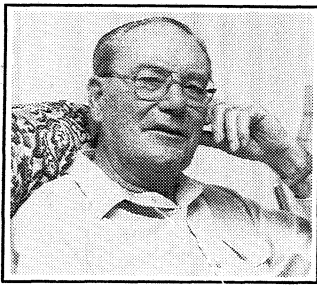


# When I Think Back...

by Neville Williams



## 'LAY' CRANCH: A varied career in radio, which should stir many memories.

Born in Cairns, Queensland in 1910, Layman W.V. Cranch was issued with a special experimental radio permit at age 15 because he was too young to qualify for a normal amateur licence. Trained as an electrical engineer, he nevertheless pursued a radio career in Melbourne and Sydney, except for a diversion into small ships for the RANVR during World War II.

Readers have asked, on occasions, whether I planned to publish a biography of Lay Cranch. My stock reply has been that I met him during the late 1930's as an executive of Crown Radio but, since then, our paths had not crossed. It was a relatively brief encounter and I knew nothing of his career before or since.

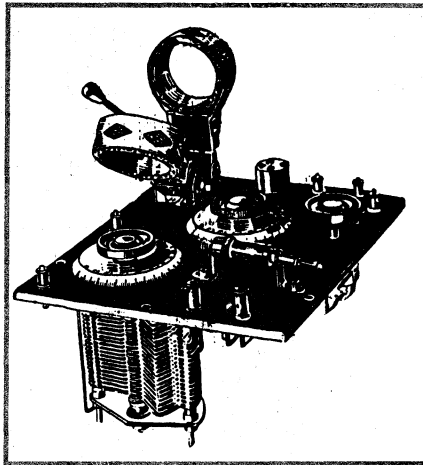
Recently, however, a number of readers took steps to fill the void. Only then did I discover that, while I might have met the one-time executive at Crown Radio, I certainly didn't know the *real* Lay Cranch! We had been too preoccupied with Crown components and *R&H* projects to exchange personal anecdotes.

But such wasn't the case in an interview taped on June 16, 1992, by Geoffrey Holden of the Museum of Victoria and Allan Doble of the WIA. Under the title of 'Lay Cranch VK3CF/VK3T — His Story', a transcript was subsequently published in the *Journal of the Amateur Oldtimers' Club* No.10, March 1993.

For details of the recording, I am indebted to Keith Hoffman (VK4KH) of Toowoomba, Qld and George W. Neilson (VK3TES) of Blairgowrie, Vic. As a transcript of a three-way interview, it was not suitable for direct reproduction in these pages and I have accordingly reworked it into the normal 'Think Back' format. Thanks again to those who made it possible.

As the story unfolds, it uncovers many aspects of radio history and will inevitably jog many fading memories.

Starting at the beginning, Layman (call me 'Lay') Cranch was born in



**Fig.1: While still a teenage apprentice, Lay Cranch talked his boss into manufacturing rigid and swivelling sockets for plug-in honeycomb coils, as above, and for European style valves.**

Cairns, North Queensland on October 18, 1910. At age 14, he was apprenticed as an electrical engineer to F.L. Cook and Williams, in South Melbourne, a company which subsequently passed through many hands to become 'Ring-Grip'.

### A budding amateur

Almost from the outset, however, his interest turned to electrical phenomena at a much higher frequency and he took up wireless as a hobby.

Very early in the piece, he managed to 'inveigle' Fred Cook into producing an initial line of wireless parts: sockets for European valves having pins in what he described the 'southern cross'

configuration, plus sockets and bases for plug-in coils.

Some 12 months into his apprenticeship, at age 15, Lay Cranch passed his amateur operator's examination but was informed that he could not be granted a normal licence until he turned 18. Helpfully, however, he was issued with a special experimental permit carrying — ultimately — the letters VK3T.

His regular amateur call, VK3CF, came later; but in the meantime, VK3T gave him legal access 'for test purposes' into a range of services — Flying Doctor, marine, emergency services, amateur and so on.

At the taped interview, an 82-year-old Lay Cranch pointed to his QSL cards on the wall, plus photographs of his first crystal receiver and his first one-valve transmitter — complete with Cook and Williams' valve and coil bases!

Lay added that his 'cobber' at the time, Billy Sievers VK3CB, "really got me going" and they began transmitting on the broadcast band on Saturday and Sunday nights after the broadcast stations had closed down. They used the channel otherwise occupied by 3KZ, 'with special permission' as proudly noted on his (then) QSL card.

At age 19 he had completed his five-year apprenticeship and was classified as a 'fully fledged' electrical engineer. As such, he could face the 1929 'great depression' with confidence, servicing electric lifts around Melbourne.

One pay-day, however (Friday in a 5-1/2 day week) his boss 'Cookie' called him into the office and handed him four week's pay, plus the news that he no longer had a job!



## WHEN I THINK BACK

With PMG's cooperation, the latter picture was land-lined to a similar facsimile machine at the Melbourne *Herald* office within three-quarters of an hour of the event — hours earlier than it could have reached its destination by any other means. Although primitive by modern standards, in principle the equipment anticipated the modern fax.

(At the 1992 interview, Geoffrey Holden remarked that three of the machines had been donated to the Museum of Victoria).

That AWA was also experimenting with picture transmission using beam wireless, in the early 1930's, was confirmed at the IRE World Radio Convention, held in Sydney in 1938, by papers submitted by L.A. Hooke and A.S. McDonald.

### Time to move on

Perhaps encouraged by the publicity, Radiovision management decided to reorganise and re-establish the Company at Prahan, concentrating on the 'vision' side of the business and dropping receiver and amplifier production. To Lay Cranch, they were backing the wrong horse; it was clearly time to move on yet again!

As it happened, Lay Cranch heard through the 'bush telegraph' that the Essanay Radio Company was in all kinds

of strife. (The name had been derived from the proprietors' initials: Messrs Sweeney and Austin).

Essanay had a factory in Swanston Street, opposite Latrobe Street, in what later became RMIT territory. As such, their factory was in the shadow of the 3KZ aerial mounted atop the nearby Trades Hall.

When Lay Cranch called to see them, they admitted to being in 'a bit of strife', which was putting it mildly. Their engineer had reputedly launched a production run of 'superhets or something', and they now had 500 of them on the floor, which wouldn't work. More precisely, they wouldn't tune stations like a proper set, but played 3KZ, no matter where the dial was set!

"Who's your engineer?" Lay asked.

"We sacked him!"

"Then what about your tester?"

The tester was duly summoned, but it turned out that he didn't have a clue as to how superhets worked. Far from knowing what the intermediate frequency was supposed to be, he didn't even know what the term meant!

"How have you been trying to test them?"

"Just twisting this and twisting that! Sometimes you can get some of them to work over part of the band — by guess and by God, I suppose!"

### Puzzle solved

"Where Russ Allsop *could* help — I

think that was his name — was to provide me with the number of turns on this and that, and a few other details."

Lay added that, in all fairness, once Russ was briefed on how a superhet actually worked, he emerged as an excellent tester.

In the meantime, Mr Sweeney was keen to know whether Lay could find out why the sets wouldn't work and how to get them going. Lay assured him that they appeared to be well built and should respond to the right treatment. That was on a Thursday, and he agreed to take three of them home over the weekend.

By Monday he had two of the three sets working normally, with their IF peaked on 175kHz, tuning right across the band and with no breakthrough from 3KZ. In fact, he was able to demonstrate a clear signal from 3GL at Geelong.

In short order, Lay was offered the position of Chief Engineer at Essanay, with the responsibility of sorting out the existing mess, rationalising the production of components and organising a move to Bockhurst Street, South Melbourne. As to the size of the Essanay factory, Lay wasn't too sure about the figures but reckoned that it would have employed around 100 people, all told.

After six years with Essanay, Lay Cranch resigned and headed for Sydney, which had emerged as the radio capital of Australia. There, in 1938, he became associated with Crown Radio Products Pty Ltd as a Director and Chief Engineer — an association which lasted from 1938-45. (A NSW Govt certificate to hand indicates that Crown was incorporated on March 31, 1938)

### Seven years in Sydney

Curiously, in his taped interview, Lay Cranch was silent on his sojourn at Crown, conveying the impression that, as far as his career went, it was a non-event. A faded photo, however, shows him working with an array of test instruments, including one of the first US-made Boonton Q meters to arrive in Australia — a far cry from the technical vacuum he had faced at Essanay.

Mingay's *Radio Trade Annual* for 1939 gave Crown's address as Murray Street, Pyrmont Sydney. The Chairman of Directors was listed as J.B. Philips, the Managing Director as F.P. Jones, with Director E.A. Parmenter and Chief Engineer Layton Cranch. The Company boasted an impressive list of distributors in Australia and New Zealand.

That may not be the whole story, however. There were persistent rumours



**Fig.3: Captain de Groot 'opens' the Sydney Harbour Bridge in 1932. Radiovision's facsimile equipment set something of a record by getting the picture to the Melbourne Herald within 45 minutes. (Courtesy John Fairfax Picture Library.)**

that Crown had links with RCS — a suggestion which Ron Bell of RCS would typically dismiss with a chuckle.

When I raised the matter again during the preparation of this article, Bob Barnes, the present owner of RCS was less coy about it. Said he: "I've seen documents implying that RCS held a financial interest in Crown from the outset, and that the Crown emblem itself was owned by RCS".

"What's more, some early RCS products carried the emblem — not any old crown, either, but the registered one, as worn by King George. Why don't you check with Olga?"

When I subsequently checked with Ron Bell's widow, Olga, she could offer impressions only, not firm recollections ("It's a long time ago!")

"Yes, I believe Ron did hold an interest in Crown, regarded as 'not for publication'. I also remember a Lay Cranch — an engineer, wasn't he? — he did a lot of lab work for RCS."

"And there was Radiokes — Ron got involved with them too, I think, when Keith Stokes wanted out!"

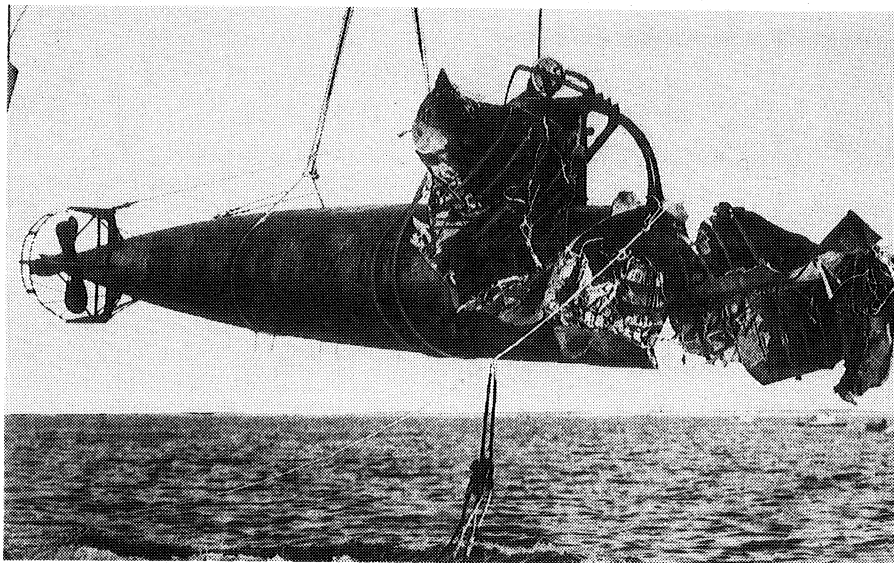
I remember speculating about Radiokes in my story about Prices Radio, noting that the much publicised brandlines appeared now to be sourced from little known premises in the same Wingello House in Angel Place.

When I mentioned this to Bob Barnes, he chuckled and said "that checks". His understanding was that Crown was in the process of taking over Radiokes when it was, itself, 'invaded' by RCS. So Ron Bell had picked up an interest in both!

Perhaps that's why I had such a myopic image of Lay Cranch. He had apparently joined the RCS/Crown/Radiokes melange at a period of chronic uncertainty, a few months before the launch of this magazine as a monthly in 1939. At the time, the fortunes of all concerned, singly and collectively, hung on an anticipated boom in mains powered family radios.

By the time I took over, a couple of years later, as Technical (and Acting) Editor, Crown with Lay Cranch as its 'up-front' man was (ostensibly) slugging it out for a share of the components market with Ron Bell of RCS. Both were running full-page adverts in every issue, in an effort to establish a link between *R&H* projects and their particular brand name. Radiokes was doing the same on a smaller scale.

As sure as one month followed another, there would be urgent inquiries as what was being featured in the next issue. With hindsight, I wonder



**Fig.4: Lay Cranch was in charge of a RANVR boat patrolling Sydney Heads on the night when Japanese mini subs staged their essentially abortive raid on Sydney Harbour. (Courtesy John Fairfax Picture Library.)**

whether the rivalry was as much personal as commercial!

There was certainly an overlap in product lines. For example, RCS and Radiokes dual-wave dials advertised in the April 1941 issue of *R&H* were identical, even to the use of the same photograph.

More obvious was the fact that in July of the same year, Crown announced that it had switched over to 'Trolitul' coil formers, a technology which RCS had ostensibly pioneered for its own use!

But even that situation was relatively short-lived. Wartime restrictions were placed on the production of new receivers and factory facilities were progressively diverted to essential services.

Lay Cranch was also caught up at a personal level. For some time, he had been associated with the RANVR (Royal Australian Naval Volunteer Reserve), involving 'small ships' operating in and out of Sydney Harbour.

### Signals, small ships

He explained that he had trained as a naval signalman: "commonly called a 'buntingtossler', using semaphore and flags and all the rest of it and a Morse lamp at night".

Despite his technical background Lay had deliberately chosen an alternative interest and, when war came, he was consequently classified as a traditional signalman.

When the RAN decided to set up a signalling school at Rushcutters Bay, Lay was drafted as instructor and examiner. The official objective was to

match the FND (Flinders Naval School) and turn out 100 signalmen a month; but unfortunately, Lay said, his team were a mite too diligent and produced 123 signalmen in the first batch. As a result, the expectations of Rushcutter were revised upwards to the new — and more exacting — figure!

Shortly afterwards, the RAN set up what was known as the Yacht Master Scheme. Having few if any patrol boats of their own, they commandeered the best of the privately owned power boats, to be refitted as 'rescue craft, sub chasers and what have you'.

Lay Cranch was duly commissioned and found himself in charge of a patrol boat that had formerly been the pride and joy of the Horden family, proprietors of the huge one-time emporium of Anthony Horden & Sons.

So it was that he was patrolling the Sydney Harbour Heads in just such a craft on the night of May 31, 1942 when Japanese submarines slipped through on what proved to be a largely abortive mission.

A few nights later (June 7, 1942) Lay was on the job again when shells landed nearby from over the horizon. Meanwhile, back at Crown, the factory foreman was authorised to exercise day-to-day management, reporting to Lay Cranch whenever possible.

Fairly obviously, Lay Cranch's stay at Crown had been much more transitory and chequered than I had realised; so much so that it simply didn't rate in his memoirs!

What apparently did rate, over this period, was intensive research into ferric particle cores by his former as-

AFTER 18 MONTHS'



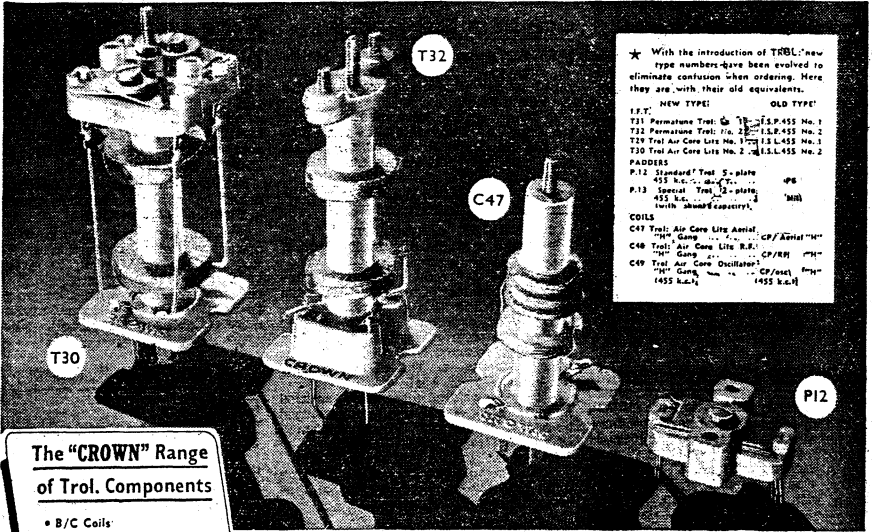
PAINSTAKING LABORATORY RESEARCH

# Switch TO TROLITUL

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- 1 Oscillator Coil to suit.
- 2 Crown "Hy-gain" I.F.s T29/T30 or T31/32.



★ With the introduction of TROLITUL new type numbers have been evolved to eliminate confusion when ordering. Here they are, with their old equivalents.

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T32	Permeance Trol. 1 1/2"	I.S.P. 455 No. 2
T29	Trol. Air Core Litz No. 1 1/2"	I.S.L. 455 No. 1
T30	Trol. Air Core Litz No. 2 1/2"	I.S.L. 455 No. 2

PAIDERS  
 P.12 Standard Trol. 5/8 plate  
 455 h.c. 1/2" dia. 1/2" thick  
 P.13 Special Trol. 3/8 plate  
 455 h.c. 1/2" dia. 1/2" thick  
 (with standard capacitor)

COILS  
 C47 Trol. Air Core Litz Aerial  
 1 1/2" Gang CP/Aerial "M"  
 C48 Trol. Air Core Litz R.F.  
 1 1/2" Gang CP/RF "M"  
 C49 Trol. Air Core Oscillator  
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Fig.5: Having made a song and dance about Trolitul coil formers, RCS presumably supported the adoption of the technology by Crown in June 1941.

sociate, Howard Kingsley Love. Indeed, it would seem that there was on-going consultation between the two and when the war ended, Lay Cranch promptly resigned from Crown and returned to Melbourne as Chief Engineer of Kingsley Radio.

**New-look technology**

As Lay Cranch explained, in contemplating the post-war era Howard Love had a vision of so upgrading ferric particle cores that, first off, his company could offer more compact and efficient IF transformers with markedly higher Q-factors — and therefore improved receiver gain and selectivity.

Further, that Kingsley would be able to extend the range of such cores from intermediate frequencies to the high frequency end of the broadcast band, thereby boosting receiver front-end performance, as well.

Having achieved this, he had envisaged high-Q tuning systems with cores sliding in and out of suitably proportioned coils, thereby obviating the need for ganged tuning capacitors.

To ensure low friction and smooth long-term operation, it would be desirable to abandon conventional solid bearings and substitute pre-lubricated sintered bronze. Far from posing an extra problem, sintered

bronze could well make use of comparable factory skills to the processing of ferric particles.

With these objectives in view, Kingsley had assembled what Lay Cranch described as probably the best (radio) design team in Australia: 'chemical engineers, radio engineers, mechanical engineers...'

He had also installed 'the best hydrogen bomb in the southern hemisphere' — a furnace which could process ferric/ferrite particles to thousands of degrees C — in a hydrogen atmosphere!

It was loaded with fail-safe gadgets, in the certain knowledge that "it could have gone off with a big bang if atmospheric gases had got to it"!

## Tricks of the trade

Progressively, the team had learned how to produce 'spherical' (cornerless) particles, how to coat them with chemical insulation, how to produce coated elongated particles and how to align them end-to-end when they were injection moulded, saturated with formaldehyde and baked hard.

For 'ferro tuning' it was essential to ensure a uniform particle density throughout the finished rods, so that there would be a smooth and uniform variation in inductance as they were slid through their respective aerial, RF and oscillator coils. Failing that, the end result would be poor tracking between the respective circuits and with the calibrated dial, much as would be evident with a misaligned ganged capacitor.

As it all came together, Lay Cranch said that demand for Kingsley components built up to a level where the sale of complete kit sets was being inhibited by a shortage of loudspeakers; so Kingsley began producing their own. In fact, they were producing quite a few lines on the side, including those inherited from earlier involvements.

It ultimately became apparent, however, that they were in the wrong place; having swallowed firms like Eclipse, Essanay and AZ Radio, Astor was just about the only major manufacturer left in Melbourne.

The rest were in Sydney, and it was a costly and cumbersome exercise freighting completed components across the intervening 1000km.

So the decision was made to open a regional factory in Sydney, where semi-finished products could be assembled, tested and despatched at call.

So it was that, in short order, Lay Cranch and Noel Featherstone found

themselves back in Sydney, running a branch factory in Petersham, an inner western suburb. But the expansion was short-lived. Within a year or so, things in Melbourne seemed to go horribly wrong. How or why, Lay Cranch didn't say, but the end result was calamitous. I quote from his taped interview:

"So I'm up in Sydney and so is Noel. Poor old Howard goes round the bend — or somebody did. The result is that I had a phone call to say that Howard had dropped dead and would I come back straight away to take over!"

"When I got back, I said: it's 18 months since I had any management role in Melbourne so I want to know what I'm supposed to be taking over."

The Directors had apparently held a meeting at the cemetery and nominated Lay, in part because he had shares in the place.

"Did I ever! I'd put everything I had into it and I stood to lose the lot!"

Having done a stock-take and audit, Lay argued that the company should be able to trade out of the situation. However the Estate Managers went into a huddle with the accountants and solicitors, and decided that without Howard Love at the helm "It's not worth all the worry. Just forget about it"!

"So Kingsley Radio was wound up."

That happened in 1948, and marked the end of Lay Cranch's taped memoirs.

A footnote appended by the interviewers indicated that, with the winding up of Kingsley, Lay Cranch returned to Sydney and became Editor of *The Australian Radio World*. When that petered out, he joined *Seacraft* as Editor for a brief period, being a qualified yachtsman from his days with the RANVR.

Following that he joined the National Instrument Company, Sydney, as a representative — where he remained for six years. At the end of this period, he joined Jacoby & Mitchell, majoring in instrumentation and opening a Branch in Melbourne. Following this, he opened his own business in Melbourne, specialising in marine electronics. He retired at age 65 in 1975.

In his covering letter, Keith Hoffman acknowledges, in turn, the assistance of Mrs Cranch, Ray Kelly of the Historical Radio Society of Australia and The Museum of Victoria. He adds that Lay Cranch passed away in May 1993, a few weeks after publication of his taped autobiography.

Next month, we'll take a closer look at Kingsley Radio. ♦