Market place

Members wishing to advertise in this space should ensure that their ads reach the editor by the 20th of the month preceding the month of publication. Deadline for the next issue is July 20,1984. please write or print plainly and include your phone number. There is no charge for this service. NOTE - no telephone ads please.

WANTED

Zenith chassis 1004 for model 10S-130, complete or parts; Car radio for Buick 8 (1927 Delco) 'Centerline Dual', complete or parts, any condition, can offer new 1939 Chev tuner head, 1936 Olds unit with tuner head.
Paul A.McDiarmid, P.O.Box 643,Rotorua.

Valve sockets, new or used, 4, 5, 7-pin English, 4, 5, 6, 7-pin US, Mazda octal, acorn, loctal, B9G, Philips 'P', sub-panel or baseboard fixing.
G.R.Gilbert, 3 Lyttleton St, Lincoln, Canterbury.

Philips 362A dial scale,part No 28.711.860 (NZ) or 28.710.450 (Europe). Books, Rider's Manuals Vols 6 to 12; Rider's 'Servicing by Signal tracing'. Any vintage test instruments - Rider 'Cnalalyst', Silver 'Vomax' VTVM or similar. Books on servicing.
B.F.Baker, Wellington St, Russell

Cabinet for Gilfillan GN1, also aerial coil and tuning capacitor for same.
Murray Hall, 195 Metcalf Road, Henderson, Auckland 8,Ph 853-7885

Info wanted on Amplion AR 58 horn speaker medium sized goose-neck model) Would anyone owning owning one please contact the writer as we would like like details of the base to assist in our restoration project. Any help would be appreceiated.
Alan Brehaut, 22A Cain St, Timaru.

Chassis and speaker forCrosley 'Buddy Boy' model using moulded stonewood cabinet.
Ian R.King, 248 Crawford St
Invercargill, Southland.

Still seeking aerial and oscillator coils for Courier (Ultimate) model 5CA 1933.
L.G.A.Robertson, 12 Sussex St
Stratford. Ph 6834

Knobs, set of four, gang ed tuning condenser, glass dial scale, all for PYE model 'H' PZ 60. Also willing to buy a complete radio, working or not, good price paid.
Glynn Thomas, 23 Jull St,
Napier. Ph 54-820 (A/H)

AVAILABLE

Free to a good home - six copies N.Z.Radiogram, Vol 11, Nos 8,9,12. Vol 12, No 3,5,7. 1930 ARRL Radio Amateurs Handbook 6th Edit, 1930, complete but battered. Several copies Radio & Electrical Review 1960 to 1967.
Paul McDiarmid, P.O.Box 643, Rotorua.

Pilot 393B console, complete in going order, reasonable condition. Reasonable offers.
W.N.Strawbridge, 6 Leslie St, Kihikihi.

General Radio Experimenter Vol 4 (Oct 1929) to Vol 10 (Dec 1935) bound in one volume, complete except for two issues, will swap for other publications or what have you? Wireless World, 1946, 1947, 1947, 1948, 1949, 1950, free to a good home, taker pay postage or uplift from from my home address. Magic eye valves, EM1 and EM4, new in cartons, will swap any three (3) for one new 6U5/6G5.
John Stokes,281-c Hillsborough Rd
Mt Roskill,Auckland 4,Ph 656-615

(More ads on p3)

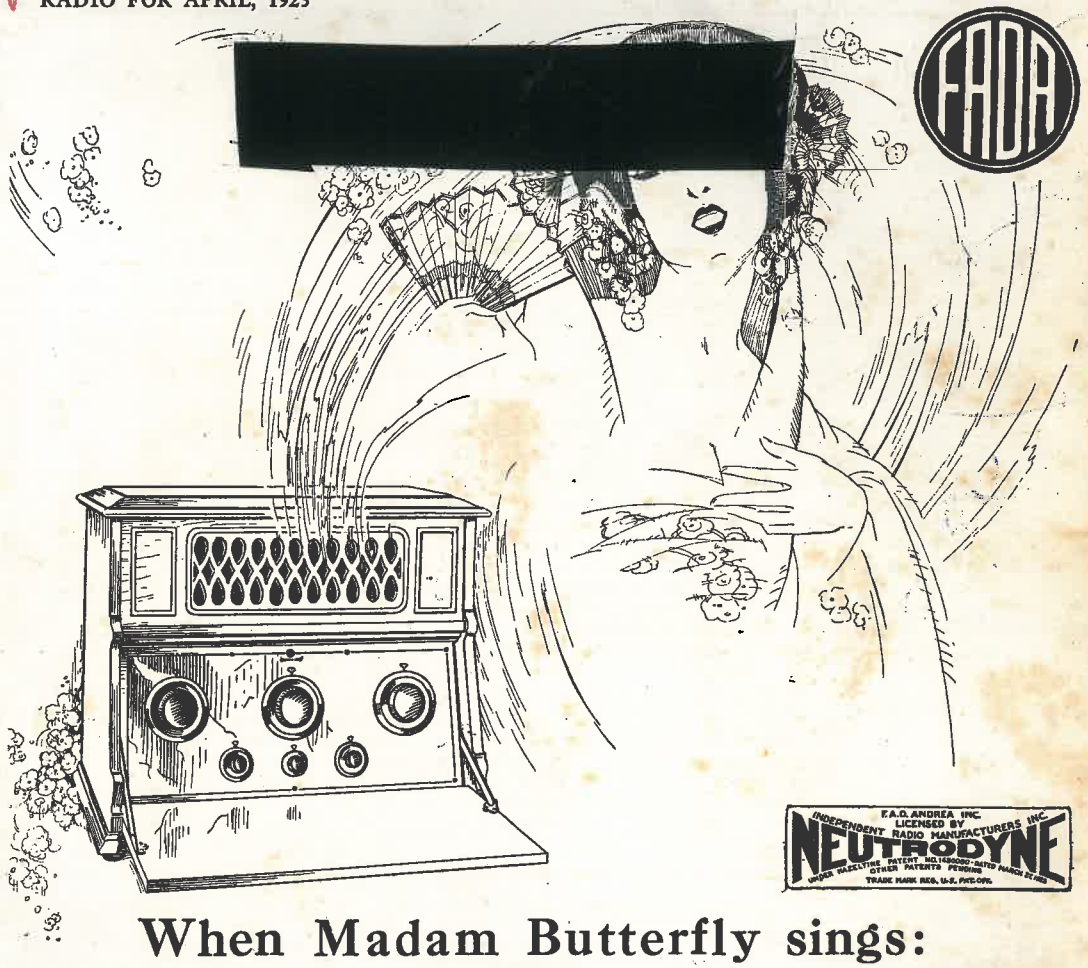
NZVRS BULLETIN

NEW ZEALAND
VINTAGE RADIO SOCIETY

Vol 4.No.1 May 1984

A non-profit organisation devoted to the preservation and restoration of all early radio equipment, and collation of any associated information . .

RADIO FOR APRIL, 1925



When Madam Butterfly sings:

"Some Day He'll Come"

on a FADA Neutrodyne

NEW ZEALAND
VINTAGE RADIO SOCIETY

PRESIDENT: Des. Wright
3 Coquille Place
Bucklands Beach
Ph. 535-8928

SECRETARY: Eric Kirby
10/29 Owens Rd.,Epsom,
Auckland 3
Ph. 603-054

Correspondence, membership enquiries, subscriptions: To Secretary, at address above.

N.Z.V.R.S. BULLETIN ...

EDITOR: John Stokes
617 Dominion Rd., Mt.
Roskill, Auckland 4
Ph. 604-213

Contributions to the BULLETIN, and advertisements, should be sent to The Editor.

With this issue the NZVRS Bulletin enters its fifth year of publication , and by this time next year we shall have completed our first five years. By overseas standards our Society is both young and small, and the size of our Bulletin reflects this. However what we lack in size we perhaps make up for in other ways. As editor I have to admit to receiving favourable comments from both home and abroad.

Whether or not the first five years is the hardest remains to be seen, but, judging from the experiences of sister organisations in other countries, it may well be. Meanwhile, the flag is still flying at the masthead.

* * * * * *

It is just three years since the first NZVRS Public Exhibition was held (June'81) and now we are to have a second one. In holding such exhibitions we appear to be unique among vintage radio groups as overseas 'meets' take a different form and attendance is restricted to financial members only.

Because the first one was so successful, in spite of being run on a 'shoestring' budget, many Auckland members suggested holding a second exhibition. If the previous occasion was any indication then we can expect even greater public interest and a larger attendance this time. Our greatly increased membership will provide a larger range and quantity of exhibits and there is every reason to believe that our second exhibition will be both bigger and better than the first. See you there!

* * * * * *

Some years ago when viewing a 1920s battery set whose ownwer I would regard as being a less than dedicated radio collector, I had a curious experience. There was a knob missing from this particular set so, knowing the desire of most collectors to replace missing parts, I offered to supply a knob of the correct type. Naturally I expected the owner to jump at the chance but instead his response let me speechless. And, just what wa his reply to the offer? Just this: "I like it the way it is".

Later I learned that this person was a gun collector and I couldn't help wondering how he would have reacted to an offer of a missing part to complete a gun in his collection. Would he prefer that one of his guns should be permanently minus its trigger?

Judging by the endless 'wanted' ads appearing in all the vintage radio journals, most collectors are striving to obtain missing bits and pieces for their sets. In fact it seems that the main reason some people belong to vintage radio organisations is to be in the running for any parts that become available. And I imagine that the same is true in other area of collecting, such as vintage cars for example.

J.W.S.

R1

- FADA -

by Alan Douglas

Frank Angelo D'Andrea,s driving ambition was to get rich. From the time at age 11 when he stopped helping his father, a junk dealer, make his rounds collecting scrap, he tried a series of jobs: newsboy, prizefighter (using skills acquired as a newsboy), helper in an electroplating shop and finally a tool and die maker. This last position at the Frederick Pierce Co who did experimental work for inventors, led him to radio when they were asked by Emil Simon to adapt a German-designed radio receiver for wartime production. After a prototype had been made the contract was turned over to the De Forest Co for production and D'Andrea went along to supervise it.

In 1920 Andrea went into business for himself, making mechanical parts for American Marconi, and later, parts for sale to amateurs. Shortening his surname to Andrea he adopted his initials F.A.D.A. for his new company. His crystal detectors hit the market just when the 1922 radio boom got going, and he soon had a work force of 40 girls turning out 1800 detectors a day; detectors which cost him 96 cents to make and which sold for $2.20.

Again in the right place at the right time, Andrea was one of the New York manufacturers who banded together in 1922 to buck RCA and who persuaded Prof. Alan Hazeltine to develop his Neutrodyne invention and license it to them. Fada was the first to market a neutrodyne; in March 1923 their 4-tube reflexed model 160 sold at $120. It was soon joined by three kits: the $25 165A consisting of three tuned RF coupling transformer assemblies and two neutralizing condensers; the $64 166A 4-tube reflex, and the $65.60 167A 5-tube non-reflexed Neutrodyne.

In August 1924 the 167A gave way to an improved 169A kit which had a symetrical layout with binding post removed to the rear. Next month a line of factory-built sets, as distinct from kits, appeared: the 5-tube 175A, the 185A with built-in speaker and the 195A 3-tube reflex. The 160A was still available too.

The 195A was never popular in the U.S., in fact I know of no existing examples. Perhaps they were all exported to New Zealand?? More than a year later, in December 1925, the 175A and 185A were still being advertised, but it is worth noting that both reflexed models had long since been dropped from production. Reflexing, a good idea on paper, did create problems, and by 1925 tubes were no longer so expensive to buy or to operate as they had been in 1923, and thus the need to economise in the number used was of less importance.

Andrea continued to manufacture radios until he died in 1965 at the age of 77, although Fada and Andrea became two separate companies in 1939.

References: Men Who Made Radio, No 3,NY Herald-Tribune Dec 26,1926.
The Road To Success, No 4, NY Post, Dec 6,1962.
Biography in the NY Journal American,April 25,1965
Hazeltine the Professor, Harold Wheeler, Hazeltine Corp 1978.
Advertisements in Radio News, Radio Broadcast and other sources.

FADA Neutro Junior
No. 195
Three-tube Neutrodyne. A wonderful performer. Price (less tubes, batteries, etc.) $75.

FADA Neutroceiver
No. 175-A
Mahogany cabinet. Inclined panel and roomy battery shelf. Five tubes. Price (less tubes, batteries, etc.) $160.

LETTERS TO THE EDITOR

Don Sutherland's account of a tube whose suppressor connects to its control grid, rather than to the cathode, prompted me to look among my stock of old Philco tubes to see if I had any 'E' suffix types too. Ifound several of 1941-42 vintage: 39/44, 6J8, 7A5, 7A7; none of them, unfortunately, an output pentode. Judging from the boxes,whose inserts are marked 'EXP' and lack the usual list of US patent numbers, I'd say that the 'E' means 'Export'. The tubes inside, apart from being printed in blue ink instead of yellow, look like their domestic counterparts.

I decided to try connecting anoutput pentode in both ways, to see if it really made any difference, partly out of curiousity and partly because it gave me an excuse to play with my Weston 686 tube analyser which is far too elaborate to set up for casual tube testing. I chose a type 89, as being similar to a 41 but with its suppressor brought out separately. I set it up according to the 1937 RCA tube manual, at 250V on the plate and screen, -25V bias; and also 100V with -10V bias. Either way, moving the suppressor from cathode to control grid dropped the plate current and the mutual conductance only a verysmall amount, less than 5%. So, apparently apparently output pentodes will indeed work this way.

As to why several manufacturers used the alternative method is now a matter of guesswork. Perhaps there were patent restrictions in one or more of the export countries and it was just expedient to make all the tubes the same, as long as they worked well enough and were interchangeable with normal ones.

Alan Douglas
Mass., U.S.A.

I was intrigued by Don Sutherland's article in the Feb.1984 Bulletin about his discovery of English made power pentodes having their suppressor grids connected to the control grid rather than the cathode.

About the only way to ascertain the effect on the valve's characteristics would be to measure a sample operating in the two modes. As the internal connections of a typical 42E are rather permanent I selected a 59 which has rather similar characteristics and an externally accessable suppressor grid.

An AVO model 8 valve tester was used to measure the anode current (Ip) and mutual conductance (gm) characteristics with the two alternative suppressor connections. As can be seen from the graph, the effect of the unconventional mode is a slight decrease in both parameters, equal to about 1-volt difference in bias. In other words, the effect on performance is neglible and with no benefit with resulting from paralleling G1 and G3. Why then was it done?

The writer speculates that the reason may have been to circumvent patents which were held in England by Philips.

Peter Lankshear.

I was as much shocked as dismayed at your unfortunate selection of Mr Avery Fisher's name to illustrate the theme of your editorial in the Bulletin of Feb,1984. In my view you have maligned the name of a prominent and well-respected American citizen. I can only conclude that this could occur because you are at a distance from the American scene.

I am enclosing some material which you might find useful in adjusting your appraisal of Mr Fisher.

Jack Rhodes
Victoria,B.C.

To ~~paraphrase~~ a saying attributed to Mae West - "distance has nothing to do with it". My criticism was directed solely at the ad men responsible for the ridiculous claims made in the local advertisement for Fisher products. A careful re-reading of the editorial should make this clear. Incidentally, it should be noted that Mr Fisher sold his company to Emerson in 1969.

Editor.

SOME CURIOSITIES IN THERMIONIC AND RADIO TECHNIQUE

No 2. INDIRECTLY-HEATED OUTPUT TRIODES

by Don Sutherland

The first of such triodes we will consider is the Raytheon 2A3H, which obviously means'2A3 heater-cathode'. This tube has a peculiar construction in which the anode is formed of two metal sheets, so shaped and fitted together as to form a side-by-side arrangement of three cylindrical cavities, each with its own heater-cathode and grid assemblies. In this way the required transconductance or 'slope' of 5.25 mA/V is obtained, but only requiring 1.75 mA/V in each of the three subsystems, an easily attainable figure.

Now we will take a look at the 6A5G.(I have only seen those of Brimar make) and this tube is a different proposition altogether. The internal structure appears quite indistinguishable from a 6A3. That is to say, there are two parallel-connected triode units sharing a common anode structure, each with its own 'M'-shaped filamant, complete with the usual suspension hooks. It requires very close examination indeed to reveal that these 'filaments' are, in fact, heater wires, each vertical span of which is threaded into an almost invisibly-thin cathode sleeve. Thus each of the two triode scetions has four cathodes united by threadlike ribbon connections to the respective heater mid-points.

Now we must turn the clock forward a few years till we reach 1950 and the RCA Receiving Tube Manual RC-16. Looking through the main listing we find the type 6AS7G, described as a "low-mu twin power triode", one of its applications being in push-pull class A output service in high-fidelity audio amplifiers. It has truly remarkable characteristics: for each section, μ = 2.0, ra = 280Ω, slope = 7 mA/V and anode dissipation of 13 watts and heater rating of 6.3 V, 2.5A. Featured in the circuit section (16-12),p.276, is the schematic of a 10-watt hi-fi amplifier designed around this tube.

It is interesting to note that at full output the anode efficiency reached the remarkably high value of 38%, but due to power loss in the cathode bias resistors the overall efficiency reduces to 38%, still quite a reasonable figure for triodes

It would appear that in entertainment applications, at least, the use of the 6AS7G never really caught on. At any rate it was dropped from all subsequent issues of the RCA manuals to the point of not even being listed as a discontinued type! To borrow a phrase from current'Newspeak', it became a 'non-tube'. But all was not lost: its industrial counterpart, coded 6080 and housed in a tubular envelope identical in size to that of the Osram KT88, became widely used as a series-pass element in regulated power supplies.

Now we come to the last development of this type of tube - the 6336A. This is similar to the 6080 but each section has two 6080-type cathodes placed side-by-side with their edges touching- there is no room to space them out at all - while the anodes are truly magnificent carbon-block affairs, each capable of dissipating 30 watts; the heater current at 6.3 volts is 5 amps.

I am the proud owner of an ex-R.A.F. "Tester, valve Type 4" which measures transconductance at zero grid volts. My attempt to test the 6336A was not very successful: at the lowest available anode potential of 80 volts peak AC (56 V RMS) the anode current was so high as to trip the circuit breaker as soon as the cathode warmed up! So I think we may safely class it as "Good".

A FINAL REMINDER

THE NZVRS Exhibition will be held on Queen's Birthday 1984 Weekend as under:

Saturday June 2nd ..... Noon to 5 pm

Sunday June 3rd ..... Noon to 5 pm

Monday June 4th ..... 10 am - 5 pm

Location... Dominion Road Church Hall) same as last time.
426 Dominion Road)

THE EKCO SW86

by Peter Lankshear

The Ekco SW86 is one of the more freely available pre-war receivers in New Zealand. Many collectors regard ownership of one as a 'must' but a lot of servicemen were not so kindly disposed towards them.

With a distinctively Ekco cabinet its curves and chrome make it a difficult set to ignore and visitors frequently admire the Lankshear domestic 'workhorse' SW86 which has been in the family since 1937. Despite virtually daily use ever since no major component has ever been replaced; there can't be many radios around with that sort of record.

As well as the familiar black and chrome model a version also appeared in a brown bakelite cabinet of the same size and shape. Not quite so common were several styles of consoles and also a bow-ended wooden mantel which seem to have been made in N.Z.; they all have the the chrome circle and bar as featured on black bakelite cabinet.

There is a seemingly improbable but persistent story about the SW86 being expressly designed for the New Zealand market. But why should a large manufacturer like Ekco bother to make a special model for such a limited market, and for what purpose, when they already had a good range of suitable models? There are, however, several significant features in the SW86 which are worth a closer look.

The SW86 seems to have been unknown in Britain and there is considerable evidence to show that it was an 'export only' model.While every other Ekco the writer has seen used British valves the SW86 used standard pre-octal 6.3-volt American valves. The TCC paper capacitors used throughout are metal cased and labelled 'Tropicalised'. Provision is made for operation on mains voltages between 100 and 250 volts with seven different tappings on the primary of the power transformer.

Prime consideration seems to have been given to the shortwave bands as here the coils are large and efficient. Semi-bandspread tuning is obtained by using split-stator sections in the tuning capacitor. Instead of the almost mandatory pentagrid mixer of the day the SW86 uses a pentode mixer in conjunction with a separate triode oscillator to provide superior shortwave performance. The shortwave scales are placed at the outer edge of the dial to provide, in conjunction with a logging scale, easy and accurate tuning. Emphasis certainly seems to have been placed on features designed for export, but was it actually a special model?

Whilst pondering these points the writer came across a picture of a very familiar looking cabinet which contained a quite different chassis known as model AC86. A copy of the English *Radio & Electrical Trader* service data for this model was obtained and it proved to be most enlightening. The AC86, which appeared in 1936, was available with a choice of the same two bakelite cabinets as used with the SW86. The metalwork, dial and speaker were also the same, but from here on the similarity ended.

A mixture of English brands of valves was used, including an octode mixer. There was no RF stage and the set covered only the longwave and broadcast bands. A feature of the design was a combined AGC and squelch system which can best be described as diabolical! Briefly, the IF valve acted as a DC amplifier for the mixer AGC feed and had an adjustable 'noise suppressor' or squelch. The control knob for setting the squelch level was placed on the front panel where on the SW86 is a badge labelled Ekco. The service data refers to problems associated with this circuitry which can only be cured by replacing both the mixer and IF valves with a matched pair. But his was not all! The data sheet goes on: "The most common faults and some which can be baffling are an untraceable AF motor-boating, insensitivity, unresponsive volume-control action and instability with bad quality in the output stage." The AC86 must have been what is known in automotive circles as a "lemon" ! !

After nearly half a century it is difficult to find any hard facts on the true story of the SW86 but the writer has a theory, based largely on circumstantial evidence, but if any reader has definite information on the origins of this receiver it would be welcome. For what it is worth the theory is as follows:

After 1935 New Zealand was encouraged to "Buy British" and import restrictions had practically cut off the supply of American receivers, so suitable for our conditions, which had strongly influenced the design of locally-made sets. By this time purchasing power was increasing and New Zealand was ripe for British manufacturers to

mount a sales campaign. Many dealers were not fond of the European receivers which had been sold here because their complicated assembly required specialist servicing facilities and data which were not always available; also because they used valves which were individualistic and unfamiliar.

It is likely that Ekco researched the New Zealand market and got the message that if they were really to establish themselves they would have to offer a receiver which appealed to an American orientated trade, and this meant above all, the fitting of U.S.. valves.

This, too, was the period when the BBC's Empire shortwave service was becoming popular and there was a demand for a receiver with a good shortwave performance; if a suitable British-made product was available, so much the better. Two prime requisites were then, American valves to overcome trade resistance, and a good shortwave performance to appeal to potential customers.

Was it fortuitous that the Ekco factory had an inventory of AC86 components left over? If so then what better than to revamp the original design? This was done, although the 'Americanisation' was confined mainly to the valves. Electrically it was completely redesigned, resulting in excellent shortwave performance but lacking in sparkle on the broadcast band.

With a sales network, established by Spedding Ltd, extending literally from Whangarei to Bluff the venture was successful and established Ekco sufficiently well that they were able, subsequently, to sell standard English models until the outbreak of orld War II.

(To be continued)

OBITUARY

ARTHUR H.McCLAY (86),.a foundation member of the NZVRS, passed away at his home in Auckland on Feb 10,1984. He will be remembered as one of New Zealand's pioneer broadcasters who in 1922 held one of the original ten transmitting permits, issued before licenses were introduced in 1923. Quite recently Arthur recorded some tapes of his early experiences dating back to schoolboy experiments in 1911. Copies of these tapes are now held by various organisations including BCNZ, National ARchives, NZART-OTC, NZ DX League and the NZVRS.

A TALE OF TWO MEMBERSHIPS

Included in the tourist attractions of the little township of Queenstown is a cable -operated gondola on which it is possible to take an aerial journey to the top of a nearby hill. At the summit is a restaurant where visitors may refresh themselves while admiring the view.

On the day that two Australian visitors - Mr and Mrs Robert Fearn - were in Queenstown it was raining and they were in two minds about making the journey to the top but finally decided to do so. After reaching the summit they went to have a 'cuppa' and whilst in the restaurant happened to overhear someone at the next table talking about old radios. Because of his own interest in the subject Bob Fearn introduced himself to the speaker, mentioning that he, too, had a similar interest.

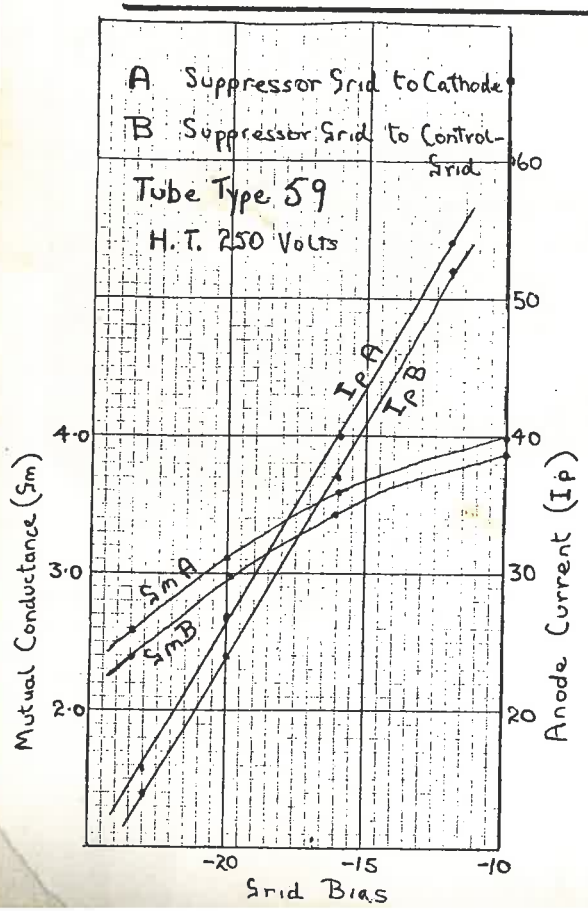
As a result of the subsequent conversation Bob got to know of the existence of the N.Z.V.R.S. and on expressing interest in joining was given the secretary's address.

By one of those extreme coincidences which do sometimes happen the person at the next table was Auckland member Bill Farmer who, with his wife, was holidaying in the South Island and happened to be in Queenstown on the same day!

Upon returning to Auckland Bob Fearn contacted your scribe and duly signed up as a member of the NZVRS. But that's not the end of the story. In the course of conversation Bob, referring to the NZVRS, said - "We've got nothing like this in Australia", whereupon yours truly smugly replied - "Oh yes you have", and went on to mention the existence of the Historical Radio Society of Australia.

Now it so happened that the latest issue of the HRSA Newsletter had just arrived and included with it was a membership renewal form which was handed to Bob with a flourish. He intends to join up as soon as he gets back home!

J.W.S.



ERRATA

Crosley radios, Nov.1983 Bulletin, p.8. The correct namestyle for the model described as 'Wigit' is 'Showboy'. The Wigit, although similar, used a different chassis

Sharp radios, Feb 1982 Bulletin, p.5. It was stated in the article that no American AC model ever used a built-in magnetic speaker, but this is not correct. Since writing the article I have discovered two that did - the Echophone model 'C' and the Crosley model 54 which used a "Dynacone" speaker. the Keller Fuller 'M' et.al

Peter Lankshear also wishes to draw attention to a small error in his article on the Radiola 80 which appeared in the Nov 1983 Bulletin. On p.3 it was stated that a Hartley oscillator circuit was used, but this is incorrect; it was a tickler feedback circuit.

KING GEORGE THE VEE LIKED R.C.C.

5—*King George's Set—Resistance Coupled Amplification.*

Not long ago it became known to the Radio Engineers of England that his Majesty, George V, King of England, wanted a Radio Set.

The King was not satisfied with the sets he had heard and requested the British Radio Engineers to design a set, which would be primarily a musical instrument, which would have tonal qualities unknown to the sets being offered for sale—which would, in effect, be the finest receiver which could be designed, regardless of price. Figure 24 shows the completed receiver.

For months the most brilliant Engineers of Britain worked and tested and experimented. Finally they produced a set so perfect in tone quality that it is, it is reported, impossible to tell whether an orchestra is playing in Buckingham Palace of whether George V is enjoying his Radio Set.

From THE RESISTOR MANUAL, published March, 1926 by the Daven Radio Corp. Newark, N.J. U.S.A.

WANTED

Knobs, 3 hexagonal dome-topped for Philco 89B. 1 brown 25mm O/D to suit Pilot 63B. 3 to suit Airzone 'Radio Star', or info as to what type used. Volume knob for RCA Radiola 33.

Mark Thomson,36 Cranston St, Torbay, Auck Ph 403-8388

Dial scle and pointer for Philips 463A. Dial scale,lower freq SW band, for English HMV 1121. Osram X78 valve.

Ross Paton, 56 Glengarry Rd,Glen Eden,Auck 7,Ph818-8463

Cabinet for NZ Philips model 666 (made by Radio Corp).

Noel Allport,6 Braemar Tce,Mt Albert,Auck 3 Ph 892-708

REWARD

Atwater Kent model 60, metal cabinet, no speaker. Radio Corp, c.1935.model number andand brand not known, has 2.5-volt valves. Removed from my property at Cromwell. Reward of $100 is offered for information leading to the recovery of these sets.

John I.Bilton, Box 26, Cromwell.

FOR SALE

Reproduction horn speakers (as illustrated at right) satin black finish. Height 20½", diam 11½", diam of base 5½". Impedance 8 ohms, or higher with internal transformer (extra). Will sell flare, neck or base separately. Price $95. For further details contact:
Ian Ranson,1/11 Lambrowne Dr,
Glenfield, Auckland, 10.

A WORD OF ADVICE

In order to make the identification of any stolen items easier John I. Bilton suggests owners do two things:

1. Make a list of all items and,where applicable,include model and serial numbers.
2. Mark all items in an inconspicious place with some form of identification.

Special security marking kits are available in which the marking is visible only when illuminated by ultra-violet light.

V1

MORE FUNNY PENTODES

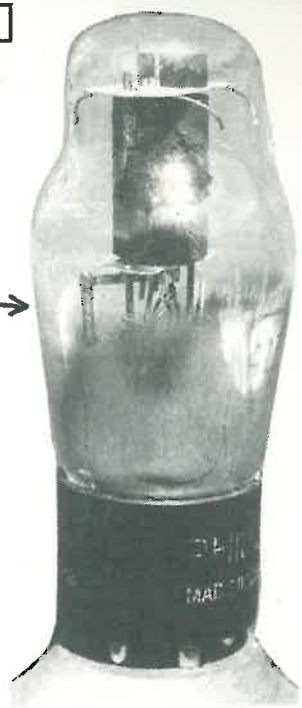
To the existing fund of knowledge (or confusion!) on the subject of 'funny' pentodes it is interesting to note that several types of pre-war Brimar output pentodes had their suppressor grids internally connected to control grids, examples being 18, 42, 6F6G, 25A6G. Although there was no reference to the fact in the text of the 1937 Brimar Valve Manual, the base diagrams clearly showed this mode of connection. But, strangely, there were exceptions, one being the type 43 (a valve normally identical to the 25A6G apart from being fitted with an octal base).

Another point of interest is that in the same manual three other types of output valves, 6L6G, 6V6G and 25L6G, are described as pentodes and shown as having the conventional internal structure of pentodes. These three types are normally beam output tetrodes, of course, and it is not known why Brimar chose to make them in pentode form. My guess is convenience in factory production at the time. In later years all Brimar O/P pentodes and tetrodes were made in standard form.

Another example of an irregular output pentode was a 6F6G made by British Tungsram in the early post-war years. Both the 6F6g and 25A6G were issued in beam tetrode form and the internal structure can be clearly seen. The absence of a suppressor grid and the presence of beam-forming plates is clearly visible.

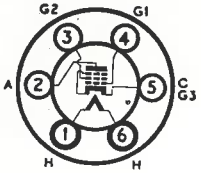
Before leaving the subject the writer has discovered that some, but not all, Philco type 41E pentodes have an internal resistor connected between suppressor and control grids. How about that?

J.W.S.

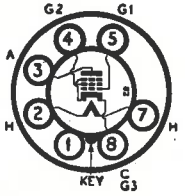


Philco type 41E showing internal resistor.

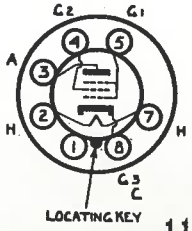
TYPES **41, 41E**
~~U.S.~~ ~~(U.K.~~ BASE)
POWER PENTODES



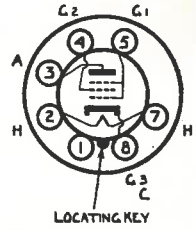
TYPE **6F6G**
(OCTAL BASE)
POWER PENTODE



TYPE **6F6G**
POWER PENTODE
(OCTAL BASE)



TYPE **6L6G**
POWER PENTODE
(OCTAL BASE)



TYPE **6L6G**
(OCTAL BASE)
OUTPUT
BEAM TETRODE