OPERATING AMTOR
The AMT-1 reviewed

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The advent of the home computer has had a major effect on RTTY (Radio Teletype) communications. AMTOR typifies this superbly.

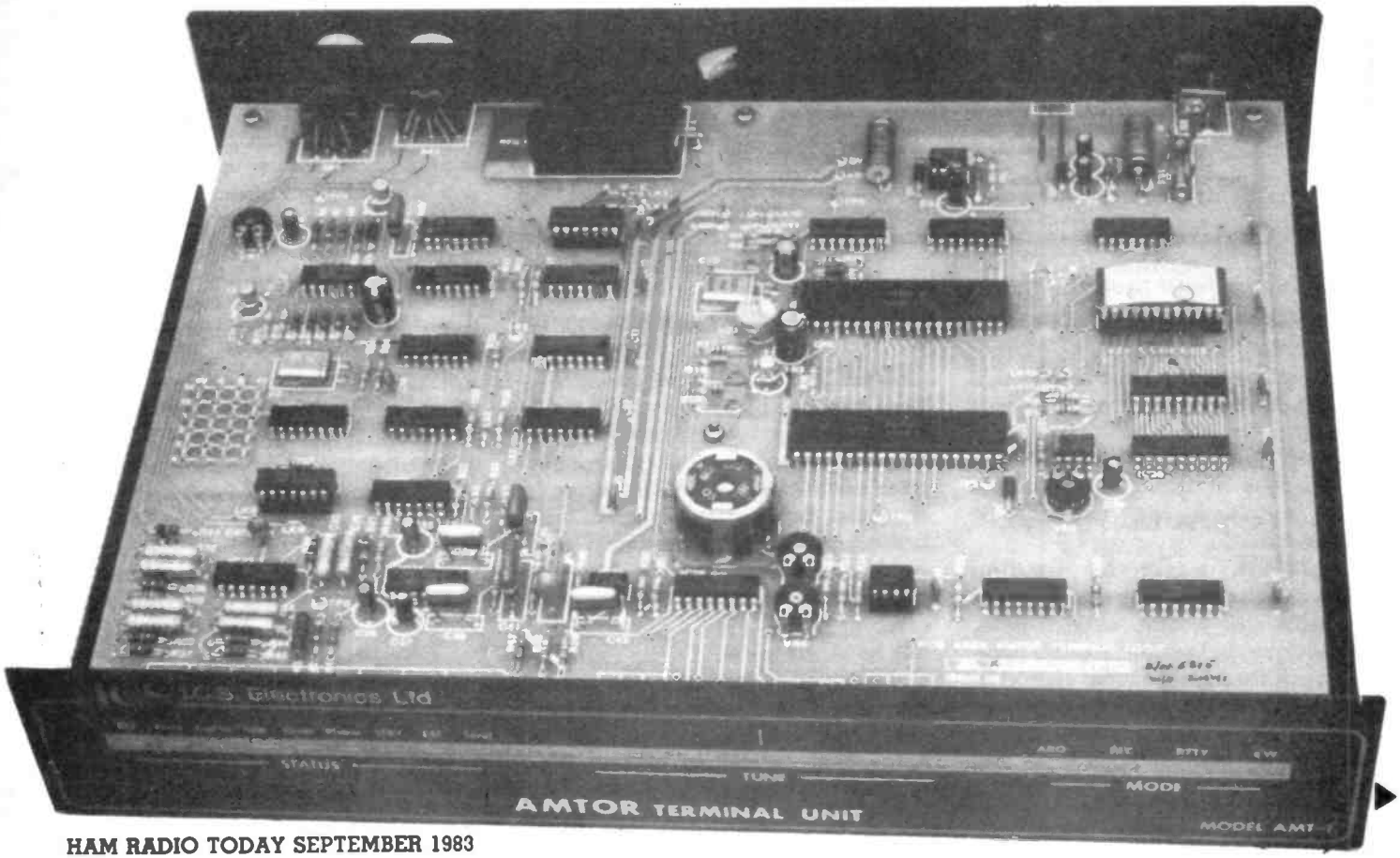
No longer does one hear the sound of Creed *7Bs* or *75s* clattering away in the amateur shack — instead many stations have replaced the mechanical side with a VDU, and the Teleprinter keyboard with a computer keyboard. Operation is quite a lot quieter (even if rather more expensive) and you can always have a printer attached for a permanent record of QSOs.

Having the computer brings other benefits — pre-programmed messages concerning the station set-up and standard details can be sent with little effort on the operator's part. You can even program the computer to have QSOs for you, or to only respond to calls directed at your station.

One of the problems that the computerised RTTY set-up won't solve quite so easily is the loss of copy resulting from fading, interference or errors in the decoded signal resulting from these two factors. If you want to get a repeat, you have to wait for the other station to cease transmitting and ask for a repeat — under poor conditions even your request can be lost, so the QSO is abandoned.

The solution

How about a system which isn't affected by fading or interference, automatically asks for a repeat if it didn't copy, and keeps asking until the information is correct? And that does its own error checking and correction?

Back in 1979, Peter Martinez, G3PLX, first released details of a new system based on the recommendations of CCIR 476, a highly reliable commercial radio teleprinter system, and christened it "AMTOR" (amateur microprocessor teleprinter over radio), using a 6800 MPU based system. Details were published in August 1979 *Radio Communication*.

As might be imagined, the system is fairly complex in terms of programming and the following parallel as originally given by G3PLX will help understand the method of operation. If you imagine two stations in simplex voice communication who wish to exchange messages reliably when conditions are poor, they might arrange to use a system whereby station A send three words, reverts to receive, an awaits B's answer of a "Roger" or "no copy". A then either carries on sending another three words, or repeats the original three until he receives a "Roger". A problem