

Shared Service

A system of using one pair of wires to serve more than one telephone has been around almost since the inception of telephone service. Initially subscribers to the various private telephone companies paid an annual subscription for their service and this included local calls – hence the term ‘Subscriber’

The subscription was based on distance from the exchange. At the turn of the century in 1900, most subscribers were within half a mile of the exchange as the subscription then rose sharply. In an effort to increase the number of subscribers, party lines were introduced with up to 12 subscribers on each line. Half the subscribers bells were connected between one wire of the line and earth and the other half between the other wire and earth. Those connected to one wire were known as the ‘X’ subscribers and those on the other wire as the ‘Y’ subscribers. The operator on the manual switchboard would ring the ‘X’ subscribers with the normal ring key, and the ‘Y’ subscribers by reversing the ring key to call on the other wire. Telephone directories would show numbers such as Mold 3X4 - meaning the operator would use party line jack number 3 and give 4 rings with the normal ring key. Numbers like that lasted well into the 1920’s.

There was a party line some three miles long off Holywell exchange in North Wales, which had most of the village of Pantasaph on it. Some of the numbers on the line were Holywell 2X2, 2X3, 2Y2, and included the local shop plus the local pub the Fielding Arms 2Y1. 2X1 was Pantasaph Monastery. However the only other line in this ‘distant’ village was Holywell 7 - The Convent, Pantasaph! There must be a story there? How did the nuns with their vow of poverty afford their own separate line when the entire village had to share?

However as prices were reduced, the need for ‘rural party lines’ as they were called, disappeared, but manual two party lines existed for many years until the end of manual telephony in 1976.

With the introduction of automatic exchanges, the need eventually arose for an automatic version of the party line. It became known as ‘shared service’. There were two systems used by the GPO in the UK. The first was known as ‘Common Metering’ and the other as ‘Selective Metering’ or later ‘Separate Metering’.

With automatic ‘common metering’, each telephone had its own separate telephone number which rang the subscribers individually (using the X or Y ringing). But the two lines were ‘commoned’ to use a single calling circuit and hence a single subscribers meter to record the outgoing calls. It was left to the two subscribers to argue the cost of the calls between them! This system could be used not just to save on cable pairs to a given location but also on the occasions where there were cable pairs but a shortage of exchange equipment. Common metering was used well into the 1950’s.

The other form of shared service with selective/separate metering allowed ringing either of the two subscribers selectively (using the X/Y system to ‘earth’) but also the outgoing calls were metered on separate meters – hence no arguments! This system was certainly in use by 1925 – see N1500/1/3 dated 8th January 1925. This circuit used a candlestick Tele 150 and a Bellset No 18 (a special ‘shared service’ bellset) and was required with the introduction of the Tele 150 in late 1924. The diagram replaced N1633 which was the same circuit but using a Tele 160 – a special candlestick telephone for use on Shared Service lines and in use before 1924!

The next telephone produced specially for use on shared service lines was the Tele 310 just after WW2. This had the ‘Call Exchange’ label/button required for the ‘separate metering’ system. It was used with a Bellset No 41 which included a slow to operate relay which was used to prevent ‘bell tinkle’ when the other party telephone was dialling. However, it was soon replaced by a Tele 312 which incorporated a thermistor to prevent bell tinkle and obviated the need for the separate bellset and relay. A much cheaper solution!

It was a requirement of service after WW2 (when there was a shortage of copper and hence often pairs in the local distribution cables) that customers be changed to ‘shared service working’ when the GPO/PO required. This requirement lasted into the 1980’s.

I can remember businesses being on party lines in the 1960 when cable pairs were short! I also had a Subscriber’s Private Meter fitted on my line as I knew the GPO/PO would rather have the extra £1.10s 0d per quarter than convert me to a party line where an SPM wouldn’t work!

Written by Ian Jolly - 24 March 2007