

Market place

SB April

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 May 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

Valves, E415 or E424, C443 or PM24A, 506, 1821 or DW2 for Philips 2515. Also speaker to suit, e.g. 2020 Baby Grand. Barry King, 36 Flaxdale St, Birkdale, Auckland 10. Ph 438-823

Circuit diagram for Palec model VCT multimeter.

K. Stuart, P.O. Box 5976 Wellesley St, Auckland. Ph 792-493

Knob for Philco 89, black hexagonal 25 mm; Knobs (2) for Pilot 63B

Mark Thomson, 36 Cranston St, Torbay, Auckland Ph 403-8388 *←*

Still seeking handbooks for Army Wireless Sets Nos 38, 48, 21, or will pay for copying. Also whip aerials for above sets.

Arthur Williams, 26 Centre St, Invercargill

Steel cabinet for Atwater Kent model 60; Chassis for the following: Philips 531A, Radiette using 27 (2), 24 and 45 tubes; Rogers 'Batteryless' 646; Majestic 210; RCA (HMV) midget cathedral. Any condition.

Ray Knowles, 507 Wellwood St, Hastings, Ph 84-338 (collect)

Pilot console with good (Goode's) cabinet; Info, circuit etc for Murphy TA160 and Fada type 195A Neutrodyne.

Brian Marsh, 20 Rimu Rd, Mangere Bridge, Auckland Ph 667-712

Swap Atwater Kent console speaker for 8-inch Philco speaker (EA)

K. McIlraith, 2/15 Edgeware Road, Christchurch

Any pictures, photos, advertising material for copies thereof for A K 812 console; Large tuning knob for Zenith 8S15D console (5801 chassis). American valve manuals, other than RCA and GE; also pre-war valve manuals Philips, Mullard. GEC-Osram (MOV), Cossor, Ediswan-Mazda, Telefunken, Tungram, Ferranti.

Ross Paton, 56 Glengarry Rd, Glen Eden, Auckland 7, Ph 818-8463

Leak and Quad amplifiers, also KT88 valves.

Clarry Schollum, 34 Pentland Ave, Mt Eden, Auckland Ph 607-011

AVAILABLE

Transformers, input, output, power, filters for Majestic 90B and 230A. Send SAE for details

K. McIlraith, 2/15 Edgeware Rd, Christchurch.

For Sale, replica catwhisker detectors with silicon or galena crystals \$5 each. Build your own vintage crystal set. 'The original silicon chip!'

Arthur Williams, 26 Centre St, Invercargill

Books for trade: Book of Practical Wireless, John Scott Taggart, 1934; Elementary Principles of Wireless telegraphy Vol. II, Bangay, 1917.

Arthur Williams, 26 Centre St, Invercargill

A REMINDER

All subscriptions are due for renewal on the 1st April each year, regardless of date of joining. Please ensure that your sub, due 1st April 1984, is paid promptly. A remittance advice form is enclosed.

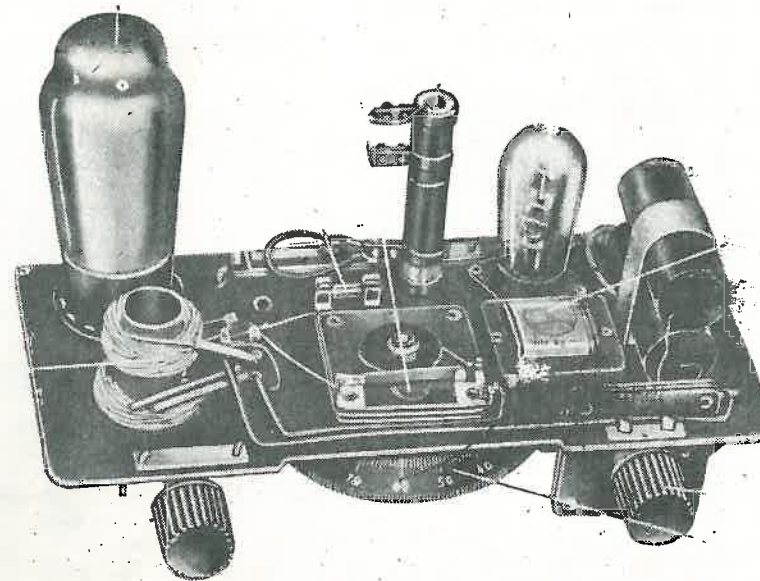
Geophone Victor 3ff + Arrol 110
NZVRS

file copy
Vol. 4 No. 4 Feb. 1984

BULLETIN

NEW ZEALAND
VINTAGE RADIO SOCIETY

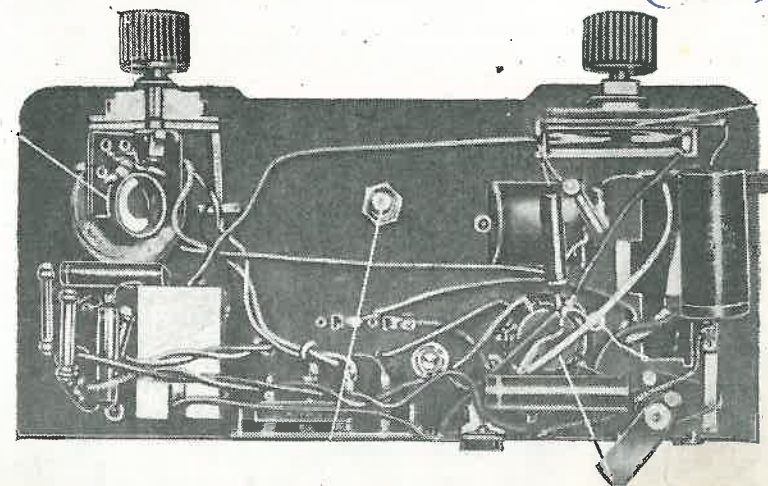
An organisation devoted to the preservation and restoration of early radio equipment, and collation of associated information



(P) →

The "DKE 1938". What was it, who made it and where?

(see p. 6)



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.

EDITORIAL COMMENT

Recently I noticed an advertisement for electronic products in which the words "history" and "heritage" were mentioned, so I had to see what it was all about. The advertisement made some sweeping claims regarding an Avery Fisher whose name appears on the products advertised. This person is stated to be the "The Inventor of Hi Fidelity", "Inventor of Stereophonic Sound", "Inventor of AM/FM Receivers", Inventor of over 26 major technological advances in natural sound recording", and to cap it off "A Great American Hero whose vision almost single-handedly made the American Dream come true".

Are these claims meant to be taken seriously, one wonders, and were they made with the knowledge and approval of the gentleman concerned? One thing's for sure - the ad men were certainly having a ball. Anyway, is this the place to question the claims, and is it anything to do with vintage radio? Perhaps it is. Having got thus far I decided to do a bit of sleuthing.

In the 20th anniversary issue of *AUDIO* magazine (May 1957) there is an article entitled "Prognostications" in which industry leaders of the day were invited to give their ideas of what was likely to happen in the audio field in the next 20 years. Avery Fisher was included among the 16 people listed and he mentioned that the Fisher Radio Corporation's first receiver was produced in 1937. Well, if it was then neither it nor any subsequent ones ever made the pages of Rider's manuals. Furthermore, on referring to Read & Welch's monumental *From Tin Foil to Stereo* no mention occurs of any inventions in the audio field attributable to Mr Fisher.

To single out just one of the claims - "Inventor of Hi Fidelity" - surely high fidelity is a concept rather than an invention. *Tin Foil* has this to say: "... for if any place is the birthplace of 'high fidelity' it is England."

As a matter of interest, *AUDIO* magazine devoted a two-part editorial (Dec '54 and Jan '55) entitled Definition of "High Fidelity", part of which was concerned with the manner in which the phrase 'high fidelity' had been abused. I couldn't agree more.

Certain snippets of information about vintage radio continue to surprise me. An acquaintance who owns a Majestic 180, a massive radio-phonograph of 1919 vintage, told me that this model, which sold for \$265 (less tubes!) was at the time about equal in price to a Model A Ford. And the Majestic was by no means the dearest set of its type.

This comparison set me off checking a few figures and I soon found that in the U.S. in the late 1920s it was possible to buy many radios which cost not merely as much as a car but many times more! In fact, going back a little earlier a radio could cost as much as a house! Admittedly a pre-fabricated kit-set house, but still a house.

And speaking of cars, I wonder why it is that so many of the NZVRS members who attend the regular meetings have such old cars. Do they spend all their money on old radios, or what? Or is it, perhaps, because as in my own case, a car is regarded as being no more than a beast of burden?

THIS ONE WASN'T 2YA

This picture of a 1921 De Forest OT3 "Midget Radiophone" might seem to be the same as the one which appeared on the cover of the first issue of the NZVRS Bulletin, but it's not. A side-by-side comparison of the two will reveal the difference.

Like the first mentioned one, this set was also used as a broadcast transmitter, in this case by Roy Keith of Hawera. In 1922 the (unofficial) callsign used was 2CW, which was followed in 1923-24 by 2RK; late in 1924 the call 2BZ was officially allocated.

Apart from these two, there remains a third OT3 in existence, now in the hands of Graham Jessop of Auckland, though the history of this particular one is not known. What is known, however, is that six of these De Forest transmitters were originally imported by Charles Forrest of the International Electric Co (later International Radio Co) of Wellington. One of the six is known to have been used in Auckland as the original 1YA in 1923.

After 60 years a 50% survival rate is pretty good going and we can consider ourselves lucky that the three known remaining sets are in good hands.



De Forest OT3 transmitter used by Roy Keith in Hawera in 1922.

SOME NOTES ON THE RESTORATION OF A PHILCO MODEL 70

by Arthur Williams

This radio was acquired from a country resident who had recovered it from a riverbed.

The cabinet was in ruins and would have to be completely rebuilt. As the chassis was in reasonable condition and was found to be in working order, I was prepared to tackle the challenge of making a new cabinet. The idea and the set were both shelved for the time being in the hope that a suitable cabinet would turn up.

Early last year I again entertained the idea of building a new cabinet and had a cabinetmaker friend working on some mouldings to suit. It was then that a cathedral cabinet turned up in the local Auction Rooms. This one had apparently housed a model 20 as it had different mounting holes, but was otherwise of the same style and dimensions as for that of the model 70. It was in poor condition and the front panel would have to be replaced, but at least the front mouldings were in good condition.

As the baseboard was rotten I reglued and used the baseboard from my original, which incidentally still bears the date of manufacture - June 29 1931.. The plywood was reglued around the arch where the veneer had lifted - an old bicycle ^{tube} came in handy here, along with numerous clamps and blocks of wood. A small section of veneer, missing from the front of the arch, was replaced using 'iron-on' veneer of the right match.

I then tackled the problem of the front panel. After hunting for suitable veneer I ended up using some removed from the lid of an old portable set. (thought it might be useful for something if I kept it long enough!). This was then glued to a suitable piece of plywood which then had to have the fret pattern traced onto it from the remains of the old. The fret was then cut out with a jig-saw and the edges rounded out using a rotary file in the electric drill. My cabinetmaker friend had run off some suitable moulding for the plinth and this was fitted, after which the cabinet and new front panel were sent out for refinishing.

Meantime the chassis required attention. The transformers fortunately tested OK and the only work required was to reglue speaker cone and replace capacitors. New capacitors were fitted inside the original cases, a relatively easy job in this case. With the set reassembled in its 'new' cabinet, along with the original grille cloth and escutcheon, I had only to find a set of knobs to make it complete. Although I was able to get some Philco knobs the tuning knob at present is non original.

The set performs remarkably well on its original (as found) valves. There is no AGC used in this model, so no vari-mu valves. Type 24A are used, with a 27 osc and a 47 output pentode. This set now graces my living room and gets regular use. I consider the Philco 70, along with its big brother, the 90, to be one of the most attractively designed cathedral sets.

* * * * *

In connection with the resistors used in Philco sets, one may wonder at the odd values used, e.g. 51,000 ohms, 99,000 ohms, instead of the then more usual even values. The reason for this was on account of the Cooper-Hewitt mercury vapour lighting used at the Philco plant. The bluish-green light from these lamps made it difficult to distinguish certain colours used in standard value resistors, hence the use of special values, the colours of which showed up readily and could not be mistaken.

From Ghiradi's Radio Field Service Data.

A.W.



PHILCO BABY GRAND

The model 70 was Philco's first superhet cathedral.

SOME CURIOSITIES IN THERMIONIC AND RADIO TECHNIQUE

No 1. A FUNNY VALVE

Many years ago, when still at school, in fact, I acquired a 2-volt battery output pentode valve, Lissen type PT2A.

On examining it minutely I was unable to find any connection between the suppressor grid and the filament. What I did find, however, was a connection between the suppressor and the control grid. So unexpected was this that I looked very hard several times to make sure I wasn't 'seeing things', but there was no doubt about it; grids 1 and 3 were internally strapped.

Since then I have encountered other valves made in the same way, namely American-type output pentodes with the suffix-letter 'E' following the normal type code. Examples are 41E, 42E, 6F6EG. These are to be found under the brand-names Brimar and Philco though I have not seen any reference to this peculiarity anywhere in the literature.

Why, then, were valves made in this fashion? Looking in the valve data published by Brimar, one does not discern any significant differences between these and the corresponding types. Maybe they offered a slight improvement in linearity of transconductance. I really don't know. Perhaps someone else may be able to shed some light on the matter.

Don Sutherland.

R_1
and H_2

Wunder World

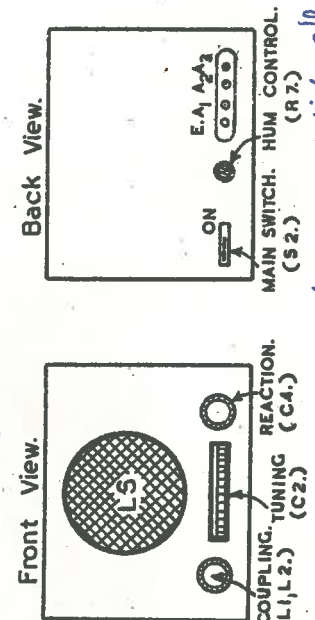
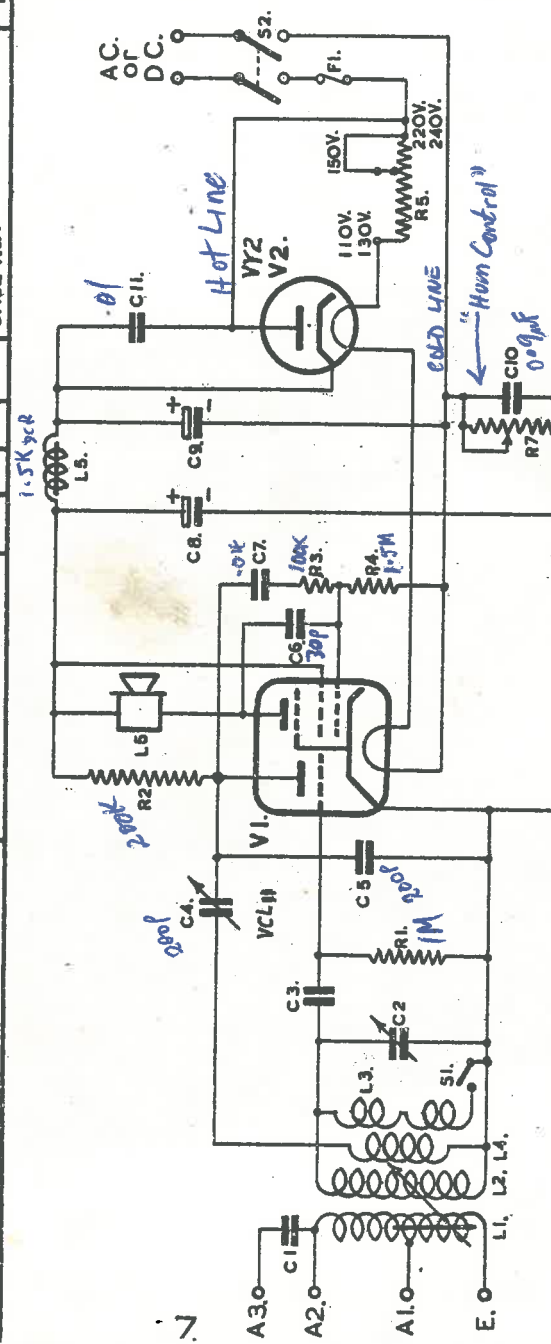
The receiver in question is, or was, Nazi Germany's 'Volksempfänger' (Peoples' Radio), a small 'no frills' set which first produced in 1933. Like the better known 'Peoples' Car' (the Volkswagen), it was conceived by, and produced under, the direct orders of the German government of the day. Politics was at the heart of its conception and production. Hitler had decreed that the German radio industry must produce a receiver at a price which would be low enough for even the poorest German family to afford. But more than that it was every citizen's patriotic duty to listen-in to Nazi broadcasts; and with the low-priced Volksempfänger there was no excuse for not owning a radio.

So, apart from cheapness, another consideration affecting the design of the Volksempfänger was that its sensitivity should be no more than the minimum necessary to ensure satisfactory reception of the user's local station, though of course it was impossible to design a set which could not be tuned to stations outside Germany. This, then was the background to the production of the Peoples' Radio.

Technically there was nothing of particular interest in the design of the Volksempfänger; the circuit consisted of a simple regenerative leaky-grid detector using a triode valve transformer-coupled to a small output pentode which fed a moving-iron speaker. Bearing in mind the 'local stations only' requirement, selectivity would not have been the problem that it would when using a set of similar design in other countries. In fact the only concession made to selectivity was the provision of several tapings on the primaries of both the MW and LW aerial coils.

In the first year over 300,000 sets were sold, and in 1934 the figure had risen to over 800,000. A further 470,000 were sold during 1935 and by 1937 the total sales figures to date were well over 2½ million. This was apart from normal domestic radio production which, contrary to expectation, was hardly affected by the introduction of the People's Set.

Type DKE. Circuit Diagram.



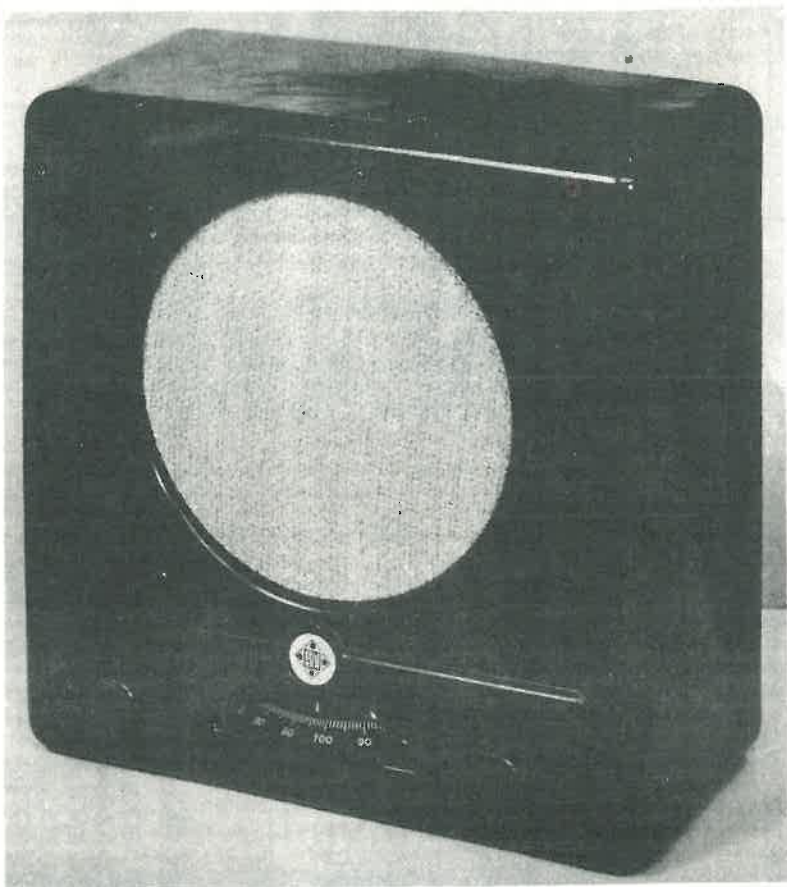
- | COMPONENT | VALUES. |
|--------------------|----------------------|
| <u>Condensers.</u> | C1. 300 μ F. |
| | C2. 320 μ F. |
| | C3. 100 μ F. |
| | C4. 200 μ F. |
| | C5. 200 μ F. |
| | C6. 30 μ F. |
| | C7. 4,000 μ F. |
| | C8* 4 μ F. |
| | C9* 4 μ F. |
| | C10. 0.9 μ F. |
| | C11. 0.01 μ F. |
| | * Dry Electrolytic. |
| <u>Resistors.</u> | R1. 1 M Ω . |
| | R2. 200 k Ω . |
| | R3. 100 k Ω . |
| | R4. 1.5 M Ω . |
| | R5. 200 k Ω . |
| | R6. 2,200 Ω . |
| | R7. 600 Ω . |

Note error in value of R5 as shown in parts list SB

Although the basic design of the Volksempfänger remained unchanged during its production lifespan some modifications were introduced over the years. In 1937 the detector triode was replaced by a screen-grid tetrode, the use of which called for resistance-capacitance coupling between stages. While this modification resulted in a higher overall gain the abolition of the audio transformer enabled significant savings in precious raw materials (iron and copper) to be obtained which was probably of far more importance than the increase in gain..

The final improvement came in 1938 when the moving-iron speaker was replaced by a moving-coil type. A significant change occurring in the same year was the introduction of AC/DC (transformerless) circuitry in the power supply. Not only did this enable a single model to replace the former separate AC and DC models but it also resulted in very considerable savings in iron and copper into the bargain. In view of this important saving it is quite surprising that this change had not been introduced earlier.

cont. on p.9



Deutsche?

DER KLEINEMFANGER DKE 1938

BACK ISSUES OF BULLETINS

In response to numerous requests Vol 1, No 1 of the NZVRS Bulletin has been reprinted and copies are now available. Don't miss this chance to complete your files. Order from secretary or editor (addresses on p.2), price is \$2 post free.

VALVE

This name appears at the masthead of the recently introduced newsletter put out for Wellington members of the NZVRS by Reg Motion. Among other things, Reg mentions that the Waikanae District Museum Council is starting up a local museum which will be located in the old Waikanae Post Office building. There will be a large section devoted to communications which will be under the control of Len Simpson, formerly with Philips Electrical. Reg points out that this will be the only public museum in the country, apart from Motat in Auckland, to feature a display of communications equipment.

STOP PRESS AUCTION SALE

Over 100 radios, mostly of the 1930s period are to be auctioned by:

JOHNSONVILLE AUCTION & TRADING CO

31 Johnsonville Rd, WELLINGTON Ph 783-219

on Saturday February 25, 1984. Catalogues available Feb.20.

cont. from p.8

Deutscher?

Also in 1938 a completely new receiver known as the DKE (Der Klein Empfänger = Little receiver) was introduced. Although employing the same basic circuit as the Volksempfänger only two valves were used instead of the former three, the detector and output valves being combined in one envelope in the form of a triode-pentode, type VCL11. As the little newcomer was sold at half the price of its bigger brother it is obvious that in order to achieve such a substantial price reduction everything had to be cut to the bone. In place of a metal chassis a flat strip of bakelised paper (presspahn) was used, and in place of an air-dielectric tuning capacitor a midget solid-dielectric type was used. The only observable change in later productions was the use of a dual (not twin) tetrode (type VEL11), a move which, it will be recalled, paralleled the development of the Volksempfänger where a tetrode detector replaced an earlier triode type. By this time it may be fairly said - they'd gone about as far as they could go!

REFERENCES

Wolf E Felix, The People's Set, *Wireless World*, March 12, 1939, pp 204-206

Germany's New Volksempfänger, *Wireless World*, (date unknown c.1938)

The BBC's News Bulletins - Are They receivable on the Volksempfänger?
Wireless World, May 25, 1939, pp499-500

The German People's Miniature Receiver, *General Post Office Radio Report No. 521*,
(Made available by courtesy of the Museum & Archives Section of the NZPO)

LIST OF TALKS GIVEN AT NZVRS MEETINGS

1980

Early Broadcasting in Wellington. Jan 2
(Arthur McClay)

Transformers (Bill Farmer) Feb.

Vintage Radio restoration March.
(George Weston)

Valves, Tubes and Bottles May
(John Stokes)

Receiver Alignment (Des Wright) June

My Visit to Marconi's Birthplace
(Eric Kirby) July

Restoring Sets of the Early 1920s
(John Stokes) Aug.

"CELLS", their characteristics and
their inventors. (P. Noonan) Sep.

Early N.Z. Broadcasting
(Jack Baxendale) Oct.

Scott Radios (John Stokes) Nov.

Early N.Z. Amateur Radio 1981
(Graham Jessop) Apr.

Cabinet restoration (John Stokes) May

American manufacturers of domestic
radio receivers (Stan Burrage) Aug.

History of Ultimate Radio
(Harold Boyd) Nov.

Vintage Radio Activities in the U.K. 1982
(John Stokes) Jan

Servicing Valve Radios (Des Wright) Feb.

Radio in the RNZAF and 13 years at sea.
(Wally Clutterbuck) March

History of Loudspeakers
(John Stokes) Apr.

The Restoration Process
(Bill Farmer) May

The Marconi Family and G. Marconi's
achievements (Eric Kirby) May

WW 2 Clandestine Radio Communication
(Des Wright) July

Neutralisation (Arthur Allen) Aug.

More About Marconi and other 1983
Wireless Pioneers (Eric Kirby) Feb.

Personalities in Early Radio Manufactur-
ing in Auckland. (Stan Fry) April

Early Radio Activities in Java
(Slide lecture supplied by
Kaye Weedon of Norway) May

History of the Alexander Alternator.
(Slide lecture supplied by
Kaye Weedon of Norway) Aug.

The 'Hinemoa', an early N.Z. made radio
(Des Wright) Oct.

"Let's Discuss It" 1. Lightning Arresters,
2. McMurdo Silver and metal valves, 3. Edison
Battery Oil. - (Arthur Allen) Oct.

Replacement Dial Scales Nov.
Morrie Thompson.

More on Early Components, (Arthur Allen)

Questions and Answers 1984
(Peter Lankshear) Jan.

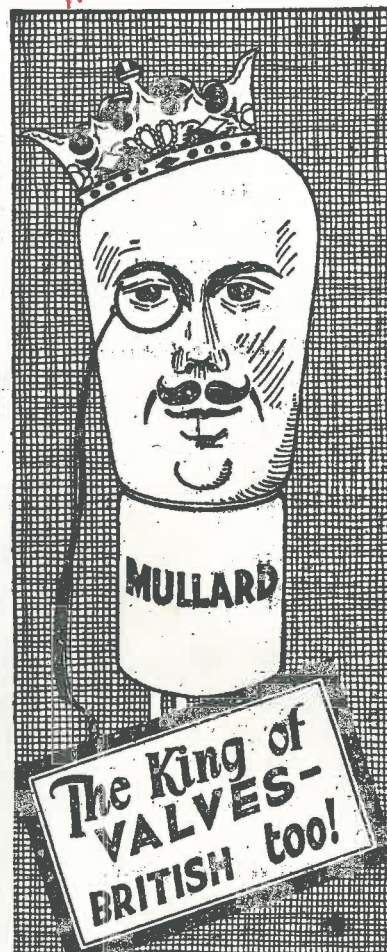
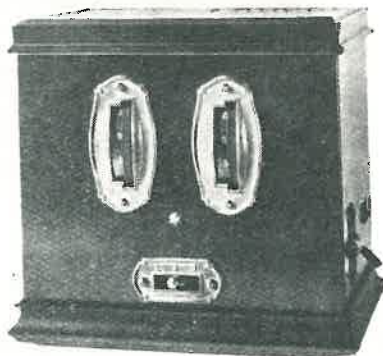
R1

TWINS?

Look closely at the two sets
illustrated. Do you recognise
either? The upper is a Gecophone
'Victor 3' battery set, the lower
is a 1929 Telefunken 'Arcolette'
4-valve AC set. How come they
looked so alike? Your guess is
as good as mine.



G.E.C. Victor Three Receiver



Obtainable at all Good
Radio Dealers.

Sole New Zealand
Selling Agents:

Spedding Ltd.

FORT ST., AUCKLAND.

Mullard
THE MASTER VALVE

Adv. the Mullard Wire-
less Service Co., Ltd.,
LONDON.

The following books are still
available from Vestal Press.
NZVRS members may order direct
but note that the prices given
are in U.S. currency. Your bank
can supply the necessary
funds upon application

THE VESTAL PRESS

320 N. Jensen Road
P.O. Box 97
Vestal, New York 13850 U.S.A.

VINTAGE RADIO 1887-1929

You'll enjoy this fascinating pictorial story of
pioneer days in wireless and radio. Relive the days
of Marconi, old spark transmitters, and the strug-
gles of early radio broadcasting. It's the radio col-
lector's reference, with over 1,000 pictures on 263
pages. (Hard cover copies are in limited supply as
this catalog goes to press.)

soft cover K-3X \$9.95

A FLICK OF THE SWITCH 1930-1950

Here's your time trip through the great days
of radio broadcasting and the dawn of televi-
sion. Revisit the Lone Ranger, Philco
"Cathedral" radios, old "Ham" days and
many more. You'll revel in 321 pages of story,
old ads, and over 1,000 pictures. Hard cover.

K-17X \$12.95

1921-1932 RADIO COLLECTOR'S GUIDE

This book makes you an "instant expert" as
you go prospecting for those fine old radios. It
eliminates guesswork in determining a set's age and
"pedigree." There are 264 pages loaded with over
50,000 facts on 9,000 radio models made by 1,100
manufacturers.

K-19X \$9.95