

More memories of Drive Section have begun to flow following Clive Kendall's reminiscences in the October edition of *Prospero*. Here Alex Rothney recalls that a 'Crystal Drive' was a crystal oscillator plus the amplification etc., to feed into a transmitter and goes on to reveal a little bit of history

COU. 4 – and how Drive Section went shopping in the interests of national security

After serving as a MN radio officer throughout WW2, I joined the BBC Transmitter Department. At the beginning of 1950 I was sent to Drive Section, which at that time consisted of two engineers and about half a dozen wiremen, and was in the throes of preparing for an MF reallocation of frequencies in March 1950, in accordance with the Copenhagen Plan.

In *BBC Engineering 1922 – 1972*, by Edward Pawley, there are several references to this, indexed as Drives, crystal, but Drive Section is not mentioned.

Now to reveal a piece of secret history. In the name of defence of the realm it had been decided that the main MF stations had to be equipped with an emergency frequency. Drive Section was instructed to produce 12 new drives, but, (1) no other department could be involved and (2) The complete drive had to be mounted on a spare 4½ panel on an existing 5'9" CP.17E bay.

There were two immediate problems. All existing crystal ovens, (to maintain the crystals at a reasonably constant temperature) were, roughly, a 9 inch cube, and the epicyclic tuning dial diameter was larger than 4½.

At that time Drive Section occupied two long huts in the grounds of Research Department, Nightingale Square, just south of Clapham Common. One hut was the office and workshop; the other, the store room, was full of old drive equipment, which provided some articles otherwise unobtainable, such as oven heating mats and oven temperature contact ther-

момeters.

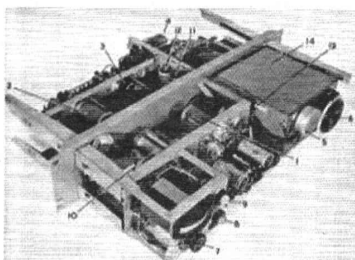
Other sources of supply, without involving other BBC departments, were the shops in Lisle Street, just off Charing Cross Road, which were selling oodles of war surplus radio material. At one of these shops, called Lasky's, we obtained enough epicyclic dials of the right size.

I had the task of designing the unit. The oscillator circuitry was similar to that of the CP.17E. The oven control and alarm systems were greatly simplified, and the oven heating transformer eliminated. This oven did not have the accurate temperature control of a CP.17E oven, but the latest crystals were far less affected by temperature variation.

This resulted in a much smaller bulk but more than could be mounted on the front and back of a 4½ panel. The answer was to mount most of the components on both sides of hinged panels which could be swung out for maintenance.

It was named the COU.4

Production was soon under way. All the work was done in our own workshop. Then we were given an order for another batch of COU.4s. Something like 30, I think. We had enough spare parts in the store room for the oven items, but no more dials were forthcoming from Lisle Street.



Left: Crystal Oscillator Unit Type COU.4 less outer covers. Photo appears in BBC Engineering Division, Technical Instruction T3

However, we managed to get more of the tuning dials direct from the manufacturer.

Very soon after that, I was seconded to Tanganyika. Three and a half years later, when I returned to the Beeb, I found that production of COU.4s was now in the hands of Planning & Installation Department, and being fitted at all the low power MF transmitters. Secrecy was no more. Indeed, a Technical Instruction, T3, describing the COU.4, had been issued.

But Drive Section had vanished!

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