AVAILABLE (continued)

Eddystone 680X with speaker and mounting blocks, $235. Eddystone 770R with plinth speaker $175. Eddystone 880, $375.
Approx. 500 valves, some new but mainly s/hand B7G, B8A and octal, offers.
Palec Valve Tester model VCT with copy of manual. offers
Phone Ray on 03/6849089 or email rdever@timaru.com

WANTED

Circuit or any information on Trio 9R-50 communications receiver. Wil pay cost. C.Dittmer, 17 Henton St, Te Aroha. Ph 07/8848043

Required urgently, Pilot model 393B, 7 valve A.W. 1936 Console, MGAR, p169. Also require Ultimate or Skyscraper mantel, 1945/46, 5 valve, 4 knob, R.A. series metal case.
Pacific wooden mantels 1933/36.
Model 60 1939 D.W. upright Columbus.
Grahame Lindsey, ph/fax 09/4432033 collect.

The following Test Equipment is surplus to my requirements. Price can be negotiated (discounts for bulk purchases, freight could be the biggest cost!).
Philips Oscilloscope GM5601,5mhz, $10. Philips Oscilloscope GM3159, $5. Dartronics Oscilloscope 181, $5. Telequipment Oscilloscope D43 dual trace, $15. Heathkit Lab Scope, $10. Taylor Valve Tester 45C, $10. Tel Rad 18A Frequency Standard, $5. Bradley Morse Practice Unit, $5, Solar Capacitor Analyser Type CA, $25. Calstan Tube Checker, $20. Weston Model 772 Analyser, $25. Contact Ian Greaves, 8 Bassett Place, Taradale. Ph 844 9913.

Collier and Beale 1939, 8 valve radio with push buttons and motor drive tuning, likely to be a Cromwell or Ensign looking like the 7 valve push button cat. no ER857 on p104 M.G.A. Columbus 38 spiral dial radio or cabinet in the same style as depicted on p. 116 M.G.A. Ian Sangster, 75 Anawata Rd., Piha, R.D. New Lynn, 1250, Auckland. Ph 09/8149597. email Ian.Sangster@airnz.co.nz

Manual or loan for copying of manual on Wayne Kerr VHF Admittance Bridge type B801. Reg Motion, 2A Hazel Tce. Tauranga. Ph 07/5768733, email <regmotion@xtra.co.nz>

BOOKS by John Stokes

The NZVRS now has a stock of the following books written by John Stokes. These are available to members at cost as follows:

The Golden Age of Radio in the Home.
$38 plus $5 post and package.

More Golden Age of Radio in the Home
$55 plus $5 post and package.

70 Years of Radio Tubes and Valves (2nd edition)
$46 plus $5 post and package.

All of these are available from the Treasurer, David Crozier, 154 Grey St, Onehunga, Auckland. Ph 09-6365954 or 0800-187161.
Cheques to be made out to the New Zealand Vintage Radio Society please

NEW ZEALAND VINTAGE RADIO SOCIETY INC.

Vol. 21 No.2 August 2000

21st ANNIVERSARY EXHIBITION

NEW ZEALAND VINTAGE RADIO SOCIETY INC.

A non-profit organisation devoted to the preservation of early radio equipment and associated historical information.
(Web site - http//www.nzvrs.pl.net email address office@nzvrs.pl.net)

PRESIDENT: Ian Sangster, 75 Anawata Rd, Piha, R.D, New Lynn, 1250. Ph 09-8149597, email: Ian.Sangster@airnz.co.nz

SECRETARY: Grahame Lindsey, 13 Rosalind Road, Glenfield, North Shore, Auckland. Ph 09-4432033 or 025-446293. General correspondence, 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. email- dckh@pl.net 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.

LIBRARIAN, Ernie Hakanson, 17 Williamson Ave, Grey Lynn, Auckland. Ph 09/3766059. Requests for circuit diagrams, books and magazines are handled by the Librarian at a small charge. Back numbers of most NZVRS bulletins are also available from the Librarian at $1.50 each for Vols 1 to 10 and $2 for issues from Vol 11 onwards. Cheques to be made out to NZVRS.

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 - regmotion@xtra.co.nz
Bulletin distribution is arranged by Rod Osborne, P.O. Box 2098, Tauranga.

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 and garage sale:- time and place will be advised.

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

CHRISTCHURCH AREA. Contact Jim Lovell, 41 Yardley St, Avonhead, Christchurch 8004.. Ph 03-3427760.

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FROM THE EDITOR

The Vintage radio event of this last quarter was undoubtedly our exhibition to mark our 21st anniversary. Paul Woodcock has captured some of the exhibits on film for us and has provided a description to accompany them for this issue. I am sure we all join Paul in thanking those who laboured to make the event a worthwhile one. Advertising signs were produced, displays set up and dismantled, some members slept over at the venue to provide security, refreshments were provided and served each day and events needed organising: members and non-members worked with a will to ensure success.

Articles in this issue cover many subjects. I find the wide range of contributors very encouraging. Some eyebrows may be raised at the UHF antenna constructional article until it is realised that UHF is now approaching the vintage stage on the TV scene along with analog TV, VHF mobile radio, microwave, radar, satellite and other developments of the 40s through the 70s era. We still have much to record about New Zealand equipment and personnel of those times while the world claims the radio spectrum for digital mobile communications of all types.

FROM THE TREASURER

We have been allocated a web page address (www.nzvrs.pl.net) and the page is now under construction.

A members only "use group" will be set up in the next couple of months. Members already receiving the occasional NZVRS emails will be automatically allocated to the use group initially (those not wishing to receive these messages should advise me with their email address details for removal). Other members wishing to register can email me at dckh@pl.net for registration

AUCKLAND MEETING CALENDAR	September 18th;	Auction sale.
	October 16th;	Bell Radios including Antone products.
	November 20th;	MRI and Mowatt's radios, TV and tape recorders.

NEW MEMBERS

F. Lee	Auckland	B. Stevens	Whangamata
K. Weatherall	Dunedin	S. Smith	Auckland
T. Tiehus	Auckland	J. Cecil	Auckland
S. Hopper	Napier	A. de Lambert	Picton

Frontispiece - Group discussion at our Easter Exhibition - left to right - Librarian, Ernie Hakanson; Chris Wright; Secretary, Grahame Lindsey; Auctioneer, Bob Cook; Editor, Reg Motion.

Exhibits of Plastics, Transistors, Zeniths and Art Deco sets

EASTER 2000 - OUR 21ST ANNIVERSARY EVENT

Paul Woodcock

A very enjoyable weekend despite the mixed weather.

The morning of Easter Friday was a flurry of activity. Many members turned up to help assemble display tables arrange radios and put up posters. As the day passed the clubrooms filled up with more and more interesting display items..

Saturday morning brought a slight improvement in the weather and the out-doors boot sale kicked off at 10.00am. Half a dozen vendors drew a healthy crowd and some bargains and treasures changed hands. Items for the members auction arrived throughout the morning.

Saturday afternoon around 2.00pm the auction for members only, got under way. Bob Cook, acting as "auctioneer", and Grahame Lindsey, as "master of ceremonies", were in their element keeping the sales moving on and amusing the crowd at the same time. Not as many sales were made as might have been expected and Bob Cook was more than once heard to say "Are there any radio collectors here today?". Satisfied customers by the end of the auction included some from across the Tasman.

Great to see Ray Kelly, Doug and Betty Ellis and Warwick Woods from Australia as well as those who travelled up from the South Island and from all over the North Island.

Displays included, small plastic and early transistor radios(many contributors), a replica spark transmitter with contemporary apparatus (Chris Wright), 1930-40 wooden radios (Grahame Lindsey), art deco sets (various contributors), 1930-40 radios(Murray Stevenson), Stellas and Ultimates (Ian Sangster), valves, early amplifiers and Zeniths(Gerry Billman), Atwater Kents (Bob Cook), bigger wooden sets (Ross Paton), Communications receivers (various contributors), early battery sets (Doug McDonald and others). Pre1940 test equipment (Reg Motion), console and smaller sets (Bill Farmer).

Public interest was light throughout the exhibition, the inclement weather undoubtedly put off any but the most hardy, but true collectors were not deterred.

The dinner on Saturday evening at "The Springs" restaurant was very well attended. It proved an excellent opportunity for members and friends to get together and socialise in comfort.

On Sunday afternoon Ray Kelly showed slides of the 500 kW, 16.7 kHz transmitter in Sweden, Reg Motion demonstrated a 1934 G.R. Laboratory Signal Generator and Bill Farmer spoke of his lifetime experiences in radio.

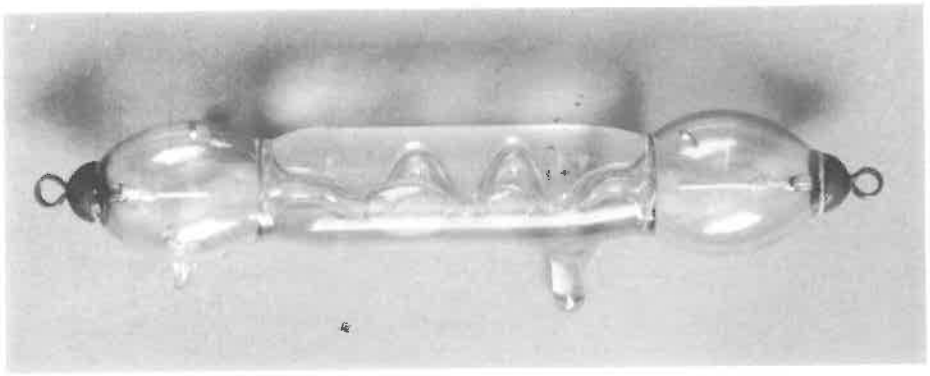
Monday was a general display day with a tour of private collections. On Tuesday there was a display of military items then it was time to pack up. A memorable experience had ended.

Replica spark equipment and pre-1930 sets

Various Wooden Sets with the Valve and Oldtime Amplifier working Display

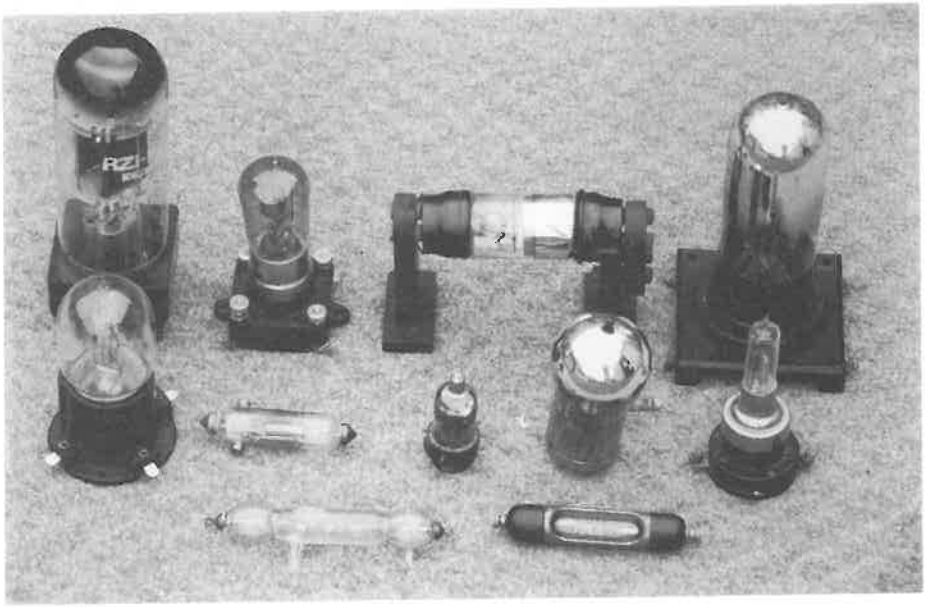
Two Excellent Consoles, Early Test Equipment, Cathedrals and Others

Classic Radios from New Zealand and Overseas



Geissler Tube

Mystery Tube



The Tube Collection

VACUUM TUBES THAT ARE NOT VALVES

George Askey

Some twenty years ago after deciding to leave Wellington to retire in Christchurch I was browsing around City shops when I chanced upon the well-known Ham Radio shop, Tricity House ; on display in the window were about a dozen or so valves. They were very early valves. "Were they for sale?" "No! they were on loan only". "Who actually owned them?". "Sorry, not at liberty to divulge". Sadly, I left the shop but not without the thought, maybe one day.

Many years later I was showing some friends my collection of early valves and restored radios when one of the group, who had been in the sound system business, remarked that he had a box of old valves that I might like to see. Accepting the invitation I later made a visit to his home and there from out of the attic he recovered an old dust-covered carton and in it; yes, the valves that I had seen about fifteen years previously in Tricity House. It was at this stage that I realised that two of the group were <u>not</u> valves but "tubes" with terminations each end. Once again "would he sell them to me?" "No". "would he let me take them away and photograph them?" "No" and back in the carton they went and up in the attic to gather more dust.

Now, fairly recently this friend was called to his maker and left behind a large amount of old radio, audio and electrical gear which I was invited to advise on as to its disposal. Approaching the person who was responsible for disposing of the estate, I made mention of a small carton of valves stored up in the attic that I would like to buy; he said "Yes, there was such a box somewhere if I could find it". What a job, but find it I did and for a modest sum the valves etc came into my possession at last.

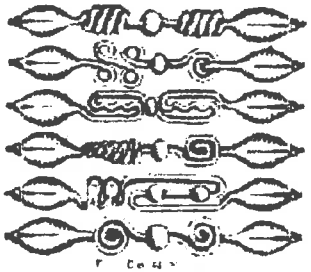
The foregoing was in the way of a preamble to this story of Geissler Tubes. Of the photos opposite the top one is undoubtedly a Geissler Tube but the tube shown beneath it is a mystery. It is made of plated brass with plated brass 4/36 insulated terminals at each end. Through the opening can be read the style number, the voltage rating (60-600) and the wording <u>Neg End Turns Red</u> . Apart from the name "Manhatten" inscribed along the tube there appears to be no other identifying marks.

I carried out a few simple tests:- continuity, almost infinity; current when a range of 5-120 Volts AC applied, zero; current when the same range of DC Volts applied was 3 to 40 mA and the tube glowed magenta colour indicating the presence of some kind of gas - similar, possibly, to the gas in the Geissler tubes or, possibly, some chemical?.

The lower photo opposite is of the rest of the tubes which were in the box mentioned earlier. There were a number of the more commonplace valves (00 and 01), all in all not a bad little haul.

Now, regarding the Geissler tubes, unfortunately one of the brass end caps had broken away and all efforts to repair being unsuccessful the cap has been fixed in place with PVA

for photographing. Per the good graces of Tom Seed (ZL3QQ), who I have discussed these tubes with, I obtained the following information on Geissler tubes which Tom took off the Internet. Below is a copy of an advertisement from the 1914 catalog of the Electro Importing Company of New York (Internet placement by Bob Sokel of Austin, Texas).



NOS. 1123-1124

The Geissler tube is a distinct novelty on the American market. People who see Geissler tubes in action for the first time are so astonished by the beautiful effects obtained with same that they exclaim in wonder and amazement. The color effects of these tubes are so striking that it is impossible to describe them. One must see Geissler tubes in action to understand or appreciate their beauty. The tubes are filled with various gases forced in after a vacuum is obtained, and the glass which itself contains fluorescent salts is made luminant as soon as a high tension current flows through the tube. Every tube has a different pattern and combination of different colors and if they are used in quantities for decorative purposes the most wonderful color effects imaginable can be obtained. The more expensive tubes are filled with fluorescent liquids which still further enhance the beauty of the various color combinations, as the liquids themselves create new effects. Even the smallest spark coil will operate the largest tube.

NO. 1128

We are at present the biggest importers of these tubes , and have a large assortment in stock. We invite prospective customers to call at our stores.

Heinrich Geissler (1814-1879) was a German inventor, born in Saxony, became a glassblower and settled in Bonn in 1854. The Geissler tube , by which the passage of electricity through rarefied gases can be seen, and an air-pump are among his inventions.

George Askey tells me that "Electronic Engineering" for April 1944 carries an article on Geissler Gas Tubes including some coloured photos with the tubes lit up - ED

OUR OWN WEBSITE

Action is well under way to set up our own website.

The address will be; http//www.nzvrs.pl.net

RADIOLA JUNIOR Model C87.

Another day another basket case.

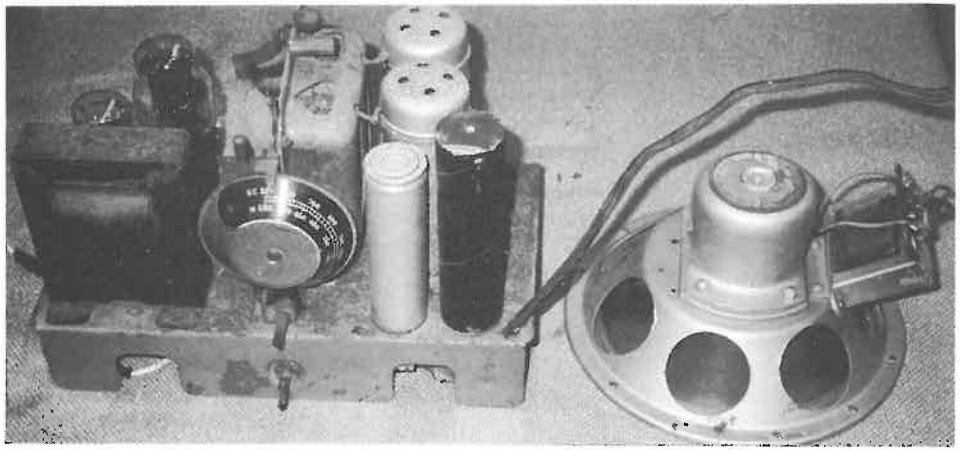
Gerry Billman

At Easter I attended the opening day of the Radio Club get together and was particularly looking forward to seeing what was on offer at the radio sale held during the afternoon. I was determined not to buy any more sets and even went as far as locking the car doors so that one could not sneak in when I wasn't looking. Well there were lots of sets to choose from but one very sad Radiolette caught my eye.

Born in 1932 this model C87 four valve TRF had given nearly seventy years of loyal service and was now on the way to the scrap heap. How could I resist it's silent plea for help. Easy enough I thought, until super salesman Bob Cook started the sale and I knew then that that radio was going to follow me home. When the weekend show was over and everything here was more or less back to normal I decided to tackle the rebuilding job immediately and attempt to restore the set to its former state.

An initial examination revealed a set much the worse for wear with pieces of veneer missing from both the front and top of the cabinet and most of the glue joints unstuck. No worse than many old sets that have come my way and nothing that many hours of meticulous painstaking restoration work could not fix. [pause here to savour applause]

The first job was to glue the cabinet together. I use a two pot epoxy adhesive for this as the glue is easy to squeeze into the cracks, is gap filling and when it is set will not give way. Be sure to get the cabinet square and true because once the glue has set almost nothing will move it. A tourniquet made of a strip of heavy cloth, wrapped around the set and tightened with a piece of dowel will hold everything in place until the glue sets.
I decided that the front and top would need to be reveneered so all the loose pieces of the old veneer were removed. The resulting cracks and holes were filled with builders bog and the surface sanded smooth and very flat with an orbital sander. I chose a replacement veneer that was nearly identical to the original, cut it to size and glued it in place with contact adhesive. The edges were trimmed and the cut outs for the speaker grille removed before the whole cabinet was sanded ready for the polishing.



The rusty chassis was going to need a lot of work. I removed every part from the chassis [it's a good idea here to make notes as this is done as it is surprising how difficult it is to remember where everything goes when the time comes to put it back together] and sanded away all the rust then applied a little rust kill liquid to discourage it from reappearing later. A generous coat of undercoat helped to fill the rough patches where the rust was removed and a final spray coat of an aluminium coloured paint had the chassis looking almost like new.

Refurbishment Almost Complete

Now came the hard part. The clamp on the power transformer was cleaned and repainted black and then it was refitted on the chassis. The tuning gang had a shorted trimmer, and to get at it I had to completely dismantle the whole gang , replace the mica washers in the trimmers, then put the whole unit back together again. All of the other parts were tested and reassembled on to the chassis. The RF choke between the plate of the detector and the grid of the output tube was open. This small bobbin is about an inch in diameter and less than a quarter inch

wide and I had to remove the two solder lugs before I could unwind it to count the turns.[2346 turns if any one wants to rewind one of these] Rewinding with the same gauge wire was next, then the solder lugs were replaced and the leads soldered in place. Thank goodness it worked first time. New electrolytic filter caps were fitted but the old large filter cap. cans were left in place to preserve the appearance of the chassis. Three resistors that had gone high were replaced and the rest of the capacitors were tested for leakage. Amazingly only one was faulty and this was replaced. The rubber drive that rotated the tuning gang was perished and this was replaced with a suitable rubber sleeve. A new dial lamp was required and of course a new power cord and plug.

The set was now performing well but the speaker needed attention as the voice coil was stuck tight. I removed the cone and dismantled the field coil unit to find that the centre pole was rusty. This was thoroughly cleaned away and the speaker reassembled and tested. At last everything functioned properly, and with a modest length of antenna wire attached this simple four valve set performed very well.

General Description.

The Radiola Junior is a single control screen grid receiver consisting of one stage of RF amplification (235), a screen grid linear power detector(224A), and one stage of pentode audio amplification(47). The aerial coil is tapped so that differing reception conditions can be catered for. Varying the length of the aerial wire can also be used for this purpose. The grid circuits of the RF stage and the detector are tuned by a two gang condenser unit. The aerial section is fitted with an adjustable knob on the trimmer to assist with lining up this stage to suit the aerial chosen. The volume control is in the grid bias circuit of the RF stage and controls the RF input to the detector. There is no rear panel on the chassis and some of the components are exposed so I suppose owners of these radios sometimes got an unpleasant surprise if they poked around in the back.

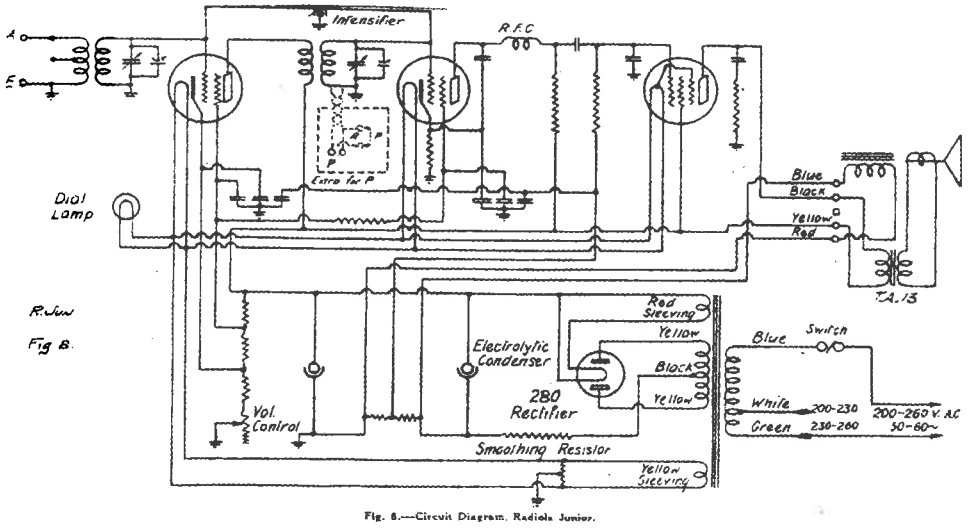


Fig. 8.—Circuit Diagram, Radiola Junior.

EARLY "PIRATE" BROADCASTING IN NEW ZEALAND

Bill Heinz

I am sure that it was 1944 when I repaired one of those bakelite 'BBC' crystal sets for a schoolmate of mine. You know the one with the slider that wiped across the inductor for tuning and an exposed catswhisker crystal arrangement. I wish I had one now it would take pride of place. I lived in Kelburn, Wellington and attended the local primary school in those days. One of our marvellous Wellington views was across the Kelburn viaduct to Tinakori Hill that only seemed a stones throw away. Am I digressing here you may say ?

Well one night when I was in bed waiting for sleep to overtake me I became conscious of music pervading my bedroom. It was quite loud and very clear and I could not sense its origin. I rose from my bed and walked around the room to locate its source. I found to my amazement that it was emanating from the headphones connected to the 'BBC' crystal set. I had never heard audio so loud from a crystal set before. I then listened to the popular music of the day being played and wondered what station this was, it seemed that it was much more powerful than 2YA or 2ZB. Eventually a station announcement--- " This is Radio Station ZLT7 of the New Zealand Post and Telegraph Department standing by for the nine o' clock news ". This was relayed and the station went promptly off air.

Next morning I looked at the crystal set and found that the tuning slider had been set to about five turns on the coil. I had been listening to shortwave on a crystal set. I wondered about this incident for many years and it was not until I was working in the Post Office Radio Depot in Christchurch that I found the answer.

ZLT7 was a transmitter at the P&T radio station on Tinakori Hill, later known as Wellington Radio and as I had already mentioned that hill was only a stones throw away from where I lived.

I understand that this was the only time that the P&T or the NZPO ever engaged in any form of public broadcasting of anything with an entertainment content. In fact it seems that it was almost voted by the allied soldiers fighting in the South Pacific to be the best armed forces programme in the area and that it was their letters of appreciation to the Director General that led to the demise. of this clandestine broadcasting.

PROTECT YOURSELF - RESIDUAL CURRENT DETECTORS -

Residual Current Detectors are again available to members at $20 each plus $4 post and package. Cheques should be made out to the New Zealand Vintage Radio Society and sent to the Treasurer, David Crozier, 154 Grey St, Onehunga, Auckland. Ph 09/636954 or 0800/187161.

A Tale of 4 Zeniths, a Bell Colt and a Crazy Collector.

Rod Osborne

About a year ago I had a call from a lady with a Zenith for sale. She said it was purchased in 1938 and had a big black dial. Ever the optimist I immediately envisaged a shutterdial Waltons and promptly called on her. Well it wasn't a Waltons, but it was a model 6S256 in nice condition. It had its original manual, station log and a catalogue of the entire range of Zeniths produced in that year.

The station log had the dealer's name, Judds Radio, Tauranga. I knew Bernie Judd in the 50's and also his serviceman who told me the following story.

Bernie purchased a new AVO valve tester and asked his serviceman to show him how to use it. This he did explaining how to use the manual to set the roller switches and the front controls. He demonstrated the use of the tester by testing a 2A3. A couple of weeks later Bernie told him that the tester was a great investment as all of the valves he had tested for his customers were faulty. Knowing Bernie's lack of technical ability he asked him to test a 6V6. This Bernie did and sure enough it was faulty. He had set all the roller switches correctly but had forgotten about the front switches so all the valves were tested with 2.5 volts on the filament and 45 volts on the grid, same as a 2A3.

I made the lady a good offer for her Zenith and she said she would consult with her family and contact me. I heard nothing from her and assumed my offer was not good enough.

Day one - Zenith No. 1

In May this year the lady phoned me and said mine was the best offer so I could come and collect the radio. This was to be the beginning of a most memorable week.

Over the last few years Sue and I have often entertained a busload of visitors from the local retirement homes. They come and have a look at the garden and then the radios and gramophones. They always enjoy looking at the radios, which bring back memories of their younger days. Often they see a radio or gramophone that they recognise and

that brings them special pleasure. I play the cylinders and 78 records from the 20's on the old Edison and Victrola phonographs with songs from Gracie Fields, Caruso, Nellie Melba, Gene Autry etc and it almost brings tears to their eyes. Sue and I have gained a lot of pleasure from these visits.

Day 2. Zenith Number two

The day after getting the first Zenith a fellow phoned and said he was a relative of one of our rest home visitors who had told him of my radio collection. He said he was cleaning out his attic and had found an old radio, which was in good condition, and he thought I might be interested in it. He couldn't remember the name but said it was in great condition and was very old. I didn't have many hopes for this one but as I was going to his area I decided to call and see him. He took me to his shed and my fears were soon realised, the radio was a 50's Ultimate of the sort that seldom brings $5.00 at our club auctions. BUT, on the trailer and ready to go to the dump was a Zenith Waltons. It was in a very sorry state with the lacquer all flaking off through years of exposure to the sun,

The grill cloth was torn and faded, 2 knobs were missing and a look inside confirmed that the birds had lived there. A closer inspection showed everything to be complete apart from the 2 knobs. Under the bleached finish the veneer was in excellent condition with no lifting or borer.

I asked him if I could purchase that radio and he looked at his wife in disbelief and I could tell by their expressions that they thought they were dealing with a nut case. Here was this fellow refusing an excellent radio to buy a wreck on its way to the dump. They were probably thinking of calling for the fellows in the white coats. He said I could have the radio, but I insisted on paying for it, as I knew how good it would look when it was restored. I think he took my money to humour me in case I turned violent.

Day Five - Zenith number Three and a Bell colt.

Apparently the man who sold me the Waltons was a member of a local social club and had told his mates about this crazy fellow who paid good money for a wrecked Zenith on the way to the dump. Two days later I received a call from one of his mates who also had dud Zenith. No it wasn't a Waltons but it was a 6S231A in good condition with all its pushbuttons and knobs and with a nice brass escutcheon.

After I purchased his Zenith, he said he would give me a Bell colt. It was a white one with a cracked cabinet which I needed like the measles but I thought a refusal may offend so I took it - I had my reputation to keep!. It had a back on it, which was strange for a Bell colt, and when I got it home I found it was a transistor model which I believe was the last colt produced by Bell.

I thought that getting three nice Zeniths in five days was something that warranted an article for our bulletin so I wrote the article while events were still fresh in my mind. As I had heard the story of the valve testing a long time ago I thought I should check it out a make sure it was true so visited the serviceman. I showed him the article and he confirmed the story.

He also told me about the time that he was minding the shop for another well-known Tauranga radio dealer who was away for the day. He noticed a service call logged in the book for the next day and as it was on his way home he decided to do the call a day early. He thought the lady looked a bit disconcerted when he arrived but she showed him the radio and in the back he found a valve had been pulled out and lay neatly beside the socket. He plugged the valve back in and left. (That's what he told me)

Day seven - Zenith number 4.

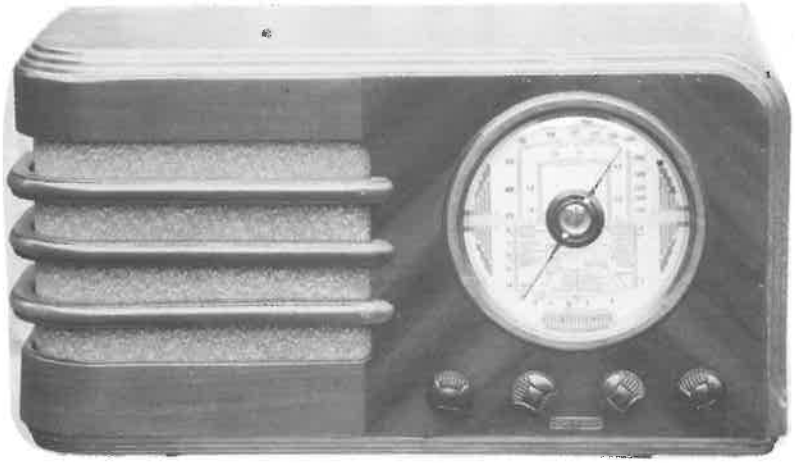
My Serviceman friend then said that since I liked Zeniths he would be happy to swap me a Transoceanic for a large Columbus that he knew I had.

I have heard stories like this from some of our veteran members regarding collecting 20 years ago when five collectable radios in one week were not uncommon but I think it is a bit unusual today.

A MYSTERY - MAYBE

George Askey

Some years ago the set shown below came into my possession and because of the condition of the cabinet was put away for attention "later". As you will see in this case "later" did arrive, mainly because there were two or three features which are not common; the magic eye that shows through the dial pointer hub, the wooden escutcheon that forms part of the cabinet and an all-metal dial. The valve line-up is 6L7, 6J5, 6K7, 6Q7, 6F6, 5Y3 and 6U5.



Apart from a makers name on the tuning capacitor, "Radio Condenser Co. Campden, New Jersey" there are no other identifying marks on the chassis. However, the cabinet sports a small nameplate bearing the name "Crusader" which could possibly identify the set as one of those sold in New Zealand and having chassis made by Gilfillan (see G.A.R. pages 100-101). The knobs are my selection as there were none on the set when I received it.

With the completion of this set - and not without some considerable effort - I have decided to give up restoring the "Old and Rare". At age 90 I lack the energy and urge to get stuck in - I find getting the essentials done round my house and section is about all I can manage. Now with the onset of Winter I feel, regretfully, this would be the right time to cease operations. I reckon I have had a pretty good innings and can be thankful for a hobby that has given me so much pleasure and has enabled me to carry on for so long. I will carry on with a bit of Ham radio and will most assuredly endeavour to keep in contact with my NZVRS friends.

Those of us who have known you , George, over the years appreciate the contribution you have made to the Vintage Radio scene in New Zealand and have a sneaking suspicion that if an intriguing radio device was to come within your reach in the future the temptation to explore its operation and history might be too strong for you to resist! - ED

A RARE EDDYSTONE

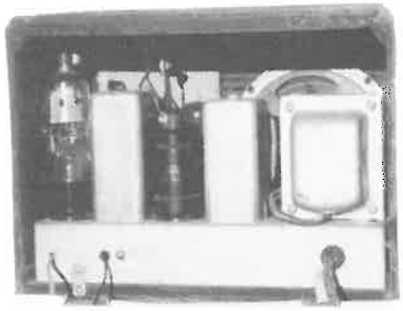
A South Pacific find of an Eddystone "Atlantic Two" makes history for it is the only known one in captivity. This 1929 battery operated radio, manufactured by Stratton and Co. Ltd. in England, was found in Pahiatua and is now owned by NZVRS member, Lenny Hartley of Hastings who saw it advertised in a local 'Trader" magazine.

Harrods advertised the "Atlantic Two" Short Wave receiver in their 1928-29 catalogue but their accompanying illustration of the receiver does not have the words <Atlantic Two" on the front panel.

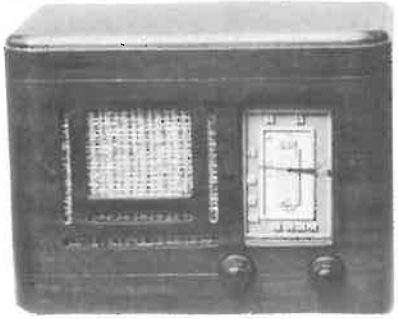
Brief Description
Oak cabinet with wood grained front panel. Size, 14.75" wide, 10" deep and 8.25" high.
"Indigraph" vernier dials with Eddystone tuning gangs
3" dia. plug-in coils....and 'would you believe it' an original Eveready 'Winner' bias battery.
The cabinet has the well known Eddystone lighthouse transfer on the inside of the lid and the usual patent label - manufactured under Marconi patents etc. Unfortunately the original interstage transformer has been replaced and there are no extras coils to cover the shortwave range. Very little information is available on these early Eddystone radios as the Eddystone factory was bombed out during WW2 when all records were lost.

The above information was supplied by Bryan Marsh, and the photograph by Lenny Hartley. Brian is a member of the Eddystone User Group which was formed 10 years ago, and has eight Eddystone radios in his collection. He has offered to help any NZVRS member with information on Eddystone receivers which they might require. His address is 20 Rimu Rd, Mangere Bridge, Auckland 1701.

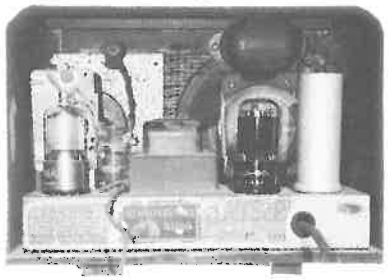
Stokodyne front view



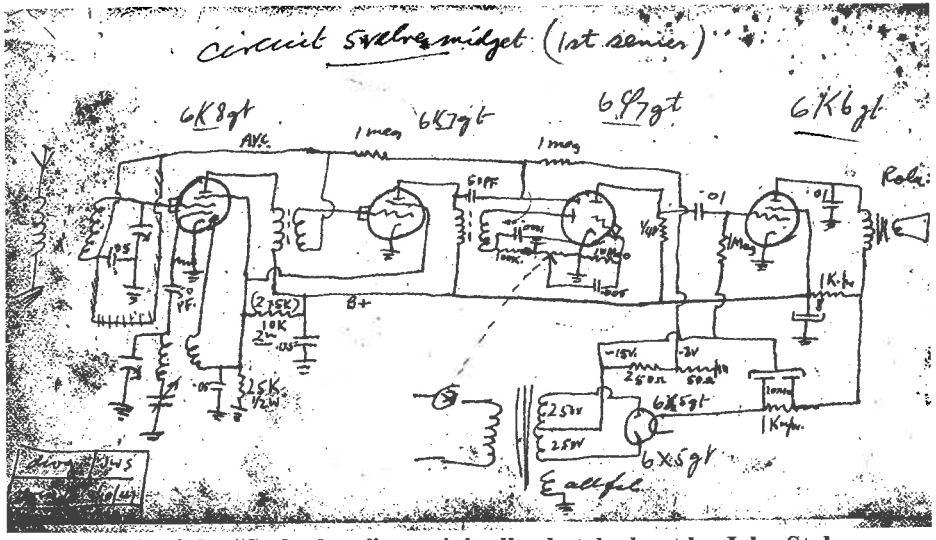
Rear view



HMV 2 valve TRF front view



Rear view (horizontal transformer)



Circuit of the "Stokodyne" as originally sketched out by John Stokes.

THE "STOKODYNE" AND THE HMV 2 VALVE MIDGETS.

by Ian Sangster.

The story of John Stokes' career would not be complete without mention of the radios which he made.

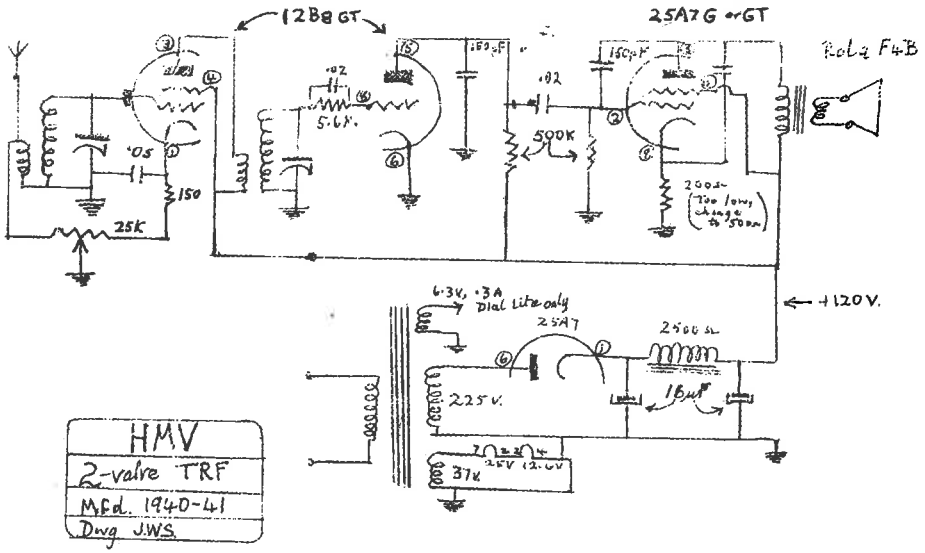
Following the war John had set up in business repairing radios and other electrical items in a small building in the Auckland suburb of Balmoral. In 1946 he began to make the first of a small line of 5 valve octal based radios using a similar cabinet to a 1940 New Zealand HMV manufactured 2 valve midget radio. These radios were sold via local electrical appliance shops, radio repairmen, friends, relatives and neighbours. Most were sold by Bernard S (Doc) Jones, an itinerant radio serviceman. One of John's notebooks has the following statement written inside the front cover " The name Stokodyne was given by B.S.Jones to the small 5 valve sets made up by me, originally to fit HMV cabinets as used on the 2 valve sets"

Further data from the notebooks show a retail price of fifteen pounds twelve and six in mid 1947. This set has a valve line-up of 6K8G, 6K7, 6Q7, 6V6 and 6X5 with a Rola 5C speaker. A circuit has been located and is reproduced here. The same book has a list of serial numbers indicating at least 16 radios produced, the sole example shown here does not appear to carry a serial number. A part price list shows the itemised cost including one pound ten shillings for the cabinet and seven hours labour for assembly.

HMV in New Zealand began in 1930, marketing HMV branded radios manufactured in USA by RCA-Victor. In 1933 radios made in Great Britain joined the HMV range. In 1938 import restrictions in New Zealand meant that HMV had to set up local production or have a local manufacturer make radios for them. They did both, manufacturing some themselves and having Collier and Beale make others. In 1940 HMV sold a 2 valve TRF receiver in a small wooden cabinet. This was initially branded as an HMV. This set must have been tooled up for a larger production than eventually happened, as SOS Radio in Auckland had a quantity of cabinets for sale post war. This was the source of the cabinets used by John Stokes.

There appears to be a couple of variations of the HMV set in production, the first with cardboard dial scales and second with a printed glass dial scale. Vertical mounted power transformers were used in the lowest serial number sets followed by horizontal mounted transformers. Some of the glass dial scale versions are called "HMV Midget" and others are branded "Magic Tone" The valve line up is 12B8GT RF amp and detector with a 25A7GT audio output and rectifier. The power transformer has a 37 volt winding to feed the two valve heaters in series and a separate 6.3 volt winding for the dial light.

The HMV 2 valve circuit (shown overleaf) has been drawn by John and contains notes of production variations along with serial number data.



Book Reviews. How to Build Crystal Sets

One of the Bulletin's last contributions from the prolific typewriter of John Stokes was in the August 1999 issue when he reviewed a reprinted STC manual produced by Brian Smith. Now Brian has produced another high quality reprint, "How to Build Crystal Sets" originally produced by Levenson's Radio PTY. Ltd. of Sydney.

For some years, Brian has been steadily establishing a catalogue of a wide range of components vital to the business of building and restoring old style radios. Whilst not of the size of the internationally known Antique Electronic Supply of Tempe, Arizona, Brian Smith's Wireless Workshop of Rockhampton in Queensland has much the same style of components, and includes as well, some very good radio publications.

Reprints are meticulously prepared and the benefits of modern computer technology have been used to the fullest. In every way, the quality is equal to the original publications. "How to Build Crystal Sets" was published about 50 years ago and has 12 pages. Contents include not only several circuits, but also a lot of useful background information on "receivers that work for free".

Copies can be obtained from Brian Smith's Wireless Workshop, 12 Mansfield Street, Rockhampton, Queensland 4700. Price is $A4.95 plus postage. P.M.L

AUDIO SINCE 1920

This is a summary of a talk given by Alan Stanley (MSc Hons) to the Wellington Group of the NZVRS on 14th September 1997.
The account is completely "hands on" - that is all circuits and valves have been tested and evaluated as part of the evolution of the audio end of vintage radios which began for an avid experimenter at Wellington College in 1927.

1. Quest for Greater Power Output The change from Batteries to Mains Power (1928) and the advent of the moving coil speaker required Power Output to rise from 0.! watt to a useful 3 watts. By 1940 most standard New Zealand radios used 6F6 or similar.

2. Loftin-White , 1930, was a landmark in that it used the UY224 tetrode with a gain of 150 to replace triode transformer-coupled stages. The original used UX245 for 1.6 watts and ingenious circuits arose to obtain the advantage of Push-Pull. Even single-ended the 245 could be replaced by UX250 giving 4.6 watts, but best of all was Philips F443N, 9 watts rising to a healthy 30 watts for a Push-Pull pair.

3. Phase Splitters give the low distortion of Push-Pull and a wide variety may be met.

a) Voltage Divider from single ended,
b) Barnes "Mystery " Circuit,
c) Anode/Cathode (Concertina),
d) Floating Paraphase,
e) Longtail Pair.

Prewar Australian and New Zealand quality amplifiers favoured c) but at Yatesbury Radar (1941) Scroggie and Baxendale outvoted me in favouring d) or e). Hindsight shows that Williamson (1948 reverted to c) so perhaps I won after all.

4. They Came and Went. The 6L7 briefly gave promise as a "Volume Expander" to increase the dynamic range of 78 rpm records but improved pickups and styli superseded.
The 2B6, 6B5 were imported by Tom Megann but not blessed by RCA. The Philips F443 and F443N (25 watt Anode) preceded the 6L6 by years and became the ancestor of the EL34. The 6L6 or 6L6G (1936) at last met our needs and even Baxendale used a pair as tetrodes in his 1947 amplifier.

5. Non-vintage Positive Current Feedback with Lo-Pass Filter and Negative Voltage Feedback requires mathematical treatment and seems little understood by modern transistor designers. It allows optimum output resistance for any speakers and makes a farce of Subwoofers and Monster cable.

HOW TO CONSTRUCT A UHF BROADBAND YAGI ANTENNA AND SAVE A DOLLAR.

Cliff Maxwell

There may be an occasion when the need arises for a UHF broadband antenna. This happened to me some years ago and with the cost of a new antenna being about $140 at the time I decided to construct a broadband YAGI myself.

The first requirement was the material from which to make it and so to this end I set about dismantling an old VHF antenna which I had on hand. All the elements and insulators were removed and put aside for use on the new UHF antenna.

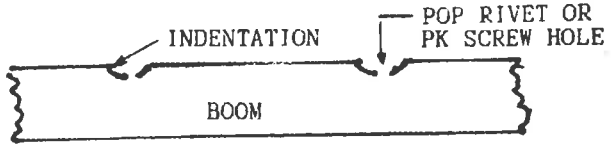
I was fortunate in that I had access to a UHF antenna and so I took careful measurements of all the elements and spacings between them and proceeded to cut the required elements from the old antenna tubing. The diameter of the tubing was 12mm (although I have successfully used 9mm on occasions) and proceeded to cut the directors to a length of 160mm, the reflectors to a length of 425mm, dipole halves to a length of 170mm and the supports for the reflectors (25mm tubing) to a length of 160mm. The length of the boom (25mm tubing) and the number of directors required will depend on the size of the antenna you are going to construct.

All elements are be fixed to the boom using pop rivets or PK screws. Both ends of the directors and reflectors should be flattened in a vice for a distance of approximately 12mm and the two halves of the dipole (driven elements) at one end only.

I have made both 9 element arid 21 element antennas, the 9 element requires a boom 980mm in length and the 21 element boom a length of 2050mm. The reflector mounts are 160mm long.

The diameter of the holes to be drilled in the elements and boom will depend on the method of fixing Pop rivets require the same diameter holes but the PK screws require a clearance hole in the elements and a tapping size hole in the boom and reflector mounts. This also applies to the 65mm x 150mm plates used to fix the reflector mounts to the boom.

Next the boom, reflector mounts, reflectors and directors should be carefully marked out and holes drilled at the appropriate centres. The dipoles should be drilled at the open ends for fixing to the insulator with bolts. To stop the elements from rotating an indentation should be made over each hole using a round piece of steel rod and a hammer.



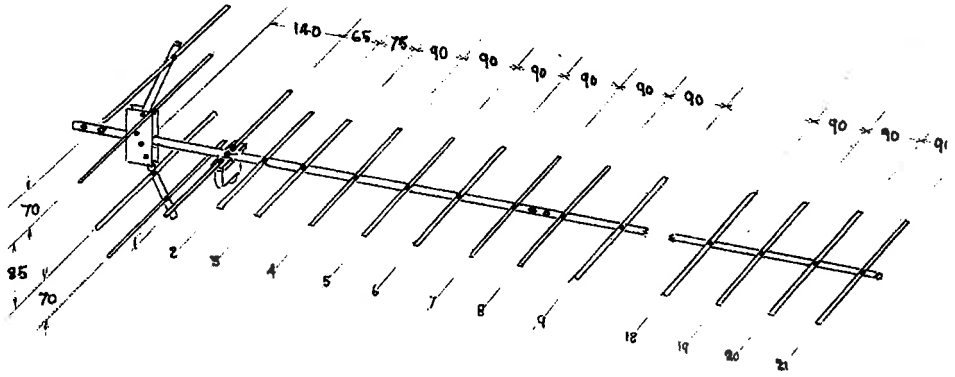
If the boom tends to curve during this process straighten it in a vice. Drill holes for a U bolt and V block at the reflector end of the 9 element antenna or at the point of balance for the 21 element antenna. The position of the holes will depend on whether the transmission is horizontally or vertically polarised. Now mount the insulator, dipole and balun to the boom with bolts, nuts and lockwashers then mount the directors in place.

Next, fix the reflectors to their supports and then fix the supports to the boom using the 2 aluminium 65mm x 150mm plates. The angle of the reflectors is 60 degrees to the boom. Plugs for the ends of the boom (salvaged from the old antenna) can now be fitted.

All that now remains is the fitting of the antenna to a mast together with the required length of high quality coax cable. I have constructed a number of these antennas over the years for family and friends and find that they perform well on New Zealand TV bands 4 arid 5, channels 27 to 62.

LIST OF PARTS.

I INSULATOR
1 U BOLT and V BLOCK.
8 or 20 DIRECTORS 160mm.
2 DIPOLE HALVES each 170mm (driven elements).
4 REFLECTORS 425mm.
2 REFLECTOR MOUNTS 160mm.
1 BOOM 960 or 2050mm.
2 ALUMINIUM PLATES 65mm x 150mm.
1 OUTDOOR BALUN TRANSFORMER 300 ohm to 75 ohm.
3 BOLTS.
3 LOCKWASHERS
5 NUTS.



NOTE:-- THE REFLECTOR MOUNTS ARE EACH SET AT AN ANGLE OF 60 DEGREES TO THE BOOM, ie. 120 DEGREES BETWEEN THE TWO.

LETTERS TO THE EDITOR

I attended the NZVRS Easter Event , it was very interesting and informative, a credit to the organisers.
Thank you to the owners of the radio collections that I visited, and for the hospitality shown to me by the individual members.
If a similar event were held in the future , I would certainly attend.

S K Wallace
Timaru.

A couple of years ago I went into Geoff's Emporium in Dominion Rd. and there was a 21" Bell TV set from around 1960. At the time it struck me as interesting that the set had somehow found its way back into the same building it had been manufactured in almost 40 years before. It turned out that it had probably never left. On driving home down Dominion Rd. I became aware of the significant part it had played as a location for a number of points of interest in the history of NZ radio & TV. The following come to mind.

- Site of the first Auckland TV Studios and transmitter - Bell Channel 6 circa 1958-61 (Now Target Furniture).
- Home of the first Bell TV production line, later became Philips Auckland Radio Engineers (now Geoff's Emporium). Bell was possibly NZ's most significant TV pioneering company.
- Mowatts Radio Industries was here. Producers of MR1 TVs circa 1960-63. As far as cabinets went these were the Rolls Royce of NZ TV sets at the time.
- Methodist Church: the old meeting place of the NZVRS.
- John Stokes shop in the 1960's, the back of which housed a formidable display of 1920's electronics.
- Premises of Radio Ltd. Manufacturers of Skyscraper, Ultimate & many other brands throughout the 1930's, 40's & 50's. One of NZ's most significant radio producers.
- John Stokes last Radio shop.
- Another location in which John had his shop for a while.

I'm sure there could be some inaccuracies in my recollection of some of these points and there are probably some which have been omitted. However, other readers might be able to correct or add to this and perhaps this would lead to a definitive history of Dominion Rd & the surrounding area with regard to NZ radio & TV.

G B. Holden
Auckland.

Rod's article on Akrad brought back many fond memories of Waihi and my first job. I was particularly pleased to see that he managed to get a photo of me on page 6 centre. I'm on the left, 7th from the camera.
I think it was a little later than 1949, as I was 9 years old at that time. The white haired lady in the foreground, Miss McBurney, is getting a little behind. She did spend a lot of time returning chassis to previous workers on the line because someone had filled her space.
Full circle has come round for me also, as my daughter is now Senior Metallurgist for the Gold Mine.

Chris Hollis
Cambridge.

My AD in the February bulletin produced orders from all over New Zealand - even for picture tubes and TV tuners. Who said that Black and White TV was dead? I had grief over Brimar 6U5G which was printed as 6U5 only and I therefore fielded a few enquiries for Octal magic eyes. In the trade we know that Brimar had used the suffix "G" to indicate Octal but this seemed unknown to VRS members

Alan Stanley
Wellington

A QUESTION ANSWERED

The November NZVRS Bulletin article "Calling the Rolls" speculated on which brand of Radio 1936 Limited chassis originally occupied a horizontal cabinet with a "round the corner speaker grille". Recently another example of the set was spotted, it carried a "Luxor" brand chassis which looked to be the original fit. At right - the Luxor horizontal 1938 set.

Ian Sangster

HMV mantel radio

I recently acquired an upright HMV radio (photo at right) which appears to have a similar chassis to that fitted to the R37 cathedral. It has no "police band" switch and is in a more modern style of cabinet.

Ian Sangster

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

369 Marine Radios in the Early Fifties. General description, photos. HRSA Radio Waves no 69, July 99, p18

370 Preparing and Polishing Bakelite Radio Cases. Procedure with precautions. HRSA Radio Waves no 69, July 99, p24

371 The AR8 Receiver. Australian military radio, circuit, photos, history. HRSA Radio Waves no 69, July 99, p26

372 Reflexed Radios: Their History, Development and Use. HRSA Radio Waves no 69, July 99, p29

373 The Resurrection of a Radiola Straight Six. photos description, circuit. HRSA Radio Waves no 69, July 99, p34

374 The Great Secrets of the Second World War (Enigma, Ultra, Bletchley Park and Colossus) part 2. photos, descriptions. history. Radio Bygones no 60, Aug/Sept 99. p5

375 Early Sony Transistor Radios. a Mini-history. photos, descriptions. Radio Bygones no 60, Aug/Sept 99. p12

376 German WW2 Transmitters and Receivers. Photo, descriptions. Radio Bygones no 60, Aug/Sept 99. p16

377 The Eddystone 'Fours". Shortwave TRF's. Photos, history, circuits. Radio Bygones no 60, Aug/Sept 99. p18

378 American Military Equipment Designations. Description, listing of some items. Radio Bygones no 60, Aug/Sept 99. p23

379 A Scottish Home-brew in New Zealand. One valve set of mid 1920s. Circuit, photos, description. Radio Bygones no 60, Aug/Sept 99. p28

380 5ZB The Mobile Station. photos, description. Wellington Vintage Radio Notes July 99, p3.

381 Mullard Radio Model 655. circuit, chassis layout, service data. Wellington Vintage Radio Notes July 99, p7

382 Coherer Explanation. CHRS, Vol23/1 Spring/Summer 1999, P15.

383. The Coherer - Eary Detector with lots of Inventors. CHRS, Vol23/1 Spring/Summer 1999, P17

384. Kolster-Brandes MR10. photos, design details, circuit, manual. BVWS Bulletin vol 24/3, P4

385. Restoring and Lining up an Eddystone 770R. BVWS Bulletin vol 24/3, P32

386 The Murphy B40 Receiver. Design, circuit, models, restoration. HRSA Radio Waves, October 99, No 70, P4

387. Who was Reinartz? historical. HRSA Radio Waves, October 99, No 70, P24

388. Stromberg Carlson models 5A26, 5A36. Photos, circuit. HRSA Radio Waves, October 99, No 70, P30

389. Do You Remember the Selenium Rectifier. photos, construction. Radio Bygones No 61 Oct/Nov 1999, P10

MARKETPLACE

Advertisements for the next issue must reach the editor by the 14th October 2000. Ads must be either hand printed, typed on a separate page or emailed. No verbal or phone ads. 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 or email regmotion@xtra.co.nz

AVAILABLE

1933 Pacific 106, GAR p62. 1931 Atwater Kent 84. 1933 Atwater Kent 555. 1936 Gulbransen 7L, 8 valve, Upright and Horizontal. 1935 Pilot Y43B & 403B. 1936 Stewart Warner R136. 1938 Zenith 752/38. 1936 HMV 471. 1933 AWA 110/C104. 1932 Raycophone 62 AE Consol. 1947 Westco 211. 1935 Stewart Warner R125 & R146X Horizontal. 1936 Rogers 306. Plus a further 70 wooden and 30 bakelite models wanting new homes.
Kenwood 40 MHz triple trace oscilloscope model CS/1045, as new, $500 negotiable Phone John Danks at 07/3470005, Fax 07/3479373 or
email john.danks@rdc.govt.nz

From John Stoke's collection.
Acme ? tombstone, 4v, original finish, 1933/34, TRF,.good condition, MGAR page123 $250 ono
Ultimate 5LN Refinished cabinet, chassis overhauled and very clean and tidy, arc dial, good looking tombstone. 1933,GAR page 70,$250 ono
Courtenay 103, tombstone, 5v good condition, clean chassis, peep hole dial, 1933 MGAR page 121.$140 ono
Courtenay 140, 7v, clean chassis, slight borer, original finish, peep hole dial, good looking radio, $150 ono
Ultimate 524, 1932, clean chassis, original valve shields etc, tombstone, arc dial, first Ultimate superhet. GAR page 69. $200 ono
Courtenay 108, 6v, tombstone, clean chassis, first dual wave model, aero. dial, GAR, p 62, $120 ono
Marconiphone speaker model 75, 2000 ohm, AWA Aust., 1927, MGAR p199, $300 ono
Sonochorde speaker, 5inch [Rotheral, UK "Microvox"] 1937, MGAR p199, $100 ono
Columbus clock radio, model 563A, tiny crack on side, original knobs, MGAR page 119, $20 ono
Bell colt, white, Serial no 831, 1953 GAR page 41, $10 ono
Transformer winder, incomplete, needs work but could be a goer. $25 ono
Ultimate screen grid 4, batt. set, early model, broadcast, with valves and power supply, very tidy. $300 ono
Home made battery set, 1925 style with valves, 3, dial, probably in working order, very tidy, well worth looking at, no cabinet. $250 ono
Riders circuits, vol. one to nine and vol.15 plus indexes. Will sell as one lot only. $300 ono
Ghirardi's troubleshooters handbooks, 2 volumes. $40 ono
Taylor Model 45c tube tester, nice condition, with manuals and charts, Price negotiable.
Apply, Mrs E Stokes, 281c Hillsborough Rd, Mt Roskill, Auckland. Ph 09/6256615.

Eddystone UHF Receiver model 7704 (Mk11) with manual and circuit diagrams. Paul Edgar 09/5374354 or 025/488393