial-fed dipole could not be loaded on, for instance, 20 meters. If you desire to work all bands with one dipole, use a balanced feedline of 300 or 450 ohms.

DenTron markets an "All Band Doublet" for less than \$25, or you can roll your own. A "quickie" balanced line-fed dipole was put up, low to the ground, to test the tuner, and it worked well.

DenTron also states that the Jr. Monitor tuner will tune a standard 102-inch CB whip from 10 to 40 meters in a mobile installation.

Conclusion. There is one caution to be observed. Initial settings of the tuner must be done at low power. To do otherwise risks the possibility of destroying the diode and a resistor or two in the relative output circuit. The 300-watt power handling capability refers to an antenna in resonance.

The relative output meter really works well. There is a close, if not perfect, correlation between maximum output readings of the tuner's meter, and minimum SWR on a separate meter.

I think DenTron has a winner here. The amateur running a modest station without an amplifier, and needing some help on antennas, will find the Jr. Monitor tuner filling the bill especially at its retail price of \$79.50.

For more information circle number 50 on the Reader Service Card. ■