

CB to 10

—part XV: a Realistic HT

Photo by James Clegg



Walkie-talkie using external antenna connection to wattmeter and dummy load. Unit showed an output of over 1.5 Watts at 29.000 MHz.

The CB frequencies were recently expanded from 23 to 40 channels to handle the increased number of citizens using the band. Since many firms became "well off" from the sale of the 23-channel units, the thought was that the "gold mine" was going to strike a new vein and that the new 40-channel units would be the hottest thing going. So, everyone began dumping the 23-channel units at very attractive prices. Many hams were quick to grab the opportunity of getting some first class communications gear at a good price, and the CBers bought them up also at a fast rate.

Now enters a problem: So many transceivers of 23-channel capacity had been sold that when the 40-channel units came out, there just was not the anticipated demand for them, so now even 40-channel units can be found at low prices. Those who did buy the new 40-channel radios quickly found out that the high-powered "skip-land" boys had been up there for years, so the additional 17 channels were just about useless for the purpose for which the Citizens Band Service was established.

The word is apparently out that many manufacturers now believe that the market is saturated, and many bargains are appearing in CB gear. This is how I came to be the possessor of a couple of walkie-talkie units to convert to 10 meters. The radio is a 3-channel, 2-Watt input, 1-Watt output walkie-talkie, the Realistic TRC-180. My unit showed an output of slightly more than 1.5 Watts on a wattmeter in a dummy load, using fresh batteries. The unit normally sells for \$40.95; I purchased these at \$24.95 each, almost a 50% savings.

Specifications show that the unit has excellent sensitivity (.5 mV for 10 dB S+N/N) and spurious emission down -50 dB or better. The receiver draws 25

to 150 mA, depending on squelched or received signal condition, and the transmitter uses 250 to 500 mA. The walkie-talkie comes with CB channel 14 already installed, plus a set of AA batteries. Checkout showed that the unit was working perfectly. Some plus features include an earphone jack, an external antenna jack (to use a mobile or base station antenna), a power jack that allows you to connect to a 12 V dc source (such as a car battery), a charger jack for recharging nickel cadmium batteries without removing them, and a battery test button with LED indicator to show the condition of the batteries. There is no guesswork on the LED: If it lights, the batteries are okay; if they're not alright, there's simply no light!

The walkie-talkie was easily converted to 10 meters with just a substitution of crystals and the retuning of the transmitter and receiver

stages. After looking at a number of schematics on the general run of units of this nature, the majority have the basic 455 kHz i-f, so conversion of most should be fairly simple. I designated the channel "A" position to be 29.000 MHz, which calls for that frequency for the transmitter, of course, and a 28.545 MHz crystal for the receiver. I still have two additional channels to add, when the need arises. The built-in antenna measures 39½ inches long extended and has an internal loading coil. Rather than messing with the coil, I just reduced the length of the whip by almost 3 inches (using a field strength meter to find the point of maximum output of rf) to make it resonant at 29 MHz. To ensure that I returned each time to the proper length, I simply marked the top section by scratching on the metal rod.

Now, if we are going to be able to utilize these bargain

low-powered transceivers on 10 meters for a whole bunch of fun, frequency placement will to a great extent determine the usefulness. There are a number of band plans around, with each one extolling its own virtues. Yes, I have one, too! It's quite simple, and, best of all, it is using a section of the band that is not heavily used at the present. Looking at one plan, the proposal calls for (what I call the AM band) channel 1 to start only 10 kHz inside (what I call the SBB band) at 28.560 MHz, and, from there, the spacing is in steps according to the original CB channels. Shades of 75 meters, AM versus SSB, back in the old days! I can just imagine how these low-powered radios will play when the band opens up a little and that funny "Donald Duck" stuff starts coming in. It'll be just like the HF bands back in the 1960s — one big hassle, then the demise of AM.

Why not avoid the prob-

lem to begin with and put these converted CB radios up a ways in the band? This way everyone has lots of room to do "their own thing," and if the sideband boys want to QSY to talk to the AM QRP fellows, well fine! So, let's simplify things and be "good guys" in the process.

CW — 28 to 28.5 MHz

SSB — 28.5 to 29 MHz

AM — 29 to 29.290 MHz

I realize that CW is not restricted, but very seldom do you hear it above 28.5 MHz, simply because of good operators plus there is 500 kHz to move around in. The SB boys have a lot of room also, and, as a matter of course, do not normally go above 29 MHz. With a band the size of 10 meters, there's room for all, and QRP operation with these converted radios will be most enjoyable. If we want to make it hard on ourselves, well then hardly anyone (besides Quack, Quack) will be able to talk! See you on channel 1, 29.000 MHz! ■

New Products

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keys the transmitter.

Program RTTY has two modes: send and receive. In the receive mode, the mark and space tones will be decoded and the resulting text displayed on the video monitor. Either

wide or narrow shift at 60 wpm will work equally well. Both HF and VHF reception are accommodated. In the send mode, all Baudot characters and punctuation may be sent from the keyboard. In addition, up to ten programmable message memories (2550 characters total)

allow "brag tapes," pictures, etc., direct from the keyboard. A special feature allows sending the time automatically at the press of a single key! Automatic FIGS (shift), LTRS (unshift), line feed, and unshift-on-space are included. Reverse screen image separates sending from receiving text. One key allows switching between send and receive. *Microtronics, 5943 Pioneer Road, Hughson CA 95326; (209)-634-8888.*

Dealer inquiries are invited. U.S. patent pending. Send an SASE for spec sheet and other Smithe antenna products to *Comm Center, Inc., Laurel Plaza—Rte. 198, Laurel MD 20810; (301)-792-0600.*

NEW-TRONICS INTRODUCES 5- AND 11-ELEMENT HUSTLER 2 METER YAGI ANTENNAS

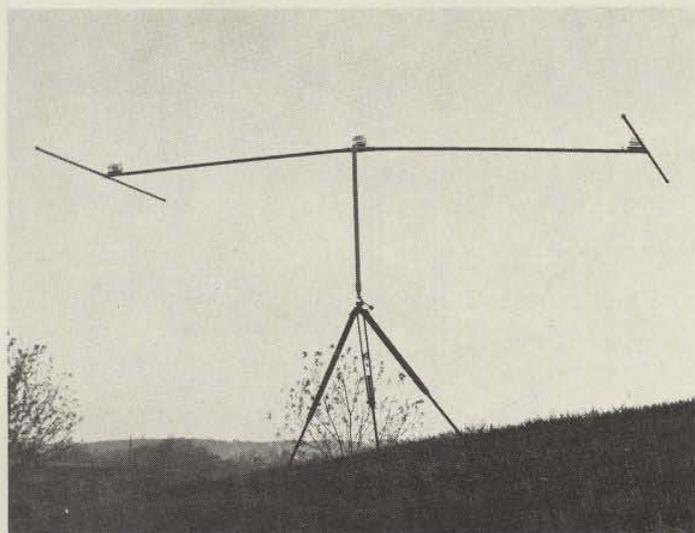
Two models of the new Star Tracker™ series of Hustler 2 meter yagi antennas have been announced by New-Tronics Corporation. These 5- and 11-element rotatable beam antennas are completely tunable from 144-148 MHz, with a unique adjustable matching system for 1.5:1 or better swr. At resonance, swr is typically 1.1:1. This system provides for optimum energy transfer without sacrificing gain or pattern control.

High forward gains and large front-to-back ratios put Hustler 2 meter yagis in an ultra-high performance category. Half-power (3 dB) beamwidths are exceptionally narrow. In addition, each model can be easily mounted for vertical or horizontal polarization for station-to-station VHF DX work.

The Star Tracker model ST-5

ALLBAND MINIATURE DIPOLE

Antennas by Smithe has come up with a truly portable allband miniature dipole complete with its own carrying case and mast/hardware to mount on a camera tripod or 3/8" x 24 stud. High performance is obtained with the HF Bantam Dipole on 80-10 meters at its normal 13 foot length, or the same antenna may be shortened to 7 feet for 75-10 meter coverage. Polarization is quickly interchangeable from horizontal to vertical. No ground system is necessary. The HF Bantam Dipole is ideal for camping, traveling, mountaintopping, apartment living, or if you're stuck with building code restrictions. Construction is of high quality 6061-T6 aluminum and stainless steel hardware.



Smithe's new HF Bantam Dipole.

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