WANTED (Continued)

Technics SL1200 or SL1300 turntable, any condition. Phone Damien Jurgens at 07-6446667 after hours.

Circuit and instructions for Hallicrafters TW500 (or S93) portable. Bryam Marsh, 20 Rimu Rd, Mangere Bridge, Auckland 1701. Ph 09-6367712.

Chassis for Majestic, models 90-90B and 71, any condition or any Majestic chassis complete or not. Sam Lowe, 23 Hurdon St., New Plymouth. Ph 06-7536693.

Service data and instruction book for Philips PM3230/05 oscilloscope, Marconi TF893 output power meter and Dual CS70 turntable. Also 650-700 ohm 40-60 watt wirewound resistor, max length 4 inches. Also 6 volt axial filament light bulb with BA15S cap (single contact small bayonet cap as used in car side lights), film exciter lamp or similar optical type. Ross Paton, 56 Glengarry Rd, Glen Eden, Auckland 1007. Ph 09-8188463.

Geloso transmitting VFO or small transmitter with above, not necessarily going order. Frank Stretch, 41 Scotland St., Picton 7372. Ph 03-5736999

Emission tested valves type EL41, EBC41, EF41 and ECH41 for a PYE communications receiver. Phone Mike Edwards after 6pm, 09-2356903.

Eddystone receiver model 990R or 850/2. Jeff King, Ph 03-3325446 (A/H), email jeff_164@hotmail.com

Operators handbooks for Marconi signal generator TF 801D/1 and Tektronic type 524AD cathode ray oscilloscope. Appreciate loan to copy or will purchase. Eddie Wood, 121 Morton St, Invercargill. Ph 03-2168389.

Majestic 15A chassis complete if possible including escutcheon and 10-12" speaker. Also cabinet for console Gulbransen model 7L. Also console cabinet for an STC 5031 no 1210. Leon Clements, Muri Rd, Pukerua Bay. Phone collect 04-2399307.

Appreciate loan for copying or purchase of manuals for following instruments; Boonton 92EA RF millivoltmeter, General Radio 713-B BFO, Muirhead D-669-A Wave Analyser, Muirhead Wigan Decade Oscillator D-690-A. Reg Motion, 2A Hazel Tce, Tauranga, Ph 07-5768733, regmotion@xtra.co.nz

BOOKS etc/

(Available only to members)

Zenith Transoceanic: The Royalty of Radio - Bryant and Cones.
$31 plus $5 Post & Packaging

Philco Radio 1928 ~ 1942 - Ramirez $ Prosise.
$36 plus $5 Post & Packaging

Hallicrafters - Dachis.
$36 plus $5 Post & Packaging

Above available from NZVRS Secretary, 2 Levy Rd, Glen Eden, Auckland.
Ph 09/8184740.

RESIDUAL CURRENT DETECTORS -These are again available to members at $20 each plus $4 P&P. Make cheques out to the New Zealand Vintage Radio Society and send to the Treasurer, 154 Grey St, Onehunga, Auckland.
Ph 09/636954 or 0800/187161.

NEW ZEALAND VINTAGE RADIO SOCIETY INC.

Vol. 22 No.2 **Aug 2001**

NZART JUBILEE CONFERENCE DISPLAY

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: mailto:sangsfam1anawhata@zfree.co.nz

SECRETARY: Paul Woodcock, 2 Levy Rd, Glen Eden, Auckland. Ph 09/8184740. 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 $3.00 each for Vols 1 to 10 and $4.00 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 as follows will be held at 7.30 pm in the Horticultural Society Hall, upstairs in the old Chamberlain Park Golf Clubhouse, 990 Great North Rd., (opposite Motions Rd.).

Sept. 17. Auction sale.

Oct. 15 Demo of 1924 superhet receiver

Nov. 19 Bring and tell - record players

WAIKATO AREA. Next meeting will be at Chris Hollis's place, 13A Princes St., Cambridge on Sunday, 16th September commencing at 1.30pm.

TARANAKI AREA Next meeting will be held on Sunday 9th September at 1.30 pm at Brian Tipler's home, Kahouri Road, Stratford. See page 21 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 details contact Bob Hatton, 40 Rose St, Wadestown. Ph 04-4728788.

CHRISTCHURCH AREA. For details of meetings contact Jim Lovell, 41 Yardley St, Avonhead, Christchurch 8004. Ph 03-3427760

FROM THE EDITOR

The NZART conference provided a good opportunity to advertise our presence in the radio world and Auckland branch have made good use of this opportunity. Taranaki group have now held meetings and propose further get-to-gethers. In this issue these happenings are covered together with a number of restoration and historical articles as well as a light-hearted throw-off at collectors zeal.

For some time now I have listened to forebodings of waning interest in collecting the "golden Oldies" and in the history of radio. Such a happening seems logical as the principal players of the past age drop off through ill health and other reasons. However, the facts do not support this conclusion. Our membership remains stable and there has been an increase in new members joining in recent times. I am still receiving a good variety of contributions to the bulletin and long may this continue. Certainly the prices obtained for vintage equipment have dropped somewhat of late but I think this is more a symptom of the economic times than any lack of interest. We are in good heart.

Overseas the interest in vintage radio seems to be holding if not increasing. Journals such as the British Vintage Wireless Society bulletin get thicker and glossier with every issue. "Radio Bygones" is another most interesting and well presented magazine as are the Australian and American bulletins which I review from time to time to provide the index that appears as a regular item in our bulletin. Ernie (our librarian) tells me that he receives frequent requests for copies of indexed articles as he does for circuits of vintage radios and other items. We are lucky in having such a keen librarian

NEW MEMBERS

Steve Hill	Queensland Aust.
Greg Brice	Auckland
Ray Creighton	Queensland Aust.
Paul Fitzgerald	Auckland
Warwick Strain	Queensland Aust.
Damian Roje	Auckland
Alan Glennie	Invercargill
Wayne Griffin	Auckland
M Whitty	Dunedin
Jeff King	Christchurch

FRONTISPIECE

A corner of the NZVRS display at the NZART conference. Valved radios from Paul Woodcock's and early transistors from Ian Sangster' collection.

CONTENTS

David Crozier's communications display.
Geloso atop Philips, National NC125, Wells Gardner atop National HRO, Eddystone EC10 atop Marconi CR100.

Ned Matich's display.
British wartime receiver, Autocrat mains/car, Ultimate 1933, Planet , Crown(USA), Clipper with matchbox crystal set atop.

VINTAGE RADIO EXHIBITS AT NZART CONFERENCE

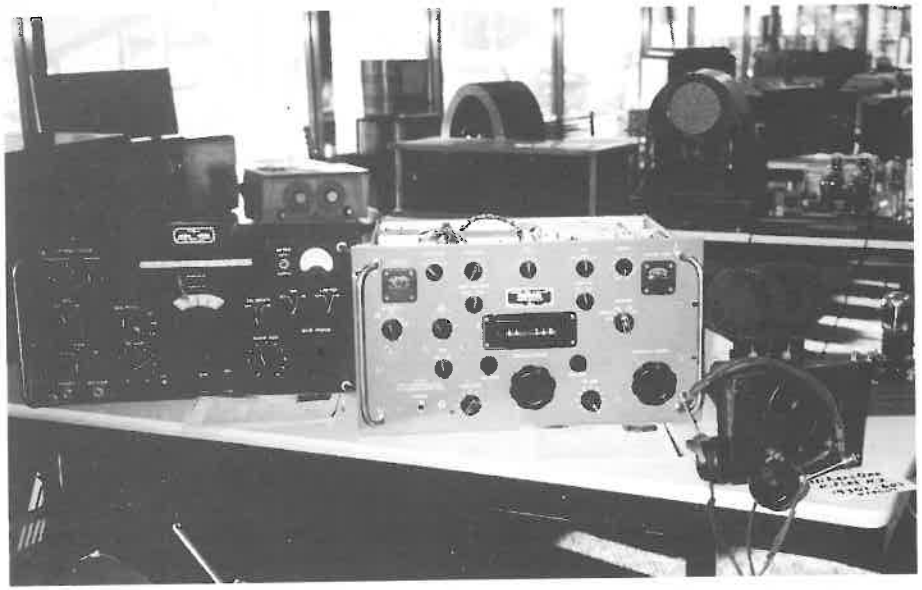
Paul Woodcock

The NZART 75th Jubilee Conference was held on Queens Birthday weekend at the Alexander Park in Auckland. Auckland Branch of our Society was approached and agreed to put on a display of vintage radios at the conference venue as a sort of sideshow. Those attending the conference could come and look at the displays in between fixed programmed events.

A weekend of very chilly weather didn't knock the enthusiasm. Early on Saturday morning trolley loads of radios and other equipment arrived. We set up our display alongside another display from the Western Suburbs Radio Club Inc. organised by Barry Williams. The rather grand upstairs room overlooking the trotting track gave us ample room although the main tables were fixed to the floor restricting the final layout. The combined display covered a very good selection of communications equipment from very simple early sets right up to sophisticated gear still available in the 1980s. Thanks to Lloyd Anderson, Gerry Billman, David Crozier, Ned Matich and Ian Sangster for providing their equipment and time.

There were many complimentary remarks passed and Branch 03 NZART President, Barry Williams, has conveyed his thanks for our efforts. I think we all enjoyed ourselves.

Radiola 20 displayed by Gerry Billman



Lloyd Anderson's Collins 51V-4 and R-390A/VRR.
Ned Matich's 1930 Hiker's One at Right.

Gerry Billman's H.V. Rectifier Valve, Homemade Breadboard Amp., Courtenay, HMV mirror cabinet and General Motors sets.

THE AUSTRALASIAN 3 PIN POWER PLUG
Part 2

Murray Stevenson

In this, the second article of the series, I start with some pointers for selecting and wiring a three pin plug before moving on to the histories of the various makes.

Selecting a plug

When selecting a plug avoid the following faults:

1. Plugs with chips, cracks or stripped threads.
2. Plugs with steel earth pins as these corrode and make poor contact - note that pins that may look like shiny steel may be plated brass or aluminium
3. Plugs with loose terminal rivets which may cause arcing - loose binding posts which are held by screws can usually be tightened.
4. Plugs with no cord grip or tortuous paths for the wires.
5. One piece plugs with open terminals which are exposed - the early ENZIDE plugs are an example; later ENZIDE plugs overcome this compliance problem by fitting a cover over the terminals
6. TITEGRIP all-rubber plugs - Cat 230 and 343. (Ref. 1).

The wiring regulations prohibit the repair of 3 pin plugs (Ref. 2). I do not consider replacing missing screws, straightening slightly bent pins and taking the good cover off one plug to replace a damaged cover on another identical plug to be repairs. In fact, before the ubiquitous molded plug some manufacturers supplied plugs in bulk in a non-assembled form.

Wiring the plug.

It used to be considered good practice to tin the strands of wire on flexible cords before connecting them to terminals. This is now prohibited (Ref. 3), the reason being that the solder shrinks making the connection loose. I can verify that this does happen.

When preparing the wires of a flexible cord for connection to the plug ensure that they are cut to such a length that should the cord grip fail following a sharp tug on the cord the last wire to give way from its terminal is the earth wire.

Always ensure that <u>all</u> strands of each conductor are firmly secured under the terminal screw or within the holes of the binding post. One single strand of wire, especially from the live terminal, poking out between cover and base is enough to give a full 230 volt electric shock.

When connecting a cord to a plug pick the end most suitable for that plug (or cord body). Look at each end of the cord - note, the configuration of one end will be Green - Brown - Blue and the other will be Green -Blue - Brown. I advise the purchase of NZECP50 and if you do wiring in your own home NZECP51. They are available to the general public from the Electricians Registration Board, phone 0800-661000. The cost of each at time of writing was $3.00. The Board makes these available because of their concern for safety.

Finally if you have any doubts about using a particular plug - don't use it!

History of "Titegrip"

H.C.Urlwins were the first manufacturers of 3 pin plugs in New Zealand. Urlwins were an electrical contracting company that moved very successfully into manufacturing. In 1931 they were the Canterbury agents for Atwater Kent radios (Ref.4)

Urlwin's manufactured "Speedee" appliances (Ref.5). They also manufactured flexible cords and at one stage they made a copy of the then called "Nigger Boy" money box.

"Titegrip" (Ref.6) was the name that Urlwins chose for their plugs, sockets, ceiling roses. switches and other bakelite electrical accessories. They started making these products in 1937/38 following their import of the first bakelite moulding machine in NZ. At the same time a staff member, Bob Stewart, returned to New Zealand after several years in England learning plastic moulding (Ref.7). A technically and commercially talented man, Bob Stewart is now Sir Robertson Stewart.

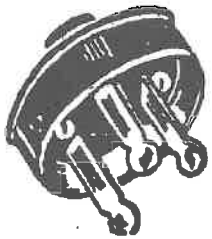


Fig 1

The first "Titegrip" plugs were a top entry (Fig 1) and a side entry type (Fig 2). They were by today's standards a bit rough. The earth pins were thin plated steel which went rusty. The top entry plug had no cord grip for the wires. There was at that time , of course, no NZ Standard for 3 pin plugs (Ref 8). Both of these plugs had their pins molded into the base, just like the patented H.P.M. top and side entry plugs (Ref 9) of the same decade. However, for whatever reason this design was dropped and although the plugs looked much the same the pins were loose and were secured by the same screws that the wires were connected by. This method was used by other manufacturers as well. T268 was the side entry plug with the loose pins. It had a catalogue number on it and looked identical to the original (Fig 2).

Fig 2

During the war and just afterwards, all the pins were made of steel, which was somehow plated with what looked like brass. Later the pins were made of brass but sometimes the earth pin was steel or occasionally aluminium. The terminal screws were either 1/8 or 5/32 inch Whitworth and the nut they screwed into was usually molded into the base but occasionally there was no metal nut the screw thread being molded into the base. This wasn't done every time, sometimes there was a loose brass sort of dome nut in the cover for the securing screw. The last T268 plugs had a Standards mark on them with the pins riveted in and the wire connecting screws screwed into the rivet.

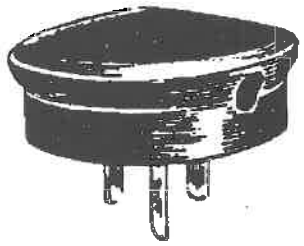


Fig 3

A rubber cover was available for these plugs. When plug and cover were bought as one the cat. no. was T344 (Fig 3)

T268 was superseded by T269 which was made of high impact plastic had molded in terminals and a good cord grip - a good plug!

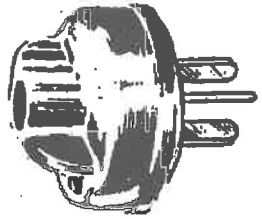


Fig 4

The top entry plugs (Figs 4 & 5) also had loose pins held in place by the conductor securing screws just like the side entry plug. Cat 348 was the number given to a plug similar to Fig 5 but with a rubber sleeve fitted around the outside rim.

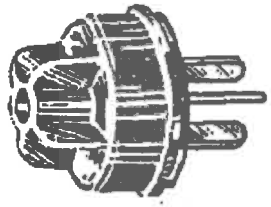


Fig 5

Later a top entry two piece enclosed plug was produced with binding posts riveted with the pins into the base. This had a "Standards" mark and looked just like Fig 5.

To the best of my knowledge the last top entry plug made by "Titegrip was cat T351 (Fig 6). It was one piece, made of high impact plastic and produced in white, black and silver colours. The pins were molded in, there was a tortuous path for the wires and even though it had a "Standards" mark it was open where the wires connected.

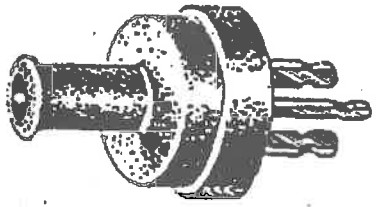


Fig 7

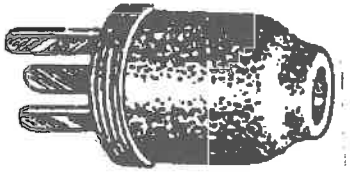


Fig 8

"Titegrip" also marketed T230 (Fig 7), a two piece plug and T343 (Fig 8), both all-rubber unbreakable plugs. Another plug, T344, looked like Fig 8 but the base from which the pins protruded was bakelite instead of rubber. Don't use.

In 1968 P.D.L purchased H.C.Urlwin Ltd for $432,000 (Ref 10) and the name was changed to Urlwin Industries Ltd, registered 15th May 1968 and removed from the register on 6th Sept 1974 (company records) The Urlwin industries symbol, a cog with U.I.L. under it was registered on 17th June 1968 (Ref 11). I do not know if it was subsequently removed from the register.

The only plug I have seen with the U.I.L. symbol on it is model K100, a top entry, two piece plug of good design. It was available in brown and white.

If any reader has had involvement with H C Urlwin factory or warehouse and can offer further information please contact me.

In the last of this series of articles I will cover tap-ons, cord-bodies etc, and update previous articles with any further information I obtain.

References

1. Circa 1956 a person I knew was fatally electrocuted when he managed to plug into a 3 phase socket a single phase machine fitted with one of these plugs.

2. NZ Electrical Code Practice 50. Reg 5.1.2.

3. NZECP28. Reg 4.6.2.1

4. Listing in Wise's Post Office directory for 1931.

5. "Speedee" was registered as a trade mark 12th Feb 1932 and removed from the register 6th Sept 1974. Patent Office Records.

6. NZ Patent Office has been unable to find any record of the registration of "Titegrip" thus it was either never registered or registered and lapsed so long ago that the records no longer exist.

7. Page 25 of "From Tin shed to Knighthood" by Bob Stewart as told to Don Grady.

8. The standard for 3 pin plugs was 198, the following number identified the manufacturer ie 6 = H C Urlwins, 1168 = PDL and 1171 Grey & Rollinson. This Standard which was granted to H C Urlwin in April 1948 was cancelled Oct 1968. It was not mandatory to have the "S" mark; it was the manufacturers choice.

9. HPM Patent 20195/34 (I will go into more detail when I write about H PM)

10 Page 39 of "From Tin shed to Knighthood"

11 Photocopy of document from the Ministry of Commerce.

A General Radio Model S9A Restoration.

Gerry Billman

Recently I had the opportunity to restore this radio. The cabinet had been refinished and a new grill cloth fitted so the set looked quite presentable.

The speaker field coil and output transformer were both recent rewinds so I proceeded to check the chassis. The speaker cable had not been replaced after the rewinds so this was done and the B+ was then checked for shorts to the chassis. The power cord was missing so I fitted a new one and as it was obvious work had been done on the chassis I connected a voltmeter [on the highest D.C. setting] to the B+ so that I could monitor what was happening when I switched the set on.

Applying the 230v AC brought screams of pain from the power transformer and a check showed that it was an unmodified American Radio with a 110v power transformer. I made the mistake because as the power cord was missing there was nothing to indicate that it was anything but a 230v set. Another reason to keep your fingers out of harms way when you switch on. I changed the power cord and fitted a two pin plug commonly found on 110v sets then plugged the set into a 230 to 110v. transformer.

There was no B+ so I removed all the tubes, noting which sockets they each go in as it's easy to get them mixed up when they are replaced, and checked the voltages from the power transformer. Although the required voltages were not shown on the circuit diagram they appeared to be about normal so the rectifier tube was replaced and the filter caps checked. A wiring error was found and corrected. The B+ was steady now so when the remainder of the tubes were replaced I checked the B+ on the plate of the 47 output tube. It measured just over 250v which is about right for this tube.

There was no sound except for a low hiss from the speaker and some of the voltages on the rest of the tubes were very low so I replaced all the leaky paper capacitors and several

resistors that were way off the values in the circuit diagram. As there was still no sound I checked all the tubes and replaced a couple that were weak. A thorough check of the rest of the wiring and a check for continuity in all the coils still did not locate any problems.

The two audio stages were working fine so I connected the signal generator to check the IF alignment and could not hear anything. I shifted the generator to 1000 kHz and attached it to the antenna but still nothing. I sat and stared at the set for some time wondering where the signal was going as I was sure I had checked every thing at least twice. I did notice that a new volume control had been fitted earlier but a check showed that it tested 50k which was near enough to the 45k that the circuit called for.

I left the signal generator connected to the antenna and brought out my signal tracer to try and isolate which stage was not working. There was plenty of signal on the plate of the RF tube but nothing at the second detector so that left only the '35 IF tube not functioning. I had already checked the IF coils so what on earth was going on, or to be more precise what was not going on. Looking at the circuit I could see that the volume control wiper is connected to earth. At one end of its travel it earths the antenna and at the other it earths the 400ohm cathode resistor on the 35. I checked the continuity from the cathode to the pot and it was open. How on earth could that be when it was only a 400ohm resistor and a length of hook up wire. Then the penny dropped. The wire was a flexible resistor disguised with pieces of old spaghetti on each end. It was open circuit and the previous repair person had soldered in another 400ohm resistor in series with it and then had not checked that it was actually connected to the pot. Soldering in one short length of wire brought the set to life and realigning everything showed that it was a very good vintage radio. It is amazing how such a simple circuit could have so many problems to fix.

The moral of this story is, if all other possibilities have been eliminated whatever is left, no matter how obscure, must be the problem. Even if it is what looks like a short length of hook up wire.

Never mind, the sense of achievement one has when a handsome little radio like this comes back to life is well worth all the trouble.

WESTCO EMPLOYEES

Further to his article in Vol 21/3, Nov 2000, Cliff Maxwell has obtained the following list of WESTCO ex-employees via Owen Kendall from Ray Hanham who now lives in Tasmania. They are Eric Barker, Malcom Ghezzi, Roy Knaggs , Gordon Adair, Vic Woodward, Ian Holden, Arthur Allison, "Tas" McDermott, Joe MCLauglin, Mr Nutt, Jack Taylor, Mr Harris, Henry Dobbie, Miss McIntyre, David Steele, Dave Rhodes, Ray Harrington, Ralf Saunders, Bert Peebles, Allan Hanham, Jack Duncan, Doug Graham, Joyce George, Mrs Peeney, Eileen Timmons, Mr Ball, Maurice Wilson, Mike Prendergast, Jack Roper, Jean Mitchell, Arthur Fielder, Johney Johnson, Gwen Bygraves, Daphne Fitzgerald, Roy Black, Doris Aherne, Ian Dallow, Tom Jones, Laurie Croul, Wally Dalton, Bill Ver Hoeff, Mike Earthy, W Cammel, George Goode.

THE SUPERREGENERATIVE RECEIVER
Something for nothing?

Dick Stevenson

I have always been fascinated by superregenerative receivers. There are swings and roundabouts of course, one gets almost infinite amplification; in fact the amplification is so great that thermal noise creates an almost unbearable hiss - when listening I can imagine I am hearing the actual electrons doing their own thing! The down side is that the tuning is very broad and, like the straight regenerative receiver, it radiates considerable energy which can interfere with other listeners unless special precautions are taken.

That great radio pioneer, Edwin Armstrong, invented the use of reaction or regeneration in 1912 and he certainly understood the theory because he realised that if feedback could be turned on and off very rapidly the amplification would increase to a high level without the circuit breaking into uncontrollable RF oscillation. His superregenerative circuit (1922) did just that and was quite popular for a while as it needed only a frame aerial, but it was soon regarded as very tricky to operate as well as acting as a transmitter and affecting all the neighbour's sets.

In theory, the circuit was very simple - an ordinary detector operated with plenty of feedback switched on and off by the waveform from an audio frequency oscillator of about 20 kHz. It did not seem to matter where the audio injection occurred as when I consulted various old radio texts I found that the AF or "quench frequency" could be put into the cathode, grid or anode while in Newnes "Short-wave manual" a circuit using a tetrode detector, recommended injection into the screen grid as being more efficient.

A second variety of this circuit exists, the "self quenched" type, in which coils suitable for audio frequency are placed in the cathode and anode of the radio frequency oscillator to cause the one valve to oscillate at both radio and quench frequencies. It is also possible at high frequencies to produce a self quenching effect by a suitable choice of grid capacitor and grid leak (the so-called "squegging " oscillator).

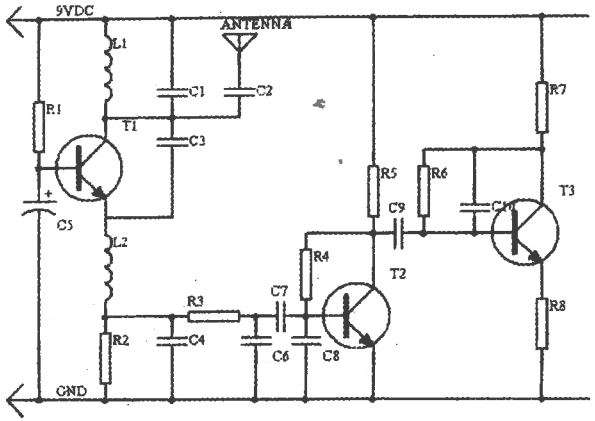
Because of the broad tuning, the superregenator was more suited to VHF and early receivers for 5 and 10 metres, citizens band and model control used this set-up. When I taught overseas and ran a radio club I saw a superregenerative model control receiver circuit using transistors. I reasoned that if I put in a bigger coil I could probably pick up short wave and when I built such a set it did indeed work very well and only needed a short rod aerial.

Various young radio enthusiasts built up this circuit and recently I was interested to find it again on the Internet. I include the circuit here but I definitely cannot recommend it now. The RF interference it produces would make it highly illegal today. I was lucky in that the country I was in at the time was highly relaxed over such things!

Description

This is a simple RF receiver mainly for low-distance digital radio receiver application. The analog output of the circuit should be connected to a schmitt-trigger signal conditioning circuit with a proper value capacitor (from collector of T3). L1 for 27MHz is about 10 turns, 6mm diameter coil body.

Schematic



Components

R1	220k	C3	22p
R2	10k	C4	2.2n
R3	33k	C5	10u
R4	1M	C6	4.7n
R5	56k	C7	22n
R6	1M	C8	4.7n
R7	33k	C9	470n
R8	1k	C10	470p
C1	22p	C11	47u
C2	4.7p	L2	100u
T1	BF198		
T2	BC182B		
T3	BC182B		

For the record the modifications I made to this circuit to receive shortwave stations were : coil L1 = about ten turns on a half inch diameter former, C1 = a variable 2-300pF, C2 = about 22pF and the feedback capacitor C3 = about 300pF. A reaction control may be made by substituting R2 with a 47,000 Ohm potentiometer. L2 is a radio frequency choke. The capacitor C11 is a 47microfarad across the battery supply. Audio frequency output may be obtained from the collector of T3.

If suitable precautions are taken to reduce radiation from the antenna such a circuit is still useable today. A very well shielded radio frequency stage (using a screen grid valve) before the superregenerative detector will achieve this. The detector will also require to be well shielded with RF chokes in the supply leads to prevent direct radiation. Transistors are probably not suitable for the RF stage as direct feedback from collector to base can occur. Neutralisation might be possible though tricky.

To sharpen the tuning the RF stage could also be tuned although this involves manipulating another variable capacitor. A double gang capacitor is not easy to fit with all the shielding needed.

The "infernal hiss" can be mostly removed by a simple filter before the audio frequency stages.

References Newmes Short-wave Manual (F J Camm) 1942.
Internet :- use a search engine to find superregenerative"

POST OFFICE RADIO - PART 2

Reg Motion

In a previous article (February 2001, page 4) I covered some of the work carried out by Post Office Radio Section during World War 2, in particular that in which I was personally involved or knowledgeable. This article covers the immediate post war period and as before is limited to developments where I was directly involved.

After their wartime experience with radio communications it was only natural for returning servicemen and others to be enthusiastic about the application of radio to mobile communications. The police force and taxi services were in the vanguard in this respect. Post Office provided all public telephone services and, I suppose, it was only natural for the public to look to it to provide a mobile equivalent.

The higher medium frequencies (1.6 to 3 MHz) were used for mobile communications by shipping generally, and in some overseas countries by police. However, their relatively high received noise level in cities, their limited availability and their vagaries over long distances ruled them out of consideration for a public service in NZ. Very High Frequencies (30 to 300 MHz) promised a more reliable though limited range service and with this in mind, towards the end of the war tests were conducted in the hilly Wellington City precincts using both FM and AM equipment's. These tests were carried out under the direction of Alan Ross who designed the equipment, controlled the testing and wrote the subsequent report which gave a basis for settling on amplitude modulation. Single frequency simplex operation was envisaged for the service at that time, ie. on any one channel transmitting and receiving equipment would use only one frequency. FM was principally ruled out on account of its wider sideband distribution and its "quieting effect". For a given range of speech frequencies FM occupies a wider RF channel width than AM while the "quieting effect" may prevent a mobile from receiving a signal when a nearby mobile is transmitting on the same or an adjacent channel. Also "quieting" prevents extension of the range of a mobile service by putting in a second distant base station simultaneously transmitting the same speech as the first station and operating in the same RF channel but with a frequency displacement above the speech range (say 10kHz) thus allowing the otherwise annoying beat frequency to be filtered out. Lack of NZ industry familiarity with FM was another, though minor, consideration.

Around 1947 the Post Office formally undertook to provide, install and maintain all fixed base equipment's leaving the provision and fitting of mobile sets to private industry.

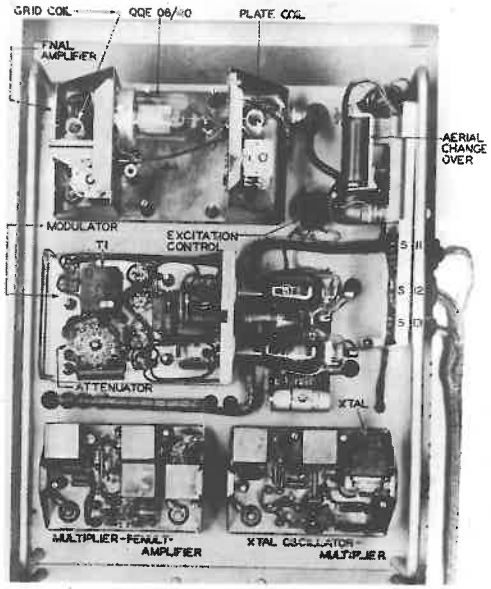
In overseas countries at that time the fledgling public land mobile services were largely totally provided by private enterprise where the practice was for each firm to provide a base station wherever they could negotiate a suitable site. This caused a proliferation of base stations around a city each with varying degrees of coverage. NZ Post Office decided to select the best base site in a city to obtain the widest possible coverage and to

NZPO VHF BASE STATION TYPE 48
on display at a Post Office Exhibition

concentrate all the base transmitter/receivers at that one site. Speech signals to and from the base station were carried by cabling from the subscriber's premises to the hilltop base station. This gave all mobile subscribers the same wide coverage but provided some real headaches for radio design staff in preventing mutual interference between transmitters and receivers at the base site as the number of users and the demand for exclusive rather than party line operation of services increased.

The frequency band, 100 to 108 MHz was allocated for public land mobile service in NZ and modified war surplus VHF transmitters and receivers such as SCR522 sets were used at base stations to start with. These operated reasonably until more than one set was installed at a site when their selectivity was inadequate: the transmitter of one service bursting through to drown reception on the other service.

As the demand for channels increased at such places as Auckland's Mt Eden installation it became evident that something much better than the war surplus equipment was needed. Suitable base sets were not available from the market so a decision was made to design our own. A team was assembled in Radio Section to carry out this design and the Type 48 VHF base set was the result. By today's standards this set was massive - it stood 1.9 metres tall in a standard relay rack but size was not a limitation - performance was all-important. In the photo opposite the top unit in the rack is the transmitter with, below it, the receiver, test oscillator, receiver power supply and transmitter power supply in that order



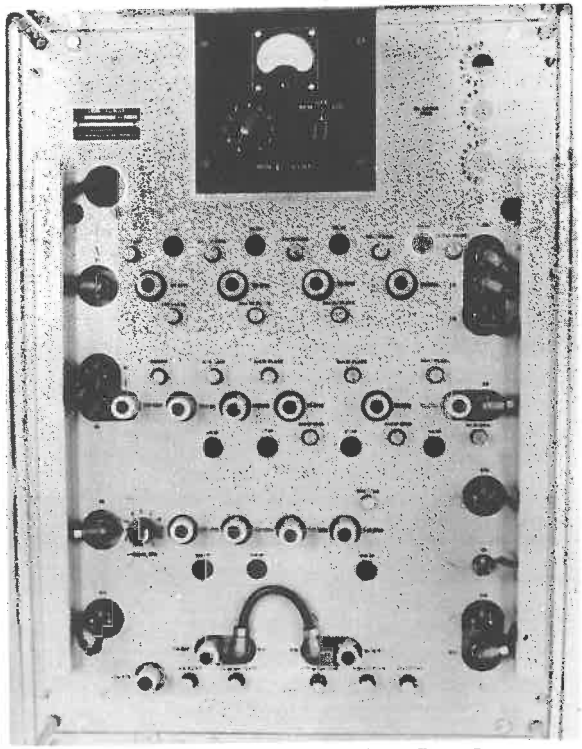
Rear View of the Transmitter Panel
(module covers removed)

Bill Wilkin took charge of the mechanical design. Transmitter and receiver used 3/16th thick steel panels with individual modules attached to the panels by thumb screws to facilitate rapid removal for maintenance. Each RF module was completely screened in a copper box which when mounted on the panel allowed valves and controls to be accessible from the front of the set. Pye coaxial connectors carried the RF signals from module to module via the front panel which permitted easy access for testing and alignment when required. Howard Jones connectors carried power to the modules.
Plate currents of valves in the transmitter were monitored by a switched meter while in the receiver each valve had its own socket where a meter could be plugged in for monitoring purposes.

I was responsible for the design of the transmitter which was quite conventional - an EF91 crystal oscillator followed by an EF91 quadrupler formed the first module. the second module contained an EF91 91 as doubler and a QV04/6 as penultimate amplifier. The final module housed a QQE06/40 as final amplifier with an EB91 diode to monitor the RF output to the antenna. On a separate module an audio amplifier with compressor fed two type 807 valves as modulator. Compression took place when the level of input from the line to the subscriber exceeded that which produced 50% modulation.

The quartz crystals used in the transmitter as well as the receiver were around 12/13 MHz which was as high a frequency as could be readily produced at the time. This was much higher than was in general use by the industry but was necessary to put spurious outputs from the transmitter and spurious responses of the receiver outside of the band of frequencies in use for the base stations(100-108 MHz). The extensive screening of each module also assisted in this regard.

Alan Ross and Eric Young carried out the design of the receiver. They attempted first of all to produce a TRF as that would have eliminated any spurious responses but they could not achieve the desired selectivity with stability so proceeded to a superhet design with 10.775MHz IF. Three EF92's as IF amplifiers were preceded by a 3 stage RF section using an EF91 first RF followed by two EF92 RF amps and an EF91 mixer. Interstage RF couplings consisted of separate shielded tuned circuits in the anode and grid of the valves concerned with capacitive coupling thus increasing the RF selectivity to the limit. In the IF stages separately shielded coils were again used but with an inductive coupling link between anode and grid coils of the interstage coupling.. AVC arrangements were conventional, the large number of controlled stages giving very good control of the audio output . A noise silencer was included to remove spikes of noise such as might be produced by car ignition systems.

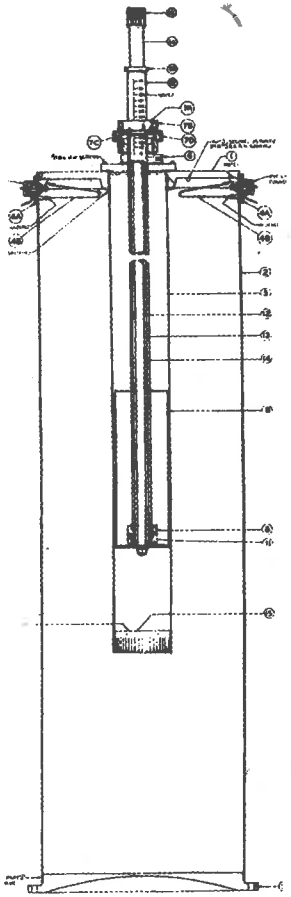


Front View of the Receiver Panel

The audio level to and from the subscriber via the underground cable was adjusted with stepped attenuators to ensure accurate setting. Control of the transmitter receiver switching was initiated from the

subscriber via a relay which changed over the antenna feed and the audio line then switched on either transmitter or receiver as required.

Collier and Beale produced 100 copies of this prototype base set for the Post Office and these proved to be very satisfactory in use. By 1952 this supply was exhausted and a further 100 sets were produced - this time by Radio Corporation (type 52).



As the demand for channels increased it was found necessary to reduce the frequency spacing between channels and the receiver selectivity required further improvement. A conventional LC filter was designed for inclusion within the antenna feed to the receiver but although this proved partially successful it's high passband loss (8dB) was too much for some services .

Coaxial line filters, designed and built in Radio Section in 1950, overcame this problem. These filters had to attenuate the received signal as little as possible while giving maximum rejection of the unwanted transmitter signal which might be as close as 300kHz.. This required that they be of as large a diameter as practicable and of high conductivity material. 250mm diameter copper tubing was used for the outer conductor and the result was a massive floor standing device about a meter high. The inner conductor (shown foreshortened for clarity) had not only to be readily adjusted in length to tune to the required frequency but had also to be mechanically stabilised against temperature change. Bill Wilkin designed a compensation mechanism of steel and aluminium tubes the expansions of which acted in opposite directions to keep the inner conductor length constant.. In today's world Invar metal would be used for this purpose.

A further problem was the mysterious intermittent appearance of radio interference . Following a comprehensive investigation of this annoyance by Charles Sturton and Gordon Campbell the source was traced to intermodulation of two transmitters producing a signal on another received frequency (commonly 2F1 - F2). This intermodulation was caused by any rectifying element within the immediate vicinity of the base station. It became known as the "rusty bolt" effect as rust where two metals were in contact was a common cause. Station buildings and antenna riggings were redesigned to eliminate this effect as far as practicable by either separating metal parts or bonding them firmly by welding or with short straps. We continued to learn!

(to be continued)

I gratefully acknowledge the assistance of many former Post Office radio technicians in gathering details of these older land mobile equipments.

VINTAGE RADIO COLLECTING CLASSIC OBSESSIONAL DISORDER SYNDROME.

The first step in the evaluation of a patient with this unique variation on classic obsessional disorders is a visit to their home. Below is a chart listing the five recognised levels of the syndrome's severity, which will determine the mode of treatment.

Class 1 - Subject has antique radios displayed in single layer displays in one or two rooms of the house, up to two dozen. Spends 2 hours per week on average obtaining and repairing radios. Has modest repair shop with suitable test equipment.

Class 2- Displays more than 50 radios, now two layers deep, obscuring radios behind. Has obviously broken things visible to public, plus quantities of test equipment. Spends 2 hours per day hunting and repairing radios, writes articles for old radio magazines. Visits auctions and sometimes bids on radios. Has been known to build single ended amplifiers that sound ghastly and is rumoured to be the inventor of barbed wire speaker cables.

Class 3- Displays more than 100 radios (now 3-4 layers deep), plus 50 more broken ones, and 1940's TV's. Has radios in bathroom and kitchen including consoles. Travels hundreds of miles at the drop of a hat in search of radios. Second spouse has prenuptial agreement with 200 radio cap monitored on an irregular basis. Edits old radio newsletter and has extensive web site. Secretly from spouse, has rented mini storage with 5 consoles.

Class 4- Has radios on one half of bed. Some rooms inaccessible, trails only through radio canyons in most rooms of home. 300 or more radios, no more displays only stacks of radios many layers deep, often without shelving. May own many radio related sundries unidentifiable to nearly every person still living. Usually has dozens of radios mouldering in damp garages, makeshift sheds, or even covered with sheets of plastic in the backyard. Subject may even have stored radios in distant locations they have long forgotten about (Lost Heterodyne Syndrome).

Class 5- [requires immediate deprogramming] In severe cases has an entire second home filled with radios. Subject will have old radios on every bed in the house and most rooms will be inaccessible. Never misses an auction or garage sale and buys every radio in sight. Sometimes bids more than three dollars at a club auction. Founding member of the local vintage radio club. Now has 500 non-working unrestored radios. Is now working on a single ended diode amplifier because he is convinced the grids cause a lot of distortion.

Treatment Usually consists of heavy dosages of Xantax or Prozac combined with a strict hard numbers cap on Aggregate Total Radios monitored by a caseworker. In the most difficult cases the only permanent cures have been affected by the SoCal treatment. This consists of forcing the patient to spent several weeks in an upscale ultra modern apartment in Remuera, eating gourmet vegan vegetarian take out Thai food ordered on the web, and listening to Brittany Spears, U2, and Fat Boy Slim during all waking hours.

With apologies to John Hagstar.

TARANAKI VINTAGE WIRELESS GROUP

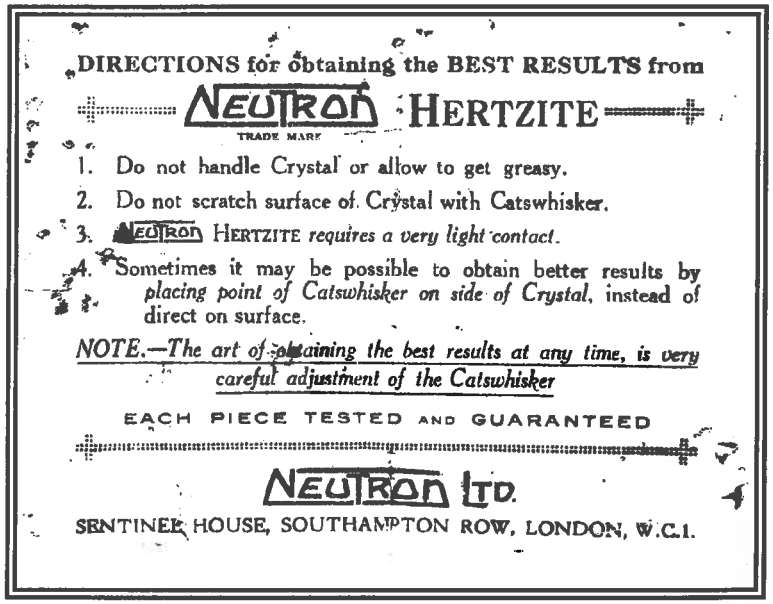
A group of seven people attended a pleasant informal afternoon held at Graeme & Sheena Lea's home.

An "inspection" of Graeme's radio collection, valves and records along with Sheena's china, and teaspoon collections was undertaken. It seems that if the women cannot beat them they join them!!

Graeme's pride and joy. an Emerson radio fully restored, was on view. A very interesting afternoon with discussions held on a variety of topics all of course relating to collections. Following this afternoon tea was served.

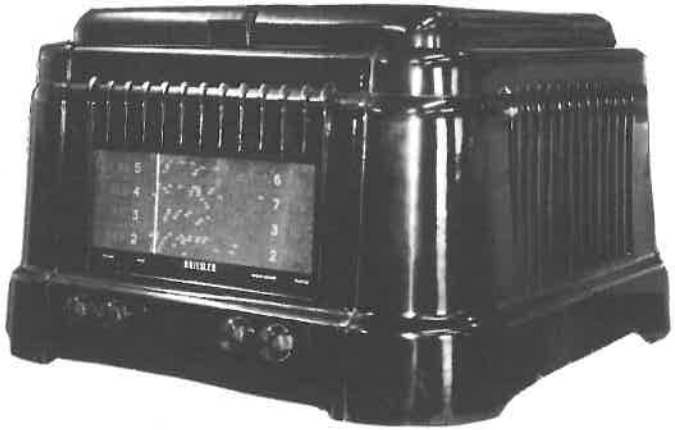
Out of town members and partners are most welcome to come along to any of these meetings. Come along and enjoy some Taranaki Hospitality.

The next informal meeting will be held on Sunday 9 September 2001 at 1.30pm. at Brian Tipler's, home, Kahouri Road, Stratford. On your left just before you go into Stratford, if you get to the Abbatoir you have gone too far. (just over the Railway line, look for the tri-band ham antennae), Phone 06-7657109 Please confirm your attendance beforehand and ladies a plate please.

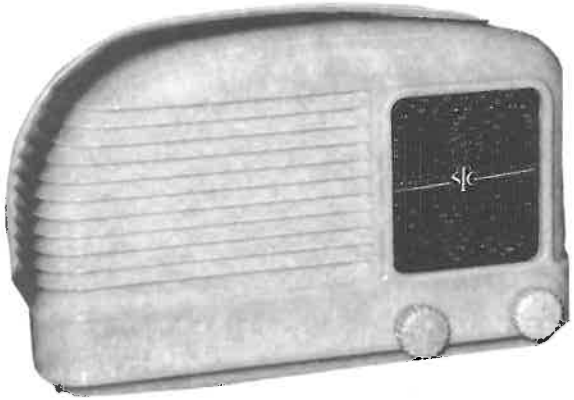


Shades of the past

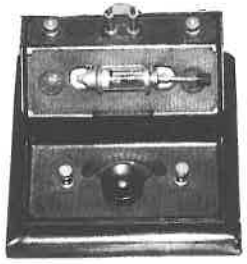
Early 1920s Atwater Kent Breadboard Radio. By selling the bakelite mounted pieces as a kitset to be assembled by the purchaser and not as a complete radio Atwater Kent avoided the high patent fees charged by RCA.



Kriesler.
One of the larger all-bakelite cabinets made in Australia. (nicknamed the "Dunny Seat" for obvious reasons).



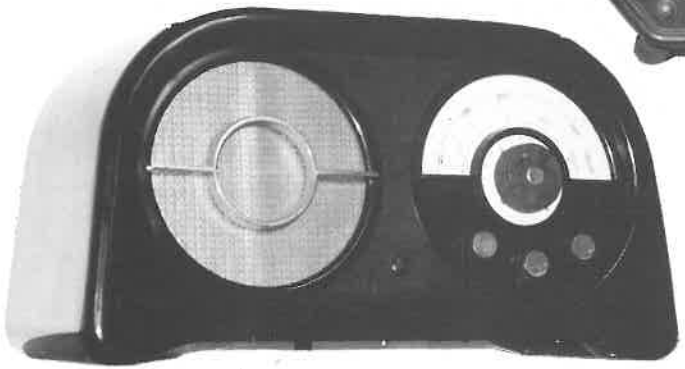
STC
This radio known as a Caravan model was produced in Australia by STC.



Brownie
A classic early crystal set with black bakelite housing

Left - **Philips Round Speaker** All bakelite and one of the few Philip's roducts to be designed and made in NZ.

Right - **Philips Sevenette Speaker** - 1920s all bakelite cabinet.



EKCO Another all bakelite cabinet, produced in the UK with BC and SW bands for NZ and LW band for the UK.

Bakelite Bakelite

By Rod Osborne

Most NZVRS members who maintain a radio collection will have at least one model with a Bakelite cabinet. This Thermosetting Phenolic Resin was first patented in 1907 by a Belgian born chemist, Leo Baekeland. He named it Bakelite and it was the first totally synthetic thermosetting plastic. Unlike thermoplastic materials, which can be reheated and shaped, Bakelite being thermosetting, when set, is set for life.

If protected from sunlight and chemicals it also will maintain its colour and texture indefinitely. When used for radios, direct exposure to sunlight is the main destroyer of its finish. Fortunately cleaning and polishing can restore the finish. Many restorers use a fine cutting compound, followed by rubbing with Brasso and finishing with car polish. I find I get a much better finish by just using a high speed buffing wheel with a fine polishing compound, but it does take a bit of courage to apply a very rare Bakelite cabinet such as a round EKCO to a cloth wheel rotating at 3000 RPM. Surface scratches are also easily removed from Bakelite, I start with a 400 grit wet emery paper with plenty of water and after the scratch is removed gradually use finer and finer paper and then finish either with Brasso or the buff wheel. First try this technique on some unseen part of the cabinet, such as the bottom or inside the cabinet, as I have read that some Bakelite material is only shiny on the surface and rough underneath. I have never found this to be the case in any cabinet that I have restored and I have removed some deep scratches.

I recently purchased what I thought was a common brown Bakelite model 5151 Pacemaker radio at a flea market, but when I attacked it with the buff wheel it turned into a very nice mottled green cabinet. A lifetime of smoke from a coal range and tobacco had completely changed its colour. Unfortunately the chassis and tuning capacitor had been used as a toilet by many generations of mice so if anyone has a good 5151 chassis to spare, please let me know.

The popularity of Bakelite is illustrated by this 1930's scenario – a typical couple would be woken by their Bakelite cased alarm clock, turn on their catalin radio, press the Bakelite bathroom switch, lift the Bakelite toilet cover, shower with soap from the Bakelite soap holder, brush their teeth with the Bakelite toothbrush, he would shave with the Bakelite handled shaver, she would blow dry her hair with the Bakelite drier, and put on her dress with the Bakelite buttons and buckle, switch on the Bakelite cased jug and toaster, eat their breakfast from Bakelite plates and season with salt and pepper from the Bakelite shakers.

The excellent electrical insulating properties of Bakelite made it an ideal choice for plugs, sockets, terminal strips, coil formers, transformer covers etc. It proved to be a great substitute for materials such as rubber, ebonite and wood that had been used previously. The thirties was also the era of "power in the home" with the huge demand for labour saving devices and appliances, all of which made extensive use of Bakelite.

Because of its ability to be molded into intricate shapes, Bakelite opened up a whole new world of design, not only for radio manufacturers but also for ornamental, industrial and scientific use. After the war it temporally lost its popularity, being considered just a cheap imitation of natural products such as ivory, tortoiseshell and horn, but now has enjoyed a real collecting revival as a great product in its own right.

Illustrating the strength of this revival, a green Bakelite round EKCO radio sold for $48,000.00 at a Christie's auction and if you are fortunate enough to have a 1932 Bakelite Radiolette cathedral for sale you could have a nice overseas holiday on the proceeds. Maybe you could even visit the large museum in England completely devoted to the collection, restoration and display of Bakelite products.

A SOLID STATE MAGIC EYE

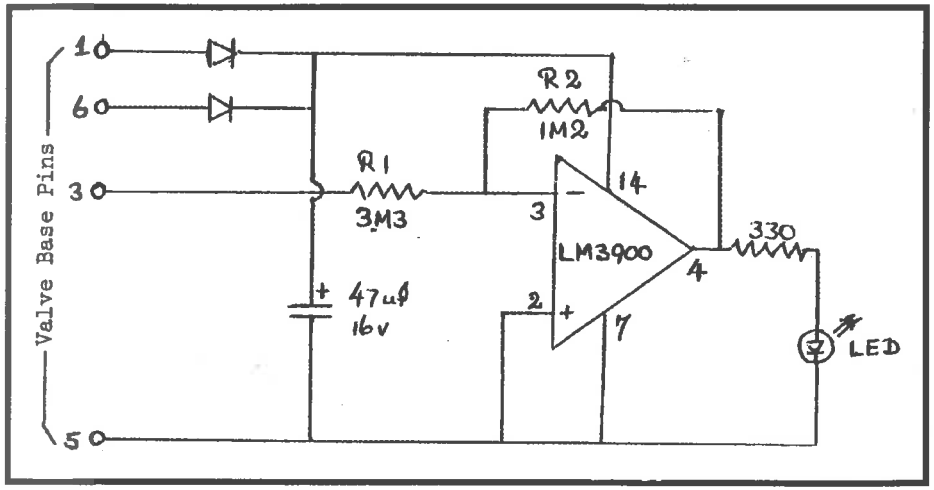
George Newlands

Good Magic Eye tuning indicators are hard to find these days. This article describes a solid state replacement for the 6U5/6G5 which I built up and thought might interest other members of our society.

The system uses one section of an LM3900 Norton Quad Op Amp as a voltage to current converter. Note that other types of Op Amps, eg. the 741, are not suitable for this application.

The unit is made up as a plug in replacement for the valve and contains its own power supply derived from either heater pin by half wave rectification. The LM3900 is very tolerant of supply voltage and will work with anything between 5 and 20 volts. 6.3V AC from the heater supply gives it about 8.5V DC .

The choice of the LM3900 was made for simplicity, availability and cost. A very high input impedance is possible which makes it ideal for this application. R1 can be made as high as 10 Megohms but 3.3 Megohms is a good value to start with.



The gain of the amplifier and thus the range over which the LED will glow between dark and full brightness is set by R2. A typical value here lies between 1 and 4.7 Megohms depending on the AVC voltage swing the device is desired to handle. Optimum values are found by experiment starting at no glow with no signal. In my prototype 3.3 megohms at R1 and 1.2 megohms at R2 gave full brilliance with -12V at the input. By trimming these values the device could be set up to replace any single segment tuning indicator. The LED brilliance is not affected by supply voltage fluctuations but any audio signal on the AVC line will be noticeable as flickering.

Mechanical construction involves the six pin base from a worn out eye and a tubular plastic container that once held indigestion tablets. The electrical components are mounted on a small piece of Veroboard held in the valve base by the four lead wires with the LED mounted so as to protrude through a hole in the bottom of the plastic container after it is fitted into the valve base. This makes a neat unit with the same dimensions as the original valve , plugs straight in place of that valve and has been proven to work in a real radio.

A dual sensitivity eye could be made up by using the second section of the LM3900 to drive a second LED and the circuit is also eminently suitable for driving a signal strength meter

A USEFUL CEMENT

Peter Lankshear

There are occasions, especially when working with coils, that a clear, rapid hardening cement is required. Shellac and varnishes have been used for more than a century and hobbyists glue that comes in a tube is popular, but many of these materials introduce high losses at radio frequencies, ie. they have a poor power factor.

One of the most efficient insulating materials available is polystyrene which has proved its worth as the dielectric in low loss capacitors, and it has been used as an excellent cement when dissolved in lacquer thinners.

Initially, polystyrene was very expensive, but in recent years there has been an inexhaustible supply available at no cost, in the form of featherweight white foam plastic mouldings and chips used as the packing for all manner of items.

Recently when I needed some coil "dope" I successfully experimented with some "do it yourself" polystyrene cement. A small amount of automotive lacquer thinners (the type that has a smell of bananas) was put in a jar and polystyrene chips were steadily added. These dissolved very rapidly and as they are mostly air, the mixture actually effervesced. Chips were added until the mixture had the correct viscosity and after a few minutes the bubbles had cleared.

The resulting cement is exactly the same as the commercial polystyrene cement and apart from a few ml of thinners, costs nothing to make.

ELECTRICAL MUSEUM

Murray Stevenson advises that there is a museum featuring electrical artefacts which could be of interest to some readers. It is in the old Palmerston North power house complex. The curator/caretaker is Paul Burr of Manawatu Hydraulics Ltd. 827 Tremaine St., P.O. Box 1485 Palmerston North.
Phone Paul first; Business - 06/3571365, Home 06/3569442. mobile 025/2430469.

LETTERS TO THE EDITOR

Crosley Cabinet?

I was interested to read the article on the Clipper 5M4 by Rod Osborne, interesting that they came in 5 colours, I have only seen white, red, green and brown but I have heard of a pink one. I think the design is more pleasing than that of the Bell Colt.

I was looking at an Australian website recently that showed a Crosley D46 that uses what appears to be the same cabinet as Akrad's Regent/Pacific models 629 and 511. See page 98 of MGA.

Did Akrad obtain these cabinets or the dies for them from Crosley, USA?.

I did pose this question to Rod but he could not tell me as the models were released prior to his time at Akrad.

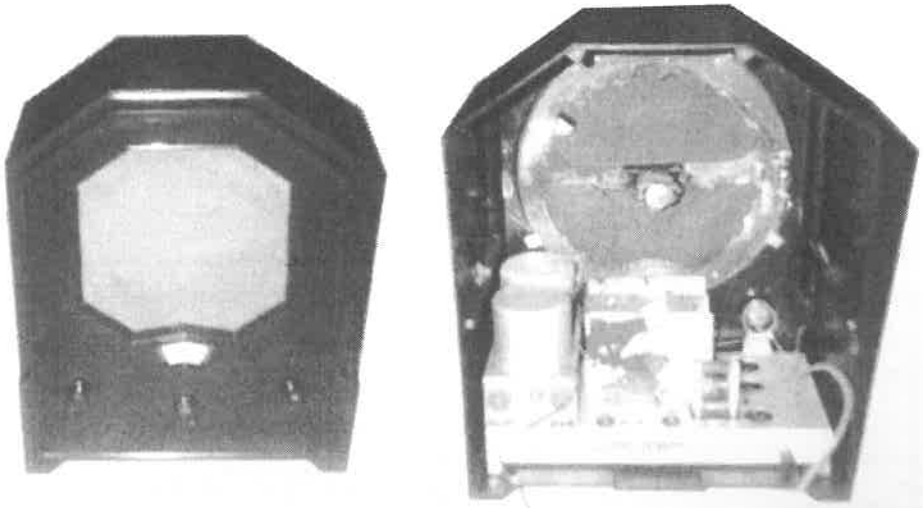
Arthur Williams, Invercargill

Unknown Set

I would appreciate knowing something about the set pictured below. It has a bakelite cabinet and on the chassis it says use only Osram valves. There are three valves, two 4 pin and one 5 pin.

Perhaps someone can tell me the make, type and valve identifications - really I would appreciate any information.

Bob Kean, Rivers, Flintofts Rd., RD1, North Canterbury. Ph 03-3158162.
(The sketch included shows what seems to be English valve sockets - Ed)



No Wonder the Company went Broke.

By Rod Osborne.

Two years before the Wright Bros made their first flight and seven years before Henry Ford made the Model –T, the Shelby Electric Co made a handblown light bulb with a Carbon filament. It was donated to the Livermore Fire Station, to be used as a night-light. That was on June 8th 1901. Since then, the 4 watt light bulb has glowed continuously, with its power backed up by the station's generator.

This year the bulb celebrated its 100 year centenary, easily the longest working light bulb and recognized as such by the Guinness Book of Records and the Ripleys "Believe it or Not" program.

The closest known competitors are a bulb in a New York hardware shop which burnt from 1912, a bulb in the washroom of the Martin and Newby Electrical shop in Ipswitch England which burnt from 1930 to 2001, and a bulb in my toilet which lasted 9 months 7 days.

The bulb has reached celebratory status (it is in America) and now has its own Website
http://www.centennialbulb.org.
with a movie camera sending pictures to the site 24 hours a day.

An interesting 1930 advertisement

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

460 The Irrepressible BC-348. photos, description, versions. Antique Radio Classified, vol 17/7 July 2000, p8

461 The Pilot Allwave. description, photos. Antique Radio Classified, vol 17/7 July 2000, p11

462 Rebuilding Rotary Wafer Switches. removal, sources of parts, repair. Antique Radio Classified, vol 17/7 July 2000, p18

463 Philco and the Years Leading to the Model 39-25. history, photo. Antique Radio Classified, vol 17/7 July 2000, p23

464 Early Loose Couplers. photos descriptions Antique Radio Classified, vol 17/8 Aug. 2000, p4

465 Battery Cable Replacement. Made to order by Rhode Island Wiring Services, photos, cost. Antique Radio Classified, vol 17/8 Aug. 2000, p15

466 A Screen Grid Regenerative Detector. Construction, photos, circuit. The OTB, vol 41/3, Aug 2000, p18

467 Boris Rozing: Electronic Television Visionary. photos, history. The OTB, vol 41/3, Aug 2000, p24

468 The Cape Breton Stations of the Marconi Transatlantic Service. Photos, history. The OTB, vol 41/3, Aug 2000, p32

469 National Notes - Removing the Coil Tray from a Sliding Coil Receiver. The OTB, vol 41/3, Aug 2000, p41

470 Restoration of a Bush DAC10. photos, circuit, alignment. Radio Bygones, no66 Aug/Sept 2000, p4

471 The RAF R.1224 Receivers and T1422 Transmitter. photos, circuits, descriptions. Radio Bygones, no66 Aug/Sept 2000, p8

472 Vintage Wireless and Military Radio/Radar Room at Pitstone Green Museum.. Radio Bygones, no66 Aug/Sept 2000, p17

473 The Two Valve Superhet Communications Receiver. Circuits, performance. Radio Bygones, no66 Aug/Sept 2000, p22

474 Airborne Radio Countermeasures in WW2-part 1. photos, descriptions of equipment and operation. Radio Bygones, no66 Aug/Sept 2000, p24

475 The New Zealand High Powered Spark Wireless Stations. Telefunken equipment, negotiations, photos, construction, sites, services. Radio Bygones, no66 Aug/Sept 2000, p28.

476 The Technico Aristocrat five valve Battery Radio, photos, circuit. Radio Bygones, no66 Aug/Sept 2000, p 13

477 Restoring a Crystal Calibrator No.10. photos, circuit, methods. Radio Bygones, no66 Aug/Sept 2000, p14

478 Finishing the Browning-Drake. cabinetwork, electronics, valves, coil details. Radio Bygones, no66 Aug/Sept 2000, p20

479 Receiver Alignment - part 2. alignment tools, AGC control, dial point alignment, photos, diagrams. Radio Bygones, no66 Aug/Sept 2000, p27

480 The Radiola 9-40. Photos, circuit, tuning mechanism. details. Radio Bygones, no66 Aug/Sept 2000, p32

481 Generating an Alternative Medium Wave Source. Transistorised source for testing MF sets on music. BVWS Bulletin vol 25 no 3, Autumn 2000, p10

482 Where did the Valves go During the War, Daddy. why valves were short in WW2. BVWS Bulletin vol 25 no 3, Autumn 2000, p15

483 2001 - the Gecophone Challenge. restoring a GEC 2001 (smokers cabinet set) photos, description. BVWS Bulletin vol 25 no 3, Autumn 2000, p16

484 Marconi Osram Valves- the war years and aftermath. photos, history. BVWS Bulletin vol 25 no 3, Autumn 2000, p18

485 The Poor Man's Guide to Amateur Radio. Using recovered equipment. Photos, description. BVWS Bulletin vol 25 no 3, Autumn 2000, p28

LOST

At a recent Auckland meeting Tom Duxbury brought along a book on RNZAF Aircraft and unfortunately went home without it. Tom values this book for obvious reasons and would appreciate its return or info on its whereabouts.

MARKETPLACE

Advertisements for the next issue must reach the editor by the 13th Oct. 2001. 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

Original issues of "Amateur Wireless and Electrics" published weekly, most dates between 1924 and 1928, 4 copies for $10 including postage, very interesting reading especially the ads etc. Also Clipper 5m4, one brown and one white (see NZVRS bulletin Feb. 2001) $40 each. Also 1931 Majestic 8 valve superhet, MGA page 164, complete except no knobs, $40 excepting cartage.. Also Columbus model 91 in flotilla cabinet (radiogram), MGA page 118, $75 excepting cartage. Also Columbus Model 1665 mains/battery plus Model 91 chassis plus unidentified Columbus table set, $35 the lot excepting cartage. Will trade for some or all of above. Terry Ryan, Whangaehu Valley Rd, Kariori, RD1 Ohakune. Ph 06-3859201

Fahnstock clips, unused (as used on breadboard crystal sets and classic one valve sets of old), would prefer to make dozen lots available to any applicants free of charge. Send $1 per dozen to cover postage. Bill Heinz, 74 Beazley Avenue, Wellington 4.

Home wanted for Ultimate EKCO radiogram, broadcast band radio Galileo model U521, good working order. John Adams, 61 Maxwelton Drive, Mairangi Bay, Auckland. Ph 09-4783843.

For Airzone 615, cabinet only, horizontal mantel style about same size as Columbus 90 cabinet, no dial escutcheon, a few borer holes but no active borer, free. Also chassis for Bush DAC90A (no knobs), working, $10. Also Rolls chassis, good dial scale, dial pointer, IFT's and coils, originally a battery set, no power Tx. Free. Also B&W TV, MRI 21 inch tube with safety glass, EDAC kit, polished cabinet on short legs, 8" x 5" speakers, was working. Free. Columbus 402 portable, scruffy, no speaker or valves. Also two American Bosch car radios, 1930s, round can shape, single units, one only Bowden cable and control head assembly, good condition, not restored, $50. Also four of 5BP1 CRTs, all new in cartons. Ross Paton, 56 Glengarry Rd, Glen Eden, Auckland 1007. Ph 09-8188463.

WANTED

Tannoy hifi loudspeakers, good price paid. Ian Sangster ZL1RCA. 75 Anawhata Rd, Piha, RD New Lynn 1250.
Ph 09-8149597.

Ultimate Skyscraper models EBS and EA. The EA must have pushbuttons because I already have one without them. Daniel Hockey, Ph 09-2357402.

"RCA" equipment badges. Also turntable/arm/cartridge for a 1929/30 Majestic 100B radiogram. Clarrie Schollum, 34 Pentland Ave, Mt Eden, Auckland. Ph 09-6307011

Copy of owners manual and (if possible) circuit diagram of Revox model B77 stereo tape recorder. Also any info on Silver Briton console model LB (5 tubes + rect, two band). Circuit, manufacturer's details or whatever appreciated. Also 3 brown bakelite octagonal knobs about one inch diam. Also any info on RCA/AWA Voltohmyst type 1A56074 - especially meter zero instructions! Henry Devenport, ZL2HY, 1782 Wharerata Rd, RD 2, Gisborne 3820. Ph 06-8628877.

Uncracked bakelite case for Columbus 515. Also Columbus models 38, 39 and 60, preferably in restorable condition. Also cabinet for Columbus 75 (with or without chassis). Also any other restorable Columbus radios. Also coloured Bell Colts and push on Bell Colt knobs. Also valve books of any sort. Also Zenith radios (particularly consoles). Also knobs of any shape, form or size. Also cheap or free junker (parts) chassis. Also radio valves. Also two identical knobs (one with pointer on knob) for an Ultimate that has direct drive tuning. Phone Hayden or Keith Annabell on 09-2380675, 025-2642423, 025-6132859. 17 Glenbrook Rd, Karaka, RD 1 Papakura. email mhf@ihug.co.nz or muzzie@earthlights.every1.net

Philips Theatrette model V7A or part of . Sam Lowe, 23 Hurdon St, New Plymouth. Ph 06-7536693.

Information and circuit diagram for Pye component tester Ref. No.940034. Graeme Lea, 73 Wallace Place, New Plymouth. Ph 06-7585344.

Dial scale for HMV Little Nipper model 495, ref. GAR page 144. Bill Campbell, 225A Tukapa ST., New Plymouth. Ph 06-7532475.