

COMMUNICATIONS VIA INMARSAT, the International Maritime Service Satellite, have had quite a drastic effect on terrestrial radio communications, especially on W/T (CW). This switch to INMARSAT has not only had an effect on levels of HF traffic but is bringing the role of a traditional ship's Radio Officer to a premature end.

Portishead General Layout

The communications centre is operated by British Telecom's Worldwide Networks Division, located at Burnham-on-Sea/Highbridge in Somerset, and provides long range radio service for aeronautical and maritime operations. The name Portishead Radio is derived from the location of the original transmitter site at Portishead near Bristol. This site was later supplemented by transmitters at Rugby, Leafield and Ongar. Sadly, the Portishead site was put out of commission some years ago but the famous name of Portishead Radio was retained. The sites at Leafield and Ongar also became redundant to requirements, and only the transmitters at Rugby are now used for

the aeronautical and maritime HF service.

Transmitters

The transmitting site at Rugby is also reducing the area dedicated to this service, and the transmitters are to be housed

in one building as opposed to two at present. The actual transmitters are:

DS13 – made by STC in the 1960s with a 30kW capability. Has a Wheatstone balancing feature to tune up to six preset frequencies.

QT3a1 – also made by STC in the 1960s, capable of tuning to any frequency between 3 and 28MHz with an 8kW capability.

QT3a2 – similar to QT3a1 except for

a different synthesiser frequency arrangement.

QT3a4 – works like a linear amplifier with 9kW pep.

MFT – made by Marconi. Fast tune transmitter similar to QT3a4, only more up-to-date with a 10kW pep capability.

AJAX – made by SPT. Fixed frequency linear amplifier type, manually tuned, and produced in the late 1970s.

QT8 – made by STC. An up-to-date version of the DS13 with the capability

Portishead Radio Today

by Roger Marshall

Roger Marshall has been involved with Morse code since 1962 when he opted to become a Spec. Op. with the Royal Corps of Signals. He later went on to obtain his MPT (ex PMG) ticket and joined the Post Office in 1970 as a Radio Operator. Then, he says, 'Morse really was the main mode of communication'. In this article, he describes CW working at Portishead Radio today and how it is organised.

to change frequency automatically. Has a 30kW pep capability.

The output power of transmitters is reduced to 5kW on frequencies below 8MHz for CW and FSK modes, and restricted to 10kW in SSB mode.

Antennas at Rugby are Rotating Log Periodics, Stacked Quads, Spiracones, Wideband Cones and Rhombics.

Receiving Arrangements

Reception is provided by the receiving site at Somerton, in Somerset, which has a larger aerial farm than that originally in use at Burnham. Signals are transmitted by microwave links between Somerton and Burnham via the Pen Hill mast on the Mendip Hills. The receivers, located at Somerton, are Racal RA.1792 remotely controlled from Burnham by Racal MA.1075 control units.

There is no marked difference between the quality of reception using this method of operation and one that has a conventional local antenna, amplifier and receiver – that's what the engineers tell us, anyway!

Burnham's antennas have now been removed and the only clue to its role as a radio station is the microwave tower and dish, a Cellnet repeater tower, a few whip aerials and a couple of long wires – plus the irregular comings and goings of Morse-riddled operators, twitching after years of H24 shift work.

As It Was

The number of staff employed has been reduced to 73, many taking advantage of BT's release programme of voluntary redundancy – very tempting, but

I'm nowt but a lad yet! Other BT departments now occupy the vacant spaces left by the reduction of the radio services.

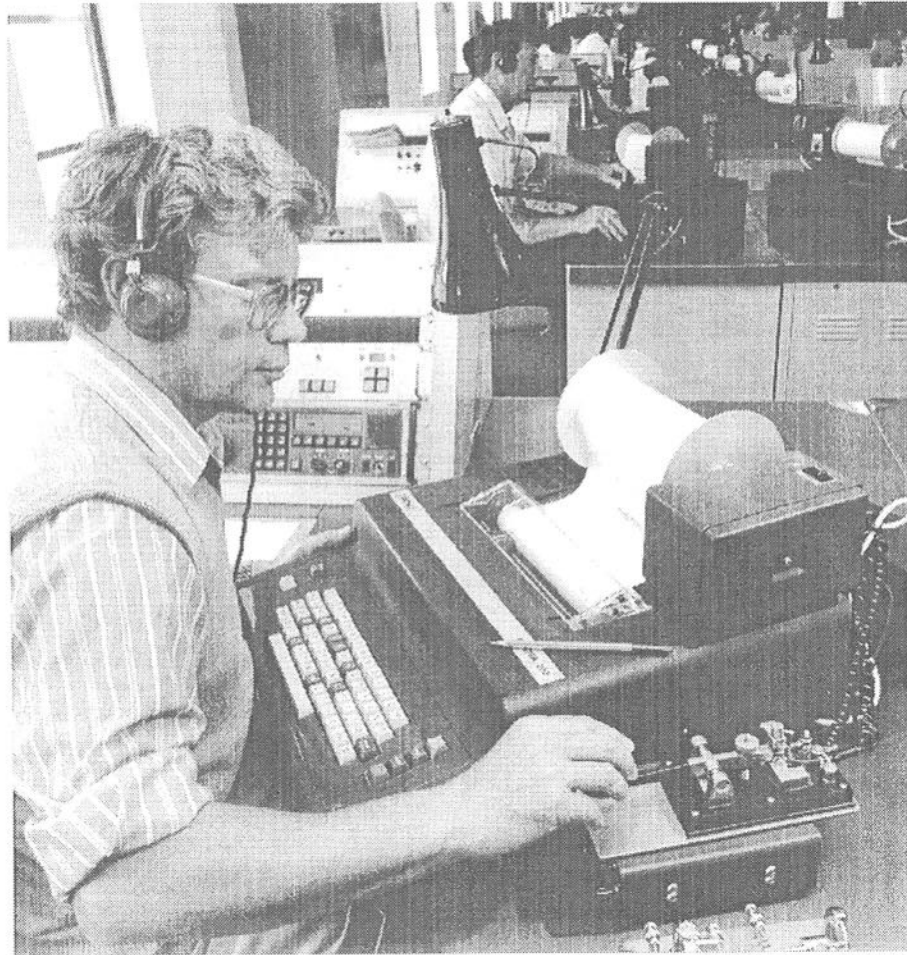
It's a far cry from the 1970s situation when nearly 300 operators were employed, and three wings of the old building were dedicated to CW operations only. Traffic was taken on typewriters, sent by conveyor belt to a control room, transferred by hand to another conveyor belt into a landline room, routed by hand, sent on teleprinter to its destination, collected by an accounting officer, charged and filed away for storage. But that was then. This is what CW at Portishead Radio is like now...

Wireless Telegraphy Today

The Burnham Message Handling System (BMHS) is the computer which handles all the station's operations on CW. The details of ships are held on a database (SNF), and all from-ship and to-ship transactions are checked with the SNF before any further operations can be carried out.

Only 12 consoles are required to handle the CW traffic. The consoles are fitted with a Racal Control Unit which looks exactly like the receiver itself; an antenna selection unit giving 360 degree selection in 15 degree steps, plus an omnidirectional option; two transmitter selection units giving access to all the CW transmitters; a visual display unit (VDU) and keyboard; and two Morse keys.

Ships call Portishead on whatever channel is being emitted by the GKB series transmitter. The searching officer enters the ship's callsign, bearing and QSS (working frequency) into the VDU



British Telecom International photograph

One of the W/T operating positions at Portishead Radio as it was in 1988. At that time, traffic received from ships was transcribed onto a teleprinter; trials of different models of VDU/keyboard set-up were being conducted to select the most suitable. The Racal receiver control unit is visible behind the operator, who has a selection of keys to hand

which is connected with BMHS. The ship's callsign is checked with the SNF and the details are passed to the first vacant working point VDU along with any outstanding traffic. The searching officer monitors channels 2 and 3 stored in the receiver on 4, 8, 12, 16, and

22MHz – there used to be a searching officer on EACH of the bands but it is now handled by one operator.

All from-ship traffic is typed directly into BMHS via the VDU/keyboard, the format and word-count being automatically checked before acceptance. When

accepted, the from-ship traffic is automatically transposed into a format acceptable to EMHS (Enhanced Message Handling System) located at Coventry. EMHS replaces the TRC acceptance centre in London. The EMHS then forwards the message to its destination by whatever pre-selected method is chosen by the addressee. All telegrams to and from the UK are routed through the Coventry EMHS.

Traffic Lists

Acceptance of to-ship radiotelegram traffic submitted by telex is also undertaken by the CW operators. Any necessary editing is carried out and traffic is then tendered to the BMHS store to await collection by the ship. Any traffic not collected within five days is automatically cancelled and the sender advised accordingly. No charges are raised for undelivered items. Traffic still on hand after 24 hours is checked manually to ensure that the particulars are correct and also to see if another means of delivery is possible, i.e., via a short range coast station, an overseas station or via INMARSAT.

The hourly CW traffic list on the GKA series is automatically compiled from the traffic on hand in the BMHS store, and all ships fitted with HF CW are called in this list. Ships fitted primarily with HF radiotelephone are called in the hourly R/T traffic list.

Ships fitted with Radiotelex (SITOR) are also called in the GKE (TOR) traffic list as well as either the R/T or CW traffic list. The ship's radio details held in the SNF database determine in which list(s) the ship should be called.

Morse Keys Used

The two Morse keys supplied on each point are a robust Post Office straight key and a Katsumi electronic squeeze key. Other privately-owned keys include a variety of bugs like the Vibroplex, different Japanese electronic squeeze-keys and even a home-made hacksaw blade side-swiper. Mine is a modified Dentsu-seiki Japanese bug circa 1960, keyed with the right hand but producing dashes with the thumb and dots with the first finger – which always fools the unwary! Working speeds vary from a sedate 15 wpm up to a crisp 25 wpm when a Russian operator is at the other end.

Reception Reports

Short Wave Listeners logging the station will be pleased to know that reception reports on any Portishead service will be acknowledged with a QSL card, but this is now restricted to overseas listeners only. Reports should contain enough information to make verification possible. Reporting the continuous generated callband is not considered sufficient. A problem, especially in the UK of course, is the law prohibiting the copying of radio traffic.

(Extracted and adapted for MM, with permission, from a two-part article 'Portishead Radio – An Update' which appeared recently in Monitor, journal of the International Short Wave League. While this extract refers principally to CW operations, the full article also describes Radio Telephony, Radiotelex (TOR), INMARSAT (briefly), and other services currently provided by Portishead Radio. – Ed.)