

White Heat London 4 / Engineering

Post Office Tower Britain's tallest building

Eric Bedford, George Yeats

1961-65

Britain played a leading role in the transmission of information using the microwave portion of the electromagnetic spectrum, demonstrating the concept in the 1930s and inventing and developing the allied technology of radar before and during the war. Peacetime saw a steady increase in telephone and television use amongst the general public, and as microwaves carry far more data than radio and with less interference the General Post Office adopted the medium to increase capacity on its national network.

Microwaves cannot pass around obstructions or through buildings, however, and so the new signal tower being planned for the Fitzrovia exchange had to be tall enough to 'see' over existing and proposed buildings and the hills surrounding the capital. The result, designed by Bedford, chief architect at the Ministry of Public Building and Works, his deputy Yeats and the GPO's engineers, was a reinforced concrete tube that reached 620' into the sky, nearly double the height of St Paul's, to become the nation's tallest building. The foundations did not involve driving piles deep into the ground, although British engineer Alec Skempton had recently proved this was possible in the capital's geology. Instead, the entire tower is supported by a 20' tall concrete pyramid that itself sits on a thick, steel cable-reinforced concrete raft 100' on a side. A cantilevered wing of the associated low-rise building provides stability by enclosing the tube like a collar.

The tower was shaped for wind resistance, aesthetics and freedom in orientating the vital microwave aerial 'horns', which sat on their platforms above the equipment floors and below the public suite. This comprised three observation decks, the famous revolving restaurant, the outer ring of which completed three full rotations an hour, and a cocktail bar with external gallery.





The tower is essentially a chimney. Its concrete core is 2' thick at the base and tapers by 13' as it rises. The cladding included double-glazed windows with green-tinted 'anti-sun' glass, opening inner panes and aluminium sun shades in the 10'' gap between the two. As the site was so constricted the crane used to build the tower was mounted on it during construction – its novelty prompted questions in Parliament.

High-speed lifts took diners to the cocktail bar first. Its royal blue décor minimised 'ghosting' in the glass at night and patrons could also access an open-air gallery running around the outside of the tower. The restaurant downstairs, by Garnett Cloughley Blakemore & Associates, had mirrored back walls to reflect the views and was served by an all-electric kitchen with forty staff installed on the 36th floor.

Infrastructure was the tower's purpose, however. A television switching centre was part of the transmitting and receiving controls and the floors below the aerial galleries held more equipment. Security concerns – including a bomb explosion – ended public access in 1981.