

Equipment Review

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The Realistic HTX-100 10 metre SSB/CW Transceiver

I am sure that the REALISTIC brand is well-known to all of our readers and of course REALISTIC is distributed by your local Tandy shop. After many years, Tandy is releasing a genuine amateur transceiver. It is certainly not just a worked-over CB transceiver, but a full featured ten metre band mobile or fixed station rig. I hope Tandy might see fit to extend their amateur range in the future. The transceiver is actually made for Tandy by UNIDEN in Taiwan and of course these days UNIDEN is well known for their range of VHF/UHF scanning receivers and also CB equipment. I note from American magazines that UNIDEN produce alternative versions of the HTX-100 for sale in that country. Well, just what is the HTX-100 like and what does it do? It is an SSB/CW transceiver rated at 25 watts output and has a coverage of 28 to 29.7 MHz. It tunes this range in selectable steps of 100 Hz, 1kHz and 10kHz. It also has a 500 kHz stepping button for really fast frequency excursions. It has ten memories which when selected can still be over-ridden by the normal tuning control. Other controls include RIT, RF gain, audio gain, squelch, a frequency lock switch, a noise blanker and a MOX switch. A large clear LCD provides the operator with information on frequency, mode and memory selection. A five LED display acts as an 'S' meter and RF power indicator. 3.5mm connectors allow a key to be plugged in for CW and a headphone connection on the front panel.

The overall size of the HTX-100 is similar to the two metre FM transceivers of the 1970s. The actual dimensions are 185mm wide, 63mm high and 245mm deep including knobs and heat sink. The rear panel carries an SO-239 antenna connector, a 13.8 volt DC connector and two 3.5mm sockets for external speaker and the CW key. A mobile mounting bracket is a standard feature.

The HTX-100 on the air

The transceiver requires a 13.8 volt DC source either from suitable AC power supply or a car battery in the case of mobile



Front panel view of the HTX-100 Transceiver

operation. If using an AC supply, it would need to be rated at about 5 amps. For my tests, I used a 20 amp supply. The first impression is the very clear green illuminated LCD display. Receive current drain is about 450 mA, transmit standby drain is about 750mA and transmit with full power output on CW is 4.8 amps. Peak current drain with SSB would be about the same but any ammeter showed an average drain of around 2.5 amps.

The only antenna I have available for 10 metres at the moment is an 80 metre half-wave fed with tuned feeders through an ATU. Not the best DX antenna in the world, but the first call using the HTX-100 produced an S6 report from a ZS in South Africa. I was to say the least rather surprised. After this I settled down to try out the various controls. The tuning steps are selected sequentially by pushing the step button. As each step is produced the step digit on the display is underlined. Memory programming is very simple, just tune to the required frequency and push the 'store' button and it's there. Your preferred mode can also be programmed with the frequency. ALL of the ten memories are fully tunable which is ever so much more useful than the

fixed memories that many HF transceivers have these days. The RIT control has a range of +/- 1.3 kHz but there is no provision to switch it out. The control has a central detent but with no in/out switch and no status indicator you would need to be careful that it is not inadvertently left on. Unfortunately the frequency display does not show the offset either.

Receiver sensitivity appeared excellent and in general signals sounded clean with excellent AGC action. The speaker is mounted in the bottom cover of the rig and produces quite acceptable quality as long as it's facing you. Audio power output also appeared to be reasonably adequate. The receiver 'S' meter is calibrated at S3,5,7,9 and 'over'. I guess you could say that for mobile operation it is adequate enough. The 3.5mm headphone socket on the front panel is wired for single circuit plugs only so if you want to use your 'Walkman' headphones there will be sound on one side only. However, Tandy can sell you a stereo to mono adaptor.

Transmitted audio quality was rated as slightly thin and restricted but there appeared to be plenty of talk power. The transmit audio gain is fixed with no front panel control but speaking about 5 or 6cm from

the microphone seemed about right. CW operation is semi break-in with side tone through the speaker which is level adjusted with the normal receiver audio gain control. After transmitting, the rig goes back to receive after about one second. I felt that this delay was a bit too long and you could miss the first couple of characters from the station you are working. There does not appear to be any adjustment on the delay.

The tuning control deserves mention. It is a click step type with about 22 steps per revolution. This is certainly rather unusual for an HF transceiver, but I found it very pleasant to use. It gives a tuning rate of about 2.2kHz per knob revolution when the 100Hz stepping rate is selected.

The noise blander was most effective in eliminating low level electrical hash and car ignition noise. There was no sign of receiver cross modulation with the blander switched in.

Up/down buttons are provided on the top of the microphone and these allow stepping through the memory channels when in memory mode and give transceiver tuning when in normal mode. With 100Hz steps selected, the scanning rate is about 1kHz per second which is just a bit too fast. Again no adjustment is provided. All in all, I found the HTX-100 a very pleasant and easy rig to use. All the controls did exactly what you would expect of them and the overall performance was very good.

The Instruction Manual

The instruction manual is just that. It tells how to set up and operate the rig in a clear and concise manner. The only technical information supplied is a circuit diagram which requires a magnifying glass or better eyes than mine to read. I don't know if a service manual is available from Tandy.

The HTX-100 Conclusions

The rig should sell for just on \$500. However, it does offer a lot. Let's look at a few suggestions. First of course with the ten metre band on the up and up it offers wonderful possibilities for mobile DX. For the home station you would be able to run it continuously on the band waiting for openings. It also has possibilities as a driver for a VHF transverter for say, two metres SSB.

There is, though, one big disappointment with it and that is, there is no FM. This does seem strange as the UNIDEN clone available in the States does have FM. I can only assume that Tandy have done their research on the market and know what they are doing. But for what it is, it does an excellent job. Our thanks to Tandy Australia for the loan of the review transceiver.

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Book Review

ARRL Antenna Handbook

The 15th edition of the ARRL "Antenna Handbook" is probably the best value for money on the amateur market today.

The new "Handbook" brings together in one place most of the antenna information published by the ARRL in the past many decades. All of the older, seminal, designs are covered as well as the more modern concepts and modifications stemming from them.

Antennas come in all shapes and sizes - from a simple random wire to very complex arrays - but all perform to the same basic principles. The new "Handbook" clearly explains these principles and then goes on to help one choose an antenna suitable for a particular purpose or a particular environment - be it broad acre or cramped suburbia.

Hundreds of different antennas are described and each has information on how to build, install and adjust it. Included are wires, loops, quads, quagis, helicals, verticals, disconses, beams, log aperiodics, DDDR's, slopers, broadband "receive only" antennas and a host of others including those for restricted spaces and/or portable operation.

Always looked upon as the most desirable repository of antenna lore, this latest ARRL edition is nearly twice the size of its predecessor, has thirty chapters, a comprehensive index and is about two-thirds the thickness of the current edition of the ARRL "Radio Amateurs Handbook".

Both HF and VHF enthusiasts are well catered for with "ready to go" systems for those not wishing to do the design work themselves. For those wishing to put in the extra work, or delve more deeply into the whys and wherefores of a particular antenna, there is plenty of design information and a comprehensive bibliography. Of particular interest is the expanded section on loop antennas (both receiving and transmitting), the section dealing with travelling wave antennas and the chapter covering space communications.

The individual chapters deal with safety (perhaps properly the very first chapter!) antenna fundamentals, transmission lines, matching and measuring techniques, the effect of the earth beneath the antenna and, indeed everything needed to put up

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the best possible radiator that the surrounding environment allows.

The writing style is clear and unambiguous, making even the most complex concepts easy to follow and understand - a virtue not necessarily shared by the original writings on which this compendium is based.

It matters not whether the reader is an old, old timer or a very recent licensee - the book has something of interest and/or novelty and can be considered a "must" for all amateurs.

Understandably most of the information is of American origin - more specifically material published in QST at some time or another - although there are a few references to material appearing in other American amateur publications. There is little or nothing accredited to European or Australian sources, in spite of a lot of excellent work done in these areas. This is a pity but by no means a drawback.

The review copy of the "Antenna Handbook" came from Stewart Electronic Components P/L, 44 Stafford Street, Hunt- ingtondale, 3166.

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