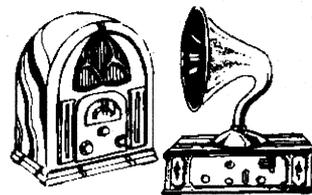


Vintage Radio

by ROGER JOHNSON



The year that was: 1925

If 1924 was the most expensive year in radio, 1925 saw the beginning of cheaper prices — a trend which has endured to this day! Also, 1925 saw the last throes of the bright emitter valves which had been used in the earliest receivers.

In preparing this month's column, I found resource material available from early magazines published in three states: the Melbourne based *Listener In*, the Sydney based *Wireless Weekly* (ancestor of *EA*) and the Adelaide based *South Australian Wireless and Radio Weekly*. Collectively these allow a pretty good idea to be gleaned regarding the state of the industry in 1925 and the important issues of the day.

The *South Australian Wireless and Radio Weekly* carried an editorial, and one of the big issues was a fairly rigorous expose of the new transmitter for station 5CL, to be located in suburban Brooklyn Park. 5CL was an 'A' class station, owned and operated by Central Broadcasters Limited. (5CL eventually became one of the founding stations of the Australian Broadcasting Commission in 1932, and the callsign remained right up until it was re-named 5RN a few years ago).

In April 1925 the directors of 5CL offered a share float of 10,000 shares at £1 each. It must be remembered that 'A' class stations received their income from the revenue obtained from licence fees, as well as advertising, and the directors were promising dividends of

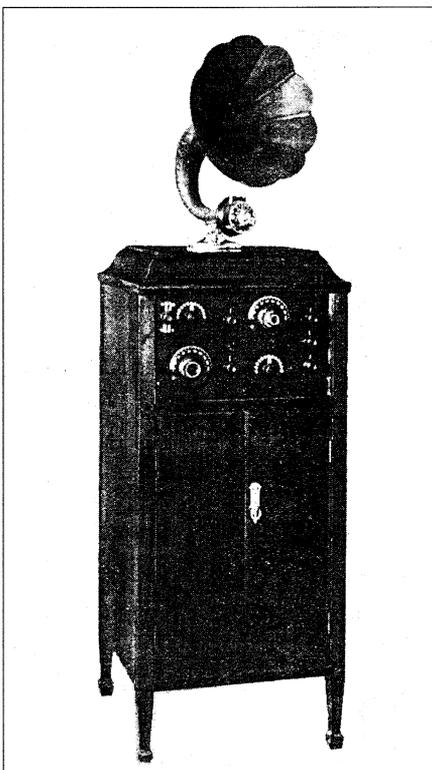


Fig.4: A 1925 radio built into a gramophone cabinet by the Adelaide firm of Millswood Auto & Radio Co. Ltd.

an estimated 75% — not a bad little system, when you think about it!

The reason for an injection of capital was to spend £20,000 on a new 5kW transmitter, which was to be the talk of the town. However the scheme was plagued with technical problems, and all four editorials of the *South Australian Wireless and Radio Weekly* during November 1925 were critical of the performance, programming and quality of the transmission. Why, they asked, could the 'B' class station 5DN, broadcasting on merely 300 watts, outperform in every respect the 'A' class station on 5000 watts? Was this unwitting criticism of the ABC, even before the ABC was founded?

Other editorials raised two issues which were progenitors of long festering sores — viz., copyright payments to the recording companies for the playing of records, and why radio amateurs needed to learn Morse Code. Is there nothing new under the sun?

Prices lower

Whether it was because of more stations, more reliable 'apparatus', the economies of scale, vigorous marketing and marketing forces, or a combi-

WHY WORRY

about that point on your crystal set — when you can obtain a large volume of sound with any old point with one of our amplifiers at a total cost of £3/10/0 — complete with valve, A and B battery all ready to connect up to your set for immediate use. Listen in with comfort and enjoy the programme.

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Bring your troubles to me. What I will do for you.

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Manufacturers of Receiving Sets and Component Parts, Engravers and Nickel Platers

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One of the Largest and Oldest Radio Firms in Australia

AGENTS WANTED

Fig.3: These small panels of dealers advertising their sets or services were taken from 1925 issues of the three main Australian magazines — *Wireless Weekly*, *The Listener In* and the *South Australian Wireless & Radio Weekly*.

nation of all those factors, 1925 definitely saw a reduction in prices for both manufactured sets and component parts. But that is not to say that prices for everything fell. There were still some mighty healthy price tags for the 'more discerning purchaser' such as the Brown model Q loudspeaker priced at £21 (or four weeks' wages). Atwater Kent speakers ranged in price from £6 and six shillings to £12 and 12 shillings. Curiously enough, Atwater Kent receiving sets were not advertised, so presumably they were yet to make their arrival.

It paid to shop around. For example, a mounted 35-turn honeycomb coil could cost anywhere between four shillings and thrippence to two shillings and thrippence (42 cents to 22 cents) or seven shillings and sixpence (75 cents) for an 'Igranic', and a 43-plate 0.001uF (1nF) variable capacitor from seven shillings to 10 shillings and sixpence (70 cents to \$1.05) or, wait for this, a 'Gilfillian' model at £2 and two shillings (\$4.20)!

Some of the dealers who stocked the higher priced items were quite forthright when they claimed that the more you paid, the better you got. Whilst this may be true for audio transformers and speakers, it is stretching the point somewhat for other components. The Gilfillian variable capacitor described above looks for all the world like a work of art, and no doubt the item on offer at a quarter of the price would do the job equally reliably.

Loudspeakers varied enormously, from the diminutive Stirling Dinkie at £2 and 10 shillings (\$5.00) and the Amplion Dragonfly at £2 (\$4.00) to the ultra pretentious Brown described above, and the Amplion Concert Grand priced at a hefty £22 (\$44.00). From gleaning the advertisements, it seems that quite a good speaker could be had for between three and five pounds (\$6 - 10).

Radios available

When it comes to the radios that were available, we find an enormous amount of material. The names which were to become household words were beginning to appear. Western Electric (Australia) Pty Ltd introduced their Weconomy two-valve set complete with batteries, battery box, headphones and valves for 21 pounds.

The Udisco six-valve set cost £100 (\$200) — an enormous sum of money, even though it was complete with valves, batteries and loudspeaker. One would think that at that price it would need to be! The other major brands

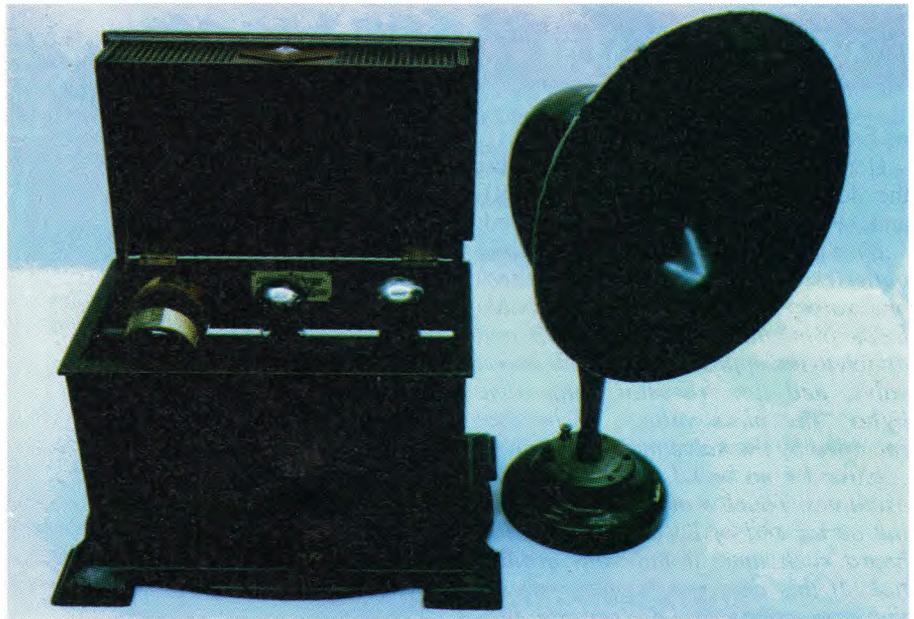


Fig.1: Unusual in this country is a 1925 model 'AJS' (of motorcycle fame) model Z two-valver, with matching horn loudspeaker.

emerging on the market were the American Eisemann and Radiola, and the locally made Harringtons and Colville-Moore, amongst the more noteworthy brands.

However, it was the plethora of dealers-cum-manufacturers which most attracts one's attention. Practically every dealer and or major department store marketed their own radios. Some of these bore a brand name, and others it seems did not.

In a compilation broadcast by Adelaide members of the Historical Radio Society of Australia, the late veteran Mr Laurie Simon told how he wound his own coils and assembled his sets on the kitchen table after Mum had cleared away the dishes. His father in turn did the marketing, and their brand name was Nomis — which is 'Simon' in reverse.

Included in the illustrations (Fig.3) are small advertising panels of dealers who made their own sets. Perhaps the unidentified 'coffin box' radios seen today, which look obviously well made, are surviving samples of those un-branded dealers' sets of this era.

The larger stores such as Buckley and Nunn, Homecrafts, Wiles, Mick Simmons, Myer, David Jones, Farmers, all had radio departments and advertised heavily for component parts and their brand name sets. Just who made them was any one's guess. Lewis Cohen and Healing had branches in the major cities and dealt exclusively in radio.

Crystal sets still featured predominantly, with most of the stores and

smaller dealers including crystal sets both ready built and also for the home constructor.

One curious line of presentation was to incorporate a wireless set into a gramophone cabinet, such as that illustrated in Fig.4. As the price suggests this set was not for the ne'er-do-wells.

Typical circuits

There was no shortage of published circuits, from both humble and 'different' one-valvers to a rather exotic six-valver published in *The Listener In* for October 3, 1925 (Fig.5). What a 'joy' this one must have been to operate, with only the coupling capacitors being

of fixed value!

Here, for example, is how to adjust the detector circuit. Adjusting the RF and AF circuits was equally as involved:

Wire up L3, C4, L4, C4, GL, jack and batteries. Do not connect L3 to the second valve, but take a pair of flexible leads from the aerial and earth and attach to the opposite ends of L3. Insert valve, and turn rheostat until valve lights. The plate voltage to be that specified by the valve manufacturer.

Move L4 up to L3 and see if valve oscillates. Touch a moistened finger to the aerial end of L3 and if a thud is heard each time, it indicates oscillation. If this does not happen, reverse the connections to L4, increase filament current and plate voltage, also alter grid leak resistance.

When oscillating, adjust set this way. Move L4 up to L3 until set oscillates, and reduce filament current as much as possible. Now loosen the coupling between L3 and L4 until the oscillations stop, and note the position of L4. Loosen the coupling as much as possible, and gradually tighten again. If set oscillates at the exact spot where it stopped, the set is OK.

If not, adjust the plate voltage, grid leak, and try different coils for L4. When adjusted, loosen L4 until the set is just oscillating. Turn C3 until a loud howl increasing in pitch is heard. Now rotate C3 until the howl dies out, and continue rotating until the howl is again heard, this time decreasing in pitch as C3 is rotated.

The spot between the two howls is the correct position, but if there is any tele-

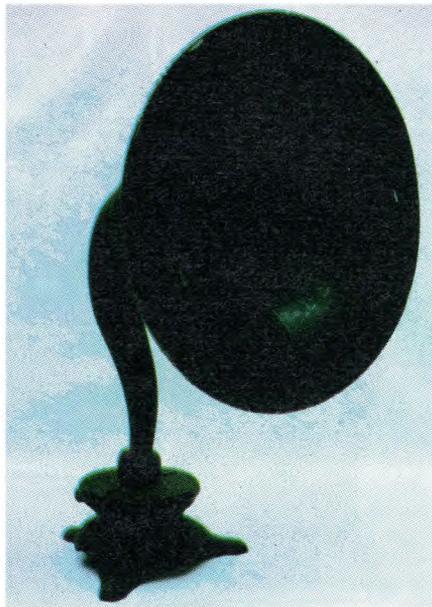


Fig.2: This Amplion model AR 58 speaker is of 1925 vintage and was probably priced at eight pounds — well over a week's wages at the time.

phony going on it will be very indistinct and distorted. Loosen coupling between L3 and L4 until the telephony is clearest, and then retune C3. When it is at its best adjust the grid leak until best results are had.

There! That has taken care of the detector stage, and a similar rigmarole is required for the other stages. Methinks the 'Listener In Six-Valver' was a radio for the true enthusiast, and not for the feint of heart.

Other developments

Reaction control (regeneration) in many sets was still obtained by the method of varying the coupling between the two or three coils. The

coils were often the 'basket-weave' variety for use with adjustable coil holders, and in many instances were mounted on the front panel. Solenoid coils and variable capacitors for reaction were still a year or two away.

Other construction articles dealt with making a battery eliminator, making 'slop' or wet rectifiers, how to construct your own audio transformer, and a forerunner of a matchbox crystal set. Battery chargers were also described for both LT and HT accumulators, whilst technical articles about antenna coupling and losses in tuned circuits also appeared. News of amateur activity was prominently featured, and the exploits of Mr S.R. Buckerfield of Adelaide and Mr Max Howden of Melbourne were mentioned.

News of the radio clubs also received coverage — just what club was doing what, the achievements of individual club members and so forth.

The valves

Finally, a few words on the range and price of valves available in 1925. The Radiotron UV 201 was being superseded by the lower consumption UV 201-A, priced at 17/6d (\$1.75), and its clones were the De Forest DV2 and Philips C 507 at the same price. De Forest also released the DV3, a clone of the UV 199. The Philips equivalent was an A 306.

Philips released two new valves for 1925, the A 110 detector which had a remarkable filament rated at merely 1.0 to 1.3 volts at 60mA. This valve was thus advertised 'makes it possible to operate a set for many weeks using a single dry cell'. Philips also released their familiar B 406 power amplifier. All of the above were advertised for 17/6d each.

The bright emitters, i.e., valves whose filament current exceeded 0.5 amp, were being advertised at much reduced prices in all three major cities. 'Dutch' detector/amplifiers for as little as five shillings (50 cents) and Philips D1, D2, type E, type R, etc were on offer at 7/6d (75 cents). This was about one third of the price merely two years previously.

Finally, Cossor were promoting their line of 'Wuncell' types W1, W2, WR1, WR2 and W3. These valves were operated at 1.8 - 2.0 volts at 0.3 to 0.5 amp, and Cossor promoted them as dull emitters — but with a sturdy and robust filament, giving reliability and length of life superior to other types.

So there we have 1925. It was certainly a year of advancement for the radio trade. ♦

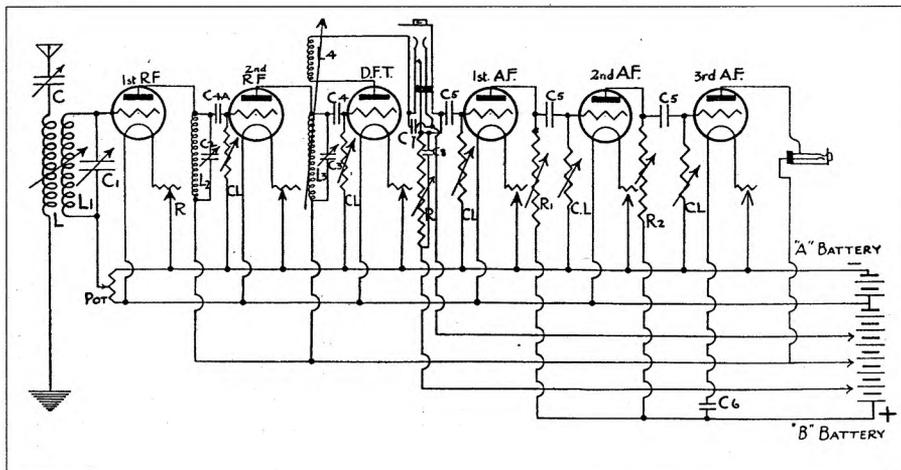


Fig.5: Appearing in *The Listener In* for October 3, 1925 is this six valve receiver with two RF stages, a regenerative detector and three audio stages. It must have been somewhat tricky to operate...