Review: THE TONO THETA 7000 COMMUNICATION COMPUTER

By AR Editorial Staff

The TONO THETA 7000 Communications Computer (to give it the full title) is a highly sophisticated state of the art RTTY, ASCII and CW receiving and transmitting terminal, and projects the information on a normal television receiver or VDU monitor.

It is not often that we get the opportunity to look at the latest in amateur equipment as it actually hits the market, and we were grateful when we contacted VICOM that a unit was made readily available for a review.

The unit itself is very compact, measuring 400 mm x 300 mm x 120 mm and weighs 4.5 kg.

It incorporates many facilities including being able to be used as a terminal for an external microcomputer, and is not restricted to amateur communications. It can also be used for many types of commercial traffic.

The built-in RTTY demodulator has three shifts; 170 Hz for normal amateur use, also 425 Hz and 850 Hz, making it a very versatile unit in this mode. FSK or AFSK may be used.

Character speeds of 45.45, 50, 56.88 and 74 baud are available at the push of a button, and in the ASCII mode speeds of 110 and 300 baud are selectable.

The unit has several reasonably large capacity memories, including a buffer memory with recall.

CW sending and receiving is also fully automatic, with adjustable speeds and weight for varying character ratios.

The control panel is a modern typewriter keyboard and is silent in use.

We tested the unit basically from an operator's point of view, and did not delve into the circuitry with any depth.

Suffice to say that it is fully solid state, with a Central Processing Unit, and naturally due to its complexity, would not lend itself to "fiddling" by over-enthusiastic experimenters.

One would have to consider that providing the unit was operated in accordance with the instructions, and the "works" be left alone, many years of excellent service would be obtained.

The unit comes with a fairly comprehensive instruction manual, and even a limited service manual for various adjustments.

Both manuals are written in the typical pseudo English from Japanese translation we are now becoming used to, and it is necessary to read over some of the sections several times to obtain a thorough understanding.

ON-AIR TESTING

On-air tests were restricted to the RTTY and CW modes, we did not encounter any ASCII transmissions during the tests, so we were unable to fully appreciate that mode.

It is very easy to be over critical with a device such as this, and after a period of becoming fully conversant with its capabilities, we found it a delight and relatively simple to operate.

RTTY

It certainly helps if the operator has some form of typing capability, but the testers were only "two finger" typists, and even though we were slow at first, we had no trouble in keeping up with some of the more experienced operators in our QSOs.

We generally found that signals less than S3 provided a marginal copy only, in both RTTY and CW. It was interesting to note that on occasions where the "woodpecker" was evident, or with QRM from SSB and some CW stations, the display was not affected.

The automatic carriage return and letters and figures shift means that the operator does not have to concern himself with "running off the page" or typing "asterisks", etc., in place of numbers. It is all done for you, and helps to speed up transmission.

The memory functions are *very* useful, and permanent short messages such as call signs, basic details, etc., may be stored for instant recall.

CW

The signal to noise ratio on most bands produced excellent CW copy from keyers. The easy way to copy CW at virtually any speed.

Hand sent CW is often not optimally spaced, and the unit produced some odd characters if a station operator was inconsistent, e.g., "HI" was often displayed as "HEE".

Some noise bursts, particularly on 80 metres, produced a string of "Es", but after a while one became used to this, and it was amazing how quickly we were able to mentally correct what was being displayed.

It is obvious that the unit performs its best on receiving keyer sent code.

In monitoring two or more stations on CW we found it necessary for all stations to be zero beat, or within 100 Hz of each other, to save returning the receiver. This is actually quite an important facility, as it proves the effectiveness of the filters by rejecting QRM as mentioned earlier.

SUMMARY

The general consensus of the testers was that the TONO Corporation has produced a very effective and efficient terminal. It is a new generation of amateur equipment and should prove itself popular with amateurs and commercial users.

The unit performed to its specifications and, after spending several hours to become fully accustomed to its capabilities, we found very little to criticise.

We found it relaxing to use and were grateful for the help and understanding given by the other amateurs we contacted.

The TONO THETA 7000 is the ideal unit for the RTTY enthusiast who detests noisy teletypes and who would also like to work some CW, or for the CW fiend who would like to try RTTY.

It is not particularly cheap, although very competitively priced to other similar units. At the time of testing the price is $839, and is available from VICOM and their distributors. ■