



When I Think Back...

by Neville Williams

Ernest T. Fisk: Pioneer, visionary and entrepreneur – 1

Over the 90-odd years that have spanned the history of radio and electronics in Australia, there has been no more dominant figure than that of Sir Ernest Fisk. Arriving on the scene at a time when there was very little wireless equipment in this part of the world, he played a vital role in founding AWA and, as Managing Director and Chairman, piloted the company through two world wars to the respected position it occupied when he returned to his native England.

There was nothing about the boyhood of Ernest Thomas Fisk to suggest that he would one day become famous in far-off Australia, in the then little-known realm of wireless/radio/electronics.

Born in 1886 at Sunbury-on-Thames, near London, in modest circumstances, there was apparently no thought that he should do anything but attend local schools – and no misgivings when he started selling papers at the railway station to earn extra pocket money!

On leaving school, he took a job at a nearby engineering works and, in the normal way, would have become just another very small cog in Britain's huge turn-of-the-century industrial machine. But events in the world outside Sunbury-on-Thames had decreed otherwise.

Before young Ernie had even learned his ABC, Hertz and other researchers had documented most of the principles on which wireless telegraphy would operate. It remained only for entrepreneurial inventors like Guglielmo Marconi to get it all together and transform it into a practical – and much needed – 'wireless' communication system.

Ernest Fisk was just 10 years old, in 1896, when Marconi moved to England, attracting considerable attention from the press by so doing, along with somewhat controversial financial backing from the British Post Office. In fact, the move from his native Bologna in Italy was not all that surprising, considering his mother's strong Scottish/Irish family connections. (Ref. *Guglielmo Marconi*

by David Gunstan, Heron Books, 1970)

In 1897, a Marconi transmitter was installed on the Isle of Wight; others followed in 1898, including one in the Bournemouth/Poole area. In the same year, Marconi reported the Kingstown regatta by wireless while, in 1899, wireless showed its life-saving potential in the Elba and Goodwin Sands disasters. Wireless messages were transmitted across the Channel, Marconi reported the America's Cup race, and equipment was demonstrated to the US Navy and Army.

The Marconi International Marine Communication Company was formed in 1900, with wireless communication demonstrated across the Atlantic in the following year from a Marconi transmitter at Poldhu in Cornwall, UK. Wireless telegraphy equipment had been installed, meanwhile, on ships of both the British and the German navy.

Operator & engineer

Fascinated by all this, and probably sensing an opportunity to see the world, Ernest Fisk joined the Marconi company circa 1906 at age 20 and commenced training in wireless engineering and operating procedures. In due course, his dream became a reality when he took his place as an accredited Marconi operator on Cunard trans-Atlantic liners.

That was just the beginning. In 1909, Fisk undertook a special mission to the Arctic and successfully demonstrated the possibilities of wireless communica-



Sir Ernest Fisk in later life, with eyes half-closed in characteristic fashion.

tion to the Newfoundland sealing fleet. In the following year, he was assigned to the Orient line, which took him into oriental waters and on several trips to Australia as Marconi operator on board the *Otranto*.

At the time, there were no fully operational coastal stations in Australia with which to communicate – but on one such occasion, the young operator created something of a record when he managed to contact the British warship *Powerful* in Sydney Harbour, from a position 200 miles (320km) off Fremantle.

In 1911, Ernest Fisk chose to settle permanently in Australia, as a representative of the Marconi company. He set up a small office in Bond St, Sydney, transferring later to more pretentious premises in Challis House, in Sydney's Martin Place. On his own initiative, he organised a roster system whereby ships in Australian ports kept

watch during allotted hours, thereby acting as temporary coast stations.

His move to Sydney was well timed, with both the Australian and the New Zealand governments debating the necessity to provide permanent land-based wireless stations, in order to communicate with shipping in the region. In the normal course of events, the necessary technology and equipment would have been supplied by Telefunken, in Germany, through a local company which had been set up some time previously: Australasian Wireless Ltd.

Back in Europe, rivalry between the Marconi company and the Telefunken group – which included Siemens and the German General Electric Co – had become bitter in the extreme, dating back to around 1897. It had culminated, circa 1912, in what came to be known as the Marconi Scandal, centering around an allegedly shonky deal between Marconi and the British Government under Lloyd George. At stake was an ambitious proposal to provide a chain of wireless relay stations, some 2000 miles (3200km) apart, linking countries of the British Empire.

Inevitably, the ramifications of the scandal and of worsening Anglo/German relations were felt in Australia. So also was the urgent need to provide improved maritime communications, highlighted by the loss of the *Titanic* in 1913 and other less publicised near-disasters in the same period.

AWA formed

Despite all this, in landmark negotiations, in which Ernest Fisk played an active role, a totally new Australian company was set up in 1913 'to acquire the rights to the patents, technical information, results of scientific research and the business of the world's leading wireless systems, and to develop them in Australia and New Zealand'.

With the initial support of the major parties – Marconi, Telefunken and the Australian government – the company so formed was Amalgamated Wireless A'Asia Ltd (AWA) with Ernest Fisk as its General Manager, and a member of the founding Board.

Three years later, at age 30, he was appointed Managing Director. From then on, the story of Ernest Fisk becomes inextricably interwoven with that of AWA and of many other prominent figures who are part of AWA's history. (Ref: '1913-1938, A quarter Century of Radio Engineering in Australia' by A.S.McDonald; 'Australian Radio Communication Services' by

Fisk the amateur!

'During the lecture (on Loop Aerials and Amplification by J.G.Reed) Mr Fisk, the President, offered a valuable suggestion to members concerning additional amplification secured by causing a tuned column of air to vibrate in resonance with the telephone diaphragms.

A telephone receiver is supported directly above a deep narrow-necked jar, and water slowly poured into the latter until resonance occurs. A very suitable container is a graduated 250cc chemical measure.

This phenomenon depends upon sound physical principles and is worthy of the attention of all experimenters who are after real sigs.'

(From *Sea, Land and Air*, April 1, 1921. The date is genuine!)

L.A.Hooke; and others, in the report of the IRE World Radio Convention, 1938).

The new company set about its prime task of developing maritime communications in the region, and of training operators in the Sydney/Melbourne Marconi Schools of Wireless. But hardly had they opened when war was declared. Fisk himself sought to enlist in the AIF but was persuaded to remain in office, to coordinate the wartime activities of AWA.

From being a perceived need, maritime wireless communications suddenly became the focus of what has been described as 'frenzied activity', directly involving the Marconi company, Fisk, AWA and its recently recruited technical staff. It was essential to establish

and maintain as many ground and ship-board wireless stations as possible – and equally essential for the armed forces to destroy, wherever feasible, those operated by the enemy!

AWA-trained operators were identified at short notice and seconded to monitor transmissions from the German Pacific fleet, initially from the HMAS Australia, but subsequently from listening stations set up around Australia, New Zealand and New Guinea. A wireless link replaced the severed Australia/Noumea undersea cable, and steps taken to provide back-up for other cables, all of which were vulnerable to enemy action.

Last year, in his Patron's Lecture to the IREE, His Excellency Sir Ninian Stephan, then Australia's Governor

With both broadcasting and direct international communication in the offing, Fisk was determined that AWA should be seen as the core company in Australia for all forms of wireless communication.

Leadership belongs eternally
TO
Those who blaze the trail

PIONEERS in the wireless industry, it is our duty to keep blazing the trail by creating new sources of demand, and discovering and applying better methods of operation, equipment and maintenance.

The marvels of one generation are but the commonplace of the next. The supreme test of an industry is the attainment of universal acceptance as a necessary utility, and the keynote of the wireless organisation is not only to meet but advance with this universal demand.

Every Telegraph Office is open for Wireless Service.

Amalgamated Wireless (Australasia) Ltd.

OPERATING
AN ORGANISED RADIO SERVICE

Message Acc. Land and Air When communicating with Advertisers.

When I Think Back

General, observed: "Fisk took a leading role in all this". Whimsically, he added: "...while also finding time to marry; in 1916 he married his Australian bride, Florence Chudleigh, at St John's Church, Gordon, NSW". (Ref: IREE Monitor, December 1988)

After WW1

Following the war, AWA under Fisk resumed its commercial involvement with national and international maritime communications, in close association with the Marconi company. Full-page advertisements in publications such as *Sea, Land and Air* for 1921/22 sought variously to:

- Boost AWA's corporate image: 'Pioneers in the wireless industry - blazing the trail - creating new sources of demand - discovering better methods of operation, equipment and maintenance...'
- Publicise their wireless telegram service at 6d (5c) per word: 'There is nothing that your friends on their ocean voyage will appreciate more

than a Marconigram message of greeting from you ... Hand in your message at any telegraph office ashore, and it will be forwarded to the ship by the fastest service in the world'.

- Secure recruits for their Marconi School of Wireless based in Sydney and Melbourne. '180 wireless officers required during the next twelve months and the Marconi Schools have been commissioned to supply all of them'.

But while this was a 'bread and butter' area, with which Fisk was very familiar, he was keen to pursue the proposition which had earlier been scuttled by political scandal and the war - an Empire-wide wireless communications system.

Although a champion of Crown and Empire, Fisk had never favoured the British Government's 'chain relay' scheme. He considered that London/Darwin messages, in particular, handled through relay points 2000 miles (3200km) apart, would be much too vulnerable. The cumulative delay would be unacceptable and the costs would be so


high as to be non-competitive with cable circuits. As far as Fisk was concerned, the only practical approach was one-hop transmission and reception.

In September 1918, with the cooperation of Marchese Marconi and the Admiralty, he had demonstrated the point when he received and transcribed messages transmitted from the Navy station at Carnarvon, UK, to his own experimental station at Wahroonga, Sydney. This was at a wavelength of 14,300 metres or at the very low frequency (VLF) of 20.98kHz.

The occasion and the messages, from the Prime Minister the Rt.Hon. W.M.Hughes, and Navy Minister the Rt.Hon. Sir Joseph Cook, were widely publicised - which was a major objective of the exercise! 'Billy' Hughes was suitably impressed, and kept suitably aware of subsequent tests which demonstrated that, over long periods each day, wireless signals could also be received from USA, Italy, France and Germany.

At the 1921 Imperial Conference, on the advocacy of the Australian Prime Minister - advised by Ernest Fisk - Empire communications were reviewed and Britain agreed to cooperate in the Aus-

The Magic Flight of Thought



There is nothing your friends on their ocean voyage will appreciate more than a Marconigram message of greeting from you

. . .

Hand in your message—Business, pleasure
—at any Telegraph Office ashore, and it will be forwarded to the ship by the fastest service in the world

. . .

Rates to Australasian Coastal, Intercolonial and Canadian Mail Steamers—6d. per word

. . .

Amalgamated Wireless (Australasia) Limited

• Operating an Organised Radio Service •

Morse Code, Land and Air when communicating with Advertisers.

180 WIRELESS OFFICERS 180

Required during the next twelve months, and the Marconi Schools have been commissioned to supply all these Operators

SPECIAL DAY AND EVENING CLASSES NOW BEING FORMED

If you had the Opportunity offered you to travel all over the world, would you not take it? We have been commissioned to prepare 180 Wireless Operators during the ensuing year, and we are now starting special classes to cope with this big demand

This is YOUR opportunity. Do not delay as the time is limited.

Call or write—

Manager, Department S.

Marconi Schools of Wireless

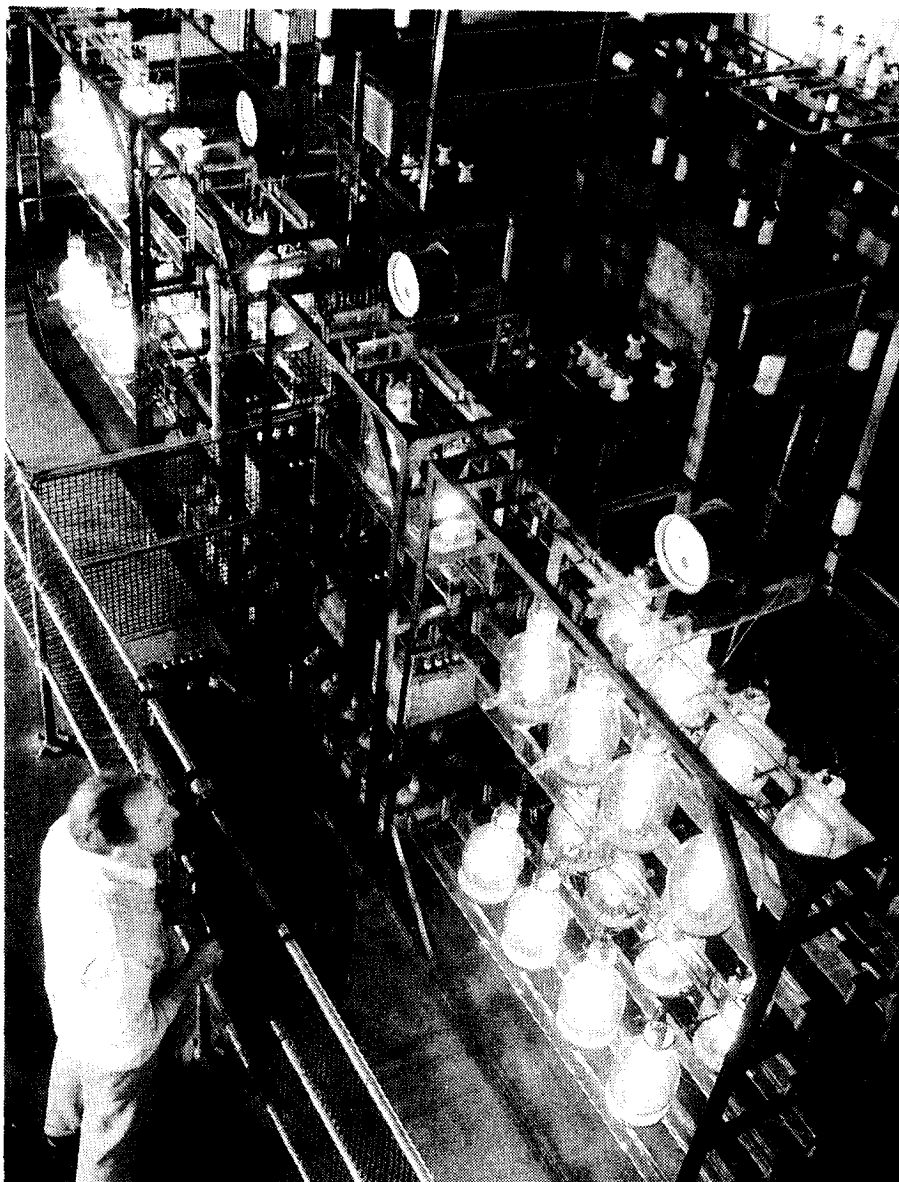
97-99 Clarence Street . . . SYDNEY
Phone: City 4285

422-4 Chancery Lane . MELBOURNE

Morse Code, Land and Air when communicating with Advertisers.

Aboard ship, travellers in the early '20s were isolated for long periods before the introduction of wireless telegraphy. Messages were sent by Morse code, as were old-time post office telegrams.

In this and similar full-page advertisements in the early '20s, Fisk was able to offer young Australians similar training to what he himself had commenced in Britain about 15 years earlier.



Transmitter racks at the Beam Wireless Centre in Ballan, Victoria around 1928.

tralian proposals, with other dominions following suit.

New AWA charter

In Australia, the direct result of all this was the appointment of a Federal Parliament Select Committee which recommended, inter alia, that the Government acquire a majority shareholding in AWA and, further:

'The company was to construct and maintain in Australia stations capable of direct commercial services to Canada and the United Kingdom; to provide for a suitable corresponding station in the United Kingdom; and to take over coastal radio stations which were operating at a considerable loss.'

'Certain guarantees regarding communication were also required, and the company was also to proceed with the

development, manufacture, sale and use of radio apparatus'. (Ref: L.A.Hooke, IRE World Radio Convention, 1938).

During the ensuing discussions and negotiations, the initial agreement was modified in two important respects:

1. The British government assumed responsibility for the terminal in Britain, which freed Australia from its commitment in that respect.
2. In the light of new research by the Marconi company, it was decided to base the system on the use of short waves - typically about 25 metres (12MHz) - which would allow the use of lower power and less costly directional antenna arrays, while ensuring more constant signal strength and greater freedom from atmospherics.

In due course, the Australian receivers and antennas were installed at Rockbank some 20 miles (32km) NW of Melbourne, with the transmitting system at Fiskville (later renamed Ballan) 40 miles (64km) beyond. By suitably interconnecting the antenna elements, signals could be directed either way around the world to Britain or Canada, depending on propagation conditions.

The so-called 'Beam' service was opened in April, 1927. (L.A.Hooke's paper, referred to earlier, illustrates the international services, coastal and Pacific island radio stations, and air routes in 1938).

In the second half of this article, to be published next month, I will talk more about Fisk - the man. (7)