

# RTTY The Long Distance Typewriter

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## PART 2

### One of the first

One of the first requisites is to become a member of the *British Amateur Radio Teleprinter Group*, which is affiliated to the Radio Society of Great Britain. By joining BARTG, as it is familiarly known to members, one has the benefit of technical advice on all the many problems that beset the beginner, a special price for the purchase of printed circuits boards and specialised components, a quarterly newsletter containing technical articles, contest results, members sales and wants etc. All names and addresses which refer to BARTG will be found at the end of the article.

There are five items which comprise the minimum requirements for receiving and transmitting RTTY. They are:-

- 1) Receiver
- 2) Transmitter
- 3) Terminal unit (TU)
- 4) FSK/AFSK circuits
- 5) Teleprinter

questions anybody asks when taking up a new hobby is 'How much does it cost?'. I can, with all honesty, say that RTTY is one of the least expensive of hobbies.

### The receiver

It is possible that the first two items will already be part of your station either separately or together as a transceiver. But I must point out that for reliable RTTY results the stability of the receiver, (and incidentally of the transmitter), should be at least as good as that required for the reception and transmission of SSB. The only really necessary facility for an RTTY receiver is a Beat Frequency Oscillator (BFO). This is essential for FSK reception,

and therefore a must on the HF bands, but even on VHF where AFSK may be in use, it is strongly recommended that a BFO is available so as to copy FSK, the channel for which is 144.600 MHz. Without a BFO it is impossible to appreciate the great difference that FSK makes to weak signals.

### The terminal unit (TU)

Shown in Fig. 1 is a block schematic of a straightforward terminal unit. Audio from the receiver is fed to a limiting amplifier which converts the signals into constant amplitude square waves. The squared off signals are then passed through a discriminator which changes the frequency of the tones into two DC voltages, typically -3 volts for MARK and +3 volts for SPACE. The slicer stage, being a high gain DC amplifier merely has to decide whether the discriminator output is positive or negative and

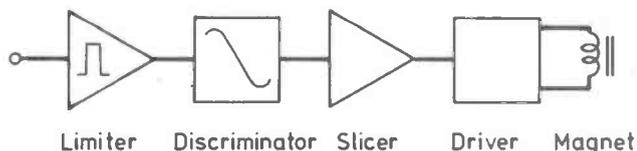


Fig. 1. Block schematic

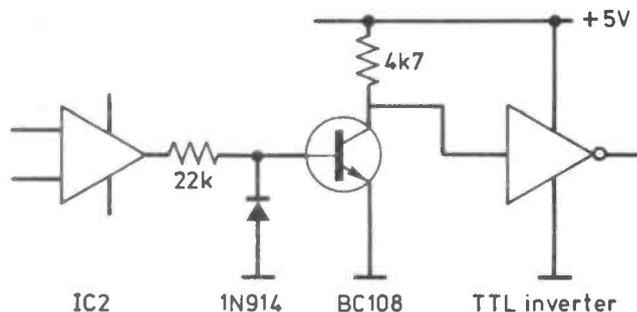


Fig. 2. TTL interface