WANTED (Continued)

HRO LF coil sets J, H & G: 50-100 Kcs, 100-200Kcs & 180-430Kcs. CR100/B28 5 pin **female** power lead plug/socket (any condition). David Crozier, 154 Grey St, Onehunga, Auckland 1006. Ph 0800/187161.

Black knob for Ultimate RA/RB etc. Also looking for good vakve tuner circuit diagram to compliment my Amp., AM only with good selectivity etc. Bill Meiklejohn, 56 Kokich Cres, Onerahi, Whangarei. Ph 09/4361922.

Oblong screen-printed glass for Columbus 14 (1947) 5v (MGAR p118 - GAR p67) or loan of intact one for colour photocopying. Stephen Berry, 2A Taungata Rd. York Bay, Wellington. Ph/fax 04/5683854 email sberry@ibm.net

Radio Ltd (Ultimate, Skyscraper Courier etc) model RT wooden or bakelite cabinet & model RA wooden or metal cabinet. Murray Stevenson, 3 Brandon Rd., Glen Eden, Auckland. Ph 09/8133565.

Photocopy, or loan for copying, of circuit diagram for RCA VoltOhmyst Model WV77E, will return ASAP. Info to help restore old Sheffield console, 2 shortwave bands, presently minus power supply & speaker, probably put out as AC and converted to battery. Barry Grumwald, RD3 Tokerau Beach, Kaitaia. Ph/fax 09/4087235.

Chassis for an E.I.L 5 valve BC model 92 1947 (MGAR p139). Chassis & escutcheon for Emerson C134 8valve 1938 (MGAR p161). Bob Kean. Ph 07/8626080 025/2448982.

Majestic "tuno-stat", chrome fret over speaker grille, upright, (tunostat control on side). RCA Radiola 60, with L106 spkr. if possible (GAR p120). RCA R8, upright 1932, gothic fret, peephole dial. Philco Cathedrals models 50 (Ramirez p27), 51 (Ramirez p38), 53c or 54c (Ramirez p39).. Philco 16, cathedral or upright tombstone. Jackson Bell Cathedrals, any model. Crosley "Widgit", good condition, realistic price. Any radios with chrome over spkr. grilles, any condition.

Cabinet to suit Mullard 50 or Airzone 550, bakelite (cracks ok)(GAR p148). Cabinet for Philco 89 cathedral style (as for Ramierz p63 or Flick.o.t. Switch p119). Cabinets for Philco Cathedrals, models 70 (Ramirez p28, GAR p110), 71 (Ramirez p37) and 90 (Ramirez p29). Cabinet for 1930 Gulbransen "Champion", 8V, TRF, Highboy console. Cabinet & Spkr for Franklin (Wgtn) upright table model, suit 6V chassis with controls. Chassis & Spkr for Pilot E20 6V 1934 (twin escutcheons miniature mantel, 2 upper side controls one lower centre control (Blast f.t.Past p137). Chassis & spkr for 1933 Columbia model C155 (GAR p29). Chassis for Jackson Bell Peter Pan 5V 1932 (Flip.o.t.Switch. p102 -2nd from bottom). Chassis for Rogers radio/phono console 1929 8V TRF (probably model 830). Chassis for 1934 Philco cathedral 49E (DC). Chassis for Clarion AC80 cathedral 1931 ARC dial. Chassis for Philco 203 or 203A (bakelite cabinet, controls on top, GAR p48). Chassis & spkr for 1933 General Electric K50, cathedral, twin peephole with 4 controls (F.o.t.S. p89). Chassis & spkr for 1933 Skyscraper 5BB mantel 5V (2 controls in front, 1 side) (like Mission Bell, GAR p100).

Am willing to buy complete sets for any of the chassis or cabinets required above.

One operative Philips E452 valve. 4 wooden knobs with ringed brass inserts for 1934 Gulbransen 7D. 2 white claw feet for bakelite AWA 38 (GAR p152). Spkr (Electrodynamic) for RCA 106 (GAR p120). Mark Thompson, 7 Danbury Drive, Torbay, Auckland 1310. Ph A/Hrs 09/4738388, 025/941480, email thomson@akcity.govt.nz

N.Z.V.R.S. Bulletin

NEW ZEALAND VINTAGE RADIO SOCIETY INC.

Vol. 19 No.3 **November 1998**

ULTIMATE 5 VALVE BROADCAST CHEST MODEL

Advertised as the Smartest Little Set on the Market

NEW ZEALAND VINTAGE RADIO SOCIETY INC.

A non-profit organisation devoted to the preservation of early radio equipment and associated historical information.

PRESIDENT: Ian Sangster, 75 Anawata Rd, Piha Rural Delivery, New Lynn, 1250. Ph 09-8149597.

SECRETARY: Grahame Lindsey, 110 Sylvan Ave, Northcote, Auckland. Ph 09-4192033. General correspondence as well as requests for purchase of books, badges and power cable are handled by the Secretary.

TREASURER: David Crozier, 154 Grey St, Onehunga. Ph 09-6365954 or 0800-187161. Financial and membership matters are handled by the Treasurer. A list of members is available on application to the Treasurer with a self-addressed, stamped envelope.

NZVRS BULLETIN is published quarterly in the months of February, May, August and November. Opinions expressed by writers are not necessarily those of the society. Contributions should be sent to the **EDITOR** , Reg Motion, 2A Hazel Terrace, Tauranga. Ph 07-5768733, email - rmotion@bopis.co.nz.. Bulletin distribution is arranged by Chris Hollis, 13A Princes St, Cambridge. Back numbers of most issues are still available from the **FOUNDING EDITOR**, John Stokes, 281C Hillsborough Rd, Mt Roskill, Auckland. Price is $1.50 each for numbers up to volume 10 and $2 for issues from Volume 10 onwards, Cheques to be made out to NZVRS.

NZVRS LIBRARY Requests for circuit diagrams, books and magazines from our library should be made to the **LIBRARIAN**, Ernie Hakanson, 17 Williamson Ave, Grey Lynn, Auckland. A small charge will be made for copies of items supplied.

AUCKLAND MEETINGS are held on the third Monday of each month at 7.30pm in the Horticultural Society Hall, upstairs in the old Chamberlain Park Golf Clubhouse, 990 Great North Rd., (opposite Motions Rd.). Sales of vintage items are held at these meetings in the months of March, June, September and December.

WAIKATO AREA. Next meeting will be held on Sunday 6th of December at Tauranga. See page 3 for further details.

WELLINGTON MEETINGS are held typically from 1pm on the second Sunday of every month at Tireti Hall, Te Pene Ave, Titahi Bay. For further details contact Bob Hatton, 40 Rose St, Wadestown. Ph 04-4728788.

CHRISTCHURCH AREA. Contact Russ McKee, 39 Halliwell Ave, Christchurch for details. Ph 03-3525778.

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FROM THE EDITOR

A week or so ago it seemed that this bulletin would be rather slim, but quite a wide variety of contributions arrived at the last moment to fill the usual 32 pages. However, the editor is far from embarrassed with having to leave out material so keep articles coming. There is always something to write about - that little human interest story - the problems you overcame during your last restoration job - club happenings - requests for information - relevant excerpts from the daily press in your district and many others. Don't leave it all to John, Ian and our other valued regular contributors.

The new spacious Auckland area clubrooms are a great advance over the older church hall backroom which was often crowded to the point of standing room only for late arrivals. Members from out of Auckland who are visiting there on the third Monday of any month are welcome to attend, meet the local members and join in the activity of the evening. The location of the clubroom and other details are given on page 2, the activity of the night is shown below.

The 20th anniversary of the formation of the New Zealand Vintage Radio Society will take place next year. Your committee is presently considering where and how to commemorate this event so as to allow attendance by as many of our scattered membership as possible. You will be kept informed through the bulletin as arrangements are firmed.

AUCKLAND MEETING CALENDAR

Nov 16th; Bring and tell - Portables.
Dec 21st; Auction sale.
Jan 18th; Bring and tell - Zenith sets.

WAIKATO MEETING

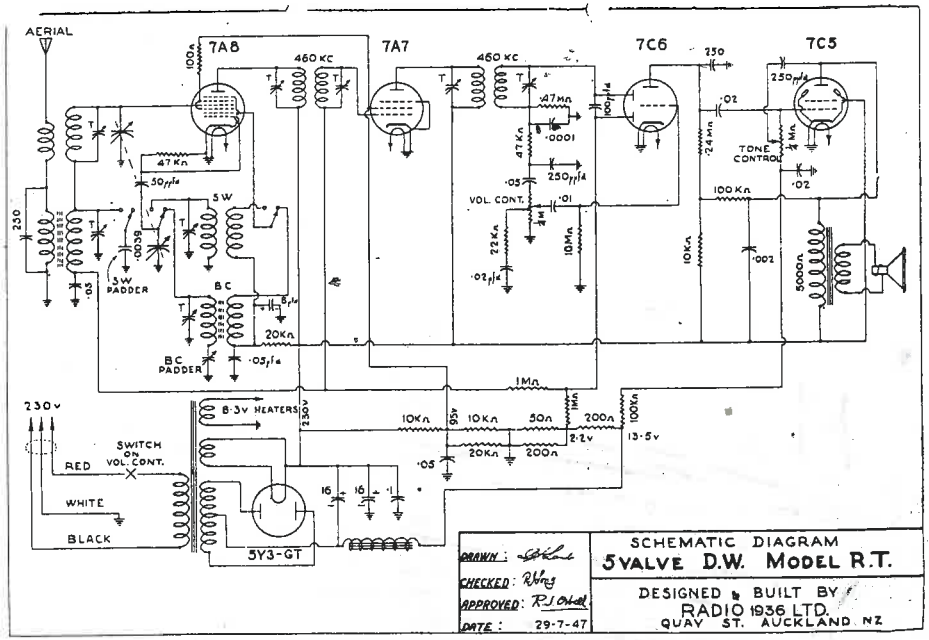
Next meeting is to be held at Tauranga on Dec 5/6th. For those arriving on Saturday the 5th, arrangements have been made to view John Collin's collection at 65 Paine St, Judea at 2pm and Bill Edward's collection at 211 Dixon Rd. at 3.30pm. Transport will be available to take any ladies in the party, who wish to do so, to visit the Decor Garden and Craft Centre. Cars for this purpose will leave John Collin's place about 2.15pm and return to Bill Edwards place about 4pm. Saturday night dinner for those who have already booked with Rod Osborne will commence about 7pm. Advance payment to Rod Osborne of $12.50 per head is necessary to hold your booking with the restaurant at Bureta Park Motor Inn as Xmas bookings are heavy.

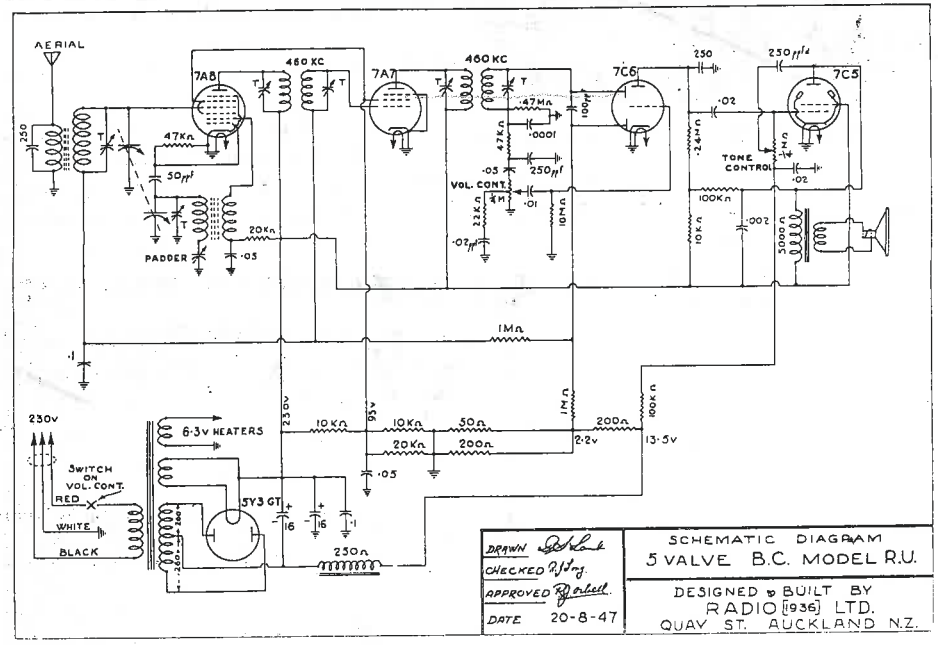
On Sunday we will gather at Rod & Sue Osborne's place, first drive on the left up Waikiti Rd, Welcome Bay, at 10.30am. About midday we will move to visit Gordon and Donnela Baker, 101 Hinewa Rd, Otumoetai, where Gordon will have a barbecue going for those who wish to bring something to cook. Then on to Reg and Rose Motion's at 2A Hazel Terrace, Cherrywood about 3pm.

Trading tables will be available at Sunday venues. The tour should complete about 4.30pm giving time for out-of-towners to get home before dark.

NEW MEMBERS

Des Spillane	Timaru	Bruce Churcher	Auckland
Brent Staddon	Wellsford	Alexander Koppen	Perth
Wayne Calderwood	Invercargill	Stephen Berry	Wellington

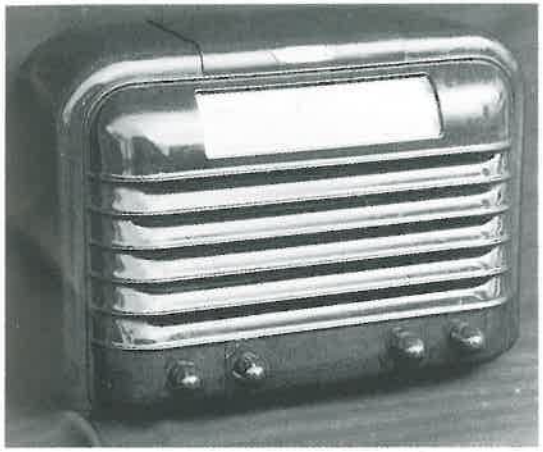




ULTIMATE'S FIRST BAKELITE SET

Ian Sangster

The RU and RT model radios produced in Auckland by Radio 1936 Ltd marked a dip into a new cabinet material for the company. The cabinet is 16" wide by 12" high and is made in two parts joined by machine screws and moulded threaded inserts at the face of the grille and cabinet sleeve. The RT is a dual wave version with four knobs and the RU is the more commonly found medium wave version which has only three knobs (see bulletin frontispiece). Chassis material is either aluminium or cadmium plated steel.

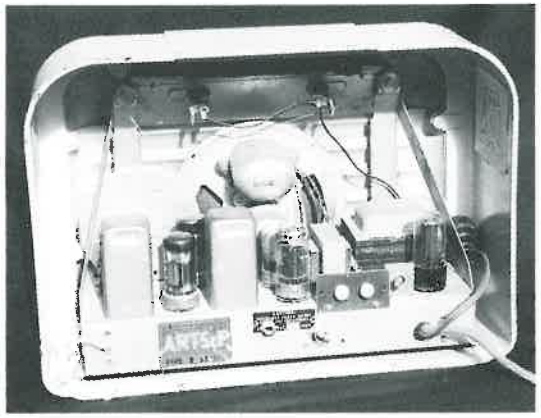


ULTIMATE Model RT in brown bakelite

The valve line up is loctal with an octal rectifier. Radio (1936) Ltd. was fond of loctal valves at this time. A radio frequency amplifier is not fitted, so the valve line up is as follows a 7A8 mixer-oscillator, 7A7 intermediate frequency amplifier, 7C6 detector and first audio, 7C5 audio output and a 5Y3 rectifier. The valve line up is the same for the RT as the RU.

Information to hand shows that a sample RT was made on 17 May 1947 serial number 98640, followed by a line sample serial number 98695 on 10 June 1947*. A pilot run of 25 RU sets serial numbers 98918 to 98942 was produced on 1 June 1947. I have gathered some six sets and chassis during my research and the lowest serial number in my care is 100887. This was produced in the second production run of 500 sets on 10 November 1947. Check through your RU's and RT's you may own one of the early examples. Comparative rarity is shown by the fact that I have six RU's and only one RT.

The circuit is interesting in that a chassis mounted power supply filter choke is used. This was not unusual among Ultimate sets of this era but must have added extra expense to what should have been a cheaper radio. The circuit diagrams (opposite) carry a date of 29 July 1947 for the RT and 20 August 1947 for the RU.



Rear view of model RU

These radios are available in brown bakelite, black bakelite and a reddish brown but were often painted at the factory in white. A white painted one may have a different coloured bakelite front and back pressing under the paint. I first saw a reddish brown example in Kevin Horn's collection at Waihi. Kevin told me that this colour was often found under the white paint. This started me collecting any white painted RU in order to obtain my own reddish brown example. Finally I was successful, but along the way I gathered a few extra sets. I would like to hear from anyone who owns a RU or RT in any other colour especially in a pastel coloured plastic.

In my own collection I have sets branded Ultimate, Golden Knight and Lewis Eady, other collectors will no doubt have other brands.

*Reference: Radio 1936 Ltd Chassis serial number record book 16 October 1941 to 25 June 1951.

"ZENITH RADIO - THE EARLY YEARS: 1919 - 1935"

Harold Cones and John Bryant, authors of "The Zenith Transoceanic The Royalty of Radio" have now produced a fascinating book covering Zenith Radio itself from its humble beginnings as Chicago Radio Laboratory (CRL) to the giant corporation it became.

The book contains 223 pages of high quality glossy stock packed with colour and black & white photos, data and stories of the fascinating background to the founding of the Zenith Radio Corporation and its early history which is closely linked to the adventures of Zenith's charismatic part founder, Commander Eugene McDonald. Helped by his talent at keeping Zenith "newsworthy" the company successfully survived the depression of the 30s.

There are three sections in this book with three appendices and endnotes. Section I contains six chapters on the history of Zenith Radio, while section II features 30 pages of colour photos of Zenith and CRL radios. Section III contains pages devoted to an illustrated catalog and database of CRL and Zenith products.

The Society has just received copies of this new and fascinating book. Members may obtain copies from the Treasurer for $45.00 (+$5 p&p). Normal retail price in the US in US$29.95.

The Treasurer's address is David Crozier
154 Grey St
Onehunga,
Auckland 1006
Ph 0800/187161 (home) 0800/654412 extn 97492(work)

Where Oh Where Has My Little Dog Gone

John Stokes

For the benefit of those readers too young to remember, the words above were the title of a popular song dating back to the early 1900s. However, it was quite another dog, a real dog, named Nipper whose name and image became world famous when they were used as a trade mark by a British firm known as the Gramophone Company Ltd ,and an associated American firm, the Victor Talking Machine Company. In 1899 the British firm purchased an oil painting of a dog listening to the horn of a gramophone, the picture being entitled His Masters Voice.*

Somewhat surprisingly, although the manager of the Gramophone Company had been quick to see the advertising value of the picture it was not put to commercial use in the UK for nearly ten years, its first use on a record label being in 1909.

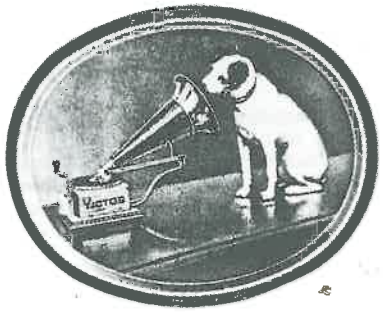
Due to the connection between the Gramophone Co and the two American pioneers Emile Berliner and Eldridge R Johnson ,it was not long before the advertising value of the listening dog logo and the words His Masters Voice were recognised and patented in the United States in July 1900, less than a year after the British firm had acquired the original painting. So it was that Nipper became known in the US before he was in the UK.

During the heyday of acoustic records and machines, a period covering roughly the first 30 years of this century, the logo/slogan earned for itself the title -the world's most well known trade mark, being used in every country of the world where records were sold, with the exception of Algeria and Russia.

An interesting sidelight on the Nipper story is that although the dog is shown in the trade mark as listening to an HMV(disc) gramophone, the original painting was of an Edison Bell cylinder machine. Because cylinder machines were adaptable for home recording, it is quite possible that Nipper's master did record his own voice, thus the words his master's voice could have been literally true. So, however effective the trademark may have been, the so-called "Trade Mark" model gramophone was not the one used in the original painting. Similarly, in the United States the Victor machine which formed the basis of the Victor Talking Machine Company's trade mark was substituted for the British model.

Eventually, the impact of radio broadcasting and the rapid rise of radio receiver ownership had a detrimental effect on the manufacture and sale of gramophone/phonograph records and machines on both sides of the Atlantic, forcing two of the largest organisations concerned to enter the field of radio manufacturing themselves. This is how the owners of the Listening Dog trademark ,the Victor Talking Machine Co in the US and the Gramophone Company in England ,came to use the trade mark on radio receivers. From then on it was only a matter of time before Nipper became as well known in the field of radio as he had been previously in the area of phonographs and gramophones.

The formation of the RCA Victor Company Inc led to the alteration of the Victor name to RCA Victor and the marketing of identical models under the names General Electric, Graybar, and Westinghouse. As in the UK., only one brand, in this case RCA ,carried the Listening Dog logo and His Master's Voice trademark. For reasons which need not concern us



U.S.A. and Canada

U.K. and elsewhere

Victor-Radio *with Electrola*

Pre-RCA (1929)

RCA HMV logo
used from 1930

EMI logo (c.1971)

RCA

New RCA logo (c.1970)

here ,this distribution arrangement lasted only for about two years, after which time other firms severed their connection with RCA. From then on the Nipper logo was used continuously with many of RCA's products including radios and phonograph records and occasionally radio tubes.

By 1933 RCA were making extensive use of Nipper whose likeness was no longer confined to a picture frame; the famous dog was shown as taking an active part in advertising RCA Victor radios. Incidentally, this type of advertising was never used in England where HMV always limited themselves to using the bare logo. As time went by .the Listening Dog logo came to have an old fashioned look which did not fit in with the new logo adopted by RCA in the late 1960's and accordingly its use was dropped. By 1974 RCA had phased out the production of all home audio products except television sets and phonograph records, but in spite of this decided in 1978 to bring back Nipper as a trademark.

In England ,the firm Electric and Musical Industries Ltd was formed in 1931 expressly to manufacture receivers which were sold under the brands Columbia, His Master's Voice, and Marconiphone. Of these, only the HMV brand carried the Nipper logo. In the US, a somewhat similar event occurred when the Victor Talking Machine Co was merged with the Radio Corporation of America (RCA) in 1930 to form the RCA Victor Co. For a short period before this receivers were sold under the name Victor and the Listening Dog logo and the His Master's Voice name were used in advertising this brand.

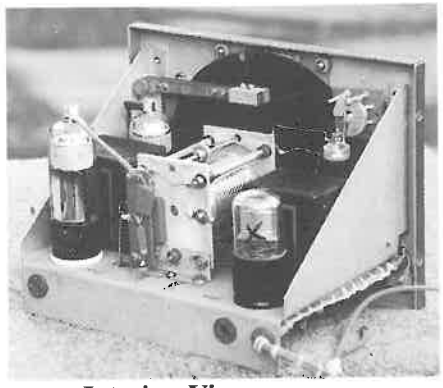
In the UK, the world's most well known trademark continued in use up to the time when, in 1957, EMI withdrew from the field of domestic radio and television manufacture and sold this side of their business to Thorn Electrical Industries. Thorn kept the HMV and Marconiphone name alive until 1959, after which time they were no longer used. In Canada, the use of the name Victor, together with the His Master's Voice logo, was carried on for many years by the Victor Talking Machine Company of Canada. During the early 1930's, Canadian equivalents of many RCA Victor models were produced and sold in Canada under the name Victor.

In New Zealand ,radios made either in the US by RCA Victor, or in England by E.M.I. had been distributed by His Master's Voice (NZ) Ltd since that firm entered the field of radio in 1930. Irrespective of their country of origin all imported sets were advertised as H.M.V. Following the commencement of New Zealand manufacture after 1938, the use of the name His Master's Voice was continued up to the 1970's, though by 1972 the logo style has been modified to include the letters EMI.

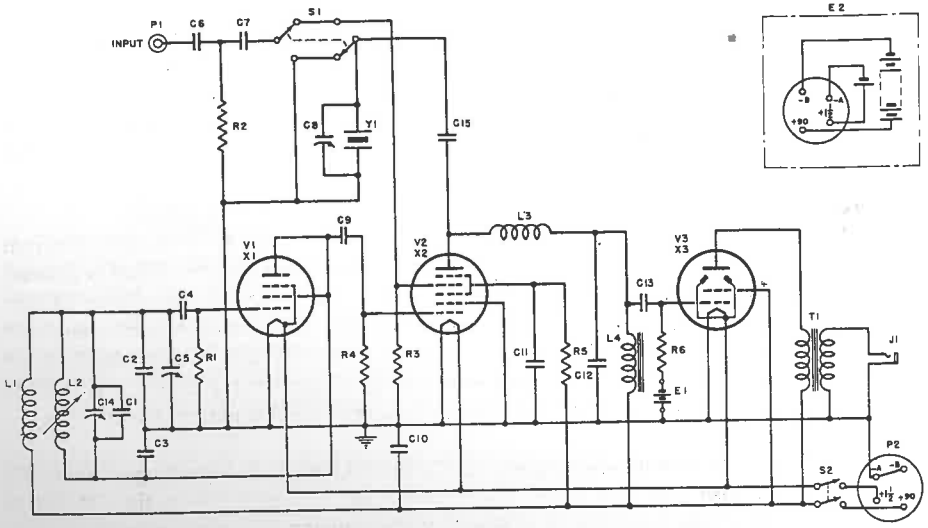
* A brief description of these events will be found on P139 of the Golden Age of Radio in the Home, John W Stokes.

Further reading : *The Fabulous Phonograph*, Roland Gelatt
From Tin Foil to Stereo, Read and Welch
Barraud - The Story of a Family, Miss E M Barraud
Romance of the Gramophone, T Lindsay Buick.

TE-149 Wavemeter



Interior View



TE-149 Wavemeter Schematic

Parts List

C1	18.5pF	TC	C12	10nF	20%	R4	150k	0.5W
C2	950pF	2%	C13	10nf	20%	R5	33k	0.5W
C3	950pF	2%	C14	12pF	Var.	R6	560k	0.5W
C4	500pF	10%	C15	25pF	20%	S1	Cal./Operate	
C5	17.5pF	Var.	L1	400uH		S2	Off/On	
C6	50pF	10%	L2	8uH	Var.	T1	25k to 150/600 Ohm	
C7	50pF	10%	L3	250uH		V1	1N5GT	Cal.Osc.
C8	25pF	Var.	L4	130H @ 3mA		V2	1A7GT	Mixer/Xtal Osc.
C9	5pF	10%	R1	22k	0.5W	V3	1Q5GT	Audio amp.
C10	10nF	20%	R2	33k	0.5W	Y1	Xtal, 1MHz	.005%
C11	500nF	10%	R3	330k	0.5W			

THE RCA WAVEMETER TYPE TE-149.

by John R L Walker ZL3IB

An earlier article in the Bulletin (May 1998, No.19.1) discussed the BC-221 and LM-10 frequency meters. These units are very well-known and even today, are used by many local radio amateurs. At the risk of being accused of heresy I must comment that these units can become much more useful if they are converted to solid-state operation which greatly minimises drift and avoids the complications of a mains power supply. There have been numerous articles (*73 Magazine* May 1971; *Radio Communication* August 1976) on such conversions and it is a relatively straight forward task with FETs (see *Break-In* May & October 1978).

The much less well-known TE-149 was officially described as a 'crystal calibrated wavemeter' and was manufactured by RCA Victor Co. Ltd of Canada way back in 1941. It consisted of calibrated variable frequency oscillator, a crystal controlled oscillator, a mixer/detector in which the output of the VFO could be compared with either an externally generated signal, or with the crystal oscillator. The resultant beat frequency was fed to an audio amplifier with headphone output. The self-contained unit was powered by 1.5, 4.5 and 90 volt batteries.

The circuit.

A brief technical description is as follows. Valve V1 is the calibrated VFO operating from 2500 - 5000 kHz and is a triode-connected 1N5 pentode in a Colpitts circuit. What is unusual is that it is tuned by means of a variable inductor (L2) which has 19 turns on a 38 mm diameter former. This is coupled to a slow-motion dial and an ingenious drive system (see photos opposite) which moves the pointer in a shallow spiral across the tuning scale. This set up results in a scale that is effectively two metres long!! Trimmer capacitor C5 is used to zero-beat the VFO with the crystal oscillator at one of several check points on the dial.

The output from the VFO is loosely coupled, via C9 and R4, to G1 of the pentagrid mixer V2 (type 1A7) which also functions as the crystal oscillator. When S1 is in the CALibrate position the 1MHz crystal is connected to G4 of V2 and the input circuit is grounded so the crystal will oscillate. C8 is used to set the crystal frequency exactly to 1000 kHz ± 0.005%. With S1 in the OPERate position the crystal is disconnected and grounded and now the input is connected to G4 of V2 via a high-pass filter (C6, C7, R2). Thus, when the fundamental or a harmonic, of the VFO is near that of the signal on G4 (from the crystal, or an external source) the resultant audio beat frequency signal is passed on to the audio amplifier V3 (type 1Q5).

General comments

Compared to the BC-221 and LM-10 there are very few reports of use and modifications to the TE-149; apparently the TE-149's performance above 20 MHz was poor but could be improved by addition of a 1N34 diode and a few other components. A solid-state conversion was reported in *Break-In* (Feb 1958) and used early type Ge-transistors.

I have yet to get my TE-149 into an operational state and would be pleased to hear from anyone who has carried out a solid state conversion using more modern transistors or FETs.

Reviewer's name ?

BOOK REVIEW
SECRET RADIO - THE ARCH CASWELL STORY (VK4-CB)

Arch Caswell was born in the Queensland rural town of Murgon, near Kingaroy on July 20, 1913. He was the youngest of 10 children. His oldest brother George gave Arch his initial experience in sales with a Sports Store. Arch applied for and was granted an Amateur Radio license in 1933, originally as VK4CA but with the opening of Cairns Radio, 4CA, this was changed to VK4CB.

Like most radio amateurs of that period who built their own rigs Arch was no exception. His initial set did suffer from whistles but by 1934, according to his logbook, he managed to talk across the Tasman. In 1935 he obtained his Marconi certificate by correspondence and in 1941 he enthusiastically enlisted in the RAAF as a Radio Mechanic itching for action. After a year of training in Sydney he transferred to Squadron 1 and was posted to Singapore with that Squadron. Within a week of arrival the Japanese Forces swooped down on Singapore. Arch hastily found a radio in a crashed plane and managed to get a message out to Australia asking to be rescued. Unfortunately for Arch and his men this was not to be and he spent the next three and a half years as a POW, first at Java then briefly at Changi and finally on the notorious Burma Railway.

It was whilst in this dire situation Arch with help from his men managed to build from scratch a radio that operated on the 31 metre band!! The first effort was hidden under a tile near his bed, later in a water bottle, a food canteen and the false bottom of a stool. His men had contributed enormously by smuggling various radio parts but a battery and a tuning gang had to be made from scratch, the latter from the tin plate of food containers. Though there were numerous "close calls" Arch got away with it and lived to tell the tale except that he wouldn't discuss it with anyone!.

After the cessation of hostilities FltLt. Ken Smith persuaded Arch to write up his story and the resulting saga, which came into the hands of one of our members, Darryl Kasch, has now been published. Darryl is very interested in contacting anyone who has any recollections of Arch Caswell or who logged him in his Amateur Radio days.

Copies of "Secret Radio" are available at $25 per copy from Darryl Kasch at Box 660, Maryborough, Queensland 4650, Australia

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"Melody Park" Annual Radio Garage Sale

This sale will be held on Saturday 21 November 1998 at 38 James Laurie St, Henderson.
Starting time is 8.30am.
Combined Vendors.
Free, Cheap and Expensive Radios, Radio Books and Magazines also Radio Parts.
Refreshments provided.
Come and be part of this gathering

AN INTERESTING COMMUNICATIONS RECEIVER

Reg Motion

Secondhand and Antique shops fascinate me and I take every opportunity to explore them. There are such fascinating relics to be pored over and wondered about. What did they do?, why were they thrown out?, could they be fixed?, could I use them if they were fixed? - these are the questions which absorb me in these wanderings.

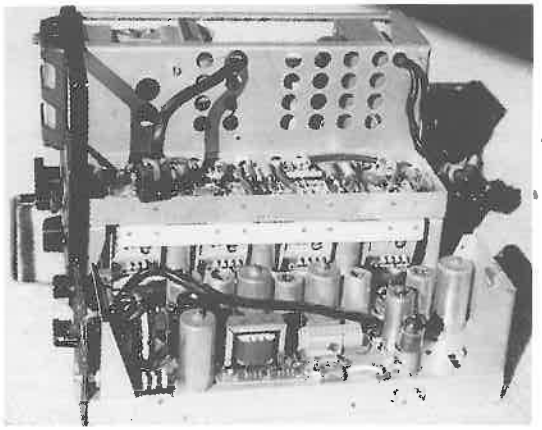
Sometimes, though rarely these days, I find a classic textbook on radio or a piece of interesting radio equipment. Such an occasion was when I visited a secondhand shop in Silverdale and among a pile of pieces on the floor I espied a rather interesting radio dial. When unearthed it turned out to be attached to a very dirty, badly dented black metal box which had obviously been originally fitted in an aircraft. After considerable negotiation with the proprietor, who at first had a quite inflated idea of the value of the object, I ended up as the owner. The object came home with me and laid around for a few months before it was thoroughly explored.

Marconi type AD94 Aircraft Receiver

A cleanup revealed an aircraft communications receiver, labelled Marconi type AD94, missing its motor-generator and showing unmistakable signs of attempts at modification though capable of restoration to workable state. Some panel beating and repainting gave it a degree of respectability and a mains power supply was improvised to fit in the original rotary generator space.

A manual or original circuit would have been quite a help at this stage but in spite of fairly extensive inquiries nothing was located so the circuit was reconstructed by tracing the wiring and using some imagination where necessary. Much later I was told that this type of receiver was used on RNZAF Bristol Freighters and Hastings.

In electrical design this receiver is a relatively orthodox superhet having two tuned RF stages, mixer, separate RF oscillator, two IF amplifiers, a diode detector, diode noise limiter, separate beat frequency oscillator and conventional audio amplifier. A 250 kHz oscillator can be injected to check the dial calibration and a crystal filter is fitted for narrow band CW reception. The valve lineup is, EF91 first RF, EF92 second RF, 6BE6 mixer, CV136 RF oscillator, CV136 scale marker oscillator, EF92 first IF, EF92 second IF, EB91 second detector, 6AL5 noise limiter, W77 Beat frequency Oscillator and CV4015 first audio frequency amplifier. For my own convenience I have added an EL91 output stage to drive a

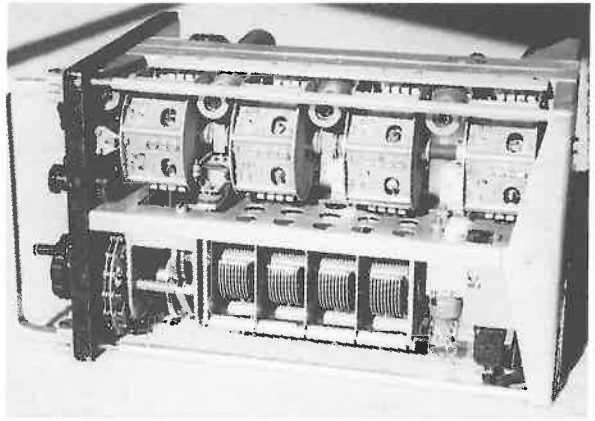


View showing the IF/Audio chassis demounted to expose the RF/Mixer wiring

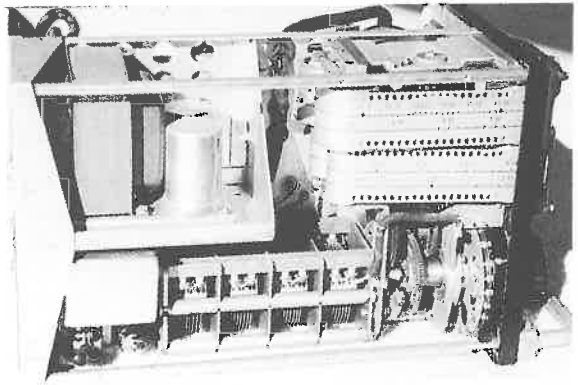
small speaker which I have built into the frame, replacing the original output to line, and have added a signal strength indicator on the front panel.

While the physical layout is very compact for a valved receiver this has been achieved without compromising access for maintenance purposes. The IF and audio stages are mounted on a readily removable chassis fitted directly above the coil turret. Shielding is excellent and in practice there is no sign of any instability.

As is common in aircraft receivers of the period the frequency coverage is from 150 to 510 kHz for beacon reception and from 2 to 18.5 Mhz for general work. This coverage is obtained in six bands selected by manual rotation of a very well designed coil turret which uses effective spring wire contacts. A four gang variable capacitor with stators mounted on ceramic insulators is coupled to the dial via a robust split spring loaded gear mechanism.



Underside view showing turret and gang



Side view showing film dial with cam below

The HF dial , which attracted me to the receiver in the first place, has two separate film drive scales each of about 3 metres total length with two ranges on each film. Thus, even on the highest frequency the dial is easily set to an accuracy of one kHz. There is no noticeable backlash in the dial setting. An adjustable cam arrangement on the main tuning shaft actuates a tiny variable capacitor across the HF oscillator section of the gang. This capacitor

has been factory set to compensate for minor inaccuracies in the main HF oscillator thus ensuring close tracking of the film dial markings. At four points in each MHz on the dial it is possible to set the dial accurately against the built in 250 kHz quartz crystal scale check oscillator which is itself oven temperature controlled. Scale adjustment is carried out from the front panel with a variable inductance connected across portion of the HF oscillator coil.

For CW purposes a bridge connected quartz crystal can be inserted at the intermediate frequency (1 Mhz). This crystal which is mounted in an evacuated B7G glass envelope is unfortunately faulty having developed a very high resistance due, presumably, to migration of the gold plating into the solder around the mounting wire. To date I have not been able to find a replacement but hope springs eternal.

On the two ranges covering 190 to 550 kHz the dial is a simple rotating plate carrying a scale which is viewed through an opening in the front panel above the cranked tuning knob.

Following minor realignment the sensitivity is excellent on all ranges and I now use this receiver for RF tests and general purpose reception. Its design, with two tuned circuits before the first detector , makes it less prone to spurious responses, cross modulation and other breakthroughs from nearby strong signals than the usual modern synthesised receiver and the accuracy with which its frequency can be reset is adequate for AM reception.

The Electric Lamphouse Ltd.

Copies of the Lamphouse Annuals are keenly sought and there is general interest in their history. John Stokes has provided the following brief notes.

The N.Z. Radiogram, Volume 1 No.1, was issued in May 1932. The date of the final issue is unknown but was about 1946.

The N.Z.Radiogram Annual, Electric Lamphouse Catalogue	1933 price 1/-
ditto	1935 price 6d
ditto	1936 price 6d
ditto	1937 price 6d
Lamphouse Annual	1938 6d per copy
Lamphouse Annual - N.Z. Centennial Number	1939/40 6d
Lamphouse Annual and Catalogue	1940 unpriced
Lamphouse Annual	1940/41 1/-
Lamphouse Annual and Catalogue	1941 1/-
Lamphouse Annual	1941/42 1/-
Lamphouse Annual (wartime economy size)	1942/43 1/-
ditto	1943/44 1/-
ditto	1944/45.....1/-
ditto	1945/46 1/-
ditto	1946/47 1/-
ditto	1947/48 1/-
Lamphouse Annual	1948/49 1/-
Lamphouse Anniversary issue	1949/50 1/-
Lamphouse Annual	1950/51 1/-
ditto	1951/52 1/-
Lamphouse Annual (final issue)	1952/53 2/-

Book Review **Ian Sangster**

THE LOCATOR

An index by tube numbers of 2 through 8 tube AC & AC/DC radio schematics found in Rider's Radio Manual volumes 1-23.

Author Gerald Larsen

A radio collector can find some chassis which defy attempts to catalogue them. For the sleuthing which I have carried out the *Sylvania Tube Complement Book* and *Rider's Perpetual Trouble Shooter's Manual* have served me well, for radios of United States origin. The *Mallory Yaxley* handbook is also useful, but I have only recently acquired one of these.

I was unaware of this book until I received a letter from it's author. He had read an article which I had written about an unknown cathedral radio, and my efforts to identify it. The process which I had used, going through the *Sylvania Tube Complement Book* and then referring back to *Rider's* would have been made much easier if I had been in possession of *The Locator* at that time.

The Locator is a ring bound A4 sized book of 130 or so pages. The first section is two tube radios, some seven are listed. The radios are listed by tube type the first tube being the output tube, if a radio has push pull output the next tube will be the second output tube. If however the radio has a single ended output the next tube in the list is the rectifier. After the rectifier the balance of the tube are listed from the antenna through to the speaker as drawn in the Rider's schematics. For example we have shown;

Tubes		Manufacturer	Vol-pg	Electros	Power	Fil-volt	
70L7	25B8	Arvin	11-3	20x10x10		AC-DC	Line

Fil-volt means in the case of AC-DC radios the method by which the filament voltage is dropped.

If we carry on through the book to say five tube radios I'll pick out an Austin cathedral which has five tubes with a 45 in the output.

Tubes			Manufacturer		Vol-pg	Electros	Power	Fil-volt
45	80	24	24	24	6-1	8x8	AC	

The book can be used to further research in radio interests, for example I looked up eight tube radios with push pull 46 output tubes following an interest in the brief flowering of class B output stages. There was only one listed, a T.C.A. in vol.7-3.

I happen to own a RCA R74 which has push pull 46's in the output but it has 10 tubes so is outside the scope of this book. Maybe in the future Gerald Larsen will extend the scope of his book to cover the larger tube count radios.

This book is a valuable extension to my radio bookshelf, thanks to the author and his assistants for the effort in compiling all this data.

The book is available from: Gerald Larsen 7841 W.Elmwood Drive, Elmwood Park, IL 60707. USA.

MAJESTIC RESTORATION TRAPS

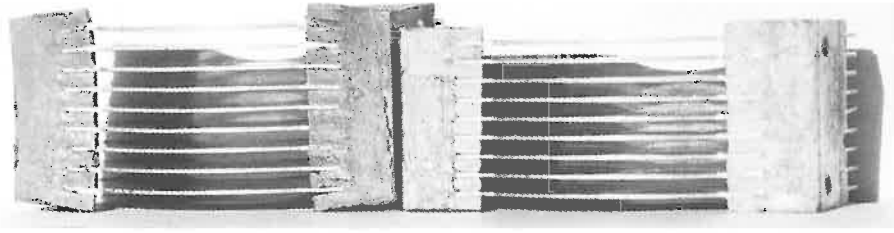
Peter Lankshear

Grigsby-Grunow's Majestic receivers (and the associated Canadian Rogers) are very collectable but they can present, for the unwary, some traps which might well defeat a successful restoration.

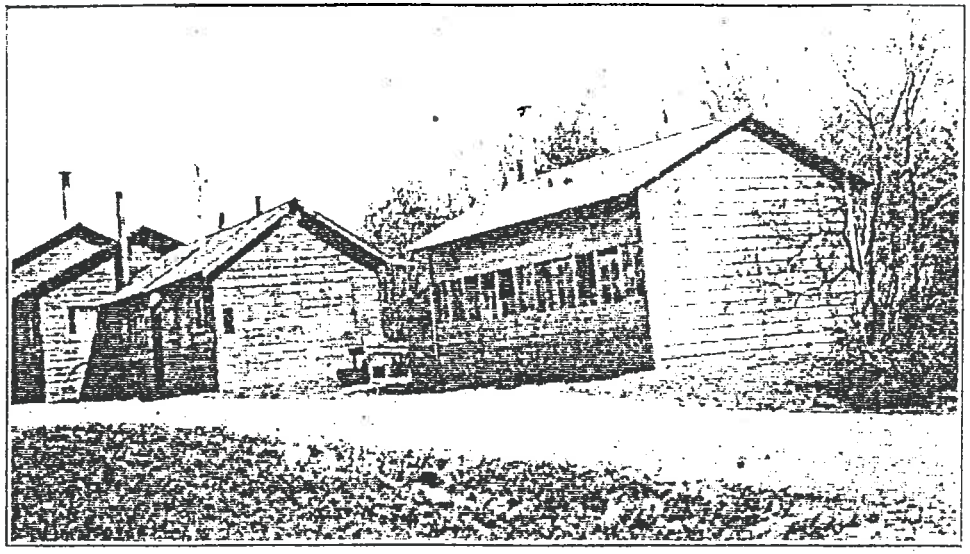
Most serious is a possible tuning capacitor problem that can affect receivers made during the period 1929/32. Before then tuning capacitors were single section units usually assembled with threaded rods and spacing washers, a method that was quite good but labour intensive. However, with the advent of ganged tuning, a different construction method had to be devised. Aluminium was a popular material but could not be soldered or welded and one solution was to embed plates in die cast metal mounts. However, in some instances, the casting alloy used tended over a long period to crystallise. In the process it expanded, often to a surprising degree, forcing the plates out of alignment and causing them to short circuit. The photo below of a pair of stators from the same capacitor shows this can be a real problem. Rotors used the same casting technique and can also be affected.

Therefore before attempting any work on one of these sets, inspect the tuning capacitor plates very closely. A small amount of distortion can be rectified by carefully bending the plates, but often the expansion is too great and correction is impossible. If this is the case, unless a replacement capacitor can be found there is little point in proceeding with restoration. Recently the writer was able to cannibalise good components from two defective capacitors to make a single good one. In this instance he was able to cut down the rotor and use some stator assemblies from a 5 gang Majestic 90B capacitor to rebuild a Rogers-Majestic 3 gang unit. Dismantling and reassembly proved to be quite simple.

The capacitor problem was solved in the early 1930's by swaging the plates in position, and in the process significantly reducing the size of tuning assemblies, but around this time Majestic and Rogers created another problem when they ceased using valve shields, relying instead on the European method of spraying metal directly onto the valves. These valves especially 35S and 58S can be hard to come by and replacement with standard valves can cause uncontrollable instability. One solution is that used by manufacturers of replacement valves by the use of close fitting "Goat" shields (if you can find them). Connect a thin wire from the shield to the cathode pin, being careful to avoid shortcircuiting to the chassis.

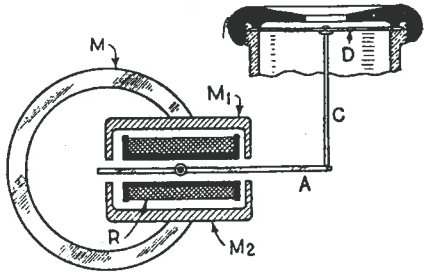


How capacitors grow! These stators came from the same variable capacitor. Fortunately not all castings suffer from crystallisation



The home of the Baldwin Phone. View of the hillside factory near Salt Lake City, where Nathaniel C Baldwin supervises the manufacture of his phones.

BALDWIN RECEIVER — Perhaps the most sensitive type of telephone receiver thus far developed. It employs what is known as a "balanced armature," the signals being produced by the vibrations of a *diaphragm* which is not acted on directly by the magnets. The illustration shows the general plan of a receiver of this type. The *armature* (A) is of soft iron and is pivoted between two U-shaped soft iron pieces (M1, M2) mounted on the ring-shaped horseshoe magnet (M) as indicated. The armature is acted on by the magnets in response to incoming signals and the movement of this element in turn acts on the mica diaphragm (D) by means of a fine brass wire (C). The usual windings (R) are placed between the two pole pieces, the armature being mounted in a central slot. These receivers are much used both for headphones and for loud-speaker units. In the latter case the mica diaphragm is generally made heavier to handle the more powerful vibrations due to the *amplification* of the signals.



Principle plan of the Baldwin Receiver unit.

When no fluctuating impulses (signals) flow through the windings (R), there is no *magnetic stress* on the armature (A), because this member is suspended centrally between the pieces (M1) and (M2), the magnetic attraction of which are equal. Now when a fluctuating impulse flows through the windings (R) it produces a magnetic flux which combines with the flux of the permanent magnet (M) and the total flux is distributed asymmetrically or unevenly on both sides of the armature. The result is a rocking vibratory movement to this member which is in turn communicated by the juncture wire (C) to the diaphragm (D), producing the audible signals.

Above description reproduced with acknowledgement to Gernsback's Radio Encyclopedia - 1927.

A RADIO ROMANCE by Ray Frost

From the Radio News for October 1922

The tremendous world-wide interest in radio has brought to at least one man the realisation of the dreams of a lifetime. Nathaniel Baldwin, a devout Morman, was the inventor , ten or a dozen years ago, of a highly sensitive telephone receiver, but until the event of radio broadcasting, never experienced the least difficulty in meeting demands for his instrument at his little hillside factory on the outskirts of Salt Lake city - that is, when he was able to raise the money for material. Now he is swamped, buried, over-whelmed with orders.

From every state in the union, every civilised country, the farthermost islands of the sea, orders for Baldwin radio headsets have poured in until there are now on file in his shanty office unfilled orders for more than 200,000 pairs.

Baldwin's modest plant lies against the base of the Wasatch Mountains, 23 oversize Salt Lake blocks to the East of the Mormom temple, and 35 to the South . A lane jammed with the motorcars of his employees, runs above his plant, which has been added to from time to time, until it now extends down the lot in a long row of narrow wooden buildings. A roaring mountain stream runs past the workroom windows at one side, and at the opposite windows the fragrance of peach and apple trees drifts in. One is struck with the thought that here in this clean and airy sunlight would be a good place to work.

Baldwin, the man, is a product peculiar to the region in which he has been born and reared, modest to the point of diffidence. In his office is a drafting table in lieu of a desk, and two or three plain chairs. On the table are the Book of Mormon, Doctrine and Covenants and Pearl of Great Price, standard works of the Mormon faith. The covers of these volumes harbour no dust.

Baldwin leans against the drafting table and smiles in an unguarded friendly fashion as he talks. He was born at Filmore, Utah, in 1878, and as a boy set out on foot for Provo, 120 miles away, on the chance of finding an opportunity to work his way through Brigham Young University. He had no money for fare or tuition and was none too well clad, but the boy whose name was destined to become so well known in the future world of radio worried about those things not at all. He knew nothing of luxurious travel or life without hard work and all he asked was a chance to earn his way.

To some, Provo might have seemed a small and uninteresting town, even though it lay between the dimpling fresh waters of Lake Utah and the base of lofty Timpanogos, with the giant Indian figure lying flat on its back along the crest, but to young Nathaniel it was a golden city of Baghdad. Among its enchanted streets he wandered in the heat of midday, and before the sun had set had found a place to live in exchange for a few hours of work morning and evenings.

In due time he graduated from the school and having earned and saved sufficient money to take him to Palo Alto , in California, repeated the process at Leland Stanford, Jr.

The world looked bright when, at the age of twenty-six he returned to Brigham Young university as Professor of Physics, but the end of his second year in that capacity saw him

dismissed and discredited in the eyes of his fellows. Brigham Young University is a church-controlled institution, and after several warnings, the authorities had seen fit to discipline Baldwin for lack of discretion in his discussions of a certain ancient principle which it had seemed best to abandon. The leaders of the church had declared against the continuation of plural marriages, and the instructor had failed to temper his remarks in accordance with their directions.

A period of bitter struggle followed for young Professor Baldwin who had a wife to support now and he was reduced to gaining a livelihood as best he could in a community where few dared to befriend him. His credit at the grocery store had been mysteriously cancelled and he was compelled to accept whatever employment he could find that he might earn money to live. He dug post holes and cleaned flues - but he did not change his mind about what he regarded as his right of speech.

A position as operator of a hydro-electric plant, for which he was well qualified, was offered him at Mountain Lake, 20 miles in the mountains. He took the job but his tenure was short.

A similar place was open with the Progress Co., a small concern with a powerhouse in Mill Creek Canyon, 50 miles away, in the mountains adjacent to Salt Lake City. Into this secluded canyon Baldwin took his family and there perfected and patented his receiver.

With money saved from his salary he purchased the lot where his rambling plant stands and put up the first diminutive unit of his factory.

From that time onwards his progress was marked by the experiences usual to the making and marketing of patented devices in competition with long-established articles. His receiver was a practical one, and certainly was more sensitive than those in general use by the telephone companies. It may have been too sensitive for the average ear, or it may have been that its greater cost kept down the volume of its sales. At any rate until the advent of radio telephony, Baldwin's factory, with the addition of another small building from time to time was adequate for the manufacture of all the receivers he could sell.

Then came the tremendous interest in radio, and with it came the avalanche of orders that since November has exceeded the capacity of his plant by the enormous total of 200,000 sets.

An idea of what it may mean when an inventor's dream comes true may be had when it is stated that the filling of these surplus orders has been contracted on the basis of a royalty, said to be two dollars on each set.

Meanwhile Baldwin will go on supervising his little factory helping to get out it's normal production of 150 sets each day.

Nathaniel Baldwin is a modest and unassuming man. With flannel shirt open at the neck he stands with his elbows on the drafting table in his little office, smiling in a dazed sort of way as he talks. One could wish he were not quite so modest; then he might have been persuaded to pose for an unconventional picture.

there was somewhere Mention in OTB that Baldwin ended up in jail

GETTING CURRENT TO THE VALVES

new member ?

Part 2. **R.A. Stevenson**

One of Edison's dreams was an electricity supply to every house and business, but he steadfastly clung to 110 volts DC. He considered any higher voltage to be dangerous (*and rightly so - ed.*). DC was essential for battery charging, electroplating and electric motors, although lamps and heaters didn't care. Over any distance, however, voltage drop was serious needing expensive booster generators thus dooming any large-scale reticulation. Yet in many cities of Europe, the USA and even in Australasia there were until quite recent times, isolated DC supplies (for the same reasons as Edison put forward). It's not surprising that surplus DC current would be offered to the surrounding district and as such was easily adapted for valve power supplies. With 110 or 220 volts DC available the HT was no problem as long as there was a filter to stop transients or other nasties coming through the wires. ?

The LT supply to the filaments was another matter so various families of valves were developed to be put in series across the mains. The valves in each family all took the same current but often had widely different voltages. Usually a dropping resistor was also needed, but when looking through my trusty but rather battered copy of "Valvulas Europeas" (published in Barcelona), I was surprised to see that the firm of Ostar Ganz had, in the 1930s, produced valves with filaments needing 100 to 240 volts; obviously designed to be connected directly across the DC mains. In the USA some output valves plus power diodes were produced with 117 volt heaters and used to change the 117 volt AC mains to DC; often in small record players.

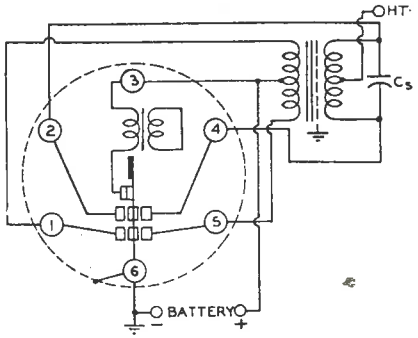
check also Lowe ?

It was soon obvious that an AC mains supply using transformers was much more sensible. Such a supply at high voltage and low current could be sent over long distances with little loss. Although a transformer inside a radio could produce multiple voltages, the AC still had to be rectified into DC for the HT voltage. All AC mains receivers needed rectifiers and in American sets the stalwart was the long-lived type 80. The valve filament now had to exist on low voltage AC and experiments were done with thick filaments such as the type 26 (USA) and the very heavily oxidised filaments (Europe) but the AC still caused problems with the HF and detector stages. It was not until the indirectly heated cathode was introduced that full AC mains operation was possible. American radios at first used 2.5 volt 1.75 amp heaters but later settled on 6.3 volts at 0.3 amp. In Europe AC valves using 4 volts at 1 amp were popular.

When I went to work in the UK in the 1960's I would sometimes be given old TV sets to "play with". Although they might have only 9 or 12 inch screens, at the back was a complex "mains selection plug" allowing the use of any voltage between 100 and 250, AC or DC This was the infamous AC/DC connection and was regarded at first with considerable suspicion in NZ. If the radio was run from a light socket it was possible to connect the chassis to the live side of the mains, no laughing matter with 240 volts. All the valve filaments were connected in series usually with a high wattage dropper and on DC the rectifier valve (necessarily a half wave type) was just a passenger. In the USA the dropper was often included in the "line cord", a device often useful for making toast as well as dropping volts.

A couple of "odd-ball" power supplies may be mentioned in conclusion. With the proliferation in the USA of broadcasting and automobile driving in the 1920s it was soon natural to combine the two. At first car radios were ordinary domestic sets complete with "A', "B" and "C" batteries and installed under the seat or somewhere in the bowels of the chassis. A complex of

Bowden cables went up to the dashboard to allow control of tuning and volume. Soon the car battery itself was used, at first for the filaments but later the HT was produced via a vibrator (or perhaps a motor-generator). In the 1950s when American car-makers finally realised the superiority of the 12 volt car battery, a curious series of miniature valves was developed with 12 volt heaters and needing only 12 volts HT Meanwhile transistors were developing apace. First they were found in the output stages and then in the whole circuit removing the need for safe introduction to valve-circuitry as no high voltages were involved.



SELF-RECTIFYING TYPE VIBRATOR

The second odd power supply was that of 32 volts DC designed for farmers and other residents in remote parts of America (and also found in Australasia). Such a supply was designed for wind-power recharging although a stationary petrol engine might also be used. The odd choice of voltage meant that large banks of lead-plate accumulators were not needed whereas six 6 volt car batteries would not "break the bank." A range of domestic appliances was developed for this voltage while radios might run on six volts (reduced from 32 volts with a resistor using 2 volt valves in series and a vibrator for HT More efficiently, using higher gain indirectly heated valves it was possible to get very sensitive reception with only 32 volts for HT In Australia, as local stations at first were not common or powerful, those living in the outback would often depend on short-wave for news and such bands were provided. In NZ, I well remember summer holidays on Waiheke Island before mains electricity, that wind generators were quite common, no doubt for keeping up with Phil Shone on 1ZB!.

is he a member?

STATION 2YB NEW PLYMOUTH

Chris Rickards ZL2TKA

I found Peter Lankshear's excellent article on 2YB (August 98) particularly interesting and can expand on the good work carried out by the North Taranaki Radio Society in getting the station established. The very foundation of 2YB can be directly attributed to the activities of the North Taranaki Radio Society.

In the early 1920's Ted Payne and his friend, Bill Quickfall were active in the electronics field and were experimenting with transmitters sending messages from a house in Frankley Rd. The pair were prodded by an irate listening public to form a group to spearhead their frustration at the poor reception of 2YA Wellington.

In due course the Taranaki Herald published notice of a meeting to be held in Collier's building in June 1927 and chaired by the Borough Council Mayor, Mr F E Wilson. Between 50 and 60 people attended this meeting and, as reported by the press, aired many grievances. The main thrust of the meeting was to form a society to collectively bring to the attention of the authorities the problems New Plymouth was having.

Mr Payne moved, seconded by Mr Lynch that a North Taranaki Radio Society be formed. The motion was passed and the following officers were elected:- President, The mayor, Mr F E Wilson; VicePresident, Mr F Pepperill, Secretary/Treasurer, Mr W H Quickfall; Committee, E J Payne, A Huggard, C E Stewart, J Pigot, Andrews, Baird and Lynch. The foundation created by that meeting led, in 1929, after many battles and threats by the law, to the establishment of station 2YB. Subs adults 5/-, 2/6 under 17.

All was not well though and, as reported in the various Society minutes, "difficulties" were being experienced between the Society and Herb Collier whose building housed the studio. Finally it was resolved at the AGM of June 1930 that the station, now barely one year old, would have to shift. It was being shut down on occasions by Collier removing the power supply for his business use.

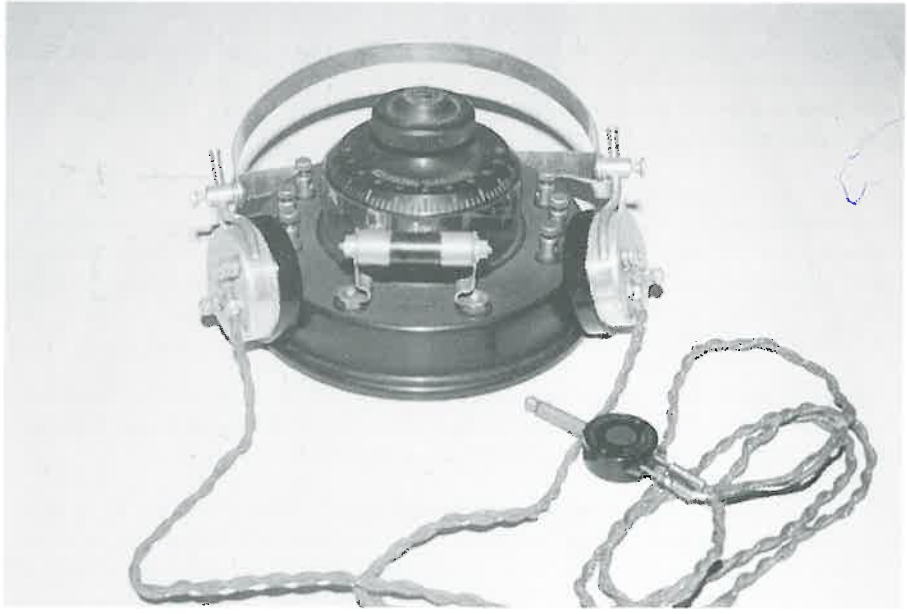
Thus it was that in June/July 1930 the station was shifted to the Empire building at 37 King St. where it remained until 1952. During this period the station consolidated, broadened its programme material and financially was run very economically. It had to be as advertising was not allowed. It should be noted that in 1952, when 2YB was handed over to Government control, Ted Payne strongly opposed the composite station arrangement, 2YB/2XP with advertisements now in the programme.

The North Taranaki Radio Society was very well served during its 25 years of existence by many members of the public who are well known today. Unfortunately we have not been able to locate the records of the meeting which wound up the Society.

There are strong moves afoot in New Plymouth to reactivate the North Taranaki Radio Society in time for the 75th anniversary of 2YB which will be in 2004. Much of the original station equipment is available and in good order so once again the call may be out " This is 2YB operated by the North Taranaki Radio Society".

At left:-
Well-known collector, George Askey of Christchurch with his Cosmos Radiophone Crystal Set (1925)

Below:-
Cosmos Radiophone Crystal Set type C4



[picture of Weston phone plug inappropriate]

Three Books .... An Announcement.

After being out of print for most of this year, John Stokes' well-known book, The Golden Age of Radio in the Home is back in stock again. This time it is not just a reprint but a full-blown Second Edition containing several new illustrations, plus, for the first time, some pages of colour pictures. Previous errors and omissions in the text have now been corrected and the former Errata List removed. And, the good news is – the price remains the same, $39.95 RRP or $38 to members. For a hardback publication, this has to be a real bargain.

* *

And, that's not all. Stocks of the world famous 70 Years of Radio Tubes and Valves have just arrived from the U.S.A. This book, too, is a new edition and contains a new chapter on vintage audio valves as well as dispensing with the former Errata List. Prices as under:

The Golden Age of Radio in the Home, 263 pages $38
More Golden Age of Radio 203 pages $55
70 Years of Radio Tubes and Valves (soft cover) $46

All three books will be available at meetings or may be ordered by mail from: J.W.Stokes 281C Hillsborough Rd Mt Roskill Auckland 1004, or from: Craig Printing Co 67 Tay St P.O.Box 99 Invercargill.

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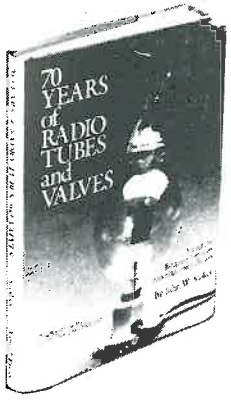
J W Stokes, 281 C Hillsborough Rd, Mt Roskill, Auckland 1004, or from;
Craig Printing Company, 67 Tay St, P.O. Box 99, Invercargill.



LETTERS TO THE EDITOR

Great to see the article on the Frequency Measuring Set at Makara. In my day Noel Beech had his way of getting the high speed counters to behave - he ran the chain off a variac and vowed that a slight increase in the heater voltage helped.

Now on Page 28 you have that old radio, lots of men and a dog.

I was a young lad in Kaitaia 1945-52 with a burning interest in radio from about 1948. I don't recognise any of the faces or the house but I did meet some of the early radio people in the town in those days.

That radio may date about 1931/32 and could be mains or battery. There were radios in the far North in the late 20s. I remember a battery set in a service shop that was approx. 1927 and was claimed to be the first in the area.

A Mr McKinnon was an early radio serviceman at Awanui from the late 1920s. A George Campbell ran a radio shop and I knew him in the late 40s and again just before his death about 1990 and he told me a lot of early info. of the area

In the forgotten, poor far North there was no power until about 1935 so most radios were by vibrator power, mostly using 2 volt tubes. I remember getting these Philco (USA) chassis that had practically no parts I could use to build a Lamphouse Super Five. Tube types were 1J6, 1B4, 30, 19, 1F4 etc. A lot of early radios had replacement chassis fitted during the 30s after reticulation of power.

There were a lot of 1936-38 radios supplied for 6V DC and 230V power and I believe it was not till 1940 that all areas had power. There were, of course, isolated farms without power for years after that.

I scrounged a box of old valves off someone up there in the 40s, took them home elated, then found that most of them were 201As which were no use to me so I threw them - they came from a service shop so I think there were radios there before 1931/32.

On a high dusty shelf in a shed on our farm was a very dusty and rusted moving iron speaker which would have dated before 1930.

It is unfortunate for us that when a photo like that is found someone has to say it was the first etc.

If a serious interest exists in identifying the faces, the photo or a good copy could be placed in the Far North Museum which has attached an active family history section and many enthusiasts.

Phil McGechie, Orewa

See also article by Ned Matich on facing page. It is interesting that the same photo is reproduced with the same claim on the endpapers of Radio New Zealand's documentary book "Voices in the Air" published in 1976. - Ed.

Re the request for information on World radio - page 29 of last issue. I have one of these in my collection. Mine looks like it could have been manufactured by HMV. It has the 6S series valves but still retains the 80 for rectifier. It is a basic superhet of that era and performs extremely well.

I also have a Moderne 7V mantel unit . The cabinet has provision for a magic eye but this has never been used. If anybody knows the history of these I would be grateful. I was beginning to think it was a 'one off'.

Barry Grumwald, RD3 Tokerau Beach, Kaitaia. Ph 09/4087235.

Re MYSTERY PHOTOGRAPH

Ned Matich

The mystery photograph on page 28 of the last issue was taken by the late Arthur Northwood, a professional photographer from Kaitaia, on the weekend of 8/9th December 1934

The occasion was the presentation of the wireless set shown in the photograph to Colonel Allen Bell by his friends following Bell's ill health which forced his retirement from public life. The presentation was made at Parengarenga (North Cape) where Colonel Bell retired. There is a walking stick in the photograph which is also being presented to Colonel Bell by one Alfred Long. This stick was made by the late George Wilkinson who inlaid pieces of wood of historic interest.

Colonel Bell who named his home the "Nest of the Bellbird" was a member of Parliament for the Far North region during the 1920s and was arguably the architect of modern Kaitaia. He died in 1936.

Alfred Long was chairman of the Mangonui County Council from 1929 to 1929. He died in 1948. Others in the photograph are Dick May, Fred Holder, Ron Hoskin, Fred Rowe, Dr John Rule, George May, George Pribicevich, Charles McKinon, R J Harrison, Stuart Hill, T H Kenny, N L Gurr and the Rev. Williams.

I am Grateful to well-known Kaitaia author , Keith Parker and others who were able to assist me in solving this mystery photograph

The radio was not the first radio in Kaitaia area. For example, this quote from Keith Parker's book "The Journalist", the setting being the "Bungalow" boarding house in the year 1927;

> "There was a smoking room off the dining room with both a radio and a gramophone. The radio was playing a record of Gladys Moncrieff singing the Merry Widow Waltz"

I have not been able to identify the make of the radio in the photograph but it would undoubtedly be a battery set. Mains power did not reach Kaitaia until 1940 and it was many years later before it reached North Cape. Sheffield Radio opened their radio shop in 1940

Sheffield Radio Center damaged by the cyclone of 26 August 1942

LIBRARY REQUIREMENTS . Ernie Hakanson, our librarian, seeks circuit diagrams and/or information on the following radios to help in satisfying requests from members.

Philips School Receiver, BZ327A
Ultimate YU, F77L7 Vibrator DC
Gulbransen C254, H1236, H123B
Mullard 531, 24 SR20204, 1948/52 4V Dual wave
Stella Transistor by Batten Industries, Auckland
ARC Victor No366122 Dual wave 1936/39
Zenith 3000-1 Transistor Trans Ocean Royal.

Bell Colt 3 valve
Columbus 90x
Mack 5V mantel
State 618R
Telerad 73
Pye Pz109
Philco Alabama

Also copies of the following manuals etc.

Riders PA-1 Amplifier Manual
Australian Official Radio Service Manuals
Official Short Wave Radio Manual 1934 Vol I, 1935 Vol II
Newnes Radio Television Servicing
Radio Craft Circuits 1941 and 1942
Riders Manuals (Radio)
Gernsback Radio Manuals
Rogers Majestic Service Manual

If you can help by supplying any of the above you will be assisting fellow members in their hobby. The Society will pay reasonable copying and postage costs. Send to Ernie Hakanson, Librarian NZVRS, 17 Williamson Ave, Grey Lynn, Auckland 1002. 09/3766059.

OBITUARY

Graham James Grey affectionately known to all as Colin Grey passed away on or about 8th October 1998. Born 19th September 1918 in Wellington, he attended Thorndon Normal School and went on to Wellington Technical College. Always having an interest in Sea Scouts and Naval Reserve, he wanted a career at sea. Colin joined the Union Steamship Company and "saw the world" until 1942 when he was interned in Changi after Singapore fell to the Japs. He was involved in clandestine radio from the start and fortunately missed being beheaded when others in the group were. This was the beginning of his ill-health. After coming home the Union Company gave him a shore job as he was not well enough to return to sea. This shy gentle man met and married Margaret and although having no children thenselves, were very close to Margaret's married sister and her children. Colin had a lifelong interest in Rugby and sometimes missed our club meetings to watch a game. We had the privilege to meet Colin at Auctions etc. and found his interest in radio infectious, always encouraging all to join the NZVRS.

Our deepest sympathy is extended to Colin's family.

FROM THE LIBRARY

The following are extracts of articles from vintage radio magazines received by the NZVRS library. Photocopies of these articles are available at $1 each plus postage from the librarian - Ernie Hakanson, 17 Williamson Ave, Grey Lynn, Auckland. Phone 09/3766059

149.The Set That Doesn't Exist - Breville model 20, 1934. photo, history. HRSA Radio Waves, No.61, July 1997, P4.

150. Rewinding Superhet Oscillator Coils. simple winder, procedure, testing. HRSA Radio Waves, No.61, July 1997, P8.

151. Airzone models 555 & 535, Chassis type 500P, 1933. circuit, photo, data. HRSA Radio Waves, No.61, July 1997, P10.

152 The Philips Model 148 AC-DC Portable. photos, description, alignment, circuit. HRSA Radio Waves, No.61, July 1997, P15.

153. The Kriesler 11-99 and Beyond. dates of manufacture and design data. HRSA Radio Waves, No.61, July 1997, P20.

154. More Early American Valvemakers. Sodion, Magnatron, Airline, Nutron, QRS. HRSA Radio Waves, No.61, July 1997, P24.

155. General Electric model K-43. photo description. Antique Radio Classified, vol 14 No10, Oct 97, P7.

156. Tube Testers - Part 8, The Hickok I-177 and its Predecessors. photos, description. Antique Radio Classified, vol 14 No10, Oct 97, P8.

157. EKCO's true colours. photos, history. BWVS bulletin, Vol 22 No3, Autumn 97, P4.

158. Albas' Baby. type c112, photos circuit, alignment. BWVS bulletin, Vol 22 No3, Autumn 97, P12.

159. The Radionette Kurer. photos, history. BWVS bulletin, Vol 22 No3, Autumn 97, P18.

160. Wireless and the Advertising Postcard. history. extensive photos. BWVS bulletin, Vol 22 No3, Autumn 97, P20.

161. The First Murphy TV Receiver. type V136, photos, history, description, circuit, restoration. BWVS bulletin, Vol 22 No3, Autumn 97, P26.

162. The Wireless Years of A.J.S. photos, history. BWVS bulletin, Vol 22 No3, Autumn 97, P35.

163.The Weconomy HF Amplifier Detector. 1924, photos, circuit description. BWVS bulletin, Vol 22 No3, Autumn 97, P36.

164. Baird's Stereoscopic TV in 1941. photos, description. BWVS bulletin, Vol 22 No3, Autumn 97, P38.

165. Sinclair Micro-radios. photos, history. BWVS bulletin, Vol 22 No3, Autumn 97, P43.

166. The German 807's - RL12P35 and its derivatives. Photos, description. Radio Bygones, No49, Oct/Nov 97, P4.

167. The Pye B16T TV receiver. photo, circuit, description. Radio Bygones, No49, Oct/Nov 97, P10.

168. An EKCO of the Golden Age - the PB289. Photos, circuit, description, restoration. Radio Bygones, No49, Oct/Nov 97, P19.

FROM THE LIBRARY (cont.)

169. Elettra - Marconi's Floating Laboratory. photos, description. Radio Bygones, No49, Oct/Nov 97, P24.

170. The Rees Mace Marine Receiver BR2169. Photo, descrition, part circuits, alignment. Radio Bygones, No49, Oct/Nov 97, P28.

171.Restoring my DeForest Inter-panel. Model MT-200, photo, restoration. The Antique Radio Gazette, Vol 15 No1, P12.

172. Some Early Collins Amateur Transmitters. Photos, descriptions. The Antique Radio Gazette, Vol 15 No1, P21

173. The First Dozen Speaker Manufacturers. 1921-22, Photos, descriptions. The Antique Radio Gazette, Vol 15 No1, P33.

174.The Rider Voltohmist - basic circuit, photos, description. The Old Timers Bulletin, Vol 38 No 4, Nov 97, P32.

175.Ulises A Sanabria - Mechanical television Pioneer. History. The Old Timers Bulletin, Vol 38 No 4, Nov 97, P34.

176. The Communications Receiver - National notes. Cleaning of parts etc. The Old Timers Bulletin, Vol 38 No 4, Nov 97, P37.

177. Forgotten Pioneers of Wireless. Fr. Joseph Murgas. 1900's history. The Old Timers Bulletin, Vol 38 No 4, Nov 97, P40.

178. Eyes of the World - John Logie Baird and Television. history. The Old Timers Bulletin, Vol 38 No 4, Nov 97, P46.

179. G.E.'s Micro-miniature Metal- Ceramic Tube Family. photos, description. The Old Timers Bulletin, Vol 38 No 4, Nov 97, P49.

MARKETPLACE

Advertisements for the next issue must reach the editor by the 16th Jan. 1999. Ads should be either hand printed or typed on a separate page. Note that no verbal or phone ads will be accepted. Remember to include your name, address and phone number. There is no charge for ads but the NZVRS is not responsible for transactions between members. Address ads to: Reg Motion, 2A Hazel Terrace, Tauranga, New Zealand. email rmotion@bopis.co.nz

AVAILABLE

Complete Electrical Engineering, Vols 1,3 & 4 c1910 $30. Magnetic Tape Recording 1958 Spratt $15. Amateur Radio Handbook 12th ed 1949 $15. ICS Reference Library 1922 mainly electrics 420p $30. Modern Electric Practice MacLean 1908 vol 4 electric traction $50. Cyclopedia of Applied Electricity vol 4 & 6 1923 $40. Electricity Technology 1927 Cotton 376p $30. Electrical Transmission Reference Book 1944 596p $40. Electricity 1882 Ferguson 410p $50. Electric Lighting and Power Distribution 1894 Maycock 452p $50. Theory of Electricity 1885 Cumming 326p $50 High Frequency Measurements 1933 Hund $30. Typical Oscilloscope circuitry 1968 Textronix $20.. Science of Radio Activity 1909 Raffety 208p $20. Basic Radio Hoag 200p $20. Magnetism & Electricity 1898 Poyser $40. Thermionic Tubes in Radio Telegraph & Telephony 1924 Taggart 470p $30. Radio Engineering Handbook 2nd & 3rd edns 1935/41 450p $30 each. Audels Home Appliance Service Guide. 1954 Anderson 800p $30. Servicing Superheterodynes 1934 Rider 3rd edn 300p $5. Electrical and Radio Notes for Wireless Operators 1939 246p $20. RCA Electronic Tube Handbook 8cm thick $20.
W L Lambie, 12 Foster St, Avalon, Lower Hutt. Ph 04/5678840.

AVAILABLE (Continued)

Yaesu FTDX560 transceiver, good working order, full set spare tubes, spare S.B. filter, SWR meter, L.P. filter and 2 mikes. $250 to licensed amateur. P McGechie, 2/10 Elizabeth St, Orewa. ph 09/4266661

Transceiver type KW2000A complete with separate power supply, microphone and morse key. Good going order Spotless condition. Covers (Mhz), 1.8-2 , 3.5-3.9, 7-7.2, 14-14.4, 21-21.4, 28-28.2, 28.4-28.8. Offers above $150 from licensed amateurs. Harold Ault, c/o Kawhia Postal Services. Ph 07/8710767.

Principles of Radio, Henney 6th edn. 655p $40. Complete Wireless Vols 3&4 Molloy p777 to 1544, $50. Radio Communication Handbook 5th edn RSGB $30. Colour Television Theory 1971 Hutson 325p $20. Radio Engineering 1937 Terman 813p $30. Modern Electronic Communication 2nd edn Miller 578p $20. Diodes & Transistors 1963 Fontaine Philips Library $$20. N.A.B. Engineering Handbook 5th edn 1960 1687p $50. Radio, 11 magazines 1937-39 $10. Elementary Manual Magnetism & Electricity Jamieson 1914 slight damage $30. Admiralty Handbook of Wireless Telegraphy 1920 needs repair $10. Electric Lighting and Power Distribution 1894 Maycock 452p $30. Electricity and Magnetism Vol 2, 1891 Gordon 332p $40. W L Lambie, 12 Foster St, Avalon, Lower Hutt. Ph 04/5678840.

WANTED

Lamphouse Annuals/Lamphouse Catalogues dated 1936 or 1937 or earlier than 1935. Circuit diagrams/copies of, for Trio Model AG203 Wide Range Audio Oscillator; HP 5300B/5302A Frequency Counter; Leader LSG20 Signal Generator. Phil McGechie, 2/10 Elizabeth St, Orewa. Ph. 09/4266661.

Loan or copy of operating instructions for AVO Transistor Analyser MK2. Circuit diagram of KW Atlanta SSB transceiver. Ferrograph series 4 tape recorder or deck. "Gainerad" radio - manufactured by Selwyn Gaine, Gisborne in 1960s (for Selwyn's daughter Cheryl who would like one of her dad's radios as a keepsake) Henry Devenport, 1782 Wharerata Rd, R.D.2, Gisborne. Ph 06/8628877 evenings.

Cabinets for Atwater Kent models 82, 286, 648, 735. Chassis for AK models 84, 165, 185A, 206. AK speakers for AK models E2, J.B. also any AK horn speakers. AK complete sets models 185, 447, 735, 80, 90 or any other complete AK sets. AK badges, emblems, books etc. Have radios available for swapping etc. Bob Cook, 3/475 Blockhouse Bay Rd., Blockhouse Bay, Auckland. Ph 09/6266241.

Chassis - Radiojoy any condition to restore for cabinet marked 1G, dual level top, Spkr on left with two knobs, one on right under ARC dial. Cabinets for - Columbus 90X, CB ARC Victor 5v/v, Robertson by Westco (GAR p79). Knobs for - Ultimate1941 F7767 DC Vibrator Model, Ultimate XU, CUU, RU., Philips Octode Super 525A, State 618P, HMV 467D, Fond 12V car radio 8v/v 1948 or later, Courtenay 27M, Philco 200, Philco Alabama, Bell Colts, Mullard 4 v/v Bakelite 1948/52 era BC/SW, Columbus 402 AC/DC portable, Columbus 84, Columbus 90X, Westco Robertson, RCA 8T2? 5 valve plus tuning eye.
To swap - escutcheon and arc dial for Airzone. Sandison dial and movement/shaft, one edge of square face damaged.
Rex Handcock. 0602, 24 Fairfax St. Murchison 7191.

Good quality reel to reel tape recorders. Also require 7.5 inch reels with country or cowboy music. E J (Ned) Matich, "Melody Park", 38 James Laurie St., Henderson. Ph 09/8364400