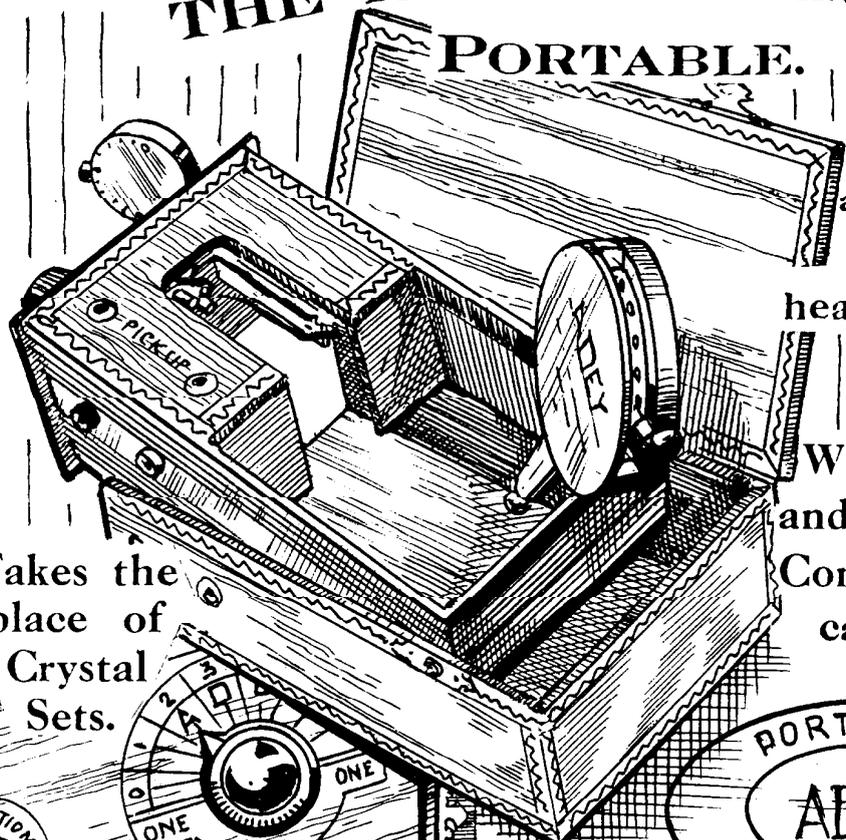


BRITISH

VINTAGE WIRELESS SOCIETY

THE ADEY CIGAR BOX. PORTABLE.

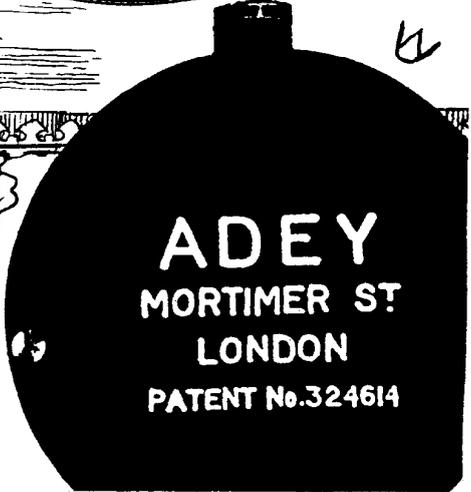
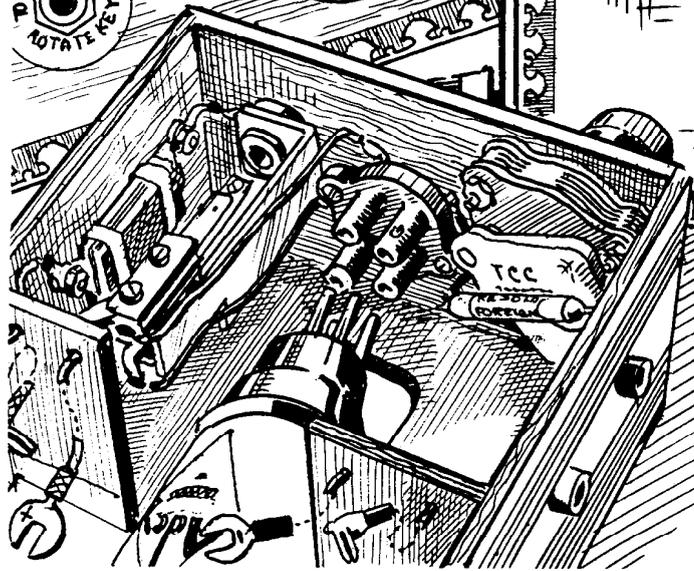
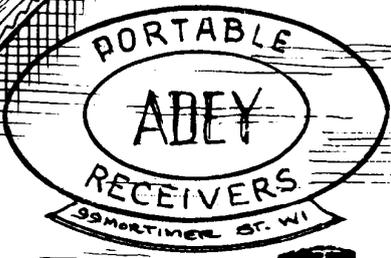
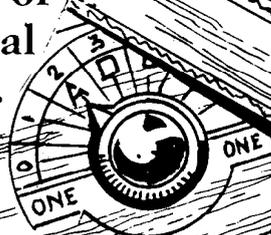


Not a toy but a powerful set for

headphone reception

With use of aerial and earth distant and Continental stations can be received.

Takes the place of Crystal Sets.



Norman Jackson's drawing here shows the only example known in the Society of the Adey "Cigar Box receiver", made in 1930 and suggested as a set for the policeman on the beat - together with a "loudspeaking helmet". See Robert Hawes' article inside.

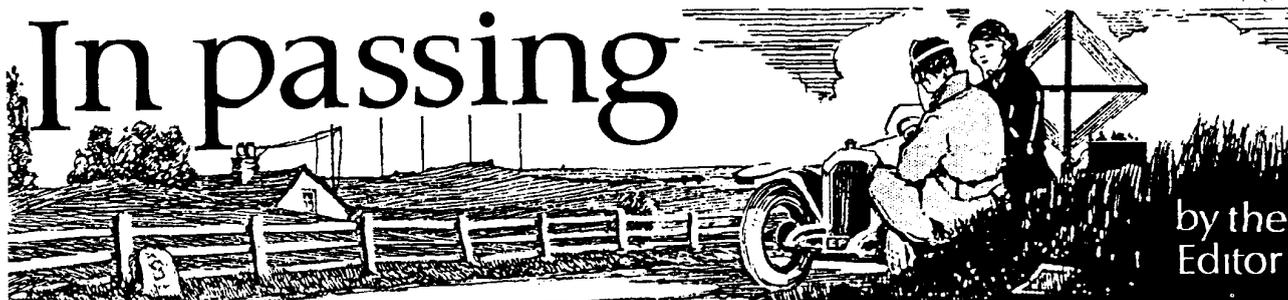
BRITISH VINTAGE WIRELESS SOCIETY

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CONTENTS

| | Page |
|--|-------|
| "In Passing" | 3 |
| by the Editor | |
| News | 4 |
| "Adey's Cigar-box" Receiver | 5,6,7 |
| by Robert Hawes | |
| Was this Hitler's wireless? .. | 8 |
| by Geoffrey Dixon-Nuttall | |
| The "Meatsafe" microphone | 9,10 |
| by Jim Butterworth | |
| Crystal Gazing | 11 |
| by Desmond Thackeray | |
| Book Review: Murphy | 12,13 |
| by Robert Hawes | |
| Edison's Effect | 14 |
| by Philip Dolby-Jones | |
| The Classics: Murphy A4 | 15,16 |
| by Robert Thornton | |
| Historical Research: Terrys Wireless | 17 |
| by Ron Jones | |
| Tenth Anniversary of the BVWS .. | 18 |
| by A.R. Constable | |
| Vintage Vision: Marconiphone 702 | 19 |
| by Sid Ostler | |

In passing



by the
Editor

Correspondence for the Society's Bulletin should be addressed to The Editor, Robert Hawes, 63 Manor Road, Tottenham, London, N17 0JH. Telephone: (01) 808 2838.

One of the ways in which the British Vintage Wireless Society is celebrating the tenth anniversary of its foundation is by producing this first issue of a new-style Bulletin which we hope members will like. Judging from the response over the years, the majority of members seem to approve the style and content which has evolved so that aside from the much improved and more professional presentation of this issue, volume Ten Number One, no revolutionary changes are planned.

As Editor, I have tried to reflect the many interests of members, and the changing interests too, trying to hold a balance between those who look for serious technical matter, those who are interested in the social history of wireless, those who have less technical knowledge but who wish to add to their knowledge and enjoyment of the things they collect, and those interested in repair and restoration.

"Wireless" can be a subject to be studied in an academic way or as an enthralling leisuretime pursuit, or a combination of both. But whatever the interests of members and however much we get from our individual pursuits, we ought always to bear in

mind the purposes for which the Society was set up: "To collate existing sources of information on all aspects of wireless history and to encourage the preservation of early wireless equipment".

Every member, whether technical egghead, practical enthusiast, enthralled or amused spectator, can play a part in this enterprise, by offering a learned treatise to the Bulletin, an article on repair or restoration, a small piece of research which could come from an hour or two in the Patent Office or with old magazines, or simply a photograph and notes on something unusual found in a street market. Discovery is not necessarily the prerogative of the academic but often results from the luck of the sharp-eyed. Nevertheless, just as the academic sometimes needs the sharp-eyed to find the germs of research, the sharp-eyed need the academic to tell them exactly what they have found.

By reflecting their individual interests in the Bulletin, every member can help to promote the aims and objects for which the society was founded. In this we ought to be aware that whatever we do will be passed on to future

generations. The work we do now in research and preservation of wireless is vital and urgent if we are to pass on something of historical importance. It can be a rewarding and enjoyable pursuit but we must proceed with caution: the information we set down must be as accurate as we can make it and the equipment we preserve must be original and unspoilt by any restoration we may carry out.

The way in which we pursue our interests can be the subject of much controversy. One man's beautiful piece of restoration can be another's ruination of authenticity. Likewise, an expert's analysis of an important piece of wireless history may be a boring waste of ink and paper to an enthusiast for whom the lighter side of wireless history, which may be just as worthy of preservation, is more appetising.

However the Bulletin continues to evolve, it ought to be controlled by a degree of *positive* feedback – to use a term which began in the sphere of wireless and has now entered the language.

And that's where you come in, dear reader!

Robert Hawes

Input/Output Desmond Thackeray Honorary Treasurer

THIS NUMBER OF "VINTAGE WIRELESS" IS THE LAST YOU WILL RECEIVE if you've not paid your subscription before the next issue is mailed. Though a majority of BVWS members are upright citizens and have already paid their subscriptions for 1986-1987 (due 1st April last) they are carrying on their backs more than 100 members who seem to be suffering from a (hopefully temporary) loss of memory or credit at the bank. Most of the subscription is effectively returned to members in the cost of printing and mailing the Bulletin. So if you've enjoyed this issue cost-free, TO CONTINUE RECEIVING "VINTAGE WIRELESS", MAIL YOUR SUBSCRIPTION.

I am pleased to see that more members outside the UK have taken up the suggestion to pay by International Money Order or Eurocheque, both

costing less than a bank draft in sterling. But some bank drafts are still appearing, possibly from members who haven't yet appreciated the alternatives.

Members obviously regard a stall at Harpenden as very good value for money, for both halls were booked to capacity, and a mighty tonnage of junk was portered in for sale. Opinions differ on the quality of goods on offer, though the variety of items was not in question. A surprising quantity of hardware was trundled away unsold, towards the end, as far as I could see; and I have a feeling that the vendors might well have been able to shift some successfully by making use of the auction.

The auction was once again a success for all concerned, buyers, sellers, lookers-on and the Society itself owing

much to the efforts of the trio running it, Messrs. Butterworth, Constable and Snelling. It now seems amazing that BVWS managed for so long without having such an event, until Roger suggested it last year and volunteered himself as organiser. Almost £80 was raised for Society Funds.

Send your subscription to Desmond Thackeray, 7 Beech Close, Byfleet, Surrey, KT14 7PS. Tel: Byfleet 41023. Rates: UK£8; Europe £10. Worldwide £12. European members may pay by Eurocheque. Other overseas members should use Transcash/International money orders or equivalent services provided by their National post offices, or Sterling Drafts on a UK bank please. Subscriptions for all members, irrespective of the date of joining, are renewable each April, entitling members to four Bulletins a year.

News

Society Meetings

The next meeting at Harpenden is planned for Sunday 30th November. It will be a "ticket only" affair as usual and tickets must be obtained in advance, using an application form which will be sent to all members.

An experimental meeting is being arranged by BVWS member Geoff Hanham, near Bristol on Sunday 7th September from 10am until 4pm at Clarence House, Portishead, Bristol, within reach of the M4 and M5 motorways. It will be strictly for members only and tickets must be obtained from Geoff at 7 Ashdown Road, Portishead. Forms are being sent to members who may apply for one ticket each plus one guest ticket at £1 per head. Stall bookings will be £3. The telephone number for enquiries is Portishead 844584.

Another swapmeet is being arranged for Sunday 28th September at Romsey by Bill Journeaux, of 7 Blair Avenue, Poole, Dorset (Tel: Parkstone 748072) which is also a ticket-only meeting for BVWS members only. Contact him for details.

Museum in Storage

Unhappily, Robert and Pauline Brain have had to close their wireless museum in Bideford, Devon, but it has all gone into store and they hope to re-open as soon as they are able to find suitable premises.

They are continuing with their radio and television appearances in the West Country, where they are in demand to talk about antiques of other kinds apart from wireless equipment: and they have a keen interest in conservation of all kinds. The couple live at Middle Huish Farm, Instow, Bideford.

History of Television International Conference

An International Conference on the History of Television is to be held at the IEE, Savoy Place, London WC2, from 13-15th November, which will have speakers on all associated topics and a small exhibition.

The event marks the 50th anniversary of television broadcasting in Britain. It was in 1934 that a Television Committee was set up to advise on the merit of several systems which might be adopted in Britain. Six months later they declared that high-definition had reached a good enough standard to justify first steps being taken to establish a public system. They began in November 1936 with experiments with Baird and Marconi-EMI systems from the world's first high-definition station at Alexandra Palace. The Marconi-EMI system giving a 405-line picture was chosen: an outstanding

British achievement since it was developed when "electronics" was a new field of development and after only four years work. Baird, who had been working on his system since about 1922 and was first to demonstrate it in 1925, lost the contest.

The conference will have contributions from people who have had first-hand experience in the development of television from its beginnings to the sophistication of the techniques of today and those projected for the near future. Details can be obtained from the Secretary at the IEE.

In connection with the anniversary, members of the BVWS are invited to submit articles, photographs and other contributions for the next issue of the Bulletin.

Wireless Course

Early Wireless – The Thermionic Age, Past and Present

by Tony Constable

This course was designed and organised by Leon Freris and Tony Constable and took place in the Electrical Engineering Department of Imperial College, London from 7th to 9th July. The subject matter must seem quite out of place in a department noted for its emphasis on modern science and technology. However, we were constantly reminded that the valve has not yet disappeared and may well continue to have an important place alongside solid state devices.

After a witty and lively opening address by Keith Geddes from the Science Museum, Tony Constable dealt with all those pre-Hertzian attempts to communicate without wires and concluded that true wireless telegraphy came into a receptive world that was awaiting its arrival. Vivian Phillips went on to describe life before the valve and showed that many of its "unique" applications (rectification, amplification and oscillation) were already carried out with other devices. Philip Beckley gave us a timeless lesson in efficient crystal set circuitry which would not be out of place in a modern college course and yet was of immense value to the wireless historian. The first day ended with a talk by John Narborough on the origins of thermionics in which he took a critical look at the work of Fleming in the light of the many other thermionic investigations preceeding him.

The second day started with two well delivered informative talks from our guest lecturer, Bruce Roloson, the Vice President of AWA (American Antique Wireless Association). He first dealt with Lee de Forest and gave us a sound logical assessment of his role as inventor of the triode. His second talk

told the fascinating story (with a full supporting cast) of how the triode developed after de Forest. Keith Thrower then gave a clear review of the basic principles of amplification, oscillation and feedback. Sidney Wood followed with a full discussion of the pre-1925 valve industry and brought some rare specimens with him. Ron Martin took up the theme for the post 1925 valve industry as the triode haltingly evolved from the bi-grid to the tetrode and multi-grid forms. Pat Leggatt ended the second day with some unusual sideways glances at the ups and downs (or oscillations) of broadcasting history.

The final day began with a second talk from Keith Thrower in which he beautifully clarified the principles of reflex, neutrodyne, heterodyne and superheterodyne circuits. This was followed with Roger Snelling showing us what the valve industry is doing today with impressive examples of the wide range of unrecognisable thermionic devices now in production. Tony Constable then gave his second talk in which he made a valiant attempt to single out wireless history's key personalities. . . those worthy of receiving the top awards at prize-givings. Jon Hill ended the course with a comprehensive and delightful survey of wireless cabinet design and style.

The course was most enjoyable and very instructive. Audience participation was lively both during and between lectures. We all felt that it was a success and that it would appeal to the wider membership of BVWS rather than the small select audience prepared to pay the £85 course fee. We hope that some of the talks will appear in future issues of the Bulletin but if anyone can suggest a way of repeating the course for a considerably smaller fee, please write to Tony Constable.

Many thanks to all who contributed and particularly to our guest lecturer, Bruce Roloson who made the long journey from the U.S.A. especially for the course and to Ian Higginbottom and David Read who prepared a splendid demonstration of wireless equipment.

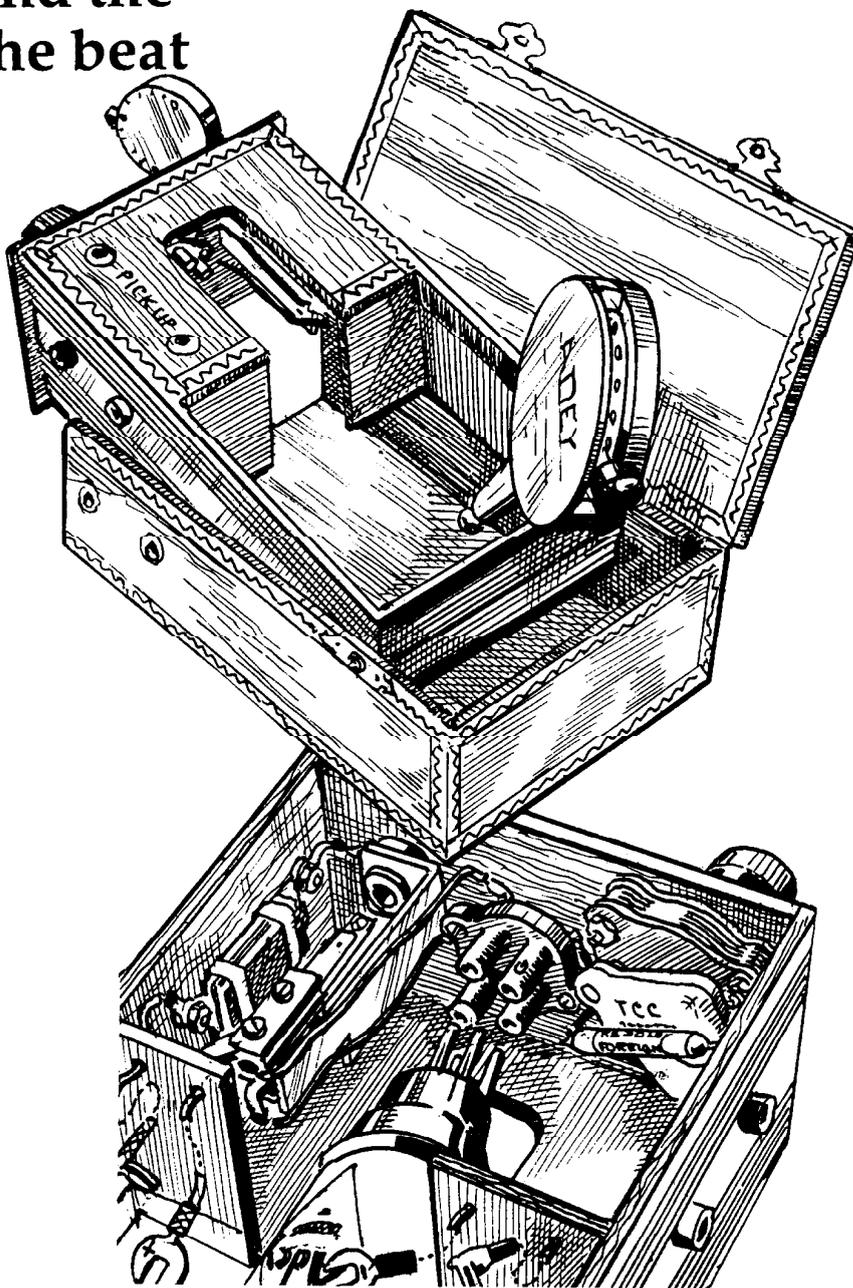
Editor's note: As reported here by Tony Constable, the course appears to have been successful and his suggestion that a similar course might be of appeal to a wider audience is important. It seems that the fee of £85, although reasonable as compared with the usual courses at such institutions as Imperial College, put the course out of reach for many BVWS members – particularly young people and retired folk. It is suggested that the Society should consider promoting another course at a much more reasonable fee, perhaps at the Vintage Wireless Museum, the Society's headquarters address at Dulwich, South London, which has been offered by the Curator Gerald Wells. Members who think this a good idea and others who would be willing to give lectures – expenses paid – are invited to write, please.

Adey's "Cigar-box Receiver" for the public and the policeman on the beat

by Robert Hawes

The British public, in general, have within a very few years accepted with little resistance the increasing use by both private and official agencies of electronic communication and surveillance devices which a surprisingly short time ago would have been viewed with either incredulity or alarm. It was only a little more than sixty years ago that Scotland Yard set up their first transmitting and receiving apparatus - using bright-emitter valves and horn loudspeakers - to link with a "Flying Squad" wireless car: few people in those days could have envisaged the comparable system today, with both police and private motor-cars equipped for two-way wireless communication, and even the policeman on the beat having his own set. And when steps were being taken to set up the first public television broadcasts, some people were worried that it might be a two-way system that would enable the broadcasters to observe people in their own homes. The view arose from a misunderstanding in the minds of the general public of the system of "vision by wireless": they little guessed that fifty years later there would be television cameras observing them in the streets, shops, garages and other public and even private places. Even in 1930 such an idea would have seemed like an H.G. Wells fantasy and as late as 1949, George Orwell's "Big Brother is watching you" theme in his novel "1984" seemed to most people a far-fetched and scaremongering fiction. But social revolution does not always result from the sudden, drastic actions of wicked men and state machinery: it often follows from small and apparently insignificant innovations. Change is often insidious and undetected until complete.

In 1930, when the small-scale but extremely inventive London wireless manufacturer Horace Adey proposed that every humble policeman on his beat should have his own wireless-set, clipped to his belt, and with a loudspeaker in his helmet, keeping him in contact with his station, the idea was received as a fanciful "gimmick" by the press and an amusing fiction by the public. When he demonstrated his new cigar-box sized set and "Talking Helmet" at the 1930 Olympia Wireless Exhibition, it might have been thought of as a publicity stunt by the Adey



The Adey "Cigar Box Receiver", actually built in a mahogany box intended for cigars but modified to contain the one-valve set. In the top drawing, by Norman Jackson, it is shown with valve removed and with the patent "Key" enlarged to show the tapping switch. Below are the simple "works": a valve-holder, variable condenser, two fixed condensers, a resistance and a jack-socket for the key - which switches on the LT as well as connecting to the tuning circuit. The box is decorated with the gold-printed paper edging traditionally found on cigar boxes. It has gilt hinges and clasps.

Radio company to steal some of the limelight in a show which the "Evening News" reported as having "novelties everywhere". A policeman was photographed wearing the helmet and

examining the set somewhat suspiciously and "the authorities" were reported to be investigating the idea. But even though the police had

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been well aware of the potential of wireless for the force since their first "wireless-arrest" of 1910 when they caught wife-murderer Dr Crippen as a result of information flashed from shore to the ship on which he sought to escape, they seem to have shelved the idea until very very recently: by which time miniaturisation, low-consumption transistor circuitry and VHF/FM had made the idea a much more practical proposition.

Even if there was an element of publicity-seeking in the launch of the Adey police radio it would be unfair to dismiss the set as a mere novelty. It seems to have been designed initially to fill a hole in the domestic market between the crystal set, which was by then well out of date but still the only wireless many people could afford, and the relatively expensive valve set. Adey was a most inventive and imaginative man who had already patented some wireless related inventions which showed him as a man ahead of his time: his "modular" construction-system, a valve with built-in choke, and a multi-function tuning keyswitch. His little one-valver had a lot going for it, since its performance was good: it was selective, it was economical in battery consumption and it sold at £2.15s (£2.75p) complete with valve and batteries. Earphones cost 12s6d. (62½p) extra but purchasers who were changing-up from crystal sets would already have possessed suitable ones. The contemporary advertisement for what was named "the Cigar box Portable" said "It takes the place of crystal sets" and added "It is not a toy but a powerful set for headphone reception", also claiming that no aerial and earth were required for "local" station use" but that with such provision distant Continental stations could be received. The set, measuring only 9⁵/₈ x 5³/₈ x 2¹/₂" and weighing only 2½lbs, even had "gram" sockets wired directly to the grid of the valve, which enabled the user to listen to records played on his wind-up gramophone using a heavy moving-iron high-output permanent magnet pickup in place of the standard accoustical soundbox.

In 1930 crystal sets were still selling and cost from 12s6d (62½p) for the Brownie number Two to £1 15s (£1.75p) for the BTH Twin-crystal, so the Adey set at only £2.15s (£2.75) was competitive. And against the disadvantage of requiring battery replacements, compared with the "free listening" offered by a crystal set, the Adey offered the better and more reliable valve detector against the crystal-and-catswhisker, plus some amplification and selectivity. Although the Adey was patented, it had a conventional one-valve circuit, but with the addition of his unique and ingenious multi-function "Key". This was a tapped pancake coil mounted on a phone-jack. The set could not be switched on without inserting the key, so its use

prevented anyone but the owner using it. Rotating the key about its axis provided a degree of reaction with the frame aerial wound round the inside of the cigar-box, and switching the coil-tappings gave fine tuning combined with the small variable condenser which was the only other control on the set.

The police version of the cigar-box set, shown and photographed by the press at the 1930 Wireless Exhibition, which was said to have been supplied to London and other police forces for evaluation looks identical to the domestic model although one contemporary press report suggests that a two-valve police version was at least envisaged. In the "Adey Radio Magazine", only a single issue of which was published; on 1st January 1931, from the firm's headquarters at 99 Mortimer Street, off Regent Street in London's West End, the Editor declares "The Adey pocket set and hat loudspeaker is not something "in the air" but is definite. There is nothing freakish or unsightly about this new radio appliance, either for police or civilian use. As a matter of fact it is practically unnoticeable, but for a thin cord such as is used for an ordinary pince-nez". This cord was plugged into the earphone socket of the set, ran up the policeman's tunic, round the collar and up the back of his neck into the helmet, where it connected with an ordinary Ericsson earpiece with a 5" metal disc in place of the diaphragm.

The launch of the set made all the national newspapers and several provincial ones, but there was some variation in the reporting of the technical details. Some described the set as a "pocket" receiver which would be linked to a bowler-hat loudspeaker as well as a police helmet and said sets had also been built into felt hats which "could be left lying about with impunity" since the patent Adey "key" prevented unauthorised use. There were various estimates of the weight of the set, from a few ounces to a few pounds, and several ideas about its possible police use from that of receiving instructions within an eight-mile radius of Scotland Yard to "relieving the monotony of walking the beat with a selection of dance music". The "Police Review" reported on the set and helmet in September 1930 seems to have been confused as to whether a loudspeaker or a microphone, or a whole set was fitted into the helmet, but welcomed the idea as one that would supersede the Police-Box-System by which the officer on the beat kept an eye open for a flashing blue light on top of police telephone boxes placed in main streets. There was a difference of opinion too on where the policeman would carry his set, some reporters suggesting it would be inside his helmet so he could "talk through his hat and be a walking 2LO" and others saying the set would be in his breast-pocket with his notebook. The

"Northern Telegraph" said the set would clip on his belt in place of his Bulls-eye lantern and added "An opening at the side of the set allows the beam of the valve to show through. This gives a much stronger light than the ordinary electric torch". The same reporter gives the bright-emitter Policeman a range of 10 to 20 miles for communication. The "East Anglian Times", also reporting the London show, is the only newspaper to report about the one-valve and then to mention a two-valver the size of a cigar-box which they said had been adapted for police use. The "Daily Mail" also reported on a two-valver for police use, quoting Horace Adey with the story about a valve doubling as a lantern, (a doubtful claim, since the late gettered valve employed would have only a dim glow), confirming the 20-mile range, claiming the set had a 100-foot "hidden aerial" and reporting that a high official at Scotland Yard had been consulting with Adey about the set. The "Evening News" printed the same story, as did many provincial papers, and the text was identical that it suggesting that it was reprinted from a "handout" from Adeys, who appear to have had a flair for publicity and managed to make headline news in most of the Media despite the myriad of other attractions at a wireless show which boasted 400 stands, five miles of counter displays, thousands of sets and gadgets worth a reported £5,000,000 and 200 exhibitors. The Adey stand not only showed the cigar box set but also their fine suitcase and portable models, all with the patent key of which there was a giant model. There was also three-foot-high model of a policeman's helmet, with a two-valve radio inside complete with aerial and loudspeaker.

It is not known how many cigar box sets were manufactured and sold but only a single example is known within the British Vintage Wireless Society to have survived.

It is not known whether a set was actually produced for police use, but that is extremely unlikely.

Mr. John Back, archivist at the Metropolitan Police Office at Scotland Yard, has been kind enough to make enquiries for me and he asked their Radio Systems branch for their comments.

They wrote "We are of the opinion that the radio was somewhat far-fetched, in that technology in that era would not have allowed a transmitter and receiver of that size to be produced. A substantial battery would have been required and single-valve operation would have been extremely basic."

Radio communication in "The Met", Mr. Back points out, began in early 1923 when the Commissioner, General Sir William Harwood, authorised the experimental installation of a fixed radio based at Scotland yard and a mobile

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WHAT THE PRESS THINKS OF ADEY RADIO

EVENING STANDARD, London—10th September, 1930

TALKING THROUGH YOUR— —HELMET!

OLYMPIA FINDS THE IDEAL LOUD SPEAKER.

AND A SET THAT ONLY THE OWNER CAN
SWITCH ON.

From Our Wireless Correspondent.

A Wireless set that a policeman can carry in his helmet was one of the novelties at the National Radio Exhibition which opened to-day at Olympia. W

This set, modest enough in appearance, was significant of the wonderful developments now taking place in wireless activity.

When the policeman's helmet was evolved nobody imagined that it would be the ideal loud-speaker, and yet that is what has happened. The cone shape is there all ready for the purpose. This set, complete with tiny batteries, aerials, two volumes and loud-speaker apparatus weighing only a few ounces, is tucked away in the helmet. Within eight miles of the police station the

officer can pick up any messages that may be flashed to him about motor handits or any of the other representatives of modern crime.

Not even earphones are needed. As the policeman walks along, the message comes to him, and if it proves too loud he can reduce it in volume.

The possibility cannot be overlooked that Constable Jones may in the future have the monotony of his beat relieved by a selection of dance music, or even a report on the current fat stock prices.

Sets that Cannot be Used Without Owner's Permission.

At the show to-day there was a large scale model of a policeman's helmet to

demonstrate just how this set works. But it can be adapted to the needs of other people. The sets have also been fitted to bowler hats and to felt hats. Cigars have been placed in cigar boxes. As two valves of ordinary pattern are used, it can be understood that every possible advantage has been taken of space.

On the same stand could be seen standard four-valve sets of a compact kind that have one great merit.

Nobody can switch them on without the owner's permission.

They are portable, and can be left lying about with impunity, because a special key must be inserted and turned to work them.

EVENING NEWS, London—19th September, 1930

TALKING TO THE P.C. ON HIS BEAT. 1-VALVE PORTABLE.

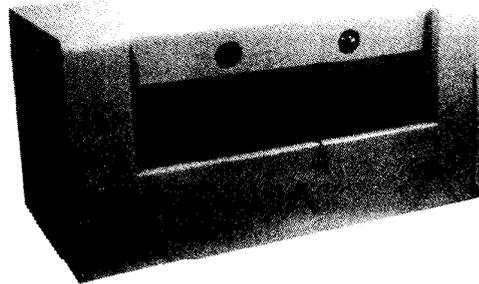
With a Helmet Loud-Speaker.

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station fitted in a Flying Squad "Crossley" van. After tests a second van was fitted out and the partial success of further tests led to the first operational use of wireless by Police in Britain. The "Information Room" at the Yard was established in the early 1930's with a transmitter and receiver. The area wireless-car scheme was introduced at about the same time, but it was not until 1946 that voice communications were used; until that time, all communication was in morse.

REFERENCE: See David Read's brief history of Adey and his description of various sets in the BVWS Bulletin volume 3 number 4, March 1979. He also describes and evaluates some of Horace Adey's designs including the "Key"

Feature:

Was this Hitler's Wireless?



by Geoffrey Dixon-Nuttall

The set illustrated here was given to me with the story that it had been liberated by a British officer from Hitler's yacht. At the time I found this a little hard to believe: but wait.

The receiver itself is a large table model in a somewhat home-made wooden cabinet, painted grey. It had suffered somewhat from the attentions of the previous owner, who had veneered it in oak, not very well luckily, so that I was able to restore it to its original finish.

The circuit has some odd features. It is a superhet with an R.F. stage, using the German "footless" valves. Somebody had replaced the rectifier and output valves with British types, but the others are the original. Most of the front of the cabinet is taken up by the dial, which is operated by the biggest cord drum I have ever seen. There are two short wavebands, long, medium and a gram. position. The R.F. stage works normally on the short bands, but on long and medium the two tuned circuits are coupled as a bandpass filter, and the r.f. stage works into a resistive load capacity-coupled to the mixer. This arrangement threw the previous owner into confusion, and he never got it to work properly. The only other set I know of with this circuit is the Philips 855X. All stages are controlled by A.V.C. including the pentode L.F. stage. Both I.F. transformers have mechanically variable coupling to control selectivity.

I do not know who made it, but it is undoubtedly German, and judging by the date on the capacitors, made about 1938. It gives the impression of a good quality radiogram chassis which has been cobbled into the odd cabinet.

But there are other odd features. The tuning indicator is matched on the front panel by a large neon, which is connected from aerial to earth; either in case of lightning strike, or perhaps there was a powerful transmitter near? The output is at high impedance (actually there is a choice of two), and the output valve is, was, an EL12 with a high H.T. voltage, giving 8 watts. So it could have worked a P.A. system giving music while you sail?

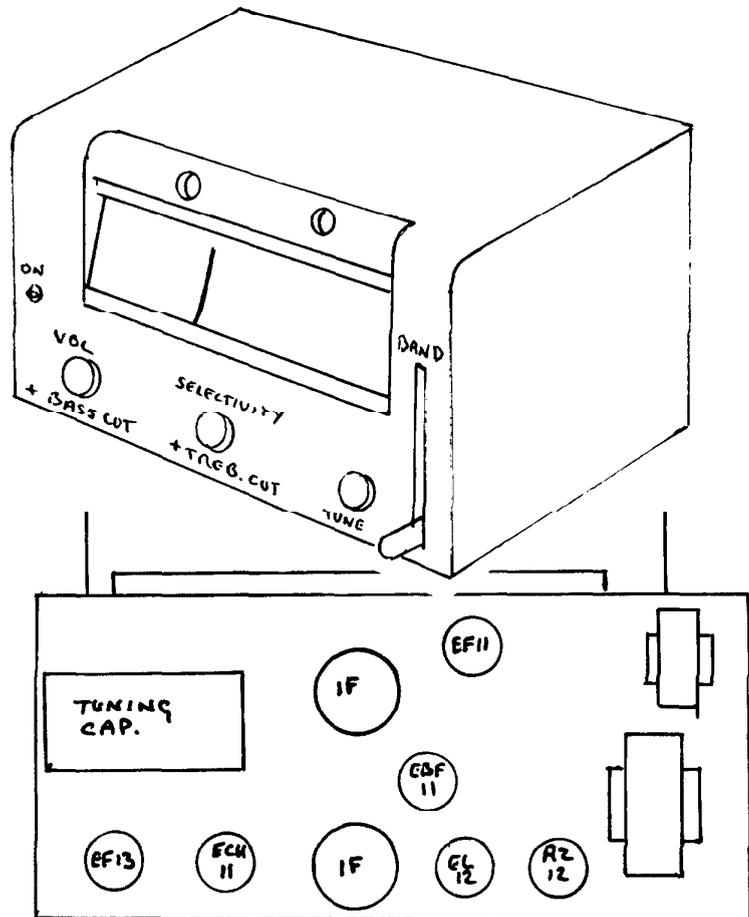
A particularly puzzling feature is that the bandswitch is operated by a lever which projects through a slot in the front of the cabinet, presumably because the set was up against a wall. This slot is not really big enough to cover more than two wavebands, although I have enlarged it to give three.

I didn't really believe the Hitler story until I found in the paper the other day the following "Jacksonville, Florida:- The Ostwind, a yacht built for Adolf Hitler in 1939, was sold for \$1 this week by Mr. Horace Glass, who had bought

it in 1971 for \$5,000 and had spent \$178,000 on restoring it. Mr. Glass, who had to give up work on the yacht for health reasons, said: "I'm losing everything I put into it, plus 12 years of labour, not just from me but my family too. The \$1 bargain price has a catch: the buyer takes over large debts on the yacht."

So Hitler *did* have a yacht: I wonder if the present owner would like his radio back? It takes up a lot of room. Shall we say 50 cents?

Does anybody believe this story?



Belated report:

The "Meatsafe" Microphone

Demonstrating an illustrious relic of the old BBC

by Jim Butterworth

Fulfilling a rash promise, the only original "meat-safe" stand, together with an original "Magnetophone" microphone appeared at Harpenden last November. Those present will know that the attempted demonstration was a flop. However I was able to prove to those who listened-in on the headphones that the sensitivity and quality of the assemblage were excellent.

This type of early moving-coil microphone was used by the BBC at Savoy Hill from May 1923 until 1928 and it represents the first scientifically designed microphone for high quality studio use. Recent listening tests have shown that this microphone is equal in quality to any later design. Though I have not measured the response under controlled conditions it seems free of the unwanted resonances which plague some other types.

The ideal way of demonstrating a microphone is to have the listener in a separate room, isolated from the sound source the microphone is reproducing; the general bustle at Harpenden makes this impractical, so second best is to attempt to use it for Public-Address. Fine theory, but I forgot that the very large diaphragm would pick-up returning sound far more efficiently than a small purpose-designed P.A. microphone held close to the announcer. Because of this, together with the impracticability of getting close to the microphone, a very low frequency howl-round resulted as the amplifier gain was increased – the frequency was low enough to cause the amplifier/speaker system to distort and give out a sound akin to motor-boating.

Leading up to the display, I had managed to solve one or two problems not the least of which was getting the kit into my estate car! Another problem, about which I had been forewarned, was the extreme sensitivity of the microphone to stray fields; because of the large, unscreened, flat coil, radiation from any 50-cycle supply within 10 feet can be distinctly heard so not only did I have to find somewhere away from mains wiring (and especially fluorescent lights) but also the amplifier had to be d.c. supplied to avoid mains

transformer radiation. The "meatsafe" provides good screening, but this is insufficient without the foregoing precautions. The microphone electromagnet (8 volts at 4 amps) has to be supplied with pure d.c. from a car battery, for any ripple on this supply would be faithfully amplified. It is well to remember that studio supplies were d.c. in those days, so this problem did not have to be considered in the original installation.

For transport, the microphone had to be dismantled to the extent of removing and carefully packing the flat coil; when assembled the coil is held in place in the electromagnet gap by vaseline – nothing more – which attaches the coil to the cotton wool suspension, an ideal medium for preventing resonances. During the day, the vaseline softened twice, allowing the coil to drop and touch the electromagnet poles; easily cured by fresh vaseline at Harpenden, but must have been a problem 'on-air' in a warm studio.



daughter of the inventor, Capt. H J Round. He was a co-inventor of the Round-Sykes Microphone, from which he had developed the microphone on display, which he patented on June 4th 1924. Mrs Caudrey well remembered seeing his inventions, which of course represented the advanced thinking of the time and we were fascinated by her first-hand accounts of her father's work. It is a tribute to his thinking that many of today's high quality microphones incorporate the same design principles as the Magnetophone.

Editor's Note:

We are grateful to Jim Butterworth for the amount of work which he put into preparation of the microphone for the demonstration, as he did for his previous demonstration of another carefully-restored treasure of the early BBC days: the original Blattnerphone recording machine. For a description of the microphone see David Read's article in Vol. 9 no. 3 of the bulletin. page 43.

continued on next page

The "Meatsafe" Microphone. *continued from previous page*

Part of Captain Henry Round's Patent application of March 3, 1924 for his Microphone. Fig. 2. is a side view section of the instrument, the three shaded areas being the poles of the magnet. The thin section marked 5 is the tissue paper support for the flat spirally-wound aluminium moving-coil 1. The assembly is shown in front view in fig. 3. and is held in place with a cotton-wool pad using vaseline as an adhesive.

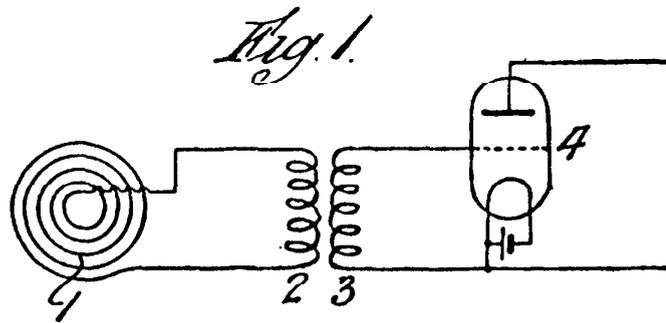


Fig. 2.

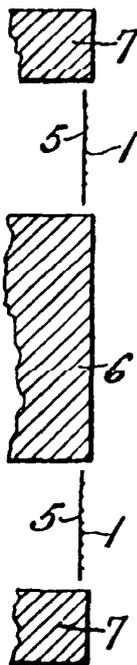
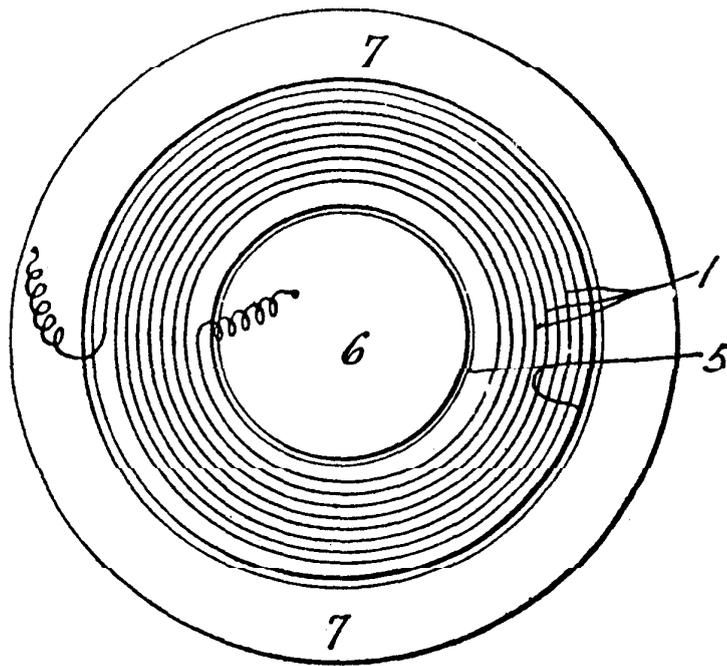


Fig. 3.

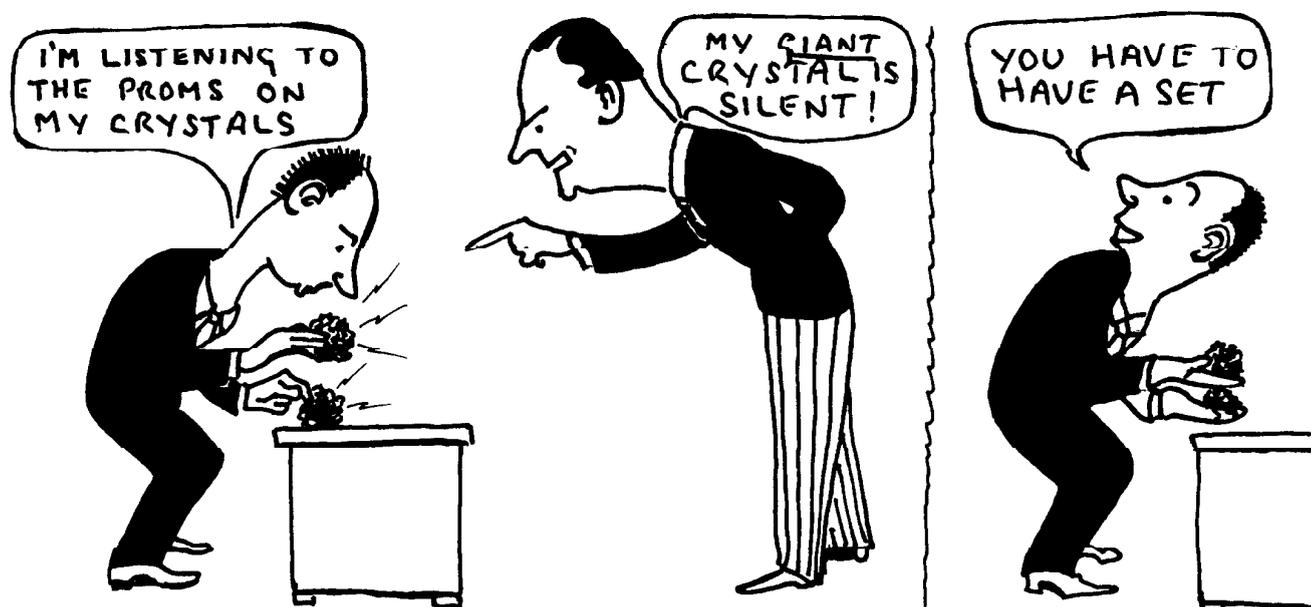


British Vintage Wireless Society



Membership of the British Vintage Wireless Society is open to people who are interested in researching the history and technology of early wireless and television and preserving apparatus. The Society's Bulletin is issued free to all members, who are entitled to ask for "small-ad 5" to be inserted free of charge. Larger "display" advertisement spaces may be granted when space permits on application to the Editor, at 63, Manor Road, Tottenham, London, N17 0JH. Tel: (01) 808 2838. Rates will be sent on request.

Crystal Gazing



by Desmond Thackeray

Not a peep from a giant crystal, Johnny? Well, it was reported seriously in the USA that people complained of receiving the local radiophone station by means of their dental fillings. On the basis that almost any oxidised metal contact will rectify to some extent, perhaps a "set" of old metal dentures could be a vintage wireless collectable.

Bad-contact detectors seem to have an even longer history than genuine crystal detectors, and can presumably afford hours of pleasurable (frustrating?) DIY activity to the experimenter.

"Blue" a sewing-needle in a flame, and lay it across the edge of a razor blade, to stimulate the precursors of Pickard's magnetite detector of 1902. However, crystals were by no means the easy solution to the detection problem, on account of the great variability in performance that was associated with natural samples.

So why not *make* some? "Modern Electrics" in 1911 awarded a prize of two dollars to a reader who explained his recipe for making "ferro-silicon", a most un-natural alloy. And the possibilities for souping up natural galena by heating with tellurium were published a couple of years later. Processes like this were commercially viable, and by 1923 W.J. Fry was able to boast that "I was the first maker in this

country of the crystal known as Hertzite".

Interest in the synthetics and in DIY crystal making was in fact a minor feature of 20's magazine articles, with a peak in 1924, I suspect. One might anyway acclaim 1924 as the "year of the crystal" in this country, since it was also the peak year for publication of articles (no less than 20) on the mysterious "oscillating crystal". But I digress.

Possibly the most audacious DIY exercise in crystal making was described in "Wireless World" for 1927 by G.H. Tatham, who built himself a furnace with 150 bricks and $\frac{3}{4}$ cwt of fireclay in order to react charges of lead and sulphur (mainly) up to 40lbs in weight. Wow! Even with half this charge, the reaction apparently produced a flame 18 feet high; and it wasn't even November 5th. And what of the emission of toxic vapours and nauseating smells? But I'm sure that the resulting product was markedly superior for detector use to much of nature's bounty.

Compared with this rough-and-ready kind of industrial chemistry for crystal production, it is odd to read of the kid-glove treatment recommended for the little fragments of crystal in detector service. Was keeping one's investment clean and dry as essential as folklore indicated? Possibly it was, for any

crystal that proved really efficient. But maltreatment could hardly make a poor detector much worse. Even so, I was staggered to read an article in "Wireless" for 1926 in which the author describes how he tested a crystal before and after rolling it on the floor, burying it in mud, coating it with Fluxite and heating it in a flame. There seem to have been only minor and temporary changes in sensitivity as a result of all this; and original performance was completely restored by breaking the crystal in two. Of course, exposing a new fracture surface was by then a well-known trick for rejuvenating tired crystals, suggested as long ago in the "Electrician" as 1912 by Australian Henry Sutton, specifically for iron pyrites, the surface of which does perhaps "go off" in course or time.

By contrast with galena, synthetic zincite seems to be just as variable in performance as is the natural product, judged by the "as found" efficiency of the old Red Diamond detectors I have investigated. And the sources of any production methods for synthetic zincite are wrapped in mystery.

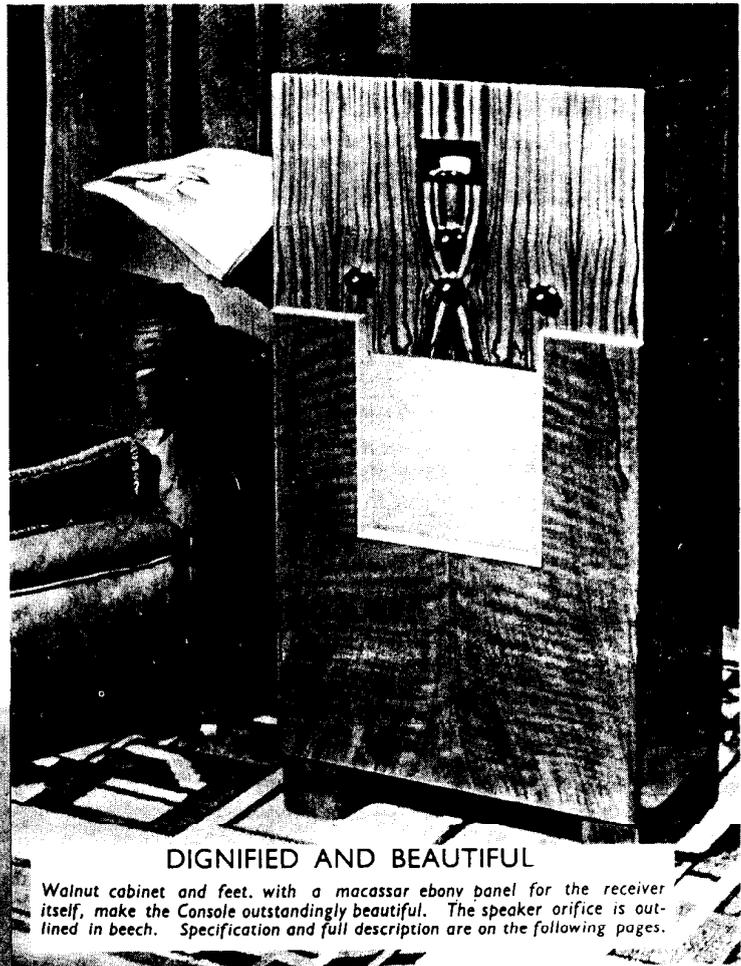
I live in hopes (diminishing with the years!) that somebody will find a "trove" of the stuff languishing in attic or shed, or perhaps mount an expedition to dig through the slag-tips of abandoned zinc works for crystalline zincite. But if *you* find a giant crystal, don't even *try* to get a peep out of it - display it intact in your showcase.

Murphy Radio

The stylish A240 type Murphy in walnut and ebony, meant to be an attractive piece of furniture as well as a radio.



The first Murphy Television receiver, produced in 1937.



DIGNIFIED AND BEAUTIFUL

Walnut cabinet and feet, with a macassar ebony panel for the receiver itself, make the Console outstandingly beautiful. The speaker orifice is outlined in beech. Specification and full description are on the following pages.



THE FIRST "MURPHY" FOR TELEVISION

Its very distinctive cabinet is carried out mainly in Bombay rosewood, with a lid of impregnated black pearwood and white sycamore handle. The leather-covered frame for the cathode ray tube rests on a quilted mahogany top, while the knob recesses are also leather lined.

The famous face that faded away

Book Review

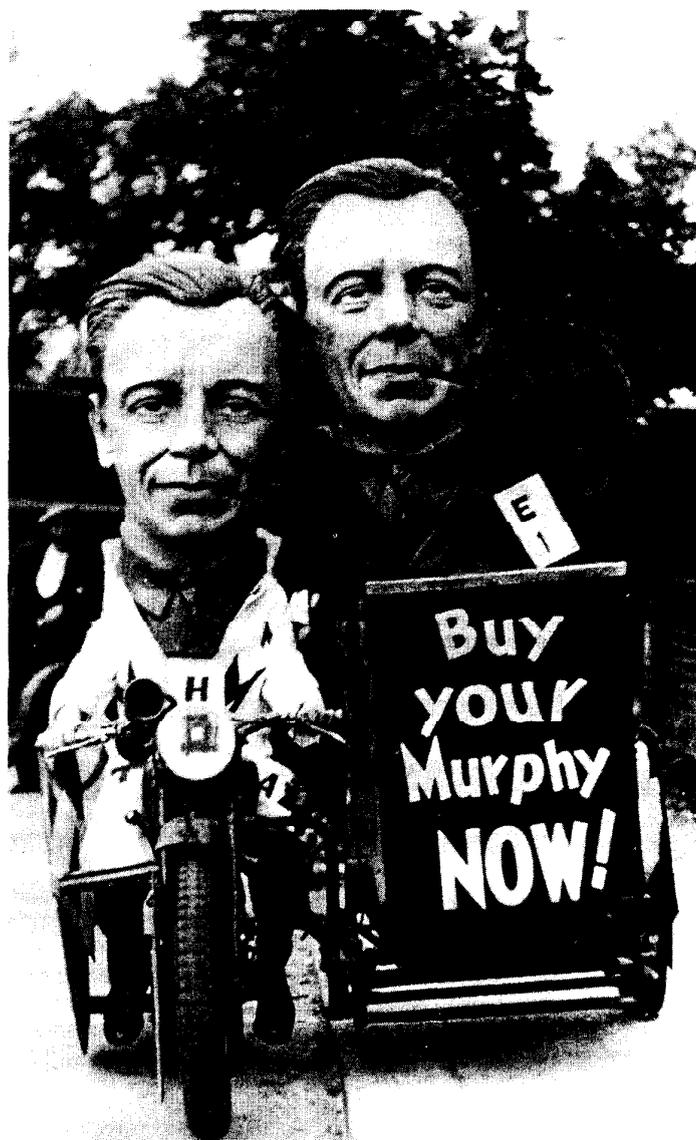
"Frank Murphy, Radio Pioneer".

Written and published by his daughter, Joan Long, at 5c Weybourne Road, Sherringham, Norfolk, at £5.95 inc postage.

by Robert Hawes

Something of a mystery is the reason why Frank Murphy, one of the most famous faces in the world of radio of the 'Thirties, suddenly gave up the nation wide business he had built up and vanished into obscurity, but his daughter Joan Long has now thrown some light on the subject in the biography she has just published of her father. It is a most thorough and sensitive piece of work in which she takes a sympathetic look at his philosophy but is not afraid of pointing out the faults of a most complex and private man.

A sober and serious young man, Frank flew with the Royal Flying Corps in the first world war, rejected a civil service career as a post office engineer because he thought it too secure to be stimulating, started a short-lived advertising firm, then sank everything he had into setting up a small business to manufacture radio sets in Welwyn Garden City. His business philosophy was enterprising and he studied to produce the "ideal" product and spent a lot of time on marketing so that there was no "hit-or-miss" approach. As the business built up, he began to shake the established industry with his ideas. He believed in making the best possible radio, giving value for money to the customer and providing good after-sales-service, so instead of selling through the usual wholesale outlets he set up a network of reliable dealers from which he demanded a commitment to his business philosophy, and he worked in close co-operation with them. His relationship with his employees was unconventional too, for he treated them in a very human way and suggested a new approach to industrial relations. He was good at projecting the right sort of company "image" to promote the sets he was selling and it was not long before the friendly face of "the man with the pipe", was as well known nation wide as that of any film star.



One of Murphy's publicity stunts: a motor-cycle team wearing carnival heads representing Frank himself, by then known throughout Britain as "The Man with the pipe" from his advertising policy which projected the wireless dealer as a friendly, reliable and somewhat avuncular figure.

The firm that Frank founded in the depression years of the Thirties grew into a business with a turnover of £1 Million a year but Frank was becoming restless, finding that his philosophy was incompatible with that of big business in Britain. After seven years of success he asked his fellow directors at a board-meeting one day "I suppose you think the company would be better off without me?" After a silence, they agreed and Frank departed, severing his connection with radio altogether, and he went into designing and manufacturing a range of good but

inexpensive furniture which anticipated the "utility" style, managing the company in his own special way. But the second world war spoiled that business idea and left him almost broke, so he flew to Canada in the hope of building a new life, but died suddenly there eight years later, practically penniless, aged 66, remembered as a man of great integrity, ability and enthusiasm.

Editor's note: See the feature in the "Classics" series in this issue on the Murphy A4.

History: Edison's "Effect"

Lighting the way to Wireless

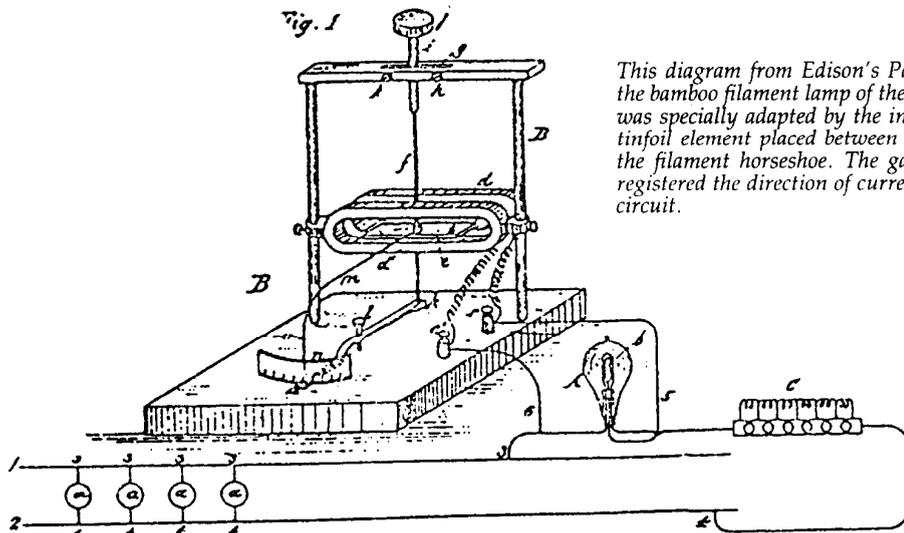
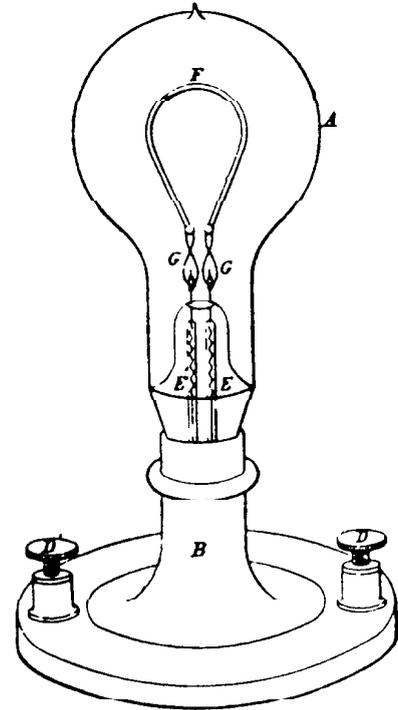
The writer is a collector of electric light bulbs, who produces a modest little magazine called "The Glowlamp Collector" in England. Here he considers the connection between the humble bulb and the thermionic valve.

by Philip Dolby-Jones

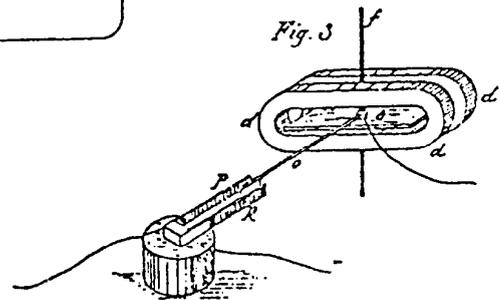
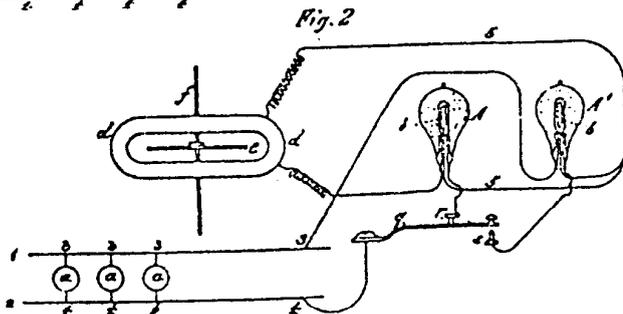
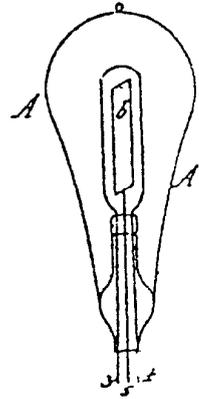
History does not record who invented the wheel and its importance to mankind was probably lost upon its inventor. Thomas Edison seldom missed the significance of his inventive creations and pursued their exploitation with determination. Yet, the one discovery of his which might have led to inventions to crown all previous others of his, was patented by him and then left to languish for several decades for others to carry forward.

Edison's researches into the darkening of carbon filament lamps due to carbon deposition led him to discover thermionic emission. He noted that the discoloration of the bulb was reduced in the plane of the filament but only on one side of the filament and that side which was connected to the positive pole of the supply. He reasoned that the positive half of the U shaped filament was casting a "shadow" between the negative half and the glass. Later, he found that if he put a tinfoil coating on part of the inside of the evacuated glass bulb, a current could be made to flow across the empty space between the hot filament and the tinfoil coating. He also noted that this current would flow in one direction only.

The discovery, like so many others of Mr Edison, was afforded the protection of a widely drawn Patent, no. 307031 of 21st October 1884, (filed 15th November 1883).



This diagram from Edison's Patent shows the bamboo filament lamp of the time which was specially adapted by the insertion of a tinfoil element placed between the arms of the filament horseshoe. The galvanometer registered the direction of current flow in a circuit.



Murphy A4 *continued from previous page*

between the anode and screen grid. In this design the pentode operates far from its normal conditions – the anode current is only 1.5 mA at radio frequencies – so it is small wonder that the frequency changer is rather prone to valve noise. The aerial input circuit is by way of a potentiometer which attenuates the signal and simultaneously adjusts the bias on the variable μ IF valve, and AC/SGVM. This arrangement constitutes the volume control. Band-pass tuning is employed in order to give adequate image rejection, as the IF is only 117 kHz. Signal detection is provided by an AC/HL triode operating in anode bend mode, and the output stage, another AC/Pent, is conventional. The high-tension supplies again differ from the norm in that they use a tuned choke as well as the speaker field coil together with three electrolytic condensers. Valve bias is obtained from a potential-divider network across the loudspeaker field coil.

Restoration of the author's set started well. The speaker voice and field coil connections all unplug, and the removal of three fixing screws enable the battle-ship like chassis to slide out. The spacious look under the chassis gives the first hint of trouble ahead: it lies in the condenser block (doesn't it always?) Not only is one of those most unreliable of components, an electrolytic smoothing condenser, interred in the pitch nightmare, but also incorporated are most of the resistors associated with the decoupling circuits: a total of 19 components in all. A quick high voltage check on leakage showed that the electrolytic was, not surprisingly useless. The other paper condensers had just about acceptable insulation. However there is nothing for it but to remove the block and break into it. Desoldering is not as bad as it might be because the connecting wire is

relatively thin and can be unwound from the tags with the tip of the soldering iron. The block can then be removed and the paxolin front panel taken off carefully to reveal all the resistors strung between the condenser tags in a space in front of the pitch. The connections to the electrolytic may be unsoldered (it is made up of two units in parallel) and one of the tags bent back flat against the pitch face and covered with a piece of waxed card. A new tag connected to the associated resistor can be pushed through the now vacant hole in the paxolin panel, which is then replaced leaving no evidence of the internal surgery. In fact the set will work perfectly well without this troublesome electrolytic in circuit. However, a small but significant reduction in background hum results by connection of a substitute polyester condenser external to the block. This may be done by using thin, black insulated wires connected to the appropriate tags and then tucking the new component out of sight down by the side of the block (you can always remove it later if you want to!) When replacing the wires to the block, they should be dressed exactly as they were before in order to avoid throwing the set out of alignment.

The two other smoothing electrolytics will also be useless. With luck their dead bodies will still be attached to the chassis, ready for rebuilding. Otherwise you will have to find substitutes with the large single nut type of fixing. Notice that the can of one of them is not at earth potential, and a paxolin washer insulates it from the chassis.

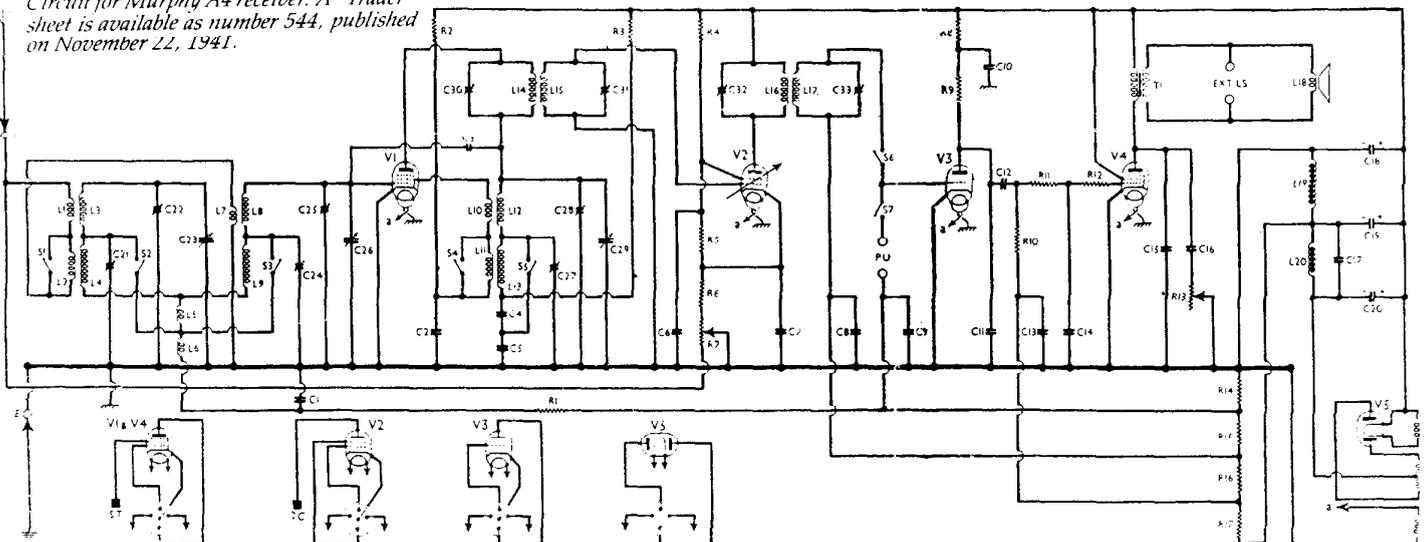
In the author's set, many of the resistors were found to have drifted from their marked values, most going high. This did not turn out to be too serious as the circuit is quite tolerant of small departures from design conditions, and no trouble was caused.

A quick whirl with the valve tester, and the set was ready for a trial. It performed remarkably well with a good rounded vintage sound (not much treble!) notwithstanding the limitations of the frequency changer stage. A shortish aerial is best, as the set overloads unpleasantly on a strong signal despite the presence of the attenuator in the aerial circuit. One problem is that the set is rather prone to modulation hum on long waves. A glance at the under-chassis layout will reveal the reason for this: the volume control and associated wiring is very close (it could scarcely be closer) to the HT smoothing choke. Thus powerful 100 Hz hum is injected into the mixer stage, where it can subsequently modulate any signal. The cure is simple: the chassis must be well earthed. This is one wireless set where connecting a good external earth makes a big difference.

One last tip. The tuning condenser is mounted on resilient rubber bushes, and the frame may make bad contact with the chassis. This does not stop the set from working as the dial light is earthed to the frame, and so an RF return circuit is present through the bulb filament and heater winding on the mains transformer. It does prevent the light operating however – and also gives rise to the very odd effect that the set ceases to function if the dial light is removed. The cure is obvious. Whilst working on the tuning condenser, notice that the fixed vanes of the oscillator section are at HT potential: appropriate precautions to avoid short circuits to earth are recommended!

Servicing Information: The 'Trader' Service Sheet 544 for the A4 was published in November 1941. It confirms the release date of the set as 1933. The cost at that time was £14 10s 9d.

Circuit for Murphy A4 receiver. A "Trader" sheet is available as number 544, published on November 22, 1941.



Spring hats, crinolines and wireless sets

by Ron Jones

In the March 1983 I wrote an article based on a find of a "Terry" wireless manufactured by the well-known spring manufacturers Herbert Terry. I assumed they made only one model but small chippings of information came my way to suggest otherwise soon after the article appeared. I mulled over this for some time thinking I'd better set the record straight, but where to start was a problem.

Even the new factory owner could not help. The first port of call was the Birmingham Reference Library and then the Redditch Library. Slowly a pattern emerged on the history of Herbert Terry's, and eventually I was able to discover that a descendent of Terry's now owned a lamp factory not far away. Things began to fall into place very quickly after contacting a Mr. Terry, a grandson. With many thanks for his help the name E. Smout was remembered by one of the retired secretary. Herbert Terry it appears started his business in 1855 as a fishing bait maker along with one other man and two boys at the Novelty Works, Ipsley Street, Redditch, Worcestershire. He then invented a spring clip to be worn inside straw hats, along with steel clips to fit inside ladies crinoline dresses to keep them in shape. He was soon described as a "Victorian with vision".

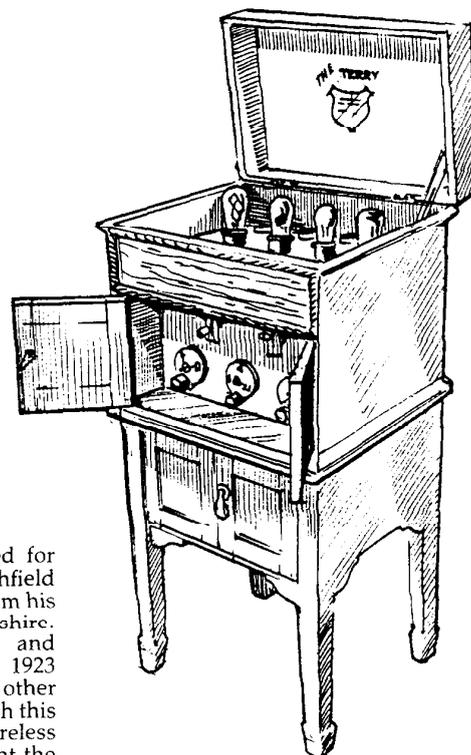
Soon Terry's had earned a reputation for springs and pressings, and the business soon developed after the introduction of the bicycle and internal-combustion engine. However, the firm's success did not come from just inventions, but by high quality which became his prime importance. He eventually abandoned bait making and his business expanded rapidly. When he retired in 1902 the Company was very well known and continued under the guidance of his three sons.

In 1912 larger new factory premises were started to house machine shops, laboratory, commercial and design departments, and a large canteen. Amongst the Terry's workforce was a bright young man by the name of Ernest Smout whose interests lay in wireless. He was so enthusiastic that at

the beginning of 1920 he rented for himself an old workshop in Birchfield Road, Headless Cross, not far from his home in Redditch, Worcestershire. Here he developed, designed and experimented with wireless. By 1923 Terry's, like hundreds of other companies, decided to join in with this new business of wireless manufacturing. They soon sought the help of our Ernie Smout, who became their designer. The wireless department was set up in their Metropolitan Works on the Enfield Estate at Redditch. Mr. Smout junior, whom I found to be living some ten miles away, informed me that his father designed many four-valve sets starting with a sloping panel type using Burndept swinging coils and Marconi intervalve transformers, and eventually their elaborate four-valve Marconi intervalve transformers, and eventually their elaborate four-valve set in a stylish Mahogany cabinet with battery compartments which appeared in early 1926, supplied with Amplion horn speaker with mahogany flare.

It appears that Terry's was slowly giving way to the larger and more established wireless manufacturers like Marconi, Burndept, GEC etc., and they eventually decided to give up their wireless venture in about late 1927, but not before our Mr. E. Smout had designed and built many two-valve sets. With his enthusiasm for wireless Ernest Smout purchased an empty shop, originally owned by A.L. Pitts the motor and cycle dealers in Eversham Street, Redditch., and turned it into the local wireless shop, with a fascia announcing "E. Smout and Sons".

He purchased all the remaining wireless stock from Terry's and the cabinets, valves, circuits and spare parts, were used for the construction of his own sets. Not long after, perhaps with the advance of new wireless technology, Ernest Smout decided to



The unusual 4-valve Terrys set, discovered in a "junky" condition in an old shop, which started Ron Jones off on his detective work.

get rid of all the old Terry's equipment, and in the words of his son "we had a large bonfire in the back yard. Cabinets, books, circuits all went on and I can still see those lovely blue transfers trickling down into the flames".

Thus ended the Terry's wireless era.

Terry's went on to become an international organisation with sales exceeding £50,000,000 with direct descendents of Terry's still on the board of Directors.

Editor's Note: Congratulations to Ron Jones on an interesting piece of detective work. It began when he read that there had been a wireless manufacturing firm his locality connected with the Terry company. First enquiries produced little information, except that an old retired employee was thought to have one of their sets, which had been found in the back of a tumbledown shop and acquired it for restoration. He persisted with his research, and came up with the present story. Other members are urged to research in their own localities: hundreds of small manufacturing companies were set up all over Britain in the early days, so the research field may be fruitful.

10th Anniversary of the BVWS:

Reminiscences from our first chairman Tony Constable.

While actively collecting old wireless equipment during the 1970s I began to discover that others were doing the same thing. Finding 1920s sets for £2 and first world war R-valves for 50p was not at all uncommon in those far off halcyon days. But, as well as collecting old equipment and wireless literature, I acquired numerous friends doing the same thing and the possibility of forming a Society was often discussed.

We learned that the American Antique Wireless Society (AWA) had been in existence since 1952 and were publishing a quarterly called "Olde Timer's Bulletin". There was also a Canadian Vintage Wireless Association (CVWA) whose Bulletin was called "The Cat's Whisker" and their secretary, Maurice Chaplin, was very helpful during the formative stages of BVWS and our own Bulletin.

It took time to realise that, although everybody wanted a Society, nobody was really prepared to do the donkey work of starting it. I had the naive thought that by merely discussing the idea a Vintage Wireless Society would come into existence almost of its own accord! It was evident that many others thought the same way. An announcement that a Society might be formed was placed in "Practical

Wireless" and, after receiving about twenty enthusiastic letters, I decided against all my instincts to "get involved" and suggested to a number of fellow collectors who lived nearby that we have an inaugural meeting in my house. This took place on 25th April 1976 and the British Vintage Wireless Society was formed.

I had not myself wanted simply a "Collectors' Club". I felt it was more important to establish a Society interested in the history and technology of early wireless as well as the collection of hardware.

Originally I had hoped there would be lots of interest from within the Academic community (Departments of Electrical Engineering and the History of Science and Technology for example) or from professional museum circles. My approaches to them were largely unsuccessful and we had to go it alone. They wanted to be "kept in touch" but volunteered no active administrative, financial or editorial support - quite reasonably in retrospect, though at the time I was disappointed.

On the formation of the Society we drew up a simple constitution and defined its objects as: a) To promote the study of wireless history; b) To collate existing sources of information on all aspects of wireless history; c) To encourage the preservation of early wireless equipment. We opened a bank account with the £3 subs from the original thirty members and deposited a copy of our constitution with the bank manager. The original committee

consisted of myself, John Gilles, Jonathan Hill, Denis Grey, Norman Jackson and Ian Higginbottom. We did not originally assign to ourselves typical offices but it gradually emerged that I would be chairman, with John Gillies as treasurer and Jon Hill as membership secretary. Norman Jackson would illustrate a Bulletin and I would edit it. An so the BVWS took its first innocent steps into the world.

When the Society was a year and a bit old and had grown in strength to 100 members, we had our first AGM in the old Writtle transmitter hut at Chelmsford. The meeting was a tremendous success and we mounted an impressive outdoor display of equipment. Apart from Denis Grey, who stood down, the original Committee was re-elected and expanded to include David Read as vice-chairman and general secretary, the late David Brodie as overseas representative, and Roger Snelling as technical officer.

Our Society is now ten years old and continues to grow with nearly 600 members including many from overseas. Many of the original committee are still in office and our BVWS Bulletin has appeared with regularity four times a year. Our regular meetings at Harpenden twice a year attract crowds of more than 300. The Society may have had a hesitant start ten years ago but it now appears to be here to stay.



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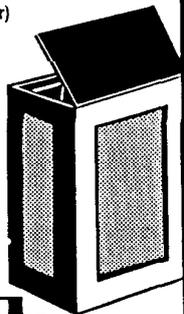
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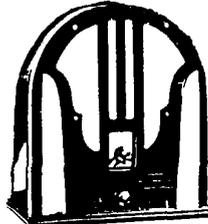
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Restoring a pre-war receiver

by Sid Ostler

Television is very much a central part of modern life and is still developing rapidly, both in terms of engineering and production technique. Something that I have always found rather amazing is that Television – in its modern electronic form – dates back to the mid-thirties and is therefore very much part of the 'vintage' period of interest to members of our Society. I had long wondered just what the television set was like to own and operate for its select group of owners nearly fifty years ago. How good were the pictures and sound, and what were the first programmes like? I decided to try to find out, and this proved the start of an absorbing hobby.

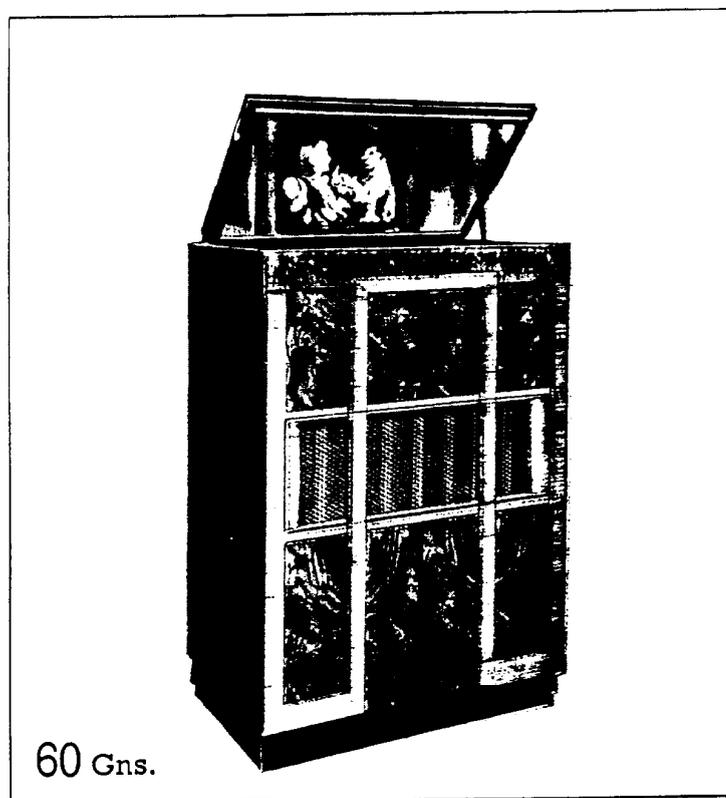
The natural first step was to acquire a receiver. This was not easy, particularly for someone who at the time had never heard of the B.V.W.S. A visit to the Science Museum in 1980 whetted my appetite but provided no leads. At length I decided to place a 'wanted' ad for a 'pre-war t.v.' in Exchange & Mart, and after hearing from several people who wanted to dispose of obsolete '60s sets received a call from a gentleman in S.E. London who had a 1937 Marconiphone 702 for sale. This was a receiver with a 12-inch screen that was viewed via a mirror in the lid of the cabinet. Apparently the set had recently been removed from a 'tip' but was in restorable condition. I recruited the help of an old friend who possessed a hatch-back car and we travelled hot-foot down to London from my home near Evesham to have a look.

When we arrived, we found the set standing in the front room but looking rather out of place. The cabinet was scratched and faded but the set was complete and basically sound. I lifted the lid and saw a small, rather dirty screen. It gave the impression of not having been used since the birth of television in the remote past. At that moment I longed to see that small screen lit up again and to recapture the long lost novelty and sense of magic that Television must have carried before the Second World War.

After safely transporting the set the hundred odd miles back home, the restoration began and was to take about six months. The first major problem to present itself was the large, pitch-covered mains e.h.t. transformer which had developed internal shorts. I was unable to find any firm prepared to re-build it but a small local concern, (Skot Transformers of Hanley Swan) agreed to design and manufacture a 'one-off' unit. In the event they did a

MODEL 702—TELEVISION SOUND AND VISION RECEIVER

(Size of Picture, 10 ins. by 8 ins.)



magnificent job and the result closely resembled the original in appearance but lacked the pitch covering. This was installed in the set and after minor adjustments the correct e.h.t. of 5Kv was obtained. Now, after replacing some leaky capacitors in the power and timbase units, it was possible to get the set to work. However a new and greater problem now became apparent. The cathode ray tube had 'died'. In a blacked out room, all that was visible on the screen was a very faint scanning raster with a black spot in the centre. It seemed unlikely that the tube could be rejuvenated or re-gunned and after various consultations this proved to be the case.

It was now that I had an incredible stroke of luck. One of my duties at work is the processing of redundant engineering plant. Some time ago I had cleared out several dozen cathode ray tubes but I noticed one that was a bit different – it was a peculiar looking thing with a narrow deflection angle and a strange base. It seemed a shame to dispose of it so I tucked it away in the Stores and forgot about it. Now, remembering this, I got permission to remove it and tried it out for size. It

proved to be an almost exact fit and was obviously an equivalent to the original Emiscope 6/6, probably being a 6/7. This tube was unused and on fitting it the set was transformed. A bright raster was obtained with no central burn mark.

The remaining electronic repairs were mainly confined to the sound unit, where a soft crackling noise from the speaker when a signal was applied was traced to a faulty I.F. transformer. This was rewound. The loudspeaker had an off centre cone and was replaced, as were all the rectifier and output valves in the set. The magnificent inlaid veneered cabinet was in sound order under the dirt and only required cosmetic repairs and cleaning.

The set was now ready but there was one more problem to overcome before it could actually be used. Living as I did about a hundred miles from London I was well outside the Band I service area of Crystal Palace and there was no suitable television signal available. In the next article I will recount how a signal was eventually obtained and how well the set performed in regular use.

VINTAGE WIRELESS MUSEUM



The Vintage Wireless Museum, headquarters address for the British Vintage Wireless Society is at 23 Rosendale Road, West Dulwich, London SE21 8DS. Telephone: (01) 670 3667. The Curator is Gerald Wells, whom visitors should telephone before visiting the museum.

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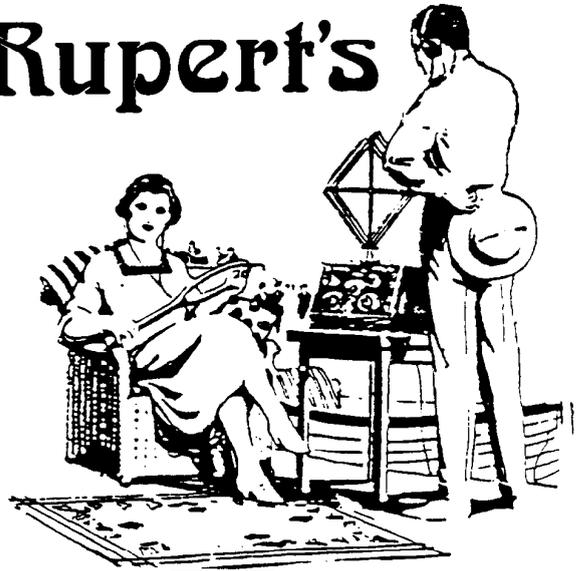


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