

## Equipment Report:

# The Ranger AR-3500 Transceiver

**F**or lovers of the 10 meter ham band (28 to 30 MHz), there's no other band that can quite duplicate that band's excitement. With a minimal antenna and a rig running only a fraction of the power required on lower frequency bands, worldwide SSB DX can be worked when propagation conditions are right. Of course, long range propagation on 28 MHz is a come-and-go sort of thing, but conditions have been getting better (thanks to cooperative sunspots) and we're seeing overall improvement of DX conditions.

Certainly, anybody who ever listened in on the adjacent 27 MHz CB band during DX conditions can attest to the potency of even a few watts of transmitter power in this lively portion of the spectrum. These frequencies are also known for producing Sporadic-E skip openings which come and go on a very irregular basis. Mostly it's something lasting only a few hours—and it affects only limited geographic areas. These are some of the reasons the 10 meter band is so unpredictable and exciting.

Then, not that long ago, comes something called Novice Enhancement. That meant that people holding Novice and Technician Class ham licenses could finally operate with SSB on this spectacular band for the very first time, thus opening up the doors to worldwide ham communications (using voice) to thousands upon thousands of operators whose only HF band operating privileges had consisted of CW. With the 28.3 to 28.5 MHz portion of the 10 meter band now available for SSB use by Novices and Technicians, this band is buzzing away with new vitality and activity. Moreover, it's inspired a whole new influx of ham licensees—folks who weren't motivated to get CW or VHF-only ham privileges, but were definitely inspired by the chance get an easily obtainable Novice license and have the joy of legally "skip shooting" stations from other areas of the world. Many who jumped at the opportunity were those who had been doing it illegally for many years in the bootleg *freeband* (27.415 to 27.995 MHz).

Most I've spoken to who are part of the new influx on 28 MHz seem to be less interested in exercising their CW privileges on the other HF bands than they are in running SSB on 10 meters. Inasmuch as the majority of HF ham gear consists of multiband transceivers, it seemed only natural for



some manufacturer to bring out a transceiver that would be solely devoted to operation on only this one single band.

Enter the Clear Channel Corporation, P.O. Box 445, Issaquah, WA 98027. They have very cleverly designed two similar 10 meter band transceivers dedicated to the person who is interested in that particular band alone. One rig is the Model 30W (25 watts PEP SSB, 8 watts AM, FM 8 watts RMS), and the Model 100W (120 watts PEP, 30 watts AM, FM 8 watts RMS).

While these rigs run less power than the average multiband all-mode rig (SSB 200 to 250 watts PEP), devotees of this portion of the spectrum know that it has its own peculiarities. One of them is that if a DX station can hear you at all, even a 5-watt signal will probably do the job. On the other hand, if skip conditions aren't right, a full kilowatt will be meaningless.

The Ranger AR-3500 is designed for mobile use, although it can be operated as a base station with a regulated power supply (6 amps for the Model 30W, 25 amps for the Model 100W). The two models weigh 5 and

7 lbs., respectively. Each is about the size of a mobile SSB rig or 2 meter band FM ham transceiver, although the Model 100W is a shade longer than the lower powered model.

General features of both models of the Ranger AR-3500 are identical and include programmable scanning range; scanning in 100Hz, 1 kHz, 10 kHz, and 100 kHz increments; direct entry frequency selection as well as five memory frequencies; selectable split frequency operation; a high gain noise blanker; squelch; an SSB clarifier; LED's that indicate the relative amount of transmitted power and incoming signal strength; and a large LED frequency display that reads out to four decimal places (such as 28.3257 MHz).

While the Ranger AR-3500 should be of instant interest to Novices and Technicians with its SSB in the 28.3 to 28.5 MHz sub-band, the unit does cover the entire 28 to 30 MHz ham band with SSB/FM/AM/CW and will appeal to all licensees.

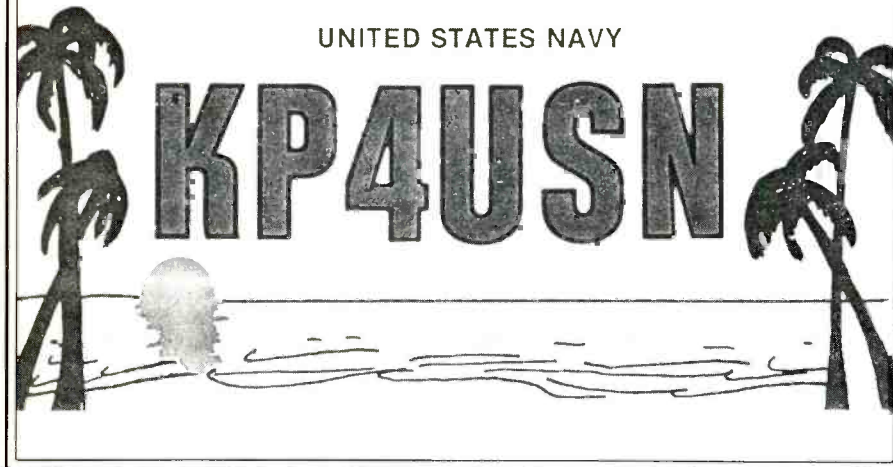
The manufacturer rates the receiver at better than  $.3 \mu\text{v}$  (10 dB S + N/N) sensitivity, with selectivity 4.2 kHz (-6 dB) and 8.6

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KP4USN



As soon as the band opened I got a 5 x 7 report from KP4USN in Puerto Rico (KP4WZU at the controls there). This QSL commemorates the contact!

kHz (-60 dB). The unwanted sideband suppression is rated at better than 50 dB below peak output (1 kHz tone); carrier suppression better than 40 dB below peak output—spurious radiation better than 50 dB below peak output.

We had a chance to put the Model 30W through its paces, running it into a half-wave coaxial antenna mounted about 30 feet up. As soon as the rig was turned on we heard Tom, KA2ZAF, on the air. He was about 20 miles away and had a horizontally polarized

beam. He said the rig sounded fine and had a strong signal, despite the antenna polarization difference. Within minutes we were joined by Gary, KB1WY, who was a good thirty miles away. He also gave the rig a good report. Things were looking good, but we were anxious to see the unit tackle a couple of DX stations. Later that afternoon came a band opening and we nailed WP4CTD and KP4USN, both in Puerto Rico, followed by PP1BG in Brazil, and HK4CGL in Colombia. These guys were giving me 5 x 5 and 5 x 7 signal reports—and that's respectable in anybody's book. For the next several days, with the Ranger AR-3500 in action, I nailed down Costa Rica, Uruguay, the Canary Islands, and a whole raft of stations in Puerto Rico and elsewhere.

I found the unit easy to use, imbued with all of the operating features and conveniences for which I had any need, and really quite an attractive all-around package for the aspiring 10 meter fan, as well as enough of a rig to satisfy the experienced 10 meter operator seeking a handy rig for the shack, the car, the camper, or the boat. Price is nice too; the Model 30W sells for \$319, with the Model 100W weighing in around \$409.

It's a quick, easy, and rather inexpensive way of joining in on the enjoyment and excitement of the unique 10 meter band. All you need is a ham ticket. Check it out, the ham ticket and the Ranger AR-3500!

Reviewed by Tom Kneitel, K2AES, Editor

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<p><b>SWITCHING POWER SUPPLY</b></p> <p>Compact, well regulated switching power supply designed to power Texas Instruments computer equipment. INPUT: 14-25 vac @ 1 amp OUTPUT: +12 vdc @ 350 ma.           +5 vdc @ 1.2 amp           -5 vdc @ 200 ma. SIZE: 4 3/4" square. CAT# PS-30 \$3.50 each</p>	<p><b>VIC 20 MOTHERBOARD</b></p> <p>26 IC's including 6502A and 6560. Not guaranteed but great for replacement parts or experimentation. CAT# VIC-20 \$15.00 each</p>												
<p><b>THIRD TAIL LIGHT</b></p> <p>Sleek high-tech lamp assembly. Could be used as a third auto tail light, emergency warning light, or special-effects lamp. Red reflective lens is 2 3/4" X 5 1/2" is mounted on a 4" high pedestal with up-down swivel adjustment. Includes 12 V replaceable bulb CAT# TLB \$3.95 each</p>	<p><b>LED'S</b></p> <p>Jumbo T 1-3/4 (5 mm) RED CAT# LED-1 10 for \$1.50</p> <p>GREEN CAT# LED-2 10 for \$2.00</p> <p>YELLOW CAT# LED-3 10 for \$2.00</p> <p>TWO PIECE HOLDERS FOR ABOVE L.E.D.S. CAT# HLED 10 for 65c 100 for \$5.00</p>												
<p><b>MINI PUSH BUTTON</b></p> <p>S.P.S.T. momentary. Push to make. CAT# MPB-1 10 for \$3.25</p>	<p><b>TELEPHONE COUPLING TRANSFORMER</b></p> <p>Stancor # TTCP-8 600 ohms C.T. to 600 ohms C.T. P.C. board mount. 3/4" X 5/8" X 3/4" CAT# TCTXS \$2.50</p>												
<p><b>NI-CAD CHARGER/TESTER</b></p> <p>Will charge most every size Ni-Cad battery available. CAT# UNCC-N \$15.00</p>	<p><b>RECHARGEABLE NI-CAD BATTERIES</b></p> <table border="1"> <tr> <td>AAA SIZE 1.25V 180mAh</td> <td>\$2.25</td> </tr> <tr> <td>AA SIZE 1.25V 500mAh</td> <td>\$2.00</td> </tr> <tr> <td>AA WITH SOLDER TABS</td> <td>\$2.20</td> </tr> <tr> <td>C-SIZE 1.2V 1200mAh</td> <td>\$4.25</td> </tr> <tr> <td>SUB-C SIZE SOLDER TABS</td> <td>\$4.25</td> </tr> <tr> <td>D-SIZE 1.2V 1200mAh</td> <td>\$4.25</td> </tr> </table>	AAA SIZE 1.25V 180mAh	\$2.25	AA SIZE 1.25V 500mAh	\$2.00	AA WITH SOLDER TABS	\$2.20	C-SIZE 1.2V 1200mAh	\$4.25	SUB-C SIZE SOLDER TABS	\$4.25	D-SIZE 1.2V 1200mAh	\$4.25
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