Earlier

It was during the BBC local radio expansion, starting in 1973 that this store of MF transmitters and sites would be used over the next fifteen years – what I didn't realise, until recently, was the extent to which the Corporation had been employing the ET4336 in many different ways and earlier, much earlier! To discover the entire story I'm indebted to three retired BBC engineers for their personal recollections. They are: Mr John Phillips, formerly Assistant Engineer-in-Charge, Droitwich; Mr Ron Johnson, formerly Engineer-in-Charge, Washford and Mr Denis Surridge, formerly Head of the MF section of the Transmitter Capital Projects Department.

John Phillips

I'll let John Phillips take up the story:

"The ET4336 first came to Droitwich in the early 1950s, 150 of them, each packed in the original RCA shipping crate. They were brought from Clydesdale Radio as Government surplus. I was involved in unpacking them and an engineer came up from Head Office to test them. A dummy load was rigged up using two 250W Robertson lamps, crystals were provided between 2 and 4 Megs and boxes of valves to tube them. One or two had faults, mostly due to vibration, causing lugs to work loose but the majority were OK. They were tested at 350W telegraph and 250W phone, several were dispatched to other sites for DF communications. We had one set up at Droitwich in the main building for CW only.

Each transmitter was supplied with a plug-in crystal oscillator and a VFO but only the Xtal oscillators were used.

I still have some of the DF crystals, on 3520 and 3560kHz. The VFOs were in great demand by radio hams because they were useful 10-20 Watt transmitter units covering 1.8 to 20MHz, it was surprising how they disappeared! No aerial was installed for the Droitwich HF transmitter.

One Technical Assistant, who held an amateur radio licence and lived opposite the transmitting station bought an ET4336 as Government surplus. He installed it in his digs and it went straight through his landlady's floorboards!

Many of the ET4336s went away to the BBC Equipment Department in London where they were 'stretched' to accommodate a modified Leak Hi-Fi Point-One audio amplifier BBC type LSM/8A as the modulator driver. Again they were used for DF but on MF after being frequency converted to tune from 647kHz to 1594kHz.

In 1953 two of the ET4336 were sent to Holland to give the Dutch some communication facilities to cope with the floods. In 1975 Denis Surridge asked me to do some work on solid-state automation for the transmitter using Mullard Norbits. By today's standards these were enormous integrated circuits. The control board occupied the area where the RCA crystal oscillator fitted.

In the late 1970s a large consignment of the original DF ET4336 were returned to Droitwich for scrapping. Pat Priestman of the Equipment Department came to oversee the event and organise the dispatch to an electronic brokers in Leeds. As they had not to be sold in a working state, Pat went round with a hammer and smashed all the ceramic formered, roller-coaster tuning inductors. A terrible sight, it horrified me!"

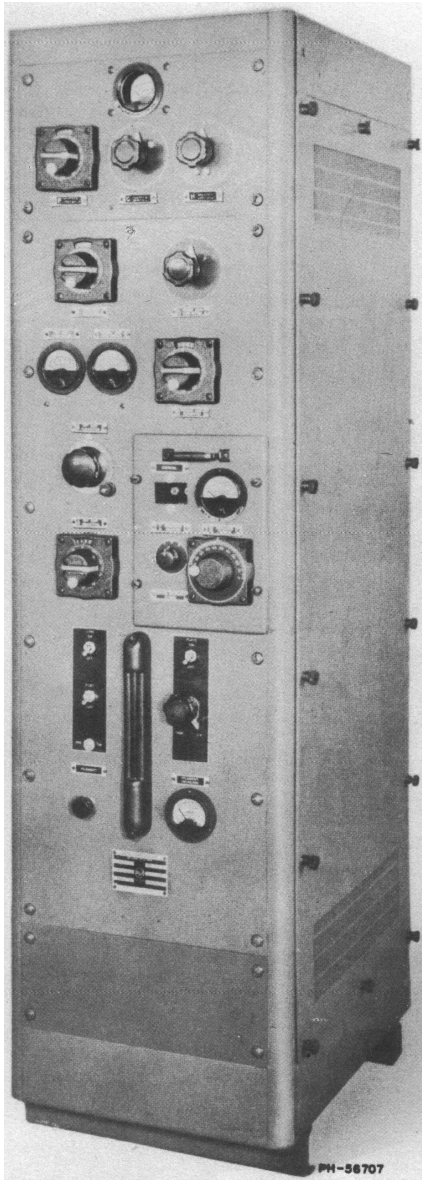
Ron Johnson

Ron Johnson relates:

"My first recollection of the RCA ET4336 transmitters was at Brookman's Park in 1949. There were about ten units awaiting modification to BBC use. The purchase of these transmitters arose in preparation for the implementation of the 1948 Copenhagen Plan in March 1950. The Corporation was looking into expanding the Third Programme network. Ever since about 1946 thought had been given to adopting unattended working of TX stations with its obvious staff savings. The use of the ET4336, in combined pairs, was part of this move to unattended operation.

The stations were to be serviced by Mobile Transmitter Maintenance Teams and the first team was at Stagshaw in January 1951.

In the late 1950s the MTT Units, 9 through 14, were equipped with pairs of ET4336. These caravans had their own diesel alternator mounted on a Bedford lorry and could be used in emergency situations or for planned



An original RCA photograph of the ET4336

maintenance. With the expansion of local radio in the early 1970s both the MTTs and some of the DF sites were used. For the Radio Bristol service, the Taunton DF site was re-employed to serve Somerset.

It was on the 250W+250W combined MF service that a tightly coupled transformer on a ferrite toroid was first utilised to combine the transmitter 120 ohm outputs to the 60 ohm output feeder. With both units on, the output was 500 watts. If one unit failed then 125 watts was passed to the output and the rest was absorbed by the balancing load. There were no switching breaks so the listener was unaware of the condition.

Staff at the team base could interrogate the remote site's automatic control and monitoring system, checking