

NIGEL LINGE, ANDY SUTTON

Phoneboxes,
their rise, fall
and rise?

THE EVOLUTION OF THE

BRITISH PHONEBOX

The British phonebox has achieved iconic status, recognised the world over as a symbol of Britain. But their numbers have declined massively along with a 90% drop in usage in the last 10 years. So has the death knell been sounded for the British Phonebox? Certainly not, say Nigel Linge and Andy Sutton.

The fortunes of the phonebox have been in serious decline for a decade now. Yet despite this, two of Britain's phonebox providers are bringing new designs to our streets. Last year BT announced plans to introduce Links kiosks whilst in February 2017, New World Payphones unveiled their own new kiosk design. So, with Ofcom, branding Britain as a 'smartphone' society, why do we still need the humble phonebox? To answer that question, we need to start right back at the beginning and revisit why phoneboxes were conceived in the first place.

How it all began

It was in 1884, only six years after Britain's first telephone was installed in Manchester under licence to the Post Office that the Postmaster General, Henry Fawcett, allowed Britain's fledgling telephone companies to establish Public Call Offices. These were the forerunner to our more familiar phonebox and were intended to bring the benefits of the telephone to non-subscribers. As a consequence, companies began to install telephones in public places such as shops, railway stations and hotels. Typical amongst

these was The Lancashire and Cheshire Telephonic Exchange Company who opened public call offices in Manchester, Liverpool, Blackburn and Preston where they charged the public three (old) pence for a three-minute call.

Of course, these early phoneboxes were massively different in appearance to the classic red box, being little more than small wooden sentry-box style huts (Figure 1). Stepping inside one and closing the door behind you offered some privacy and





Figure 1: An early Public Call Office or Silence Cabinet on display within BT Archives, Holborn, London.



Figure 2: A K1 Kiosk, Mark 236 with the 1927 door configuration but 1929 ornate roof decoration. This example is on display at Avoncroft Museum of Historic Buildings.



Figure 3: The much photographed collection of five K2 Kiosks at Broad Court, Convent Garden, London.

protection from unwanted noise, thereby earning them the name ‘silence cabinets’. The telephone equipment within the call office was also quite different to a modern handset, with separate speaking and receiving parts and with all calls having to be connected via an operator.

By 1907, the National Telephone Company operated 7,800 call offices throughout the country and their blue bell logo was often accompanied by the words, ‘You may telephone from here’. Many of these were installed on the street and although some ‘standard’ design patterns began to emerge, commonly known as the Norwich, Wilson and Birmingham, they all still resembled a basic wooden sentry-box. That however, changed following the almost complete consolidation of the UK’s telephone service in 1912 (Hull being a notable exception).

The General Post Office (GPO) now sought to standardise the design of their public call offices and in 1921 introduced the K1 – the ‘K’ standing for kiosk. Interestingly, by the time the design was approved, concrete offered a cheaper alternative to wood and so the K1 was made up of three sections of reinforced concrete and a wooden door. In many ways, it still maintained a basic sentry-box styling but the door and two adjacent sides were half glazed. The rear was of solid construction necessary for fixing of the telephone equipment and the kiosk was topped off with a smooth pyramidal roof and orb finial. Generally, these early K1 kiosks were painted cream with a red door. Two further variants emerged in 1922 and 1927 which brought new door and window arrangements and an ever more ornate roof decoration (Figure 2). The problem though was that the K1 wasn’t universally liked, especially by the London Boroughs and so the GPO renewed its efforts to create a standard design.

The creation of an icon

In May 1924, the GPO tasked the Royal Fine Arts Commission to hold a design competition, the winner from which established the British Phonebox as a design icon. Giles Gilbert Scott was born into a

family of accomplished architects and his winning design for the K2 offered a radical departure from anything which had gone before. Introduced in 1925/6, the K2 was larger than the K1 and was made from cast iron, except for the door, which was teak. The door and two adjacent sides were glazed with panels comprising six rows by three columns of equal sized rectangular windows. Its classical design comprised moulded column details down its edges with horizontal moulding at the top below a back illuminated opaque rectangular glass telephone sign above which a perforated Tudor crown provided ventilation. Finally, the kiosk was topped off by a domed roof for which Scott had taken his inspiration from the Soane's family vault which lies within Old St Pancras churchyard in London. More importantly, and against Scott's wishes, the K2 was painted vermillion on the outside and flame on the inside. Whilst undoubtedly a more stylistic design than the K1, the K2 was large and deemed unsuitable for widespread general use. Consequently, although you can see a few examples in other cities, it tends to be very much London's phonebox (Figure 3).

Looking for something smaller and cheaper, the GPO once again turned to Sir Giles Gilbert Scott. His design for the K3 (Figure 4) was introduced in 1928. The K3 was shorter and narrower than the K2, made of three concrete sections which necessitated a plainer design, had a teak door and a domed roof which was raised above the main body of the kiosk to create ventilation slots. It was stipple painted in Clipsham stone colour giving it a rougher surface texture with red being retained for the window glazing bars. It remained the standard GPO kiosk until 1936.

Examining the evolution of Britain's phoneboxes wouldn't be complete without a brief mention of either Britain's largest kiosk or the flat packed phonebox. Designed by the GPO's Engineering Department and introduced in 1927, the K4 combined a K2 with a mini post office complete with stamp vending machines and a letter box (Figure 5). It dwarfed everything which had gone before but in reality, its size proved also to be its downfall with only 50 examples being



Figure 4: A rare surviving example of a K3 Kiosk. This one lies opposite the Penguin Beach at London Zoo.

manufactured. Addressing the need for public phoneboxes at exhibitions and temporary sites, the K5, also designed by the GPO's Engineering Department, became available in 1934, constructed from steel faced plywood. It comprised just seven pieces that could be packed into three cases for transportation (Figure 6).

Britain's ubiquitous red box

By 1935 the GPO had installed nearly 20,000 kiosks but still, ironically, lacked a standard design that could truly be deployed anywhere in the country from the smallest village to largest city. What was needed was a design that combined the elegance and durability of the K2 with the dimensions of the K3. Once again Sir Giles Gilbert Scott rose to the challenge to produce the GPO's sixth (K6) kiosk launched in celebration of the Silver Jubilee of King George V (Figure 7; overleaf).

Like the K2, the K6 was constructed from cast iron, except for the door which was



Figure 5: The K4 Kiosk which combines a K2 phonebox with a mini-post office comprising stamp vending machines and letter box. This example is preserved and dominates Church Street in Frodsham, Cheshire.



Figure 6: An accurate replica of Britain's 'flat packed' K5 Kiosk on display at Avoncroft Museum of Historic Buildings.



Figure 7: Two examples of the K6 kiosk which can be found in Manchester City Centre near to the Central Library.

teak. Its door and adjacent sides were glazed but, unlike the K2, the K6's windows comprised a broad central pane with narrow ones either side organised in eight, not six, rows. The top of the K6 was plainer, comprising a telephone sign on opaque glass surrounded by simple moulding below which was a slot for ventilation and above it, a moulded Royal crown. Finally, its domed roof showed the continued influence of the Soane memorial. A test prototype was installed in London in December 1935 and by February 1936 supplies of this new kiosk started to arrive.

With over 65,000 kiosks manufactured the K6 certainly became Britain's ubiquitous and definitive red phonebox. But whilst it may be loved by many, the K6 was especially vulnerable to vandalism thanks to its panes of glass, disabled access was an issue, and in addition come the end of the 1950s, the country was looking forwards to a new and exciting modernist future. The K6 was starting to look a little old fashioned so a new more cost effective and modern looking design was sought. As a first attempt the K7 was produced but it never made it beyond the prototype stage. It fell to architect Bruce Martin to design what turned out to be Britain's last red phonebox, the K8 (see Figure 8).



Figure 8: The K8 modern kiosk design that replaced the K6 as Britain's standard phonebox. Now rather rare, this example is preserved and located in Highworth, Wiltshire.

The K8 was hailed as a masterpiece of industrial design with its modern style, clean, and uncluttered look. Made from cast iron but with an aluminium door, the K8 had full height single toughened glass rectangular windows topped off with a flattened box roof which had slightly tapered sides that each contained a glazed Telephone sign. Ventilation was provided via

a gap at floor level and another between the roof section and main body of the kiosk and its narrow base gave the impression that the whole kiosk was floating above the ground. The first K8 was installed at 6-7 Old Palace Yard, Westminster, on 12 July, 1968 and thereafter replaced the K6 as the standard kiosk.

Whilst the K8 did offer more resilience to attack, kiosk vandalism continued to be a major problem and by 1985 the newly privatised British Telecom recognised that drastic action was required to tackle its loss making and troublesome phonebox business.

Modern but mundane

On 20 June, 1985 British Telecom unveiled the first kiosk from its £160m investment programme which intended to produce 'payphones for the 21st century'. Manufactured by the British company GKN, this new KX range of kiosks placed functionality and practicality ahead of aesthetics and design. Stainless steel, anodised aluminium and toughened glass were used to combat vandalism but also to reduce maintenance costs because their finishes were more durable, didn't require painting and retained their appearance with minimal cleaning. In addition, improved access for the elderly and people with disabilities was provided. The KX100 was a full kiosk whereas the KX200 (Figure 9), was a large pedestal kiosk with side and top panels forming a protective hood around the telephone itself and the KX300 was an unusual triangular design. Complementing these three was the KX420 which was a pedestal kiosk.

Whilst these new designs were seen as mundane compared to their predecessors, of far greater concern was British Telecom's plans to replace their existing stock of red phoneboxes. It was now that efforts to preserve Britain's phoneboxes truly took off thanks to the Thirties Society who sought to have them protected as historically important miniature buildings. Whilst this achieved success in protecting examples of both the K2 and K6 kiosk, interestingly, the



Figure 9: Forming part of BT's new KX range introduced in 1985, the KX200 kiosk was specifically designed to provide easy access to wheelchair users.

K8 fared much worse because the 30-year rule deemed these kiosks too young to be protected; hence, despite over 11,000 being manufactured the K8 has become a very rare sight today. British Telecom's payphone modernisation programme was



Figure 10: Mercury certainly brought a fresh approach to phonebox design. This is their ogee shaped pedestal kiosk designed by Machin Designs Ltd which can be seen on display at Avoncroft Museum of Historic Buildings.

completed in 1988 and saw a significant improvement in overall reliability. By 1996, 110,000 of the new KX range kiosks were in service across the country and by 1999 this had grown to 137,000 with on average 5,000 new units being installed each year. Certainly, in terms of numbers, the 1990s proved to be the pinnacle for the British Phonebox.

Facing up to competition and threats

Privatisation of British Telecom didn't just bring about changes to the company, it also transformed Britain's telecommunications landscape through the introduction of commercial competition in the form of Mercury Communications. In August 1987 Mercury Communications applied for a license to operate a public call box service and join British Telecom and Kingston Communications as the third provider of phoneboxes. One advantage that Mercury had over the other two was that they were not bound by a universal service obligation and so could pick and choose the most lucrative locations for their kiosks (Figure 10).

However, despite this advantage, in December 1994 Mercury announced its intended withdrawal from its loss-making phonebox business and in July 1995 confirmed that it had been sold to the Italian IPM Communications Ltd who traded in the UK as Interphone. Interphone subsequently replaced the Mercury kiosks with their own flat-roofed, rectangular, glass panelled, grey and orange designs. Unfortunately, Interphone's phonebox business struggled with their kiosks suffering from poor maintenance and vandalism.

In 2000 Interphone was sold to Infolines Limited who subsequently sold their kiosks on to Central Payphones who branded the kiosks as Interphone Public Networks. Then in 2004 most of these kiosks were sold to NWP Spectrum who invested £2 million in replacing the Interphone kiosks with their own designs and decommissioning unwanted sites. Approximately 150 sites were retained and traded as Infolines Public Networks Limited, now taken over by Infocus Public Networks.



Figure 11: A pair of New World Payphones MVM1000 kiosks with folding doors and painted in their distinctive red with yellow banding colour scheme.

Infocus currently operates a network of unusual kiosks that are both solar powered and connected to the national telephone network via a mobile link. These kiosks are designed especially for wheelchair access and as such are some of the largest on Britain's streets.

The British company, New World Payphones, was granted its licence to provide public payphones in 1996. They installed the first of their new modern kiosks outside Central St Martins College of Art and Design in Southampton Row, Camden on 27 August, 1996. Featuring large glass panels, an inwardly opening bifurcated folding door and pyramid roof, these kiosks were designed and manufactured by MVM as the MVM1000 (Figure 11) and appeared on the streets painted bright red with yellow banding and telephone logo.

Another design, the MVM7000, was also deployed and this had a single outwardly opening door, a slightly modified roof design and as far as we can tell, was always painted black. By 1999 they were operating 1,200 public phoneboxes as Britain's largest independent operator. In 2000 the company became NWP Spectrum, then Spectrum Interactive, before being sold to Arqiva in

2012 for £23.4 million, and subsequently to Clear Channel in 2016.

BT upgraded its KX range of phoneboxes in 1996 with the launch of the KX100+ which brought back the red domed roof reminiscent of the Scott designs (Figure 12). In 1999 Britain's phoneboxes were routinely handling 40m calls per day with half of all 999 emergency calls coming from them. However, this was also a tipping point year for mobile phone ownership which doubled to 46% of the population. Ownership reached 73% the next year and from then onwards Britain's kiosk population was in serious decline.

Valiant attempts were made to combat the mobile threat including the adoption of commercial advertising on kiosks, the introduction of the kiosks with an internet connected terminal, upgrading some kiosks to become an integral part of the mobile network to enhance street level coverage, the provision of public WiFi hotspots and in 2007 launching the new Street Talk 6, ST6, model (Figure 13).

The advance of the mobile phone was unstoppable, however, and by 2004 phonebox usage had halved, with revenue dropping by 40%. Whilst the number of installed phoneboxes had actually doubled during privatisation, by 2001 BT stopped expanding its phonebox network and from 2002 had begun to identify those that were uneconomic to maintain. This led to a widespread cull of phoneboxes, down to 72,000 in 2004, with thousands more earmarked for removal. Today the figure stands closer to 46,000, with BT reporting that usage has fallen by over 90% in the last 10 years.

Re-birth for the 21st century

So, what is the future, if any, for the British Phonebox? Today when you mention a



Figure 12: A quartet of KX100+ phoneboxes in Coventry City Centre.



Figure 13: The Street Talk 6 (ST6) Kiosk introduced in 2007 by BT in partnership with JCDecaux.

phonebox, people still think about those iconic red K2s and K6s. Our heightened sense of nostalgia has seen several of them become listed and many turned to new uses such as mini libraries, community defibrillator points, shops, and heritage centres. But who actually still needs a phonebox?

For BT and KCOM in Hull, they have no choice, because an 'adequate' number of public call boxes must be provided within their regions of operation as stipulated by their respective universal service obligation. That aside, there are still many people who don't own or can't afford to use a mobile phone and for those, phoneboxes remain essential. Foreign visitors and workers often

prefer to use a phonebox when calling home because the call charges are less than on their mobiles. Finally, where mobile phone coverage is poor, or your battery is flat, you may well be pleased to have access to a phonebox in times of crisis.

But, given their loss-making history, how is it possible for private telecommunications companies to make a viable business out of the phonebox today? The answer is that the phonebox has had to evolve and become something more than a plain old public telephone. For a start, advertising plays an important part. Many phoneboxes on our streets already carry adverts, which generates much needed additional revenue, but the next generation has large display screens for digital advertising. Not only is this a more cost effective mode of delivery but thinking about the Internet of Things and our urban digital infrastructure opens huge new possibilities for how street level displays can be exploited in the future. For example, a digital screen can display a commercial advert one minute and then important public information the next. Also, as a prominent piece of street furniture, a phonebox is ideally suited to act as a high speed WiFi hotspot to which we can connect our smartphones and tablets and additionally, by their very nature, phoneboxes are very visible and therefore well suited to act as a public or tourist information point.

Recognising this future potential, BT has announced a partnership with the technology and media company, Intersection, and the outdoor advertising company Primesight, to introduce ultramodern kiosks called Links onto our streets later this year (Figure 14). These slim, slab-like kiosks are certainly very different to what has gone before. Each offers free public 1Gbps WiFi, free phone calls, mobile device charging points, access to maps, directions and local services and the



Figure 14: BT's new Links kiosks which are expected to appear on our streets in 2017. (Paul O'Brien)

provision for commercial digital advertising, the revenue from which will be the prime source of funding for the kiosks.

Similarly, in February 2017 New World Payphones officially launched their new design of kiosk which combines commercial advertising with high speed WiFi access, a



Figure 15: Britain's latest phonebox design which was officially launched onto our streets in February 2017. (New World Payphones)

public information touch screen and a telephone (Figure 15). However, their design, manufactured by the British company Amscreen, whilst being painted black, not red, also celebrates a strong association with Britain's kiosk heritage through a Scott-inspired domed roof and side window arrangement reminiscent of the K6 Jubilee Kiosk.

AUTHORS' CONCLUSIONS

From Britain's first phoneboxes to today, our need for, and reliance upon, telecommunications services has grown massively. Henry Fawcett's vision for opening up those services for public access in 1884 lives on to this day; it's just the nature of what those services are that has changed. So, the exciting next generation of phonebox might look quite different but they are seeking to meet our 21st century needs for connectivity in the same way that the Public Call Office did over 100 years ago!

ABOUT THE AUTHORS

Nigel Linge is Professor of Telecommunications at the University of Salford. He is an electronic engineer by profession who specialises in computer networks and their applications and has research interests that cover location and context based services, communication protocols, the delivery of multimedia applications, network design and the use of networks for sensing. In addition, he takes a keen interest in telecommunications heritage and is active in public engagement for which he delivers lectures and appears in the media. Nigel chairs the Connected-Earth Heritage Network and is a member of the Editorial Board for ITP's *Journal*. Nigel is also a Chartered Engineer and Chartered IT Professional and a Fellow of the ITP,



REFERENCES

The British Phonebox, Nigel Linge and Andy Sutton, Amberley Publishing, February 2017

The Rise and Fall of the Police Box, (2011), John Bunker, Brewin Books Ltd

Telephone Boxes, (2010), Neil Johannessen, Shire Publications Ltd

The National Telephone Kiosk Collection, Avoncroft Museum, Bromsgrove

Institution and Engineering and Technology and British Computer Society.

Andy Sutton is a Principal Network Architect within BT Architecture and Technology. He is responsible for end to end 5G network architecture with a particular focus on RAN and backhaul/x-haul strategy and architecture. He has over 30 years of experience within the telecommunications industry, mainly in radio access, transmission and transport network strategy, architecture and design. Andy is interested in many aspects of the history and heritage of telecommunications. Andy is a Visiting Professor at the University of Salford and a research mentor at the 5G Innovation Centre at the University of Surrey. He sits on the industry advisory boards of the EU FP8 H2020 iCirrus project and Tweether project. He contributes to International telecommunications standardisation activities and several industry forums. Andy is a Chartered Engineer, Fellow of the ITP, Fellow of the IET and is a member of the Editorial Board of ITP's *Journal*.



ITP INSIGHT CALL

Want to know more?
Join in the ITP Insight Call. Visit:
<https://www.theitp.org/calendar/>