



When I Think Back...

by Neville Williams

An Unsung Pioneer: W.E. Coxon of WA — WIA and AIM supporter, co-founder of 6WF

This month, prompted by a one-time Western Australian reader, we outline the career of a pioneer whose name has not featured widely in the Sydney/Melbourne based industry press: WA wireless enthusiast Walter E. Coxon. While his contemporaries Ernest Fisk and Raymond Allsop were making wireless history on the east coast, 'Wally' Coxon was doing his considerable best to get public broadcasting to air in his home state.

It may well be said that this article on W.E. Coxon is running behind time by at least 26 years. Way back in October 1967, a Mr Adrian M. Peterson of St Lucia, WA wrote to me as the then-editor of *EA* enclosing an article on Walter Coxon who, he said, had made no less valuable a contribution to the establishment of wireless in Western Australia than had his more widely publicised contemporaries on the eastern seaboard.

What prompted the letter was the fact that Walter Coxon had been issued with an Australian amateur operator's licence just 60 years before, in 1907. Adrian Peterson had arranged to interview him in recognition of his wireless/radio 'diamond anniversary'!

At the time, as the file shows, I was at a loss to know how best to accommodate Mr Peterson's article. There were no supporting illustrations, and a further concern was that an isolated personal story about a little-known pioneer might appear somewhat out of context in the magazine format then current.

After all, back in the 1960's, pioneers and old-timers were still an integral part of the everyday electronic scene. Any number of them were involved full-time in the industry, as company proprietors and/or directors, managers, engineers, technical writers, production supervisors — right through to practising servicemen and retailers. Veterans for sure — but scarcely venerable at that stage!

Since then, that whole generation of old-timers has withdrawn into the relative obscurity of retirement — transformed into a valuable though vulnerable repository of electronics history.

Within the same time frame, a great deal of one-time local expertise has been retired with them, to be replaced by a radically different kind of technology: much of it based off-shore, less accessible and increasingly more difficult to explain in plain English.

So, while many technically inclined readers rely, of necessity, on imported, mass-produced solid-state whatnots for what they hear, see and do, they gain vicarious pleasure from reflecting on what they can better relate to — the processes and the people who brought basic electronics into being.

Hence the 'Think Back' series including such figureheads as: Father Shaw, Sir

Ernest Fisk, Raymond Allsop, Sir Charles Kingsford-Smith and the *Southern Cross*, Ron Bell and RCS, Fred Thom and Tasma, Leslie Bean and Stromberg-Carlson, Murray Stevenson and 2UE/ATN, Charles Slade and Calstan — and now, as part of that overall scene, Walter Coxon.

At last, Walter Coxon

Having, as a young man, qualified for his amateur wireless licence in 1907, it seems likely that 'Wally' Coxon would have been born in the late 1880's. This puts him as a contemporary of Ernest Fisk (see *EA*, June 1989) and a few years ahead of Raymond Allsop (*EA*, January 1990).

Interviewed by Adrian Peterson in 1967, Wally recalled how, as a youth, his favourite hobby had been building gadgets and working models of one kind and another. As it turned out, the project that ultimately shaped his career was the construction of a wireless receiving set, as featured in the English magazine *How To Make It*.

The project involved winding what Wally described as 'a great length' of waxed bell wire on to an 18" (46cm) length of wood, of cross-section 2" (5cm) square. A sliding contact supported by a steel 'ramrod' was called for, which presented him with quite a problem in keeping the exposed track along the winding free from wax. The adjustable coil and a few other bits and pieces added up to a receiver, ostensibly ready to 'listen in'. Only then did he realise that there were no transmitting stations in Western Australia; so he set

Wireless Institute of Australia: WA Division

The first 1921 meeting of this division was held in the Science Rooms, James St, Perth on Thursday March 3, Mr W.E. Coxon presiding over a large attendance.

He informed members that the Dept intended disposing of a quantity of apparatus by tender early in March. A motion was moved to the effect that the Govt Stores Dept be written to, requesting them to sell this material by auction.

The secretary reported that membership badges were now available from WIA Headquarters.

Mr Turnbull (assistant secretary) presented a list of registered amateur stations in the state and promised to make the necessary additions each month. The Institute has set itself the task of collecting complete data concerning the apparatus possessed by every amateur in the state and, with this object in view, responsible experimenters are being communicated with.

(From 'Sea, Land & Air', April 1, 1921)

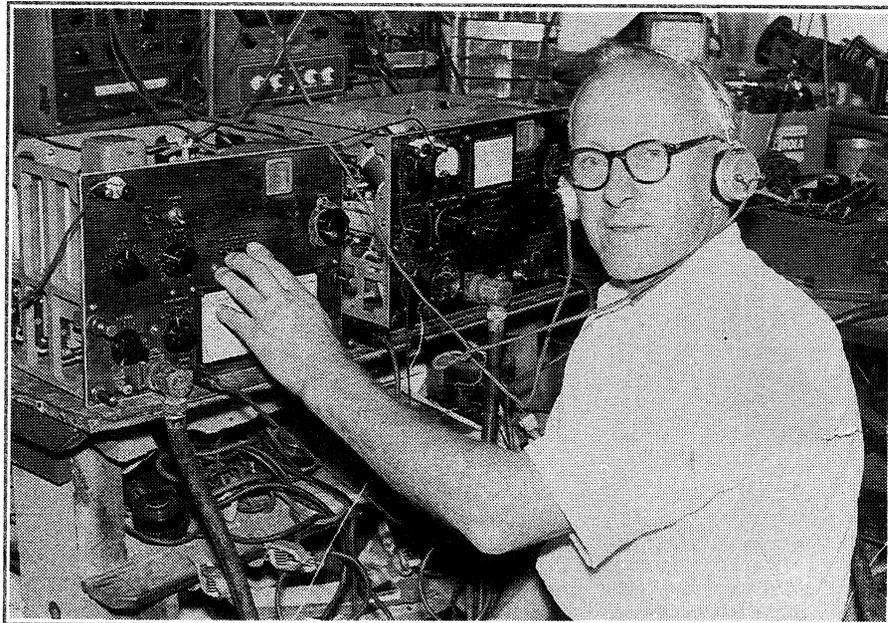


Fig.3: Wally Coxon shown at the operating position of his amateur station VK6AE in Darlington WA, in 1960. The 'rig' and associated test equipment is a far cry from what is indicated in Fig.1.

about building one himself — again in his home at Maylands.

As transmitters go, it was every bit as primitive as his receiver (Fig.1) comprising a coil and condenser, an oscillation transformer, an electrical spark gap and presumably an aerial of sorts. (For a discussion of early transmitters see 'From sparks and arcs to solid-state' in *EA* for Oct-Nov-Dec 1990).

Elementary though it undoubtedly was, Wally's transmitter worked and radiated a signal from one suburb of Perth, which was duly picked up in another. The year was 1907. As far as Wally could determine, it was the first ever land-based wireless/radio contact in Western Australia.

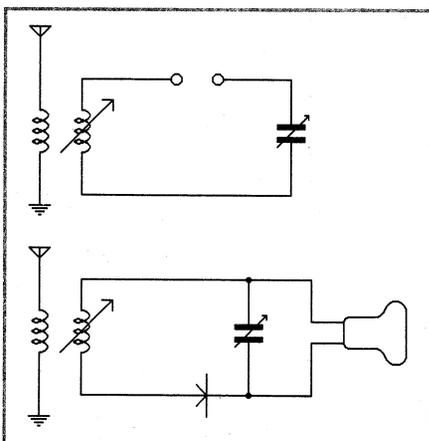


Fig.1: According to Wally Coxon's amateur licence renewal issued by the Department (Jan 6, 1914), circuits as above were supposed to represent a transmitter and receiver. As they stand, they are virtually meaningless.

Early WA stations

The Battye Library in Perth, specialising in Western Australian history, holds a periodic renewal dated January 6, 1914 for the original transmission licence issued to Walter Coxon, call-sign XYK.

Details of the transmitter covered by the document were listed as: oscillation transformer, tuning coil, variable condenser, spark gap. A listing for the associated receiver read: loose coupler, condensers, galena and electrolytic detectors, telephones.

According to Wally Coxon, one of his early spark transmitters was built around the 'trembler' coil from a model-T Ford car, a series which, according to the 1935 *Modern World* encyclopedia, was current from 1909 to 1926. (I vaguely remember the spark coil involved in Ford's ignition-start routine but, for we kids at the time, the real prize from a model-T were V-magnets from the flywheel assembly used to pulse Ford's version of a magneto!)

During the interview Adrian Peterson says that, 'with a twinkle in his eye', an ageing but still active Wally Coxon rambled on without pretension about other interesting aspects of wireless/radio in those very early days, before World War I.

Between 1907 and 1914, he said, quite a few other hobbyists 'caught the wireless bug' and were allocated call signs beginning with the letter 'X' to signify 'experimental' — plus the applicant's initials. How his own came to be XYK, he had no idea!

In 1912, four experimenters in his

neighbourhood joined with Wally to found what became the nucleus of the WA Radio Club (Fig.2). Its numbers were swollen by the formation of similar small groups in other suburbs of Perth.

Wally recalled that, in the international political climate of the day, there were considerable misgivings in the community about such informal wireless activities, involving as they did, unsupervised 'conversations' in Morse code and the apparent scope for clandestine transmissions.

Official stations

Over and above the amateur activities, official stations also appeared on the air, including POS and POP, both operated by the PMG Department.

Located in Sydney, POS derived its rather strange callsign from 'Post Office Sydney'. The even stranger POP signified 'Post Office Perth'. POP was housed in a hilltop radio complex at Applecross, with its then powerful signal blasting into the ether from a 400ft (122m) mast supported on glass insulators. POP was subsequently re-christened VIP, and inherited the responsibility for contacting ships entering coastal waters off WA.

Using the callsign XNG, VIP also used to transmit standard time signals for the benefit of passing ships. As a cross-check on its accuracy, XNG had a standing arrangement for a similar station in the UK to transmit a time check each evening at 9.00pm (WA time). XNG's clock would be checked against this and against stellar readings.

As the procedures were refined, a discrepancy became apparent. The answer was simple, even if unexpected: XNG at Applecross was sited 220 yards (202m) from where it was supposed to be, according to Admiralty charts — which had to be corrected forthwith!

Mention of VIP reminded Wally Coxon of another memorable occasion when the station staff itself, got it wrong. By chance, he and another amateur by the name of Sibley came across a newspaper from Java. They took a section each and agreed to use it for mutual Morse practice



Fig.2: Evidencing the ravages of time, a document stamp from the original WA Radio Club, founded in 1912.

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— the idea being that, by using a foreign language, they would be less inclined to identify missed letters and words by context.

Intruders? Spies?

They certainly got their Morse practice, but there was one hitch: the ship-to-shore establishment at Applecross issued an official statement to the effect that Dutch operated (spark) stations in Java were interfering with shipping communication in Western Australian waters!

Other official stations, set up mostly for communication purposes in WA, included VIN at Geraldton, with others at Carnarvon, Roebourne and elsewhere. VIW at Wyndham was established initially to coordinate the movement of cattle to markets in the south. It was later taken over as part of the coastal radio service.

When war was declared in 1914, the authorities translated community misgivings about amateur wireless activities into a complete clamp-down. Wireless enthusiasts were requested to dismantle and surrender all radio equipment and to take down all radio masts. In fact, the military were so touchy about security that they even banned the sale of press-button operated torches, in case they were used to communicate clandestine messages in Morse code!

Some members of the public excelled themselves in 'dobbing in' possible offenders. On one occasion, a complaint was lodged that flashes of Morse code had been observed from a radio aerial erected at Mr Coxon's home. A full official investigation revealed that the aerial 'mast' was an ordinary flagpole and that the flashing Morse code was simply



Fig.5: Wally Coxon was also involved with the Rev. John Flynn (pictured) and the AIM/Flying Doctor, but to what extent is not clear from the information to hand.

moonlight reflecting from a weather vane oscillating in the breeze.

A quick coat of flat black paint on the 'unresisting black cock' put an end to the suspect 'transmissions'!

On another occasion, flashing Morse code signals were espied by a loyal and enthusiastic citizen, emanating from a coastal sanitary depot and presumably intended for passing enemy ships. This time, the offending light source proved to be low-slung hurricane lantern(s) with their light being chopped into dots and dashes by the leg movements of the horse(s) used to transport the 'dunny' cart(s)!

Into the 1920's

Following the war, with the role of

radio and technical personnel much better understood, their confiscated radio equipment was re-allocated to the owners and Western Australian amateurs were issued with call-signs prefixed by OA6, standing for Oceania-WA. The now-familiar 'VK6' prefix came much later. The WA Radio Club was reactivated and, on November 3, 1919, re-constituted as the Western Australian Branch of the WIA — Wireless Institute of Australia. (See panel.)

In the immediate postwar years, Wally Coxon's amateur activities moved out of the spark gap/Morse code era to valve-based continuous wave technology, and to speech transmissions suitable for reception by listener/experimenters within the public at large. As much as anything, such transmissions were intended to stir public — and departmental — interest in radio as a potential medium for disseminating information and entertainment.

One such Coxon broadcast was featured at the Perth Royal Show around 1918, with a demonstration transmitter on display in one pavilion and a demonstration receiver in another on the far side of the showground.

Wally Coxon also claimed to have originated the first-ever music broadcasts in Western Australia, in about 1920. Emanating from his own amateur 'rig' in the family home in Sixth Avenue, Maylands, they featured records borrowed from a Perth record company.

That such transmissions didn't go unnoticed is evidenced by the fact that an entry in the *Macquarie Book of Events* about the contribution of amateur radio 'broadcasters', groups W.E. Coxon 6AG with such well known figures on the east coast as Charles Maclurcan 2CM, Joe Reed 2JR, Jack Davis 2JD and Maxwell Holden 3BQ. A similar reference appears on page 13 of Philip Geeves' book *The Dawn of Australia's Radio Broadcasting*, recently published by EA.

First WA broadcaster

Mr Peterson says that Walter Coxon subsequently played a key role in the establishment of Western Australia's first public broadcasting station 6WF, broadcasting on 'long waves' like Sydney's 2FC. (According to the *Macquarie Book of Events*, it went to air on June 4, 1924).

Under Australia's abortive 'sealed set' system, 6WF was to have been supported financially by listeners paying an annual subscription fee of four guineas (£4.4.0, or \$8.40). As a projected commercial venture, it was housed on the top floor of the Westralian Farmers building in Wel-

To RADIO.....

Confirming our Phone / C.W. Contact, On Mcs. 19 at

Your Sigs. were

VK6AG

Experimental licence 1907
Pre War 1914 - XYK
Pre War 1939 OA6AG

Western Australia

73 from WALTER E. COXON - - Leithdale Road, Darlington.

Fig.4: Printed in red and black, Wally Coxon's QSL card is an historical statement in its own right. His callsign is shown as XYK (pre-war 1914), OA6AG (pre-war 1939) and VK6AG (current).

lington Street, Perth, with two masts on the roof supporting the antenna.

When the sealed set scheme was replaced by the 'A' and 'B' licensing system, 6WF was classified as an A-class station, meaning that it would be supported by a share of listeners' licence revenue collected and allocated by the Federal Government. As such, it passed ultimately into the control of the Australian Broadcasting Company and thence into the present-day ABC.

Wally Coxon recalled that, in those days, broadcasting stations were 'popping up all over the spectrum'. In Australia, they were being established on 'long waves' and 'short waves' — the latter being subsequently re-classified as the present-day 'medium-wave' (AM broadcast) band. Long and short/medium waves were variously favoured for their reputed daytime and/or nighttime coverage, their vulnerability to thunderstorm interference and, by implication, their siting in terms of latitude.

An extreme case, according to Wally Coxon, was a station set up in Bordeaux, France, operating on a wavelength of 23,000 metres, equivalent to 13kHz. Inside what would be classified today as the audio spectrum, its carrier was directly audible, given certain conditions, as a high-pitched whistle.

Like other broadcast stations in its day, 6WF sought to attract public interest by stunts and live coverage of current events.

Striking publicity

On one memorable occasion, Wally Coxon advised 6WF listeners that, if they tuned in at 12 o'clock on a particular day, the Perth Town Hall clock would be heard to strike 24 times instead of the usual 12. And, sure enough, right on cue, the clock went into an apparent ringing frenzy and pealed out 24 o'clock midday!

The explanation was simple enough: the broadcast involved two live microphones, one that had been installed permanently in the Town Hall and another set up on the roof of the Westfarmers building in Wellington Street, about half a mile away. The distance was such that, at the comparatively leisurely speed of sound, the chimes picked up at the studio were neatly interposed between those conveyed by landline from the Town Hall.

On another occasion, 6WF undertook to do a live broadcast of an important rowing event on the Swan river. The problem was that, as often happened in the early 1920's, they encountered great difficulty in obtaining access to the necessary telephone lines. They had to compromise by doing a semi-phantom

The WA Division held its regular monthly meeting in the Science Room on Thursday, March 31. The President, Mr Coxon, presided over a large attendance.

It was thought that as restrictions are being lifted by the Dept, and as amateurs are recommencing activities, a reorganisation of the work of this Division should be considered.

Meetings will be held fortnightly instead of monthly, to be held in Warwick House on the second and fourth Wednesday of each month. The mid-monthly meeting will take the form of lectures, demonstrations, etc.

A regulation was gazetted that members erecting wireless aerials must fly a pennant designed and issued by the Institute.

It was further decided to communicate with the Central Body to make representations to the Dept concerning the issue of transmitting licences. Several members stated that amateurs in England and America were granted licences and encouraged in every way to carry out investigations, while in Australia only receiving licences were issued.

('Sea, Land & Air', May 1, 1921)

broadcast, with the assistance of two Navy semaphore signallers. One in King's Park spelt out the vital information with his flags, while his mate atop the Wellington Street building scribbled it down and passed it to the announcer — who, at best, had only a distant view of the proceedings, through binoculars.

Two other public broadcast stations in which Wally Coxon had a hand are no longer in existence, although old-time WA dial-twisters may well remember them. One of the stations, 6BY, operated for two years in Bedford Hall, Bunbury, just opposite the railway station. It was closed due to financial problems during the depression.

The other station, 6ML, was established by Musgraves Ltd, opening officially on March 19, 1930. It was later taken over by WA Broadcasters but closed down during the war years, largely because of the prevailing manpower shortage.

The Annual Meeting of the WA Division was held on Wednesday, June 22, Mr W.E. Coxon presiding.

The President, in his retiring address, said that, since the Annual Meeting, the control of Wireless Telegraphy had been handed over by the Dept of the Navy to the Postmaster-General's Dept. The issue of (new) licences to private individuals was still a burning question.

Before the war, both sending and receiving licences were issued. Although the regulations had not been altered, transmitting licences were not now issued except under very special circumstances.

('Sea, Land & Air' August 1, 1921)

The Flying Doctor?

But for one final paragraph, Mr Peterson's account of his 1967 interview with Wally Coxon ends there. I quote from his original letter:

At this point in the sunny morning interview, I asked Mr Coxon: "And what of your association with the Royal Flying Doctor Service?" He replied: "Ah, that's another story again!"

Not to be put off, I reached for my copy of *John Flynn, Apostle to the Inland* by W. Scott McPheat. Guided by the index, I discovered one lone reference to Wally Coxon in chapter 22, entitled 'The Revolution of Radio' (p.204). I quote:

The Wireless sub-committee also worked out a complete system making the best use of the channels available, in short, medium and long-waves. A radio handbook was prepared by W. Coxon of West Australia. Tenders were called for the provision of transceivers, and Traegar won the contract.

By way of context, Flynn had been wrestling with the problems of the inland since at least 1912, central to which was the potential role of wireless communication.

The PMG's Department and large firms like AWA were favourably disposed to the project, but their expertise in remote and mobile communication had to do with shipping and military applications involving trained operators, large host vehicles and professional support resources. In an environment of non-technical bush padres, doctors and nurses, makeshift transport and indifferent back-up, they were at a complete loss.

Flynn had come to realise that the people most likely to devise practical answers were self-motivated hobbyists and amateurs, who were adept at setting up wireless communication with makeshift resources. It was no accident that the wireless committee of the AIM — Australian Inland Mission — should include an amateur-turned-professional like Wally Coxon, and that they should assign the technical responsibility to the near-legendary Alfred Traegar (Traegar?).

As it happens, I have been planning for some time to devote a future episode of 'Think Back' to Flynn of the Inland, but I now find myself in a position of knowing that Wally Coxon had a role in that story, which neither he nor Scott McPheat chose to enlarge upon.

Hopefully some Western Australian reader will be able to come up with further information that will help fill the gap! What role did Wally Coxon fill in relation to the AIM, and for long did he remain active after 1967? It's over to you! ♦