

THE SEALED SET DEBACLE

Seventy years ago this month, Australia's first AM radio broadcasting stations began operating. But our broadcasting industry got off to a very shaky start in 1923, largely due to the so-called 'Sealed Set Scheme' proposed by AWA's Ernest Fisk. This is the first of two articles commemorating the start of radio broadcasting.

by COLIN MACKINNON, VK2DYM

Wireless experiments were carried out in Australia from around 1895, undertaken by PMG engineers, university scholars and a few private individuals who duplicated Marconi's system, with varying degrees of success. By 1904 the Royal Navy, on Australian Station, had several ships equipped with wireless and used it for ship-to-ship and ship-to-shore communications.

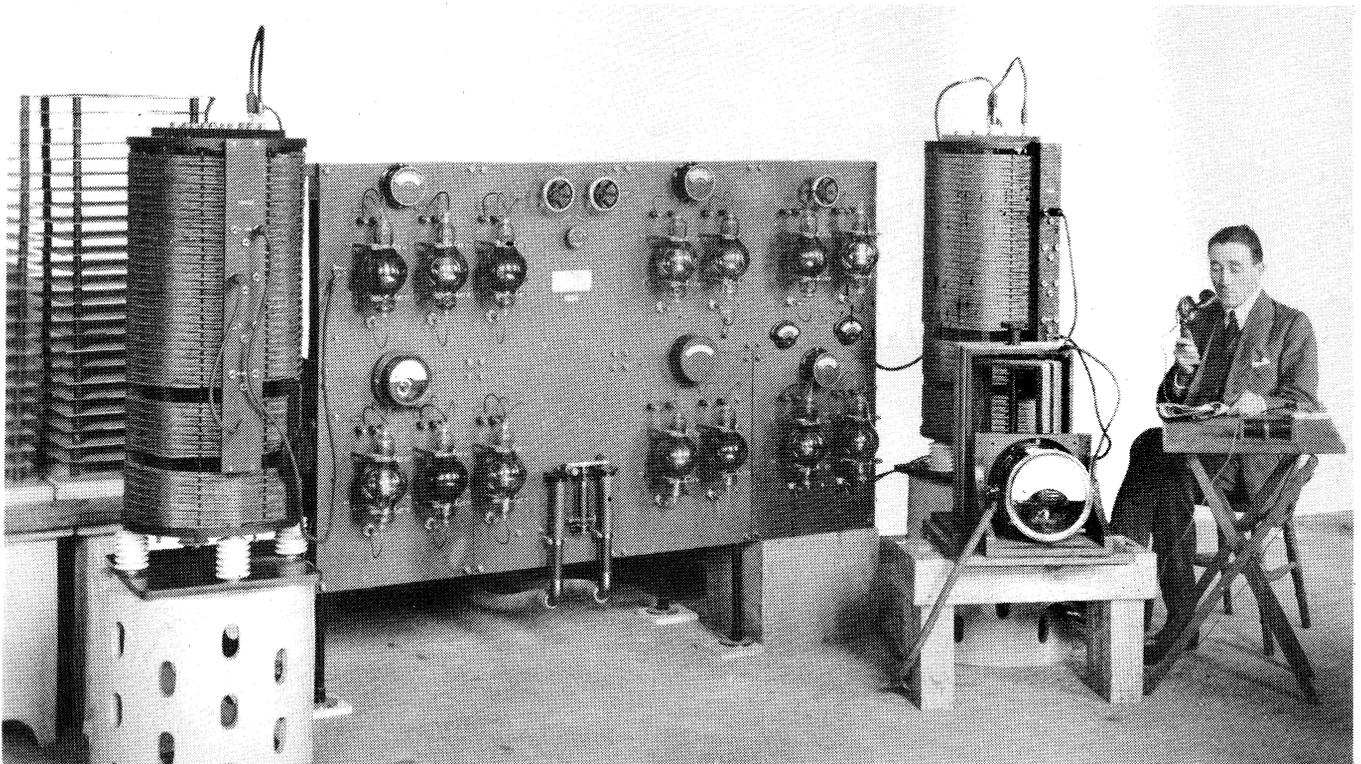
The Navy was not keen for anyone else to be dabbling with wireless, but private companies could see a lucrative market in providing wireless services to commercial shipping, and to communicate between islands where there were no submarine telegraph cables. The Govern-

ment took control of the situation by enacting the *Wireless Telegraphy Act* of 1905, and the PostMaster General issued 'Temporary Experimental Permits' for experimental and commercial purposes from 1906 through to 1914. Upon the commencement of World War 1 on 5-8-1914, private experiments ceased, and in November 1915 all commercial wireless was placed under the control of the Navy for the duration of hostilities.

At this time the equipment used by the Navy, commercial stations and experimenters consisted of spark transmitters, with simple crystal or coherer receivers; Morse code was the only means of sending messages. However, by

1914 there were experiments overseas with voice transmission. Electronic valves had also been invented and were being introduced into military wireless for both transmission and reception. World War 1 prompted rapid development of these valve transmitters and receivers, as well as the introduction of voice telephony, and provided technical training to signallers — many of whom maintained an interest as experimenters after the war.

After World War 1 the Royal Australian Navy sought to retain control of wireless and tried to prevent private experiments. But there was a ground swell of interest, which forced Radio



In early 1920, the Marconi Company experimented with broadcasting of speech and music at Chelmsford in the UK, using this 6kW transmitter. Engineer W.T. Ditcham is shown at the microphone. (Courtesy Marconi Company).

Commander Creswell to grant 'Temporary Permits' for receiving-only in 1919.

The general public was very interested in wireless telephony, i.e., voice transmissions, and public broadcasting had commenced in the USA in 1920, whilst the BBC in the UK was making test transmissions of voice and music. In mid-1920 the Government again took charge and finally introduced new regulations in late 1922, allowing for commercial wireless operations and three classes of private licence. These private licences were:

Experimental Licence — transmitting and receiving: £1

Experimental Licence — receive only: 10/-

Broadcast Licence — news and entertainment: £5

The Broadcast Licence was a concession made by the PMG to satisfy the public interest in 'broadcasting'. The licence was intended for experimenters who wished to provide a limited news and entertainment service, but advertising was not permitted.

The rules and power limits were the same as for other experimenters and because of the high cost, not many took out this licence. But some experimenters did broadcast recorded music, lectures and live artists, which were eagerly sought by the listeners. However the public wanted more than just amateur broadcasting, and following the overseas trend the scene was set for the introduction of commercial broadcasting.

AWA made a public broadcast of speeches and live musical items in Sydney, in August 1920, and followed up with another demonstration at Parliament House in Melbourne, in October. But the government was slow to accept the benefits of broadcasting and nothing eventuated.

In November 1922, AWA submitted a proposal to the PMG whereby it would provide a broadcasting service for Australia — provided it had a monopoly and could charge accordingly. When other interested parties heard about this, they objected and in February 1923 Mr George A. Taylor formed the 'Association for Developing Wireless', whose members were dedicated to preventing any broadcasting monopoly.

Digressing for the moment, Taylor was an interesting person, who was very active in Army wireless, aviation, art and civil engineering. In 1910 he had formed the 'Wireless Institute of Australia' to fight for experimenters' rights, because they felt that the provisions of the Wireless Telegraphy Act were draconian. At

that time the licence fee of £3 was considered to be too much for private experimenters, and the penalty for infringement under the act was a high £500 with no course of appeal. Negotiations with the PMG resolved most of their differences by mid-1910.

The 1923 Conference

To satisfy all parties interested in public broadcasting, the PMG called a conference which was held in May of 1923. A group of more than 40 people representing wireless manufacturers, retailers, prospective broadcasters, the



Ernest Fisk (later Sir Ernest) was one of the founders of AWA and for many years its managing director. He was the chief architect of the disastrous sealed set scheme.

media, listeners and experimenters sat down with Commonwealth officers to agree on a system for establishing broadcasting in Australia.

The conference, in Melbourne, was opened by the Hon. W. G. Gibson, Post-Master General, who stated that broadcasting was now needed and as Australia had unique conditions compared to other countries where broadcasting was being introduced, he hoped the assembly would come up with a set of regulations which the Government could endorse as the framework for broadcasting.

Mr G.A. Taylor, President of the Association for Developing Wireless, was elected Chairman. Taylor called upon anyone with a proposal to place it before the meeting. Mr E.T. Fisk, Managing Director of AWA and a most influential force in wireless matters, stated that he

had a complete proposal, but wanted to hear if anyone else had anything to say.

No-one else came forward, so Fisk made his presentation, which was of 13 points suggesting that a number of wavelengths be allocated for broadcasting, and licences issued to broadcasting companies for each wavelength. Proprietors of stations could charge listeners for their services, to be collected by way of subscription fees paid annually. Retailers and dealers were to be licensed and could only sell or rent a wireless receiver to a person in possession of a listener's licence, and would submit records of dealings to the government. The licence would be sold by the retailers, would be renewable annually, and would cost whatever the particular station set as its subscription fee, plus something for the Government. All manufacturers were to be licensed also.

Fisk's proposal

For the point of this story the pertinent item was Fisk's proposal (d), which stated:

Receiving licences to be issued for using apparatus capable of receiving on one wavelength only.

In other words, the listener had to choose which one of maybe one, two or three stations he wished to subscribe to and then purchase a licence and a wireless set tuned to that station only. The receiving set was to be 'sealed', and the proposals became known as the 'Sealed Set Scheme'. Fisk was a very persuasive and authoritative speaker, with the result that no-one else received a hearing. The conference simply debated and refined his submission, to come up with the proposed regulations.

Fisk wanted each receiver to be tuned to one station only, and argued it would be too hard to allow a set to receive any more, but an amendment was pushed through to allow a set switchable between two wavelengths. The listener would then pay two subscription fees, which might be say £3/3/- for one station and £2/2/- for the second service.

The Wireless Institute, represented by O.F. Mingay, H. Maddick and T.P. Court, argued that experimenters should not be restricted in the same way as listeners. Fisk brushed this off by saying they would be fully protected. Later events proved this false.

Fisk's reasoning was quite clever, as we shall see later. He wanted the chain of distribution of wireless sets closely controlled and recorded, with penalties for anyone making or owning an unlicensed set, and each set had to be of a design that was approved by a statutory authority.

Sealed Set Debacle

The Conference, as is the way with such groups, waffled on and on and digressed to topics such as one brought up by Harry Wiles, proprietor of 'Wiles Wonderful Wireless' — who was concerned that pigeons should be protected from extermination, by decapitation on thin aerial wires! A motion to have all aerial wires adorned with corks lapsed...

Fisk's proposals were accepted with very minor changes, and after due consideration by the Government the new Broadcasting Regulations were published in August 1923. The details for the receiving sets were as follows:

RECEIVING SETS

Only apparatus that will not cause the aerial to oscillate may be used. (Poorly adjusted regenerate receivers were a known cause of interference.)

Sets shall be sealed.

Broadcast receiving sets shall be so made as to respond to a certain wavelength, and a 10% variation only will be allowed.

Sets shall be stamped indicating the type, number and wavelength.

Only those sets or units of approved pattern shall be used.

ASSEMBLING OWN SETS

Those persons who assemble their own sets shall arrange them as stated under 'Receiving Sets'.

The tuning elements shall be enclosed suitably for effective sealing and shall be submitted to an authorised officer, who will test them to see that they conform to the regulations.

A charge of 2/6 will be made for this test, and if in compliance with the regulations the set will be sealed and shall not be broken except by the authorised officer.

MORE THAN ONE

BROADCASTING STATION

Sets may be made to receive more than one broadcasting station, and may be used if the subscriptions be paid to each broadcasting station that the set will receive together with the Government licence fee of £1. (The licence fee was 10/- per annum, so for reception of two stations it would be 20/-, or £1.)

The previous Experimental Receiver-only licence was cancelled by the new regulations and replaced by a Broadcast Listener's Licence costing 10/-, whilst the Experimenter's Broadcast Licence became a Broadcast Station Licence, costing £15 plus a £1000 bond. The Experimental Transmit Licence remained and still cost £1.

Each approved sealed set would have a label attached, reading:

Broadcasting Receiver Type No.....

.....metres.

Approved by P.M.G.

There was some confusion as to how the sealing should be accomplished, but it seems that the manufacturer was expected to fit the tuning capacitor inside a box, and after tuning to the required wavelength it would then be closed off with a lid covered with a sealing label, to prevent listener access. Plug-in or variable coils were not permitted.

Fisk had stated during the conference that if a person wanted to receive a second station, he should purchase a second set and another licence; but the regulations allowed for the original set to be modified, at a price. You will see below why Fisk was keen on increasing the number of receivers in homes.



William John Maclardy, who founded 'Wireless Weekly' magazine in 1922, and was also the driving force behind the setting up of Sydney radio station 2BL — later absorbed, along with 2FC, into the ABC network.

Returning now to Fisk's motives, once the manufacturers and experimenters were licensed and known, he sent out an 'AWA Licence Form Number 1' demanding payment for use of the patents AWA controlled at 12/6 per valve socket (17/6 for USA valves), and demanded that experimenters pay 5/- annually and sign his 'AWA Licence Form Number 4'.

There was an uproar over this impost but the Government, which after all owned just over 50% of AWA, supported Fisk. The experimenters dug in and AWA backed off, allowing a conces-

sion for free use of patents for private experimentation only. But they were not to resell their equipment, nor manufacture sets for others.

Most unpopular

Right from the start the 'sealed set scheme' was unpopular; in fact disastrous. Even before the regulations were announced the delegates started to have second thoughts. There was a suspicion that Fisk and others had 'stacked' the meeting to gain their own advantage, and the Victorian WIA felt the interests of experimenters had been sabotaged by O.F. Mingay — ostensibly the NSW WIA delegate, but also in the wireless business and closely allied with Fisk's interests.

Taylor denied the accusations, and appealed for the Sealed Set System to be given a fair trial. The PMG's Department remained neutral, saying that it was only introducing regulations that the body of wireless interests had wanted and agreed on.

Once the full details of the scheme were revealed, there was further dissent. The listeners' costs were high and AWA's patent fees considered outrageous. The paperwork was cumbersome, people resented not being able to listen to the other stations that were on air, and manufacturers had great difficulty making sets which complied with the 10% wavelength limit.

Part of the reason was that they made sets with the minimum number of valves, because of AWA's high royalties, and such sets were little better than crystal sets. There was a holdup in obtaining test equipment for the PMG, so that it was not ready to test sets submitted to it until November 1923.

At the end of 1923 there were only 20 models of receivers, from 14 manufacturers, passed by the PMG. These consisted of:

- Crystal — 1
- Crystal + one valve — 3
- Single valve — 8
- Two valve — 7
- Three valve — 1

The pre-set wavelengths were 350 metres (2SB) or 1100 metres (2FC), with one set designed for 1720 metres (3LO). The United Distributing Company's Model 46 was the only one switchable for both 350 and 1100. By mid-1924 a total of only 61 receiver designs had been approved, out of 154 submitted.

In Sydney broadcast stations 2SB (later to become 2BL) and 2FC commenced in December 1923, 3AR in Melbourne in early 1924, and 6WF in Perth started transmission in June 1924 — all as 'sealed set' stations. The subscription

costs were to be: 2SB — 10/-, 2FC and 3AR — £3/3/-, and 6WF — £4/4/-.

2SB was able to charge only the 10/- PMG licence fee because it was subsidised by a number of wireless retailers, who were shareholders in the company running the station: 'Broadcasters Sydney Limited' or 'BSL'. They each paid 5/- per week for the upkeep of the station, and obviously hoped to sell many sealed sets tuned to 2SB.

Because most manufacturers could not meet the specifications, sets were not available; the listeners were not interested and the broadcast stations were soon in financial difficulties — they just were not getting their fees in.

Of course many people built their own sets from parts and didn't bother about licences anyway. Others woke up to the fact that it cost less overall to claim to be an experimenter, and obtain an experimental licence — with no restrictions on station tuning and no station fees. By mid-1924 there were only about 1200 licences issued to listeners, but over 5000 people had applied for an Experimental Licence!

In early 1924 the PMG was forced to send letters to the holders of experimental licences, warning that they must prove themselves to be bona-fide experimenters, not just listeners. As a consequence the number of Ex-

perimental Licences dropped dramatically during 1924-25.

Rigged comparison

AWA was determined to prevail with the sealed set concept, and even carried out tests at Moss Vale to prove its sealed set could receive signals in the 'country'. However to achieve this success, a team of field engineers spent a week testing and had installed a 200 foot (62 metre) dipole on 100 foot (30m) poles, with a copper gauze ground mat.

After AWA trumpeted the sealed set's win over an 'open' set, it was revealed by others that the AWA sealed set consisted of four valves with regeneration (which was frowned upon) — whereas the 'open' set was a simple detector and plus one audio stage, connected to a long wire 60' (18m) long and only 30' (9m) high.

The fact was that neither sealed sets nor open sets of comparable performance were satisfactory outside a very restricted radius from the broadcast stations.

The second conference

Public and industry resentment built to the point where another conference had to be called by the PMG, in Sydney in April 1924. Of particular note: Mr Fisk was not invited. The two aims of this conference were

(1) to abolish sealed sets; and

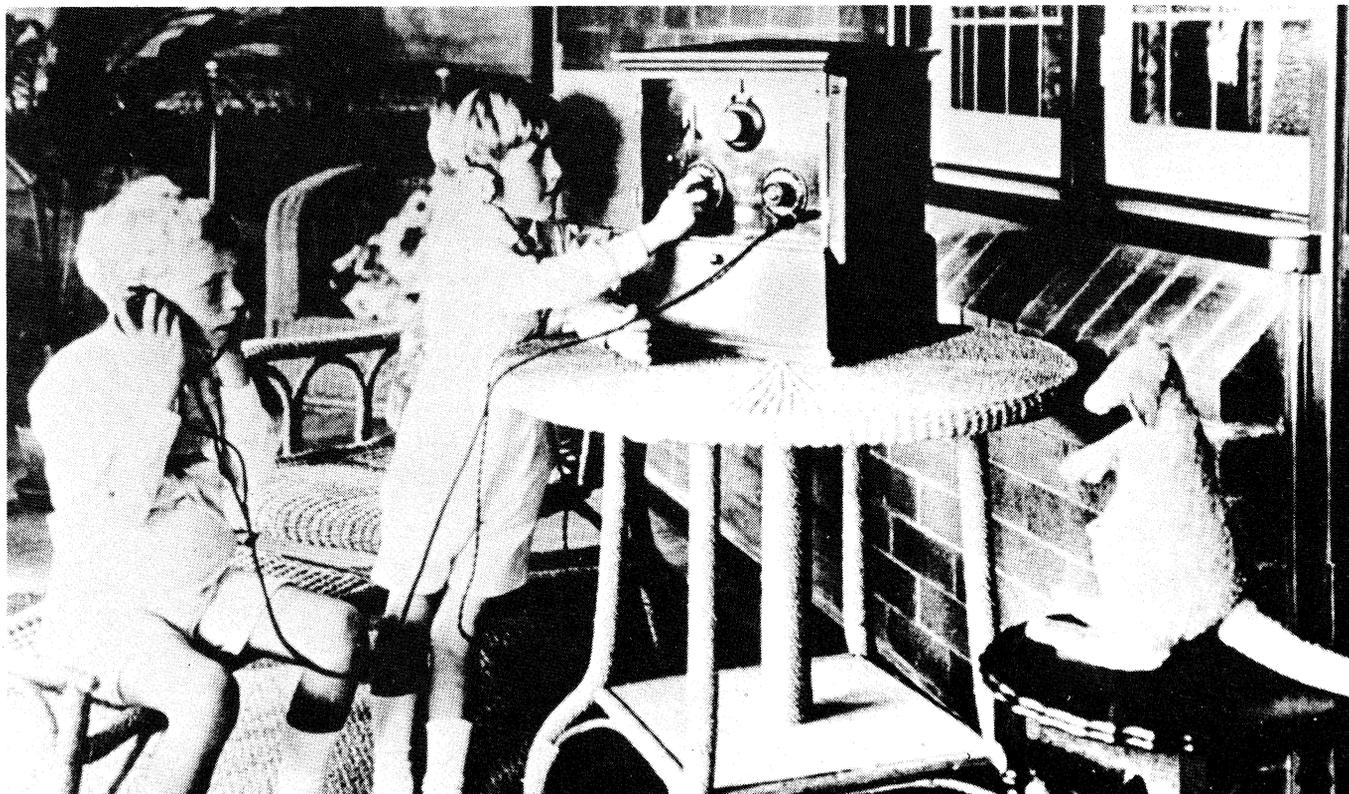
(2) to propose a workable scheme of broadcasting with adequate return for the commercial stations.

The participants were a number of state radio associations made up of manufacturers, retailers and station owners, plus the PMG. The chairman was Major C.W.C. Marr, a Member of the House of Representatives.

Whereas the previous conference had been dominated by Fisk and his proposals were readily accepted, this conference had many controversial moments, with some acrimony and even a couple of delegates walking out. Farmer and Company, which had the licence for 2FC and was closely associated with 3LO, refused to put its proposals to the meeting, claiming it wanted to negotiate direct with the PMG. The others suspected that Farmer & Co, which leased AWA equipment, wanted a broadcast monopoly and was in league with AWA.

This time around, there were several proposals submitted. They dealt mainly with limiting the number of stations in each state, and ways in which commercial stations could receive compensation for their services.

But on the subject of receivers, the Association for Development of Wireless wanted open sets with no restrictions and a common licence of £2 (40/-) plus 5/- Government fee. They also wanted a



Ernest Fisk's two young sons Kelvin and Maxwell, using one of the AWA Radiola two-valve sealed sets on the verandah of their Wahroonga home. Maxwell was later killed during RAAF service when he walked into a revolving aircraft propeller.

Sealed Set Debacle

board of administration in each state to control stations and oversee programming, operating times etc. Other proposals varied, but there was overwhelming rejection of sealed sets.

A couple of delegates made comments about experimenters which are worth repeating. Leslie Bean of L.P.R. Bean & Company, a retailer and manufacturer, stated that "if persons were intellectually fit to be genuine experimenters, they would not be impecunious, so therefore should pay the full broadcasting subscription".

He claimed that "the mere sending of dots and dashes did not constitute research work", and admitted he had never learnt the Morse code and never intended to. A strange admission for one who held an experimenter's licence, which required proficiency in Morse code!

Major Marr, MHR, the conference chairman, reckoned that "a man over 40 could not learn the Morse code".

The final proposals submitted to the PMG included open sets, a licence fee of £2 plus 5/- government fee, and two classes of broadcast stations: A class, sustained from licence fees, and B class, which would survive by accepting paid advertising.

Experimental licences were to be discontinued and replaced with an 'Expert Experimental Licence'. The total number of such licences was not to exceed 980, allocated as follows:

NSW	300
Vic	300
SA	100
WA	100
Qld	150
Tas	30

These licences were to be free, and issued on the recommendation of the Wireless Institute in each state.

The 40/- fee was lower than the subscriptions charged by the stations beforehand, but it was considered that the open set would make listening so popular that the stations would earn much more. In fact an extra million pounds of revenue was estimated. Manufacturers could claim compensation for converting stocks of sealed sets to open sets, but it seemed there were very few sets held in stock.

The PMG rejected some details of the proposal and instead issued its own version of the regulations, in July 1924. These allowed open sets and the two classes of stations, but set listener's licence fees according to the distance from the capital cities — ranging from 31/- to 25/-, and detailed the distribution

of fees to the A class stations. These fees were reduced in later years. The Experimenter's licence cost 30/-, later reduced back to 20/-, and there were no limits on the number of experimenters.

Much more popular

The new regulations proved popular and whereas there had been only 1206 broadcast listener's licences issued in the year to June 1924 under the Sealed Set Scheme, by June 1925 there were 64,000 licences. By June 1926, a total of 128,000 had been issued. The number of licences issued jumped noticeably when popular programs such as an 'Opera Week' were announced.

The split-up of revenue from licence fees to the stations caused some continuing problems. For instance 2FC obtained 70% in NSW, whilst 2BL with 30% lost money for a number of years until alterations to the regulations changed the way in which broadcasting was controlled.

The AWA valve royalty was still very unpopular. Eventually, in 1927, the government heeded public grumbling and came to an arrangement to pay 3/- from each listener's licence to AWA to compensate it for loss of patents revenue.

In 1934 even that was cancelled. Consequently, the ARTS&P (Australian Radio Technical Services & Patents) Company was formed by AWA and other companies to pursue and protect their various patent rights.

Epilogue

Most of the few sealed sets that had been made were converted to tunable sets by removing the box covering the tuning capacitor and adding a tuning knob to the cabinet front, so very few genuine sealed sets have survived. I have heard of one or two so-called sealed sets, which appear to have been made well after 1924!

A friend once told me how, as a young lad, he helped his father who had a wireless rental business in the west, dump unwanted sealed sets down mine shafts outside Dubbo.

(To be continued) ♦

References:

Wireless Weekly, 1922 - 1925. Provides extensive coverage of the issue.
Australian Archives, PMG files under MP341/1
David Jones Archives, Historical Records 1923-1937, BRG 1/X7
OTC Archives, AWA files
Newspapers and other wireless magazines of the period also carried news and editorials relating to the 'Sealed Set Scheme' and its demise.
(Private collection, Colin MacKinnon)

SYDNEY'S SEALED SET STATIONS - 2FC AND 2BL

In this second and final article commemorating the somewhat shaky start of radio broadcasting in Australia, the author looks in particular at Sydney's first two stations. Both 2FC and 2BL began operation as commercial stations, even though they were later to become part of the ABC when it was formed.

BY COLIN MACKINNON, VK2DYM

In August 1923, the Australian Government released its Broadcasting Regulations, which permitted public broadcasting under the infamous 'Sealed Set' scheme. The regulations provided initially for two broadcast stations each in Sydney and Melbourne and one in WA, which would be permitted to charge listeners for their programmes. The broadcast was to be received on a wireless set tuned to the listener's choice of station, and then 'sealed' so that it could not pick up the rival station. The broadcasters were known as 'sealed set stations'.

The retail store Farmers Ltd, along with the proprietors of *The Evening News*, the *Sydney Morning Herald* (John Fairfax Ltd), J.C. Williamson Theatres, J. and N. Tait (entertainment promoters) and Dalgety Ltd (stock and station agents) banded together to form Farmer and Company, with a share capital of £16,000, and applied for a broadcast licence (No.1) with the call sign 2FC.

Interestingly Sir George Tallis, a joint Managing Director of J.C. Williamson, had been a founder of the Australasian Wireless Company way back in 1910. Australasian Wireless Company had built the Telefunken stations at Pennant Hills and Applecross (WA), and two stations in New Zealand in 1912.

At the same time as 2FC was taking shape, another group of investors headed by William John Maclardy, editor of *Smith's Weekly* and the *Daily Guardian*, formed Broadcasters (Sydney) Limited (BSL) and received the call sign 2SB (for Sydney Broadcasters). Incidentally, Robert Clyde Packer was the publisher for Smith's Newspapers. Maclardy was a keen wireless experimenter, call sign 2HP, and had established the first magazine devoted to wireless ex-

perimenters and listeners: *Electronics Australia's* ancestor *Wireless Weekly* (first issue August 4, 1922).

Other shareholders in BSL included: Continental Radio Co, L.P.R. Bean, Colville Moore, Wireless Supplies, United Distributors, Radio Co, Radio House, Universal Electric, O'Brien & Nicoll, Pitt Vickery Ltd, F. O'Sullivan, Electricity House and N.P. Olsen (of

Newcastle). They were all wireless retailers, who paid a weekly subscription of 5/- each towards the running costs of the station and expected to make their profits by selling receivers tuned to 2SB. BSL was formed in August 1923 with capital of only £113.

Sir Joynton Smith, the Chairman of Smith's Newspapers, became the Chairman of Broadcasters, while Maclardy be-



W.M. Hughes performing the official opening of the 2FC transmitter at its radio centre in Pennant Hills, on March 29, 1926. Seated behind Mr Hughes on the right is George Wright, managing director of Farmer & Company, while standing at the rear are (left to right), Sir Frederick Stewart, Oswald Anderson, Andrew MacCann and A.S. Cochrane.



This photograph was taken in the main Market Street studio of 2FC, on May 23, 1928. The occasion was the departure of Raymond Ellis, and what was described as a group of '100 artists' had gathered before the microphone (front right) to sing 'Auld Lang Syne'. Only about half of this number seem to be present for this photo... (Courtesy AWA).

came the Managing Director. Cecil Vincent Stevenson, proprietor of Electrical Utilities and Radio House, was another BSL shareholder and took on the Treasurer's position. In late 1924 he sold his BSL shares to Sir Samuel Horden (of retailer Anthony Hordens), so that he could start his own station — originally called 2EU, for Electrical Utilities, but which was quickly changed to 2UE for better phonetics.

Whereas 2FC charged listeners a fee of £3/3/- for the privilege of listening to it, 2SB announced that it would only charge 10/- — to be passed on to AWA as a royalty payment — and its broadcast service was free. In both cases listeners also had to pay a licence fee of 10/- to the PMG.

Both companies arranged for receivers to be built and pre-tuned to their respective wavelengths, and these were sold by authorised retailers, together with the licences.

2FC contracted with AWA for the supply of a complete 5kW transmitting station and the running of its station, and paid a very hefty royalty fee to AWA. It is understood that the cost was around £11,000 plus 25% of all revenue.

2FC commenced a trial of free broadcasting on 350 metres (857kHz) on 15/11/1923, using a low powered transmitter supplied by AWA and situated on top of the Farmers building, but its two 62-metre high aerial masts were not erected at the transmitter site at Willoughby (now Castlecrag) until 27/11/23. 2FC started full time operation on 5/12/1923 and was officially opened on 10/1/1924, using studios situated in the Farmer's store at the corner of Pitt and Market Streets, on a frequency of 1100 metres (273kHz).

2SB's transmitter

2SB refused to concede to demands by AWA to buy its equipment and pay royalties, and proceeded to build its own transmitter. In the meantime, Maclardy arranged for a 10 watt transmitter to be installed in an office of the Smith's Newspaper building in Phillip Street, with the aerial strung between two masts on the roof.

The transmitter included two oscillator and two modulator valves, using Radiotron 4.5-watt valves and was owned by Ray Allsop, 2YG, who was building the high power transmitter.

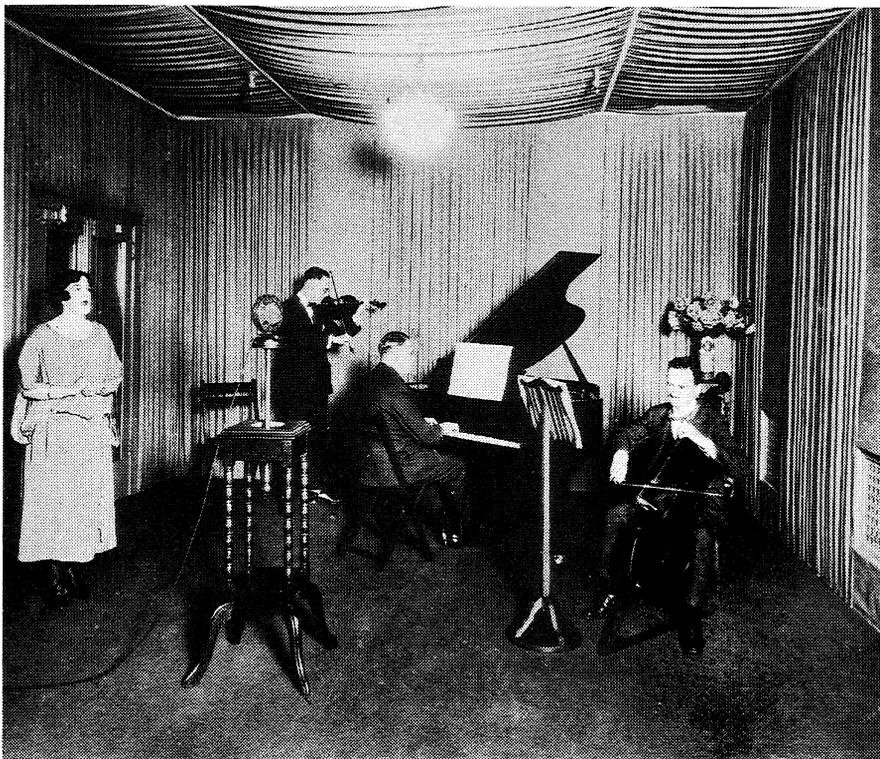
Broadcasters Sydney Ltd commenced limited operation on 23/10/23, using Maclardy's call sign 2HP. 2HP was on the air nightly on behalf of BSL from 7/11/23, and then the large transmitter commenced operation on the night of Friday 23/11/1923 with a concert starting at 8pm. The Saturday program ran from 10am to 10pm, but normally 2SB was only on air 6 to 10 hours per day.

The official opening of the station was advertised and should have been on 15/11/23 (and it is often quoted as commencing on that date), but the PMG caused some delay because it was not ready to test and authorise sealed receivers until the end of November. 2SB was finally inaugurated on Thursday 13/12/23 when the Postmaster General, Mr W.G. Gibson officiated. 2SB transmitted on a frequency of 350 metres.

A typical early program consisted of: Commencing at noon - Sporting news, fish, fruit and vegetable market reports from the Alexandria produce markets, morning stock exchange reports.

- 1.00pm - orchestral and music programs.
- 2.00pm - weather, noon stock exchange reports.

Sydney's sealed set stations - 2FC and 2BL



One of the earliest known photos of an Australian radio broadcast, it was taken in 2FC's studio in 1924. The only performer identified is pianist Horace Keats.

- 3.30pm - chats to women.
- 3.45pm - orchestral selections.
- 4.45pm - Sussex Street markets report.
- 6.30pm - final stock exchange report.
- 6.45pm - bedtime stories.
- 7.30pm - orchestral selections.
- 8.00pm - concert or dance music.
- 10.00pm - God Save the King (close).

Music and singing was either live from the studio or from records. Monday and Thursday were radio dance nights, when a live orchestra played suitable dance music for a couple of hours. The program was broadcast to a number of city theatres, such as the Tivoli, Kings Cross Theatre, Fuller's Vaudeville, the Real Estate Institute Hall, and the Poster King stand at Coogee.

Obviously the theatres attracted dance patrons and interested listeners to their nightly performances, but you are probably wondering what the Poster King offered? He had an eight-valve receiver with a large Magnavox speaker and horn, which carried the sound more than 250 yards and drew listeners like flies to his stand on the beach, selling pictures and posters.

Noisy reception

Reception reports of 2SB came from as far away as Tasmania, but the average Sydney listener had to suffer RF noise

from DC generators common in the city and poor performing receivers.

Although 2SB started with little capital, the shareholders subscriptions were expected to maintain the operation. However the 'sealed set' system was a total failure and people refused to buy wireless sets which could only receive one station. The retailers were not making any money and were reluctant to pay their 5/- weekly subscription. In one case BSL took J.S. Marks of Electricity House to court, over non-payment of £73/2/6 in subscriptions.

Fortunately for 2SB, the retailers Anthony Hordens and David Jones provided substantial financial assistance to the station in order to match the exposure gained via 2FC by Farmers, their retail competitor.

Charles Lloyd Jones, the chairman of David Jones, was very interested in wireless and determined to invest in broadcasting, and formed a company, Associated Interests, in which DJ's, Anthony Hordens and Smith's Newspapers each held a share. Associated Interests was essentially the guarantor for bank loans to keep 2SB solvent.

The Sun newspaper, a rival of 2FC's supporter the *Evening News*, took up £7500 worth of debentures in 2SB which was later converted into shares. The

proprietor of the Sun Newspaper group was Sir Hugh Dennison, who was another founder of the Australasian Wireless Company in 1910, and became the Chairman of AWA when that company was formed in 1913.

Broadcasters Ltd spent over £9000 on equipment and studios, but even with support from the retailers it was still losing £5000 per year.

David Jones, like other retailers, had a 'wireless retail section' to take advantage of the public clamour for wireless sets. The David Jones Radio Department was a separate store in Pitt Street managed for a time by F. Basil Cooke, son of the NSW Government Astronomer and a well known wireless experimenter with the call sign 2LI. (I have never found out what the F. stood for.) Cooke had been the second licensed experimenter in Western Australia, and had held the 1914 callsign XADW.

Cooke also designed receivers, and had them made with the DJ brandname in DJ's own workshop, managed by R.C. Marsden, 2JM. Cooke gave wireless talks in the shop at lunch time, to the large crowds of people who thronged to learn about this new phenomenon. DJ's employed a number of technicians and had a fleet of vans selling, delivering and repairing wireless sets. Even though few people purchased wireless sets in the sealed set era, and they were very expensive, there must have been enough business to justify opening the shops. Of course from mid-1924, when 'open' sets came in, all the retailers did very well.

A little known fact is that in early 1924 David Jones set up its own broadcast station, 2DJ, and transmitted musical selections from its wireless shop in Pitt St. The station was under the control of Cooke, who retained the licence for several years after DJ's ceased transmissions in mid-1924.

In March 1924, 2SB's call sign was changed to 2BL, because 2SB was too easily mistaken for 2FC, in spoken and broadcast form.

Scheme was doomed

The sealed set scheme of AWA was doomed from the start, and in mid-1924 a new broadcasting system was devised by a group of interested parties and the PMG. It provided for freely tuneable receivers and a listener's licence fee of between 35/- and 25/-, depending on distance from the stations, to be split between the A class broadcasting stations. These fees were reduced in later years.

The broadcast stations were classified 'A' or 'B', and received a licence for a five year term. The A class stations split

the listener's fee in proportion to size, but could only advertise a maximum of one hour in each 12 hours of broadcasting, whilst the B class stations were expected to obtain their revenue from advertising, etc. In NSW the fee structure was 5/- to the PMG to run the system, 21/- to 2FC and 9/- for 2BL; i.e., a 70/30 split.

This new scheme commenced in July 1924 and was popular with listeners, so that whereas under the 'sealed set' scheme there had been only 1200 licences issued, by June 1925 there were 64,000 on issue. Even so, it was estimated that three to four times as many listeners risked a fine for not taking out a licence.

2BL's transmitting licence was re-issued on 21/7/1924 for a five year term and it did a little better under the new payment arrangements. But it still lost money, despite Charles Lloyd Jones putting substantial capital into the company on behalf of David Jones Ltd (somewhere around £2000 per year), plus guaranteeing loans for another £10,000 in early 1924.

Smith's Newspapers were now owned by Associated Press and were part of the Fairfax empire, and Fairfax also contributed substantial financial aid to Broadcasters. Through the joint company Associated Interests, David Jones and Associated Press became majority shareholders in Broadcasters and 2BL. It seems that David Jones held at least 65% of the shares in Broadcasters Ltd by early 1928.

Although 2BL received 9/- from each licence fee, the Australian Performing

Rights Association, representing musical artists, demanded 10% of that as copyright fees, and AWA wanted 5/- per licence! The restrictions on advertising by A class stations meant they made little money from that source, and in fact the A class stations dropped all advertising in early 1927.

Late in 1924, Broadcasters recognised that its studio and aerial location in the middle of the city was not very effective, and commenced a new installation at Coogee.

In early 1925 it relented under pressure from AWA and signed a royalty agreement, and purchased a 500-watt transmitter from AWA for £2380.

Ray Allsop and his engineer E. Joseph converted it to 1500 watts output and installed it at Coogee, as a temporary measure while his company built a 5000 watt transmitter, at a cost of only £3000.

Court rebukes AWA

In 1925 AWA, which had not enforced its royalty demands over valves for receivers, took David Jones to court as a test case — and lost. The court held that the Australian patents had to be taken out by the original inventor — e.g., Marconi, RCA, etc., — not by AWA, which was only the assignee and therefore had no right to demand payment. In addition many of the patents that AWA claimed fees on had lapsed, years ago! AWA was severely criticised by the court.

A little sidelight illustrates how AWA operated. Broadcasters Ltd imported valves directly from RCA in the USA, for receivers that it was having made, be-

cause AWA added patent fees (on top of those already charged by RCA) and an exorbitant profit margin.

At one time in 1925 AWA was very short of valve stocks and arranged to buy some from Broadcasters. However, after receiving the goods, AWA deducted the royalty fees it would have received if the valves had come via AWA and refused to pay Broadcasters the full amount!

Little wonder Fisk was called a 'bushranger' and AWA was 'the most disliked company in Australia'. Fisk was entitled to protect the rights of Marconi, RCA and the other patent holders, but he seemed to have had about as much sensitivity as Jack the Ripper.

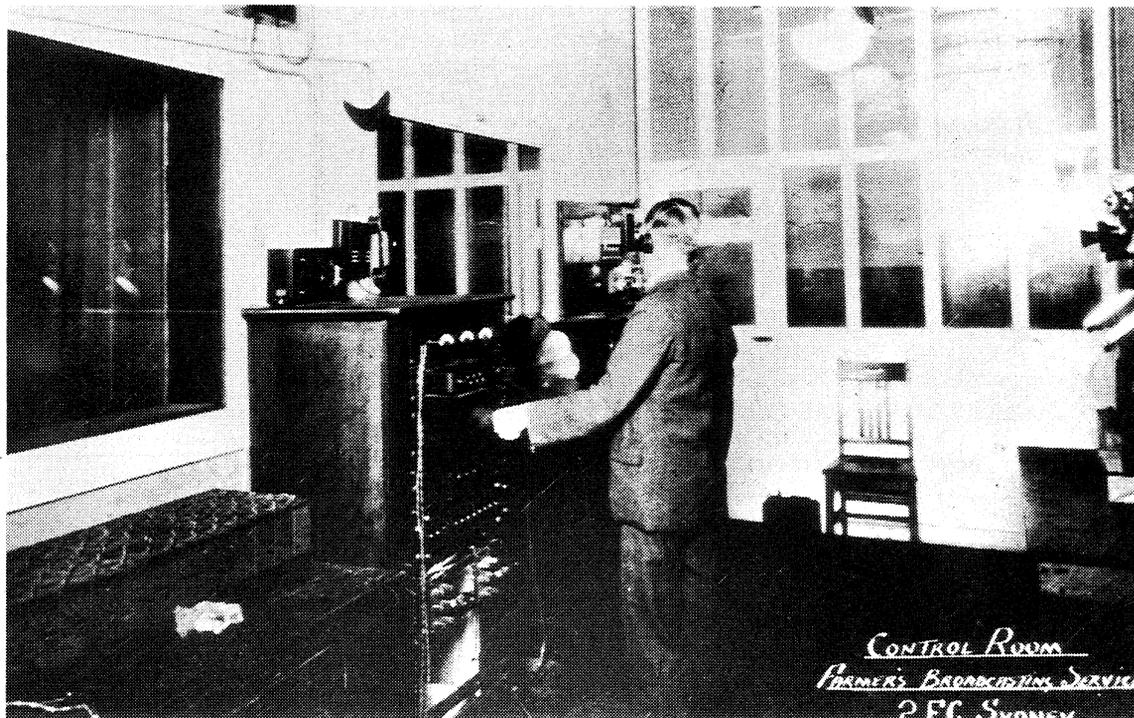
As a result of this court case Charles Lloyd Jones was instrumental in getting the retailers to combine in a group called 'Radio Interests', to fight for their rights against various companies demanding payments.

In the meantime 2FC's licence was re-issued on 16/7/1924 and Farmer and Company was doing much better, with more of the licence fee revenue but also due to the efforts of its backers in promoting and combining services such as the news and entertainment.

Artists appearing in the J.C. Williamson's theatres, courtesy of J. & N. Tait the tour promoters, also broadcast over 2FC, and in Melbourne Farmer and Company became majority shareholders in A-class station 3LO, previously run by the Broadcasting Company of Australia.

The shareholders in Dominion Broadcasting Co., the new company controlling 3LO, were Farmer and Company

The earliest known photo of an Australian radio broadcasting control room — 2FC's control room, which began service on December 5, 1923. (Courtesy AWA).



Sydney's sealed set stations - 2FC and 2BL

40%, J.C. Williamson and J. & N. Tait 40%, Herald and Weekly Times 15%, and Buckley and Nunn Ltd 5%. On 1/3/1928 the other Melbourne A-class station, 3AR, was also taken over by Dominion Broadcasting.

Move to Pennant Hills

In early 1926, the transmitter of 2FC was transferred to the large AWA transmitting centre at Pennant Hills and operated by AWA under lease. (In typical confrontationist attitude, Fisk refused to accept 2FC Limited as authorised to pay service fees due to AWA, and demanded a guarantee direct from Farmer and Co.) The original wavelength of 2FC, 1100 metres, was well down the scale and limited its broadcast coverage at night, so when the move was made the station changed to 442 metres (678kHz).

Frequency stability and measurement in this period was not terribly exact, and both 2FC and 2BL are listed in various sources at frequencies which are only within a metre or so of their nominal locations. By January 1928 new studios for 2FC had been built in premises owned by J.C. Williamson in Market St., next to that company's 'Her Majesty's Theatre'.

A number of business dealings between 1925 and 1928 resulted in J. & N. Tait becoming part of J.C. Williamson, and the *Sun* Newspaper bought out David Jones' share of Broadcasters Ltd. A new company was incorporated on 17/11/1927 — 2FC Limited — to take over the broadcasting business of Farmer and Company with a share split of 50/50 between Farmer and Company and J.C. Williamson. The licence of 2FC was transferred to it on 1/12/1927.

The new company entered into negotiations to take over 2BL, but 2BL held out for 45% of the combined revenue, until an independent arbitrator suggested a 60/40 split between 2FC and 2BL.

As a result on 1/1/1928, 2BL and 2FC agreed to amalgamate and were combined in a new company, the 'New South Wales Broadcasting Company' on 14/8/1928. Mr George Wright, Chairman of Farmer & Company, became chairman of the new company and the intention was that upon his retirement a chairman would be appointed by 2FC or 2BL for alternate years.

In December 1927, 2FC Limited commenced negotiations with Otto Sandel, owner of 2UW, with a view to acquiring a commercial B class station. A new company was formed, 'Radio

Broadcasting Limited' with 1/3 equal shareholdings between Farmer & Co, J.C. Williamson and J. & N. Tait, and W.H. Paling & Co, to take over and manage 2UW.

The licence of 2UW was transferred to the new company on 12/4/1928, and the company officially took over management on 22/6/1928. Later, Palings bought out the other two shareholders and on 16/10/1933 sold 2UW into the Commonwealth Broadcasting Corporation.

1927 Royal Commission

In January 1927 the Government announced a Royal Commission into all aspects of wireless broadcasting in Australia, following listener dissatisfaction with the limited coverage and programming of the stations, arguments over licence fee disbursements, and concern over the dominant and stifling role of AWA.

The Royal Commission recommended that the licence fees be pooled and the A class stations should co-operate to provide a better, wider service. That meant the large city stations would be subsidising the smaller country stations. Discussions between the stations and the Government broke down, so the government established its own National Broadcasting Service on 26/7/1928.

The transmitting licences of the A class stations were cancelled as they came up for renewal, and their assets such as transmitters and studios were purchased or leased by the government and put under the control of the PMG. 2FC and 2BL were both taken over and compensation of approximately £20,000 (2FC) and £10,000 (2BL) paid. The other stations acquired by the PMG were 3AR, 3LO, 4QG, 5CL, 6WF and 7ZL.

All the stations which were taken over applied for further compensation of £60,000, claiming for the premature loss of their licences, and there were allegations in Parliament that the new General Manager of the Australian Broadcasting Company, Mr. Conroy, had influenced the Government to pay the compensation because of his links as the previous Manager of 3LO.

Programme consortium

Apart from two stations which were leased from and run by AWA, the PMG provided technical services, with programs supplied under contract by the Australian Broadcasting Company. The Australian Broadcasting Company was a consortium of Union Theatres, Fuller Theatres and J. Albert and Son, which

won the tender to manage and program the National stations.

That contract expired in June 1931 but was extended to June 1932, by which time the government had decided to re-organise Australian broadcasting — for the fourth time in nine years. The Australian Broadcasting Commission Act was passed in May 1932 to manage the national stations, now up to 12, and guide the programming policy.

Charles Lloyd Jones, then 54, was appointed as the part-time Chairman of the Australian Broadcasting Commission, or ABC, when it came into being on 1/7/1932. Lloyd Jones had shown a strong interest in broadcasting, had developed the retail side of it through his stores and was one of establishment's artistic people.

Although the Chairman's position was paid as a part-time job, he spent much of his time on ABC matters. He remained in the position for only two years, citing the need to concentrate on the management of David Jones Ltd during the recession as his reason for resigning — although he did not enjoy a happy time with the ABC. He had to withstand constant criticism from the public, obstruction from the entrenched public service mentality and harassment from the politicians.

David Jones and Farmers retreated from their involvement in broadcasting. But the other players, the entertainment and cinema giants, newspapers and music tycoons bought into the B class stations — within restrictions on ownership imposed by the Government — and participating in large programming networks such as the Macquarie Broadcasting Network, and the Commonwealth Broadcasting Corporation (formed by the shareholders in the previous Australian Broadcasting Company).

Radio broadcasting was now well established in Australia, after its faltering start, and would soon enter its 'golden era'. But that's another story...

In closing, I would like to thank Mrs B. Horton, David Jones Archivist, Mr. G. Tranter, ABC Assistant Archivist, and the staff of the Australian Archives for their help and interest, which made this article possible. ❖

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