BRITISH

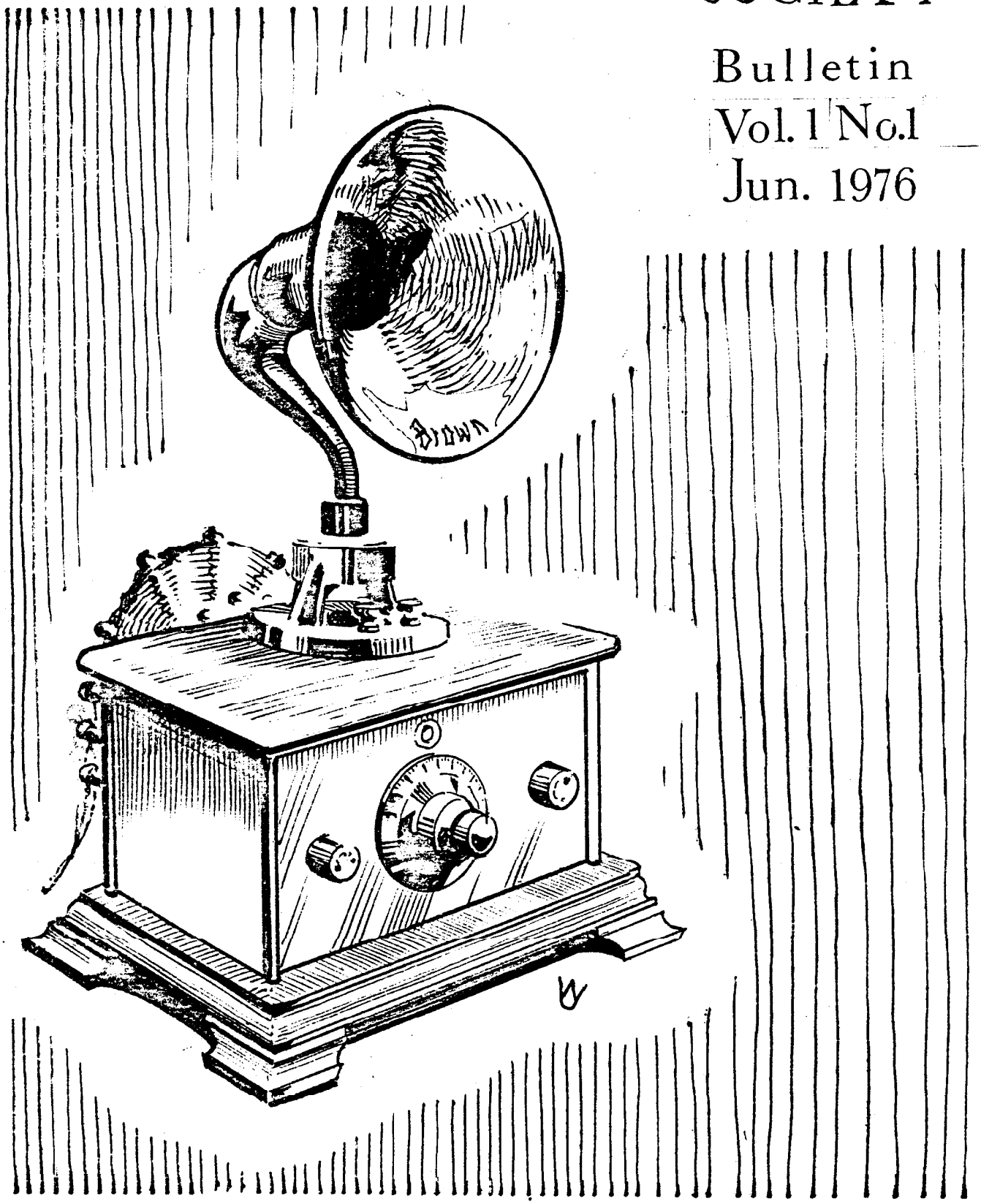
VINTAGE WIRELESS

SOCIETY

Bulletin

Vol. 1 No.1

Jun. 1976



The British Vintage Wireless Society was formed

on 25th April 1976.

The first committee meeting consisted of:

A.R.Constable 18, Ravensbourne Gdns., Ealing London W.13
01-997-7564

J.A.Gilles 33, Lannock Rd., Hayes, Middx 561-5199

Jon Hill 11, Gainsborough Gdns., Hampstead, London N.W.3.
01-794-2764

D.W.Grey 93, Wycombe Lane, Wooburn Green, High Wycombe,
HP10 OHJ 06285-23190

N. Jackson 5, Pyremont Rd., Stratton-on-the-Green,
01-994-3886

I.E.Higginbottom, 5,Templewood Ave., Ealing, London W.13
01-998-1594

The aims of the Society are to promote the study of wireless history, to collate existing source of information and to encourage the preservation of early equipment.

Membership of the Society is open to anyone interested in any aspect of the history of wireless.

The address of the Society for the time being is:
18, Ravensbourne Gardens, Ealing, London, W.13

FRONTISPIECE The receiver is the PYE 720 two valve battery set made about 1926. This set was designed to take the valves P.M.1 and P.M.2 and sold for £9.11.6. plus £1.15.0 royalty. The front, rear and side panels are made of crackle finish black painted aluminium with round corner pillars. The base and top were of polished oak and the plug-in coils fitted into sockets at the back of the cabinet. The front panel dimensions are 8" X 5" - a very compact receiver for the period and, with the new PM valves, a very good performer. The circuit is very simple - detector and LF. The speaker is the Brown H2 which, at 12" high seemed an appropriate match for this set. (The Pye 720 was normally advertised to go with the Amplion Cone and the above price included the speaker.)

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Editorial

The history of wireless can be divided into three well defined periods. The first, the pre-history, began with Maxwell or even Faraday and included the well known work of Heinrich Hertz, Professor Hughes, Professor Righi, Edouard Branly and Oliver Lodge. This period ended when Marconi pulled the various bits of hardware together properly and demonstrated more completely than any of his contemporaries (such as Alexander Popov or Henry Jackson) that the transmission and reception of wireless messages was a practical possibility.

The Middle period lasted (in this country) until broadcasting established itself after the first world war. This period saw the transition from the coherer to the magnetic detector, the carborundum crystal, the Flemming valve and the de Forest Audion. It also saw the transition from telegraphy to telephony and, although amateurs became deeply involved during this time, wireless remained essentially an instrument of Government control and military application.

The final period, which in this country started about 1922, saw the evolution of wireless into a vast industrial concern in which engineering, craftsmanship and artistic design joined forces to give rise to the domestic wireless set. This period saw the development of the dull emitter triode, the tetrode and the superheterodyne to name just the few major landmarks which appeared before the second world war. Some people might argue that the most momentous events of this period were broadcasting itself and television broadcasting in particular.

The wireless historian will find much of interest in each of these periods and may well extend his interests to the post second world war developments in solid state electronics. The collector of old wireless equipment often collects very widely before he settles down to a specialised interest such as first world war, early commercial crystal sets, early home-made sets, everything pre 1927, mains operated TRF, 1930's superhets or indeed he may continue to collect bits from every category. Whatever the collectors' interests may be, they usually become aware of the need to accurately research all aspects of their equipment. This can be a fascinating task but it is also at times very frustrating when, for example, an old vintage masterpiece cannot be fully restored because a single authentic component is missing. It is hoped that this Bulletin will enable members of the British Vintage Wireless Society to exchange information on all aspects of wireless history and to thereby solve many of their problems - such as missing components, manufacurer's dates, components descriptions, restoration tips and technical data.

Read this Bulletin and write to us. Send any information you wish for inclusion in the next issue (or subsequent ones). If you disagree with anything you read in this issue please write and tell us - and preferably send us your own (controversial) contribution. Articles on particular sets of the 1920's and 30's will be most welcome.

The organisers of BVWS are very grateful for the support given to us by the few 'Founder Members' we have now acquired. The membership subscription still stands at £5 and it is sincerely hoped that the time will come when those of you who risked this 'large sum of money' will be able to say, "It was worth it".

RESTORING OLD ACCUMULATORS

Collectors of old wireless sets occasionally like to operate the battery models with period accumulators. Unless un-used accumulators can be found one is often faced with the question, "can this well-used over sulphated 1930's glass accumulator be restored?". All too frequently the answer is undoubtedly "No" as the plates themselves are cracked apart. If, however, the plates are structurally sound then it may well be that full restoration is possible. An old accumulator has frequently been allowed to discharge completely, the liquid contents had then been cautiously poured away and the battery had then been abandoned until re-discovered by the collector. During discharge lead sulphate formed - a perfectly normal process. To ignore for the moment some of the more modern theories of lead-acid battery chemistry, the complete reaction is:

$$Pb + PbO_2 + 2H_2SO_4 \underset{\text{Charge}}{\overset{\text{Discharge}}{\rightleftharpoons}} 2PbSO_4 + 2H_2O + \text{Energy}$$

So the lead sulphate ($PbSO_4$) is a natural part of the discharge process and reverses as shown during the charging process. If the discharged cell is left standing for some time and particularly if the plates come into contact with air the lead sulphate will change to a hard, white, crystalline insoluble form. This is the condition in which we are likely to find an old accumulator that is otherwise structurally sound. A very successful way of re-converting this hard sulphate into the suluble form is to fill the cell with distilled water, rinse thoroughly, fill again with distilled water and charge at a very low current (a drop of sulphuric acid may be required to start the charging current). Keep charging for several days and if the specific gravity beging to rise as high as, say, 1.100 replace with distilled water. The hard white sulphation will eventually disappear. When it has, fill with acid of specific gravity 1.200 and charge normally at, say, 2 amps. Continue charging until specific gravity reaches 1.260-1.280 and then put into use. The cell should now be back to normal but you should observe its behaviour rather carefully during the next few charge-discharge cycles. If the specific gravity drops too low or has

a tendency to rise to too high a value readjust accordingly until optimum conditions are obtained.

THE LOEWE RECEIVER

The Loewe-Radio Company introduced their multiple valves at the Berlin Wireless Exhibition held in early September 1926. Two valves were made by Loewe (pronounced LERVER), the 2NF and the 3NF. The 2NF consisted of two tetrodes in a single glass envelope with the necessary anode resistance, coupling capacitor and grid resistor integrally mounted inside the glass. The 3NF (The letters NF mean Nieder Frequenz - Low frequency) consisted of three triodes together with all the necessary RC coupling components mounted in one glass envelope. According to one contemporary observer, these exhibits stole the show for their novelty value. Apart from that the Loewe valves did not make anything like the impact one might have expected. The Loewe-Radio Company must have expected greater things when they introduced these valves which were developed from the work of M. von Ardenne and Heinert. They discontinued to manufacture their previous types of single valves and were selling the new ones for 75p (for the 2NF) and 87½p (for the 3NF) plus licence fees of 25p and 39p respectively. They were also offering to repair any burnt-out valve for 40p, replacing not only the burnt-out filament , but also the others at the same time.

Two Loewe recievers were exhibited at the Berlin show. One of these used the 3NF alone and, apart from the valve, the only other components were tuning coils and condenser! The set functioned as anode bend detector plus two RC coupled LF. The other set used both valves and therefore had the addition of two stages of HF amplification. This set sold for £6.75 inclusive of licence fees but exclusive of the four plug-in coils.

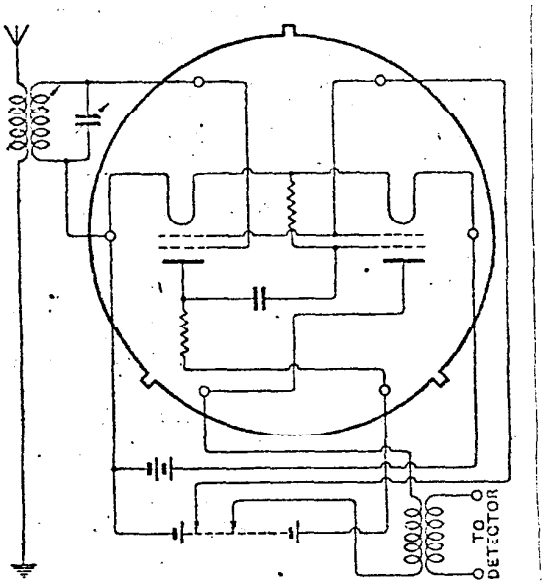
The simple receiver functions exceptionally well and only requires 3.0 to 3.5 volts on the 4 volt filament for good demonstrations of its selectivity and volume output (thus prolonging the life of these hard-to-replace valves - if you are lucky enough to have one!) The most critical setting is the 1.5 volt bias required for the first triode to function properly as an anode bend rectifier.

The writer has never seen the 2NF and has certainly no experience with the two-loewe-valve set and would be most interested to hear of any collector who has such experience.

Two collectors recently stood the three serviceable 3NF valves they owned between them together on a table and wondered, "..is a 50 year old trio of serviceable Loewe valves a unique sight?".

Well, is it?

Diagrams on following pages.



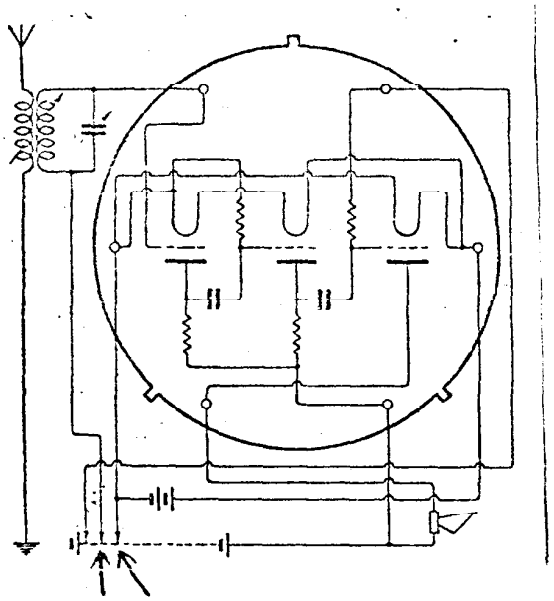
The 2HF

When used together with the 3NF, the output transformer of this circuit is simply the aerial transformer of the 3NF.

Reaction was obtained by connecting a small variable condenser between the first grid of the 3NF and the first grid of the 2HF.

At 4 volts, the filament current is 0.17 amps.

(Note: the valve base connections in both diagrams are as seen from above.)



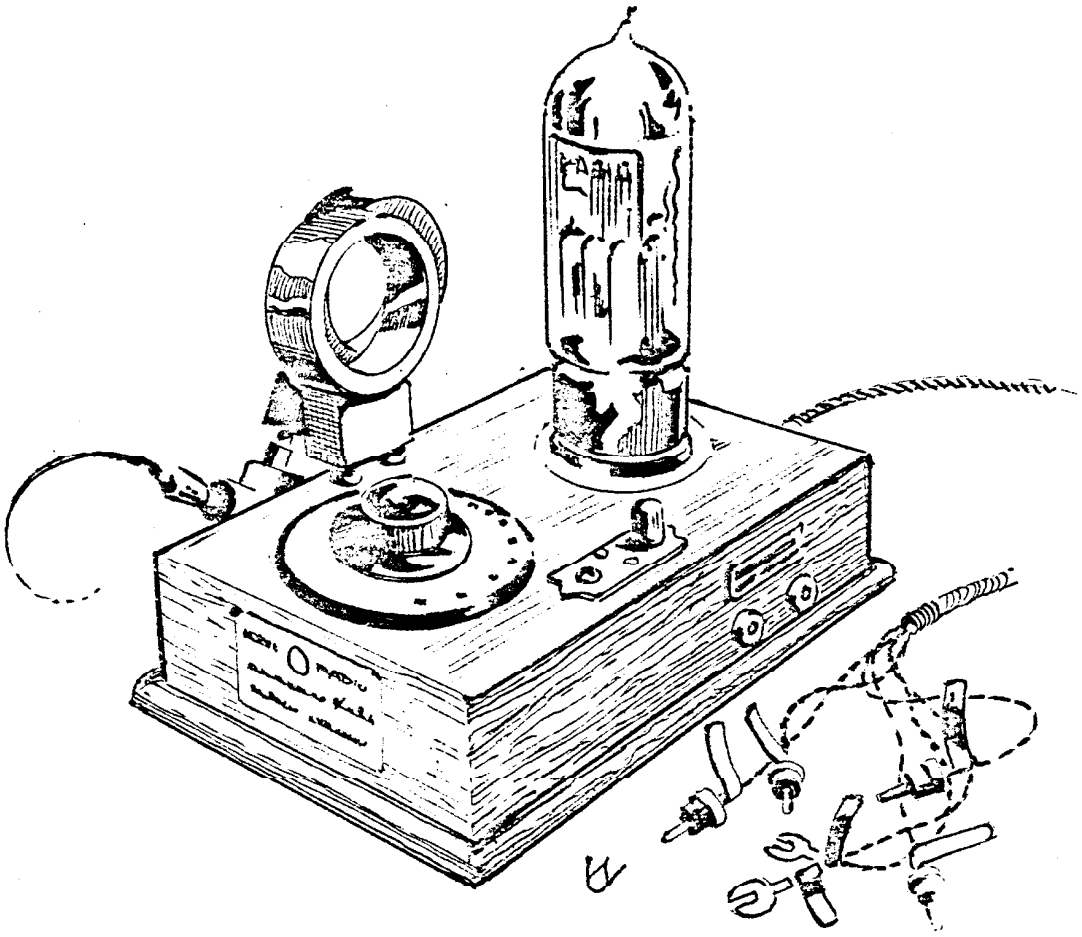
The 3NF

This is the circuit of the simple Loewe receiver shown on page 5.

As well as the external base connections shown here, an unconnected wire also emerges from the valve base. This wire leads directly to the anode of the first triode and it is assumed that the lead was req'd for testing purposes during manufacture. However, it could also be used to modify the value of the resistance in the first anode circuit, or even to add external reaction circuitry.

The bias voltage between the two arrowed battery leads is very critical and the set only functions satisfactorily if it is very close to 1.5 volts.. At 4 volts the filament current of the 3NF is 0.34 amps.

Incidently, the Americans also brought out a multiple valve early in 1927. The 'Emerson Multi-Valve' was a triple triode but, unlike the Loewe valve, it had no built-in coupling components. The four base pins and four terminals at the top of the base were sufficient to gain access to all internal electrodes ....the three filaments were connected in series and took 0.25 amps at 5 volts.



The single valve 3NF Loewe receiver. The tuning condenser is a mica dielectric, aluminium plate version without any slow motion control. The only other control on the top panel is the push switch for L.T. on/off. The loud speaker plugs into the sockets on the right hand side. The aerial and earth leads fit directly into the swinging coil and the appropriate degree of coupling is achieved by simply swinging the coil on its pivot.

What's in a name?

Readers will doubtless have come across all sorts of stories regarding the origin of many of the names which have been in use since the early days of wireless. Here are two examples:

BURNDEPT.....a firm started by Mr W.W.BURNham of DEPTford S.E.8.

OSRAM.....light bulb filaments made by this firm were made from the metals OSmium and wolfRAM.
(Wolfram is tungsten .... in case you didn't know.)

Let us have your contributions - even if the validity is doubtful.

A RESTORATION NOTE

Collectors are often unwilling to complete a restoration job, even when the need is very great, because to do so would mean the possibility (or even probability) of ruining the manufacturer's original transfers.
Any information regarding the best way of dealing with this problem would be very helpful to many collectors.
Is it true, for example, that it is possible to remove the transfer before restoring the surface and then to replace??? -- If so, would anyone skilled in this operation be prepared to divulge the secrets?

Owners of the Magnavox loud speaker who are in this 'transfer dilemma' will be pleased to know that an original decal can be obtained from Magnavox (159, E Union Avenue, East Rutherford, N.J. 07073) for the sum of $1.50 each.

Some BBC stamps are circulating among collectors. Where are these obtainable? And are they original?

Does anybody know of other sources of manufactuers' transfers?

MORSE KEY MYSTERIES

A morse key is usually a simple enough device and, when acquired, is usually tucked away in one's collection and forgotten about. Occasionally however, even with such a straightforward item, there remain some unanswered questions.

For example: A small brass key with brass base on wooden platten with the following inscription engraved in the brass base:

Key Dummy Signallers Mk II
Croggon & Co. Ltd.,
1918
No 22906

Somebody must know exactly what this key was used for (many guesses have already been dealt with and tentatively dismissed). It makes a good tapping sound, has no electrical switch action and is considerably smaller than a normal size key.

And here is another: This one consists of two keys side by side on a very smart ebonite base with small corner feet. The two keys are well engineered and, where side screws and tapered pivot pins are concerned, each is a mirror image of the other. The name 'Elliott Bro London' is engraved and whitened on the ebonite base and the underside wiring connections are also white engraved on the upper surface. Again, many guesses have been made but does anyone know exactly what the purpose of this double tapper was?

Your letters please.

Please send us material for our next Bulletin. Anything at all will be welcome as long as it is relevant - anecdotes, historical, questions, restoration notes, letters to the editor critical or in praise!, technical items etc etc. Photographs will be re-drawn by our artist as long as the Bulletin is printed in this form.

WIRELESS RESTORATION The methods and materials.

by Jon Hill

Imagine first of all a miracle: A wireless set perhaps fifty years old, cared for all its life, in perfect working order with every part completely original, nothing missing, no dents or scratches, no wood worm munching their way through history and with age only showing through a rich patina of polished wood. All that is now needed is careful treatment and maintainance. With a french polished cabinet the best attention would consist of a daily wipe with a damp rag soaked in warm soapy water, a monthly wax polish and finally (every five years) periodic removal of the accumulated polish with mineral spirits. Care should be taken when wax polishing any type of surface that all the dust has been removed first.

Finding a set in pristine condition is, of course, a rare event and those that have survived in this way have usually belonged to people who have treated their set as a piece of furniture and given it due houseproud attention.

Now let us look at the other extreme. With new discoveries and improvements continually happening in the wireless field in the 1920's and 1930's some people changed their sets quite frequently and the old obsolete one was discarded or put away in the attic. Over a long period decay sets in rust and corrosion begin to appear, insulation material rots and damp attacks the finish of the cabinet. Having purchased a set in this condition you may still be able to bring it back to something like its original appearance by adopting the following procedure.

Woodworm Before bringing the wireless set indoors for the first time, check all over for woodworm. If there are signs treat immediately with Rentokil and fill the holes with plastic wood or Brummer stopping. Keep a regular check for holes and little piles of sawdust; all your old sets should be periodically looked over.

Scratches These pose the most common problem. If they are not too deep, fill with continuous applications of coloured wax (mix burnt umbre gouache paint with ordinary wax polish to get the right shade). This will gradually bring them up to the level of the wood surface. When a scratch goes right down to the level of the wood, stain and then fill up with layers of french polish, letting each layer dry before applying the next. A long job!

If the cabinet is a real wreck, you may have to resort to.....

Paint stripping But remember, keep as much of the original finish as possible. Don't strip away varnish together with BBC and manufacturer's transfers for the sake of a few dents and scratches. Transfers are virtually impossible to isolate when stripping, sanding or resurfacing, so only strip when absolutely necessary. I use Polycell stripper (Polystrippa) mix with an eighth part pure turpentine. This frees the surface better than the Polystrippa alone and also makes it go further. Follow the instructions on the label until it says, "wash down with cold water".

Use pure turpentine instead. This will remove the last traces of varnish etc., and leave the surface very clean and ready for fine sanding.

Polishing There are various methods of building up a protective surface. French polishing is a lengthy business and can take up to a week to complete. It is difficult to master though there are plenty of good descriptions of the technique if the amateur restorer wishes to 'have a go'. The meticulous collector may consider it worth while handing his job over at this stage to the professional french polisher. Ordinary varnishing is to be avoided since the result can often be sticky looking and retains the 'just done' appearance. Other methods include linseed oil polishing, wax polishing and laquering. There are several period books with information on the subject of cabinet care and polishing, e.g. Newnes' Wireless Constructors Encyclopaedia (1932) page 271.

Corroded terminals The trouble with a lot of the patented rust removers on the market is that they remove more than just the rust or corrosion, eating into the metal below. Jellonite is principally phosphoric acid and can damage some metals - in particular nickel - but is fine for short-soaking brass and copper (about 10 min). It doesn't seem to damage ebonite so the terminals can, if necessary, be left in-situe on the panel. Rustins rust remover appears to be safer for most metals and is particularly suitable for cleaning nickel plated brass terminals. Another rather lengthy way of cleaning terminals is to soak them in Brasso for a couple of days (but never rub Brasso on nickel plated terminals as this is almost guaranteed to remove the hickel).

Ebonite Ebonite and similar panel materials are best cleaned first with a brushing of metal polish which will free any dirt and grease. Follow this with a washing in warm soapy water using a soft nail brush to get the dirt off. When it has been rinsed and dried, polish with oil - linseed and 3in 1 work well - then finally bring up the surface with a light wax polish. Ebonite which has become 'browned' with age and exposure will have to be completely stripped down and then rubbed down with 'wet and dry' fine emery until the original black surface reappears. Ebonite which has buckled can frequently be brought right back to its original flatness by just the appropriate amount of heating. Imprinted terminal names, manufacturers insignias, BBC stamps etc can be revived by filling with white paint mixed with just a trace of brown - this shading will stop the names from looking too new.

Manufacturers of the early 1930's, particularly 'Murphy', were uncertain of the style in which to present their cabinets and many chose the familiar 'furniture style'. This lasted till the mid 1930's when the wireless cabinet evolved into a unique style of its own with Wells Coates designing the AD65 for Ekco. This was the first set which couldn't be described as a piece of furniture.

An article on Wireless Cabinet Design and Style will appear in a subsequent issue of this Bulletin.

EXCHANGE

Items are listed under a 'SEARCHING' heading or a 'DISPOSING' heading. Readers who may be able to help the searchers or disposers should either contact the editor for further details or make direct contact if address or phone number is included - as will be the case in future issues of the 'Bulletin'.

Collectors don't usually dispose of their surplus items easily! It is up to interested parties to negotiate exchanges that are mutually benificial.

SEARCHING

Gecophone 3200 (Det & L.F. B.C.3200) complete and B.C.2580 two valve amplifier.

Metro Vick, Cosmos Baby Grand 3 valve set.

Small brown knob for BTH crystal control knob e.g. on double crystal set of c. 1926.

Crystal boxes.

Vol 1. Newnes Complete Wireless.

Vol II. Dowsett's Wireless Telephony and Broadcasting. 1923

Vol II. Rupert Stanley's Wireless Telegraphy. Preferably 2nd edition 1923

Gecophone loading coil shorting link with spiral cut in it. Two required.

Internal guts of Gecophone No.1 crystal set.

Gecophone L.F. transformer - early open type, approx 2:1. Preferably in good condition but o/c quite acceptable.

Ekco speaker in brown bakelite case

Philips seven cornered speaker type 2016 - late 1920's

Valves - X31 (freq. ch., 0.3A) H30 triode 0.3A.

Cabinet for Sterling set type R1615 four valve receiver.

Information: Fellophone super two c.1923. Circuit and constructional details required for restoration of incomplete example.

Two-pin plug-in coils for 2-valve Brownie c.1926.

Wireless subjects in white china (usually seaside souvenirs)

Information on M.P.A. 'Inclusive 3' c1927

Crystal detectors plus glass protective covers.

DISPOSING

Cosmos crystal set box in fair condition complete with card inside lid.

Beethoven suit-case prtable.

Radiax cabinet - complete and in very good condition. Probably the four valve set fits in this cabinet.

Various Ekco sets and others of the 1935 period.

SEARCHING - CONTINUED

Gecophone choke 1929/30 - in pressed case.

Valves wanted - especially LS3 (Big reward alive or dead) also:
R, V24, LS5.....

Brown speaker movement - Brown H1

Modern Radio by Robert Beare (3vols)

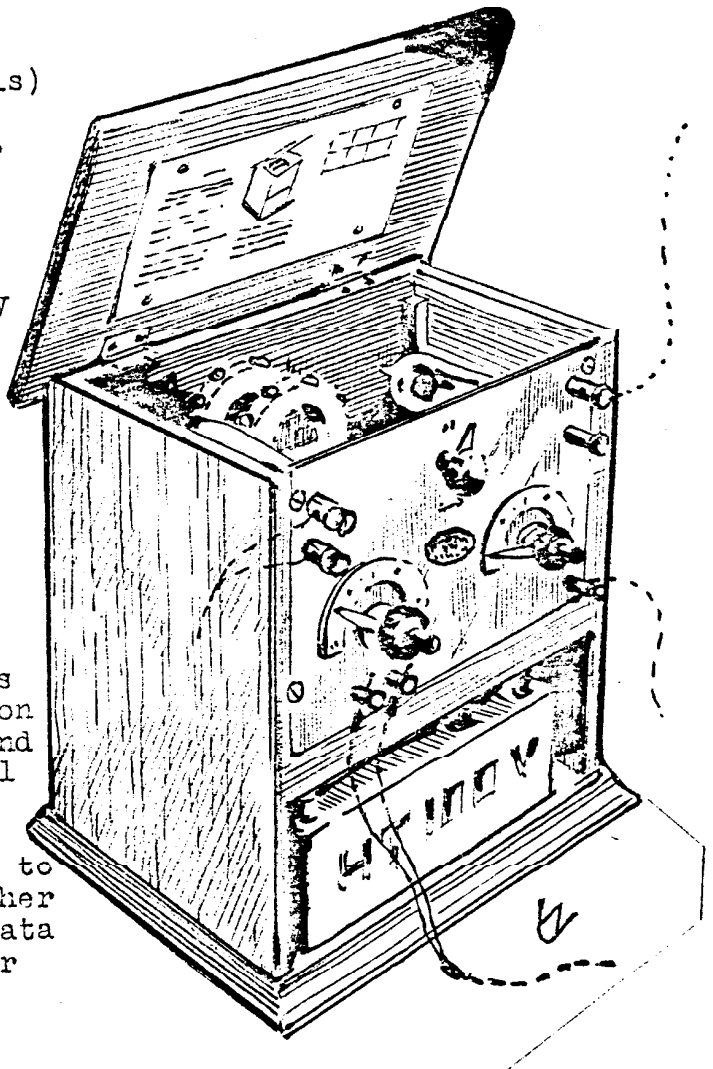
Multi R-valve aperiodic amplifier.

Information of any sort on the two valve receiver shown in the attached drawing. This set was made by PYE in 1925. It is a very handsome job in a mahogony cabinet with ebonite panel.

The circuit is detector and 1 L.F. and the card inside the lid states that the detector should be the R5 or B4 and the L.F. valve should be the R5.

One of the stations listed on the wavelength chart on the same card is Chelmsford 5XX. Collectors will know exactly when this station began experimental broadcasting and exactly when it stopped - it all helps to date the set!

If any reader can give references to either advertising material or other useful descriptive or technical data from contemporary leterature owner would be most grateful.



VINTAGE CRYSTAL SETS 1922-1927

This is the title of a new book which will be published on June 25th.

- -

The author, Gordon Bussey has unearthed some 400 trade names (together with over 600 companies) from the crystal set days and his book includes a catalogue of nearly 200 crystal set manufacturers, giving the name of each set, the manufacturer's original name and address, a technical description and the original price.
There are over 40 black and white illustrations of early sets, 11 line drawings and 12 whole page ads. The information contained in this book will be of great value to the collector (we feel sure) and will hopefully answer numerous questions saved up by wireless collectors everywhere. Let us congratulate Gordon Bussey on what appears to be a unique contribution to this fascinating subject.

What a happy coincidence that the publication of 'Vintage Crystal Sets' so closely coincides with the publication of the first issue of our Bulletin.

The book will cost £2.50 from book shops or £2.80 (inclusive of postage etc) from:

WIRELESS WORLD, Room 11, General Sales Dept.,
Dorset House, Stamford Street,
London SE1 9LU

THE HAZARDS OF WIRELESS COLLECTING

By P.Beckley

I imagine that every wireless collector claims to be perfectly honest - what else?
"I'm just popping out for a while".... means driving a hundred miles to a remote flea market...(petrol seems to drain away these days!)
Is it really dishonest to empty the boot much later when no one is looking? ....Did you know that the drive unit of a horn speaker can fall off in the hall - and create the most awful din?
Does it help to set off for the wireless shop saying airily, .."I'm taking a whole load of stuff to SELL this time." (Total value £1 but it looks very bulky)... and later, "I sold all that lot for lots more than expected (£1.10!) - why mention the rare valve in the pocket which cost a fiver?
Some think their families have very little imagination.... Collector comes in jubilant, "Look dear - what a marvelous bargain - I got this V2 for £1....a bit smashed up ....but what a bargain etc etc.."

She - "Was that little box you got last week a bargain too dear?"
He - "Well- er, not bad, very fair really." (An overpriced transformer which proved to be o/c on all windings!)
She - "What a lot of little cheques there seem to be this month dear, is that another you're writing?"
He - "Oh its just the new Wireless Society subscription. It's such a good bargain - must keep in touch, could save me gallons of petrol and lots of phone bill being in touch with other collectors." (In fact gives more opportunity for private outings etc..!)
She - "What's that you're writing dear?"
He - "Just a few notes for the British Vintage Wireless Society Bulletin .....good job our family's not like this!"

HINTS AND TIPS COLUMN ..... By Rip Van Wrinkle

Please send your contributions to this page to Rip-Van Wrinkle c/o Philip Beckley, Church Farm House, Bettws Hill, Bettws, Newport, Gwent NPT 6AD.

Mix the new with the old Variometers and variable capacitors of 50 years ago often respond beautifully to a little aerosol switch cleaner on the contacts, spindles etc...(You know the name!)

Condenser renewal 'Black can' paper condensers often go leaky or short circuit. Cut out a 'trap door' in the side out of sight on the baseboard. Disembowel the condenser, fit a modern poyester type of appropriate rating inside.
Flap trap shut and secure with adhesive tape. Remount condenser in original place etc. Only the very dedicated put weights inside the can to simulate the original mass!

Accumulator charging Have you ever left an accumulator on charge for too long? ....."I meant to leave it only till bedtime!"
If you don't have a special 'taper off' charger which can't overcharge, set the domestic alarm clock to remind you when the job is complete .... then don't forget to re-set it for work next day!

Aerial lead-in When fitting an aerial lead-in tube through a window frame, drill the hole so that the tube will angle down slightly outside - this allows rain to drip down the tube and not seep along it. Seal round the tube anyway to stop capillary action taking water upwards.

'Bright' emitters Collectors advised not to indulge in nostalgic practice of reading by the light of their hard won bright emitters.....!

Ebonite hole-filling There appears to be no satisfactory 'compound' for filling unsightly holes drilled indiscriminately in priceless ebonite panels by latter day modifiers. The problem can be very well solved by first acquiring ebonite rod (readily available from materials suppliers such as Clay Bros, Ealing Green, Ealing, London, W.5.) of suitable diameter. Then drill perfect hole through existing hole - or reamer if possible. Then force fit rod into hole with a little shellac. After panel has been polished the repairs are hardly visible

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WIRELESS MUSEUMS

When you are next visiting the Isle of Wight don't forget to visit Doug Byrne's 'National Wireless Museum' now open at Arreton Manor (on main road approx half way between Newport and Sandown on the A3056). The editor invites any reader to write an account of his visit to this museum. Information also sought on relevant museum exhibits anywhere else.
