The Knight-Kit TR-106 and V-107

Knight's new six meter transceiver and matching VFO make a nice pair for six meter hamming.

Knight recently announced a new six meter transceiver kit, the TR-106, and matching VFO, the V-107. It looked like a rig many of our readers would like to know more about, so I got one to put together and try out. I found that it's a nice piece of gear and a lot of fun to build and use.

Knight-Kits have always been among the easiest kits to build. Their instruction manuals are excellent. Knight supplies pre-cut, pre-stripped and pre-tinned wires, and even expensive eutectic solder to help prevent cold solder joints. Part of the receiver—the critical first converter, was furnished pre-wired and aligned. It only took a few nights to build the kit and the alignment was a snap, too.

The TR-106 and V-107 use well-tested, straightforward circuits. No tricks here. The transmitter oscillator uses 8 MHz crystals or the V-107 VFO and the exciter is bandpass coupled to the 2E26 final amplifier. Modulation is high level plate and screen with automatic limiting to prevent overmodulation. The push-to-talk microphone is included.

The receiver section of the TR-106 is a double conversion superhet with a neutralized Nuvistor rf amplifier. The first oscillator is crystal controlled. Selectivity, rejection of unwanted signals and sensitivity seem excellent. An rf gain control, to help prevent overloading, switchable ANL and a spot switch are among the controls. There's no BFO, but you can use the VFO for one on strong signals.

The built-in solid state power supply can be operated from either 115 V or 13.5 V.

The V-107 VFO plugs into the TR-106. It uses a one tube oscillator with voltage regulation and temperature compensation. One of its clever features is that you can use it on either six or two by changing the position of the dial plate and realigning the oscillator.

TR-106 Specifications

Receiver Section:
- Audio output: 5 watts or more
- Intermediate Frequencies: 15.6 to 17.6 MHz
  1650 kHz
- IF rejection: 50 dB or better for first if
  70 dB or better for second if
- Image Rejection: 55 dB or better
- Input Impedance: 50 ohms nominal
- Frequency Range: 50-52 MHz
- Selectivity: 6 dB down at 8 kHz
- Sensitivity: .5 μV for 10 dB S + N/N ratio

Transmitter Section:
- Frequency Control: 8 MHz crystals or VFO
- Frequency Range: 50-52 MHz
- Output Impedance: 30-90 ohms
- Power Input: 15 watts

Power Supply:
- All Solid State: Transistor oscillators and silicon rectifiers
- Power Requirements: 120V, 60 Hz, 90 W
  12-15 V DC, 6.8 A receive, 8.1 A transmit

Miscellaneous:
- Size: 5½ x 13⅛ x 11"
- Price: $139.95

V-107 Specifications:

Frequency Coverage: 8.333 to 8.666 MHz for 6 meters
8.000 to 8.222 MHz for 2 meters
Frequency Stability: ±500 Hz per hour after 30 minute warm up
RF Output: 20 volts rms minimum into 47 k shunted by 30 pF
Power Requirements: 200 V DC, 30 mA, 12.6 V, .15 A
Size: 5½ x 4¼ x 6½"
Price: $19.95

The instruction books discuss theory of operation in stage-by-stage form, installation, alignment, troubleshooting, TVI hints (though I didn't notice any TVI), cleaning up car electric systems, antennas, mobile installation, and propagation. Among the accessories available are a mobile mount and the desk mount shown in the photo above.

After the pair were finished and had been checked on the scope and other instruments, I took them up to Pack Monadnock for a test. I just used a simple dipole, but found the band full of signals. The TR-106 had no trouble separating them, though. A quick call was answered by a near-by station who reported excellent audio. After signing with him, I talked to other stations over 150 miles away. They all agreed that the signal sounded fine, was over S9, and had no drift. The Knight TR-106 seems to be an excellent buy and a lot of fun. You should consider it carefully if you're interested in six; I think we're going to be hearing a lot of them.

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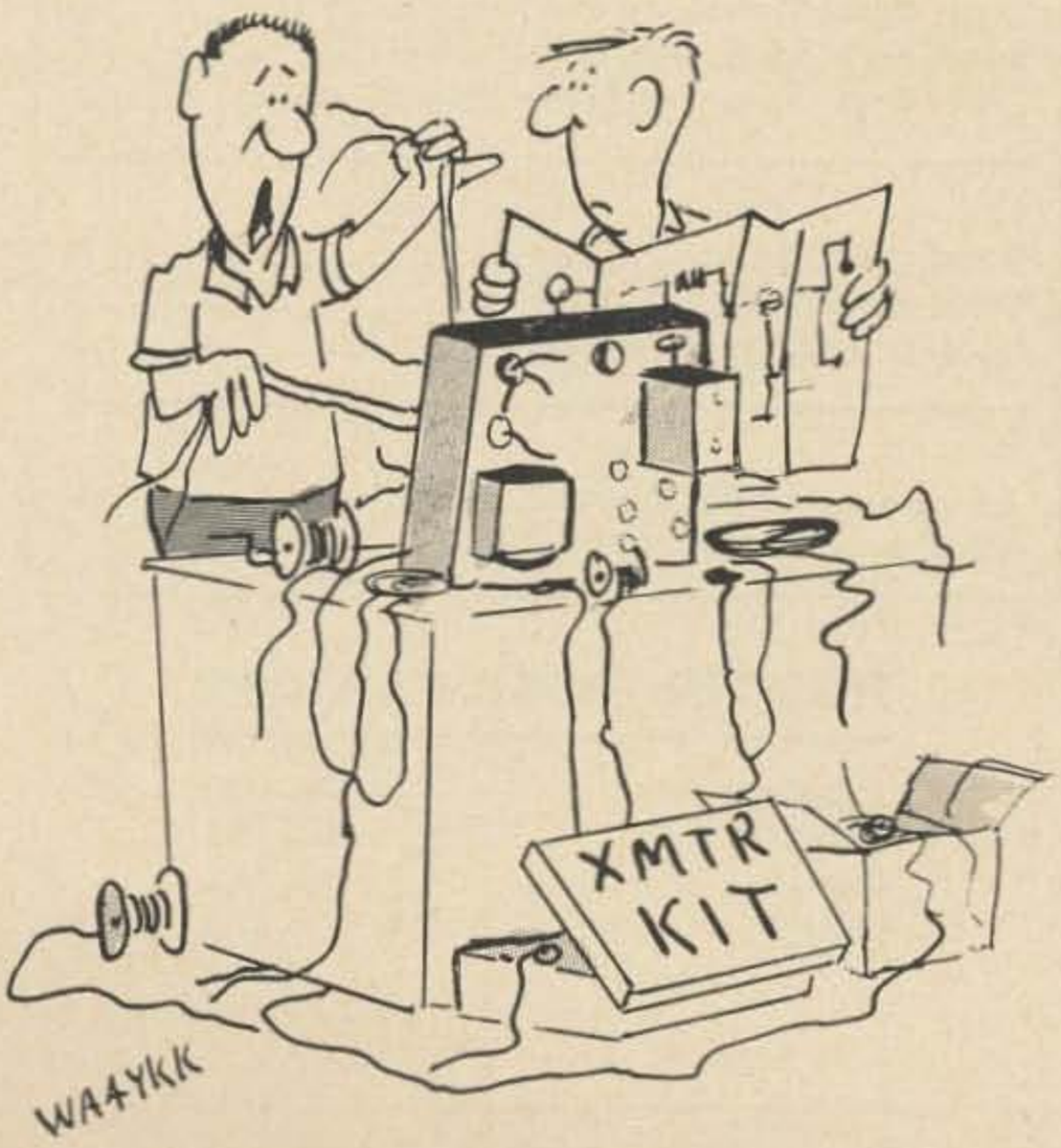

I feel like a spider.