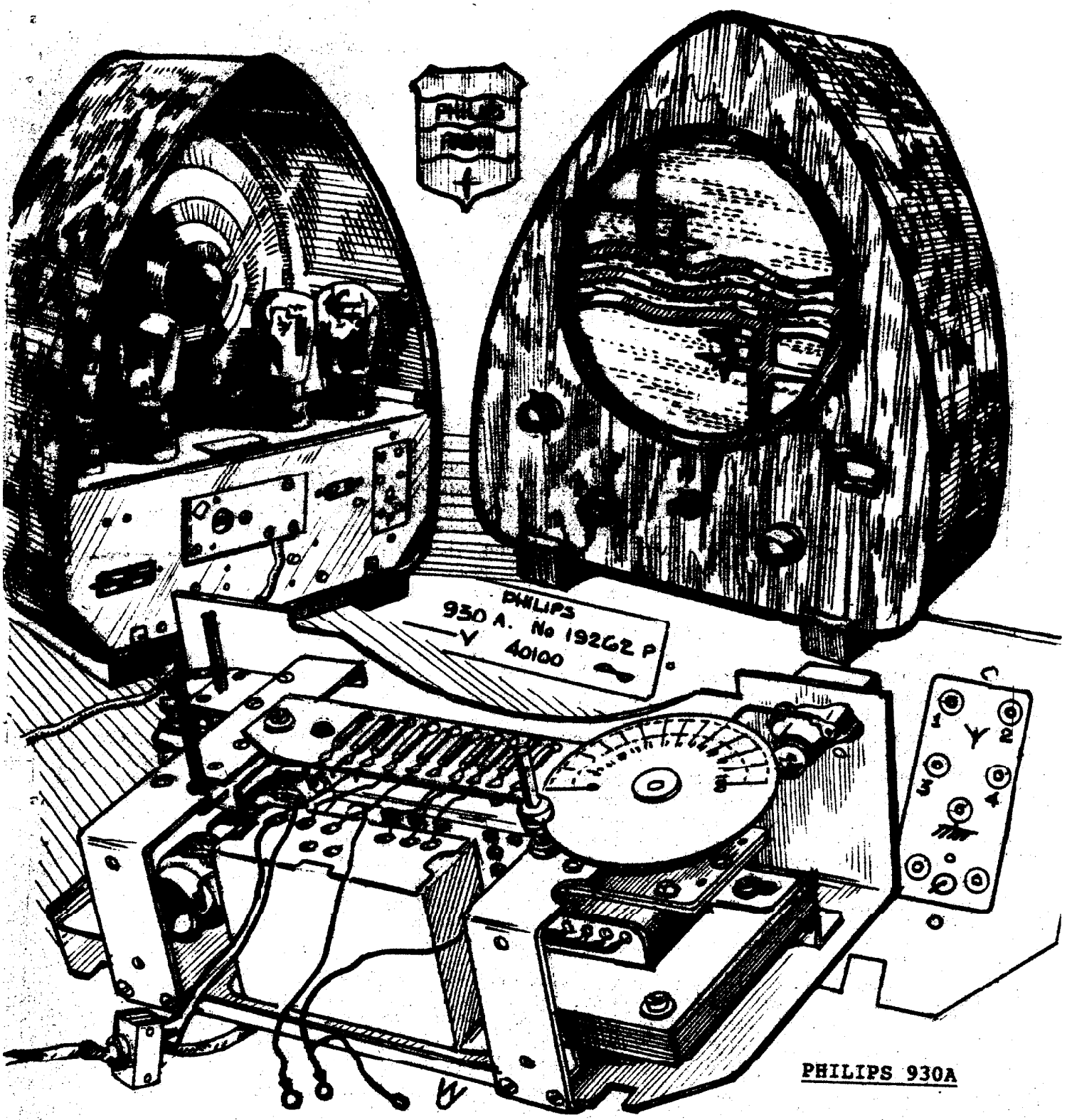
VINTAGE WIRELESS

C. BVWS 12 83

VOLUME 8 NUMBER 3

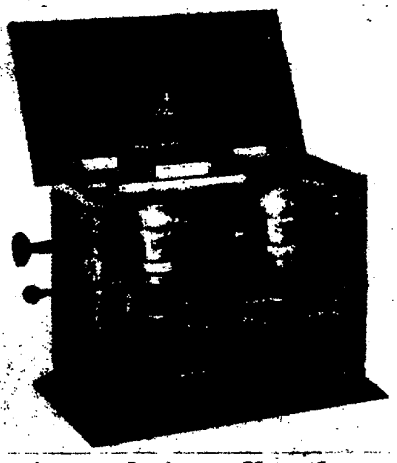
BULLETIN OF THE BRITISH VINTAGE WIRELESS SOCIETY



PHILIPS 930A

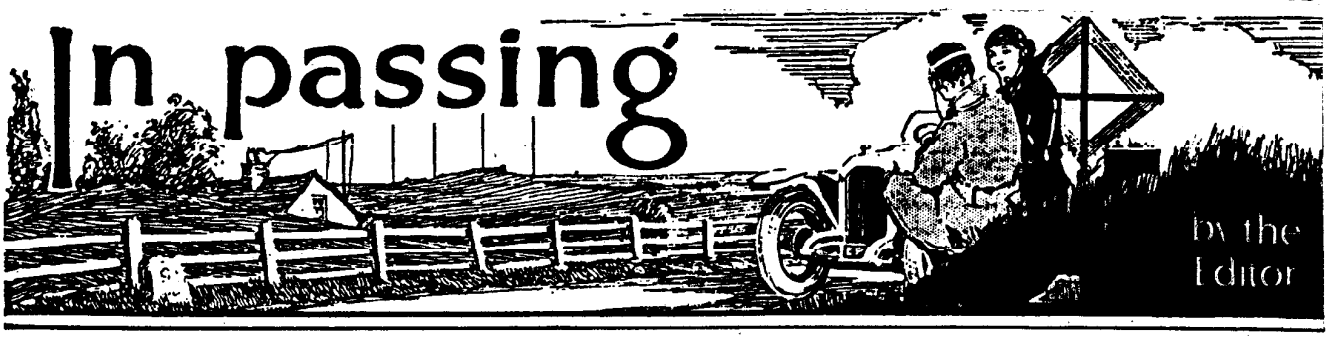
Editor's Postbag

The Marconiphone V2 (See Vol 8 no.1. P7.)



I have again read with interest the reprinted article on the V2 and in particular noted the comment that while a reflex circuit should in principle perform better than a straight O-V-1, the author never found this to be the case. I wonder if he is right. Consideration of the reflex circuit tells one that, with components of equal merit the performance ought to be better than the straight version. It seems to me there are only two reasons for the V2 reflexing action not to be successful. Firstly, the self-capacitance of the HF choke from V1 grid could give rise to HF potential drop across C4; but is seems unlikely that the HF choke could be as bad as that. By the way the chokes are not iron-cored as indicated in the circuit diagram reproduced. Secondly, the LF signal at V1 grid could swing V1 over a non-linear region and so modulate the incoming HF signal : depending on the phase of the reflexed LF signal,this would give rise to positive or negative LF feedback. With positive feedback the gain would be actually increased, although with unfortunate effects on the LF response due to phase shifts and frequency distortion in the transformer. Measurments on my V2 show that this intermodulation effect is present to some degree. With the tranformer as wired by Marconi's, the feedback is in fact negative. With the primary connections reversed* overall gain is increased by about 3db, but with the expected increase in LF distortion. Other measurements on my V2 show the HF gain of V1 at 700 kHz to be about 20dB . This gain would be absent in the straight O-V-1 configuration and must surely be allowed as a significant benefit from the reflex circuit. The above measurements were taken with the reaction inductance shorted out to avoid any confusing side-effects.Re-introduction of reaction, again at 700kHz and with optimum setting, increased the overall gain by about 3dB. This is not a very impressive improvement and there seemed correspondingly little increase in selectivity but I do not find,as Tony Constable has done, that the reaction is unstable. The weakest feature of the V2, to my mind, is the spade tuning. The eddy-current losses in the copper plates must significantly reduce the Q of the tuned circuits; and this probably accounts for the rather flat tuning, the moderate sensitivity and the ineff ective reaction. Incidentally, the author's comments that the spades reduce the inductance and introduce shunt capacitance, while of course correct, is perhaps a little confusing for the non-expert since the two effects are in opposition as regards the resultant resonant frequency. So to sum up, we may allow ourselves a superior smile at the spade tuning idea, but not I think at much else. The reflex circuit does indeed bring the benefits which the designer intended - PAT LEGGATT.Head of Engineering Information Dept. BBC. FOOTNOTE from Tony Constable: How expertly Pat Leggatt describes the workings of the V2 and the reflex principle. My original observations were made quite empirically and I compared the reflexing with the non-reflexing circuit with the same components. When I get the opportunity I'll go back to the drawing-board . Incidentally, the inefficient eddy-current tuning systems of all those early Marconi receivers may well give rise to a superior smile, but it was often a cause of sick grimace to its inventor, C.S. Franklin, when in later years, his colleages at Marconi pulled his leg about it. (*EDITOR'S NOTE: I have recently examined eight V2 examples and note that in the case of three, the transformer primaries are reversed, and wiring appears original.) MORE LETTERS:P22

Editor: Robert Hawes, 63, Manor Road, Tottenham, London, N17. 0JH. Tel:(01)808 2838.
Society Chairman: David Read. Treasurer: Ian Higginbottom. Membership Secretary: Mike Kemp. Bulletin Artist: Norman Jackson. Newsletter Editor: Jonathan Hill, 14, Victoria Court, Kingsbridge Avenue, London W.3. 9AH. Tel. (01) 903 1306.
SECRETARIAT: G.and J. Mitchell, Chute Lodge Cottage, Chute Forest, Near Andover.



Nineteen-hundred-and eighty-four is going to be an important year for the British Vintage Wireless Society and enthusiasts abroad. Elsewhere in the issue, you will find a report by Tony Constable on the progress being made in planning our joint meeting with the Antique Wireless Association of the U.S. , which will be take place in June, together with our own Annual General Meeting and "Swapmeet" . It is hoped that friends in other parts of the world interested in wireless will be able to join us at the events being planned, so that our get-together can have a truly inter national flavour. 1984 is also being marked as " Marconi Year " by the AWA. Another wireless event will be the opening of the new Dutch Electrical Museum. It will be opened in Nijerk in May, by the founder, BVWS member Marcel Ritmeester. The wireless section will include over 400 radios and accessories, dating from 1910 to 1960 and includes British items among the mainly Dutch and German exhibits. There will also be a big international Swapmeet near the new Museum, which is in the centre of Holland and about 30 minutes by car from Amsterdam. Details can be obtained from Marcel at Nw. Amsterdamsestr 34, 7814 VA Emmen, Holland. I shall be giving more information about the event in the next issue.

News from nearer home is that Gerald Wells of the Vintage Wireless Company, Dulwich, London, is well on the way to completing re-org anisation of his Wireless Museum. It has been considerably extended and there are many new exhibits. Members are always welcome there but Gerald likes people to telephone first. His number is (01)670 3667.

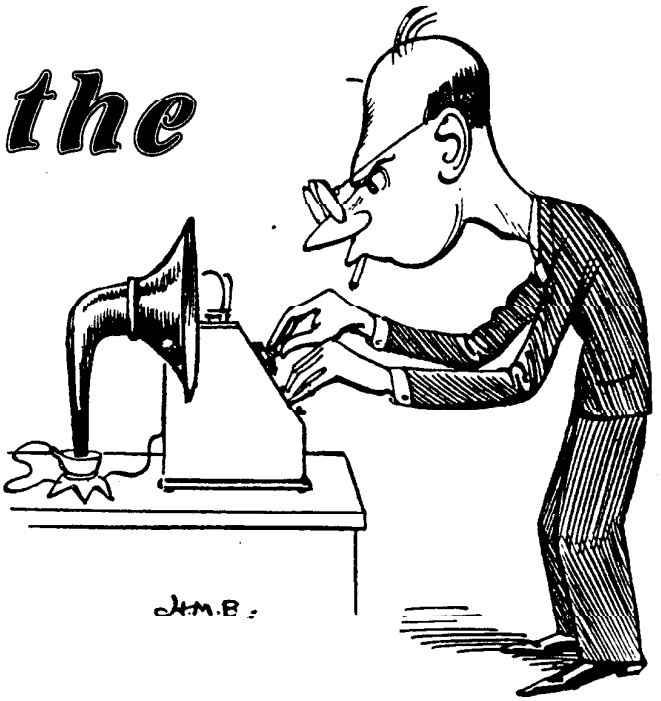
There is also news of another Museum- but this time one which has yet to be established. It is being planned by Robert and Pauline Brain and their son Richard, all of whom are Society members . They are busy getting things together for the opening of a museum in the South-West, possibly near their home in a charming old Devon farmhouse. More news of them soon.

News which collectors may like to have is of a large sale of wireless items at Christies, South Kensington, on 1st March, which originates from a Dutch collector who is thinning out his collection considerably. Items in this first "Wireless only" sale at a London auction room, are mostly continental but there are also some tempting British-made goodies including crystal and valve sets and much pre-broadcasting apparatus. It is likely to attract enthusiasts from abroad as well as at home, for there are more than 200 lots , without "reserve" prices, save for a few very special items. You can obtain a Catalogue from Christies, 85, Old Brompton Road, London, SW7 at a price which can be obtained by ringing (01)581 2231.

Last , but most important news is that another "Southern Area" Meeting is being organised by member Bill Joureaux , of 7, Blair Avenue, Parkstone, Poole, Dorset (Ring 0202 748072 -evenings). The swapmeet , now a well-established event, is to be held as before, at Crossfields Hall, Romsey. The date is 15th April , starting at 10am and ending at 4pm.

Enthusiasts are recommended to get the February issue of The Antique Collector which contains an illustrated article by Jonathan Hill.

Effects of the Reaction Ban



THERE ARE SOME "ODD" EXPLANATIONS FOR OSCILLATING
(Drawn by H. M. Bateman for the B.B.C. Anti-oscillation Pamphlet)

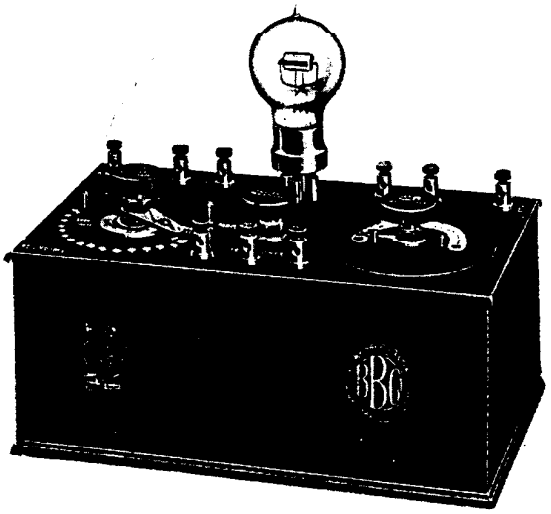
By Ian Higginbottom

A year or two ago I acquired a Radieco single-valver with a Reinartz reaction circuit, undoubtedly original, but bearing a "Type Approved" BBC mark and the GPO registration number 1020. For a long time this puzzled me, because among the technical conditions imposed on early PMG-Approved receivers was one that prohibited the use of adjustable reacton on the aerial tuning circuit, although fixed reaction could be used on this stage if it was incapable of causing oscillation. A Reinhartz circuit, therefore could not conceivably have been approved under the original PMG requirements. Eventually, browsing through early periodicals revealed, by accident, what could have been the only possible explanation, and incidentally disclosed some interesting facts as to the history of the reaction-ban and its effects on early receiver design.

The ban, along with other technical conditions for Post Office approval, was published by the British Broadcasting Company (Actually before its official foundation) on 10th October 1922. Three weeks later, on 1st.November 1922, the first Broadcast licences were issued. Since these were valid only for a PMG-approved receiver, one assumes that as least the major manufacturers must have been stocking up with suitable equipment for some time before that date, which was barely two weeks before the start of official broadcasting from 2LO on 14th November. Now the "Big Six " manufacturers who comprised the British Broadcasting Company had been represented on the technical committee which negotiated the approval conditions with the Post Office, and would therefore have had advance knowlege of the reaction (and other) requirements. Thus, the V2 (for example) could be designed and produced to meet the Post Office conditions in time to be shown at the "All-British " Exhibition which opened on 30th. September. One assumes that many smaller companies may have been unprepared for the restrictions until after their publication on 10th October and were therefore put to considerable disadvantage.

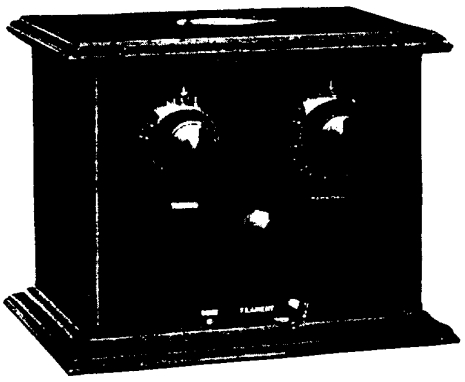
However, the restraints on aerial-circuit reaction did not last as long as the PMG-Approval scheme and only remained in force for about a year, although they influenced the design of commercial receivers for some time longer. The main effect was to cause the near-demise of the one-valver. of the few known during this period, several are kit or unit sets, or pre-date the regulations, and although fixed reaction was in theory possible on the aerial circuit, this concession does not seem to have been widely exploited.

A rare example is the TMC one-valver (illustrated here, and having the GPO number 1055) which is described in the 1924 TMC Catalogue as having "The maximum amount of reaction allowed by the Postmaster General ". It would be interesting to know what this and other PMG-approved arrangements consisted of and how their behaviour could be guaranteed under a range of operating conditions.

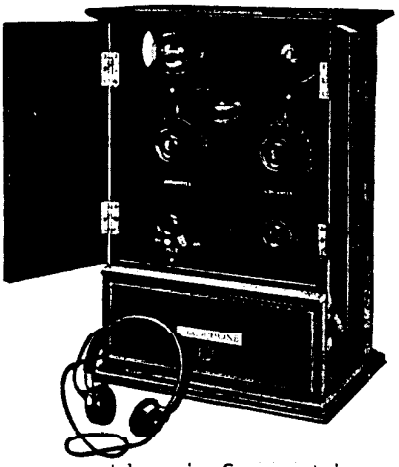


In general, however, the one-valver (as distinct from the valve-crystal receiver) seems to have been unpopular for at least the first year of broadcasting. When compared with the simple crystal set, the non-reacting single-valve detector may well have been insufficiently sensitive to justify its comparatively much greater cost. Usually, the next step up from the crystal set was the valve-crystal receiver, with the valve acting as HF (and sometimes also as LF) amplifier, followed by a crystal detector - with no reaction possible . Then there followed the two-valver invariably consisting of HF and Detection with reaction incorporated only in the detector stage. A well-designed one-valver incorporating reaction could well have proved more cost-effective as a receiver for headphone reception than some of the very much more elaborate substitutions made necessary by the regulations.

Whatever the exact date for the end of the ban, single-valve reacting detector sets with GPO numbers began to appear before the ending of the Post Office Registration system on 30th June 1924. My Radieco one-valver with its Reinartz circuit must therefore date roughly from the first half of 1924. Some of the best known one-valvers, such as the Marconiphone V1, (pictured right), came out too late to receive GPO registration numbers. Another important type of set to appear after the ending of the ban was the two-valve reacting detector plus LF, which under favourable conditions was capable of what passed for loudspeaker reception in those days. Some of the earlier HF-and-Detector designs were re-vamped in detector and LF mode



"The Reaction Ban" continued



and were registered with high (presumably late) GPO numbers. A familiar example is the Gecophone "Smoker's Cabinet " (Also pictured here), which appeared in Detector-and-LF form with the GPO number 5394 (The original HF-and Detector version which is very similar in outward appearance, but has a reaction coil unit mounted between the two valves, had the GPO number 2000.)

These are a few of the more obvious effects of the early reaction restrictions on British commercial receiver design. However, the information I have been able to gather from my own sources is very incomplete and I am hoping that readers will be able to fill gaps and correct errors in this account.

RADIODDITY

Here's a very odd wireless collector's item- and one which is surely not to be sniffed at ! Its actually a cotton handkerchief (reproduced here, smaller the original which is the normal "ladies' " size). It dates from the early Twenties.

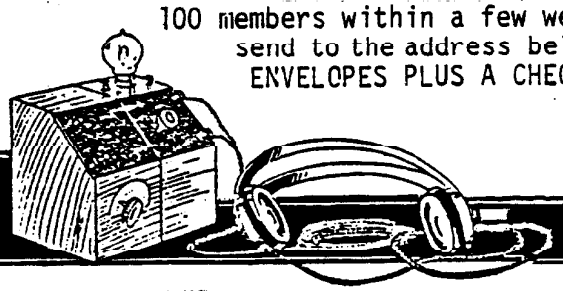
DO YOU have a wireles oddity ? If so, the Editor would be glad to hear from you.

Newsletter

ATTENTION ALL U.K. MEMBERS

Are you subscribing to the BVWS NEWSLETTER ? Now in it's third year, it is published each month and contains ADS...SALES...WANTS...EXHIBITION AND EVENT NEWS...all relating to wireless and broadcasting in the U.K. You may advertise free in the NEWSLETTER and be sure that your advertisement will reach over 100 members within a few weeks. It is easy to subscribe...simply send to the address below...12 STAMPED AND SELF-ADDRESSED ENVELOPES PLUS A CHEQUE FOR £2.50 made payable to the BVWS

BVWS NEWSLETTER, 14 Victoria Court, Kingsbridge Avenue, London, W3.9AH.



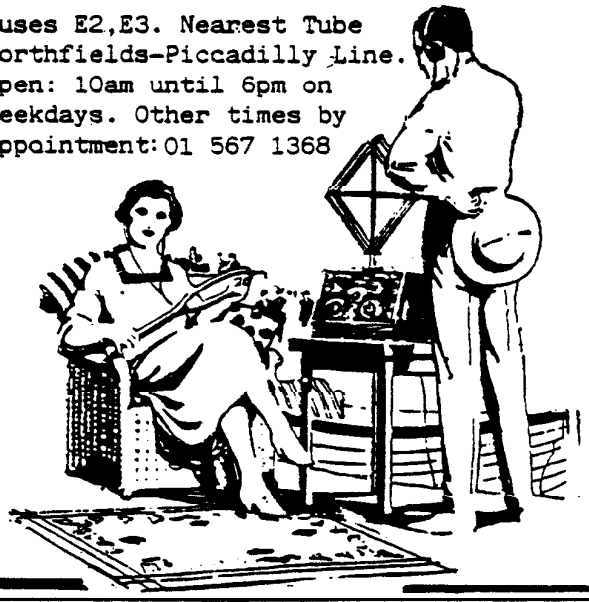
Advertisement BVWS Member

RUPERT'S

151, Northfield Avenue, Ealing, London, W13

THE VINTAGE WIRELESS SPECIALIST
Quality Broadcast receivers, pre-war TV, plus components, valves etc. We buy and sell wireless sets and associated items for cash or exchange

Buses E2,E3. Nearest Tube Northfields-Piccadilly Line. Open: 10am until 6pm on weekdays. Other times by appointment: 01 567 1368



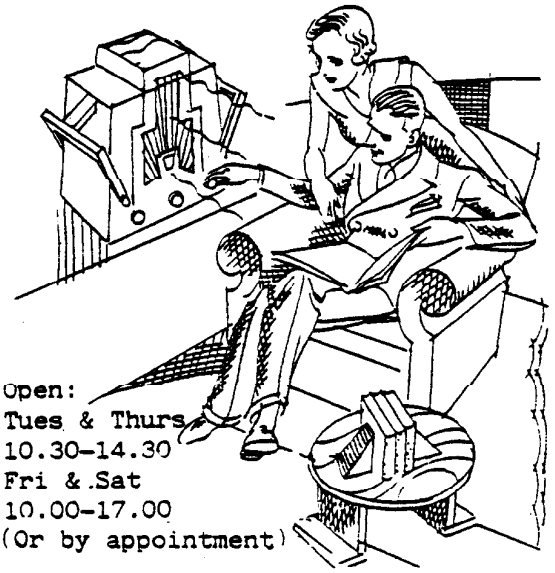
Advertisement BVWS Member

QUEENS PLACE Antiques

5 Queens Terrace
Otley, Yorks.
Tel: 0943 461999

We have a large number of wireless sets and associated items in stock -mostly of 1930 to 1950 vintage.

If you are coming from a distance we suggest that you telephone to let us know of your visit



Open:
Tues & Thurs
10.30-14.30
Fri & Sat
10.00-17.00
(Or by appointment)

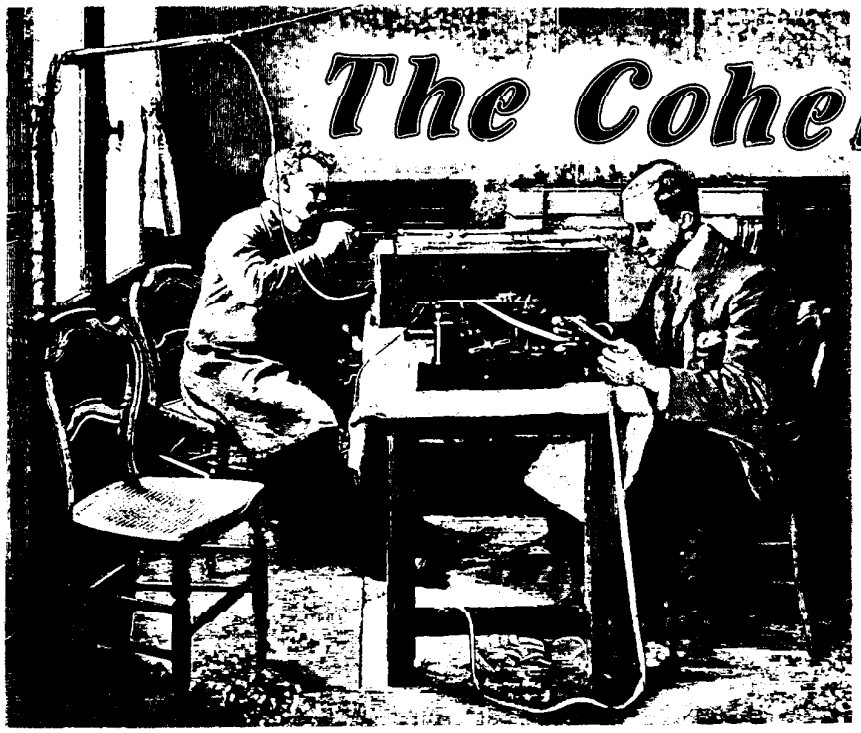
Advertisement BVWS Member

Holdfast Books

HOLDFAST BOOKS , 54 Old Street , Upton-on-Severn , Worcestershire WR8 OHW, specialise in RADIO , T.V. and Electronics .

Books , Magazines , Service Sheets, Ephemera from 1896-1981.

The shop is open on WEDNESDAYS , FRIDAYS & SATURDAYS or for a special appointment telephone 06846 2134 (Tony Hopwood , proprietor) .



Marconi during cross-channel experiments 1899

The Coherer

A.R. Constable traces the history of a device which resulted from an effect noted almost a century-and-a-half ago: yet can be said to have led the way for the micro-chip.

(Continued from Vol.7. N0.4.P53)

PART TWO

When Hertz demonstrated the existence of electromagnetic radiation in 1887, he pulled off the double achievement of both generating and detecting the radiation predicted by Maxwell some twenty-two years earlier. The presence of naturally produced radiation from lightning flashes had unwittingly been detected over a hundred years earlier when mariners had occasionally noted the reversal of the polarity of a ship's compass during severe electrical storms. This forerunner of the magnetic detector and Hertz's own resonant spark detector may have been very insensitive but they present no problems to understanding. They fit perfectly into the theory of oscillating electric and magnetic fields proposed by Maxwell.

The Coherer , however, still seems to lack a good consistent theoretical explanation apart from the fairly good explanations of dry joints and dirty contacts. But, before the advent of the valve, the crystal and the Rutherford/Wilson/Marconi magnetic detector, and discounting for a moment the electrolytic and a host of other detectors, the coherer became the prima donna of high technology in the last decade of the nineteenth century when wireless telegraphy was being invented. Engineers and inventors designed a variety of configurations and went on doing so until well after better detection methods had become available.

The original principle of the coherer seems to have been first observed by Munk af Rosenschöld in 1835. As first used by Varley in 1852 as a lightning protector, it consisted of two electrodes inserted into opposite ends of a wooden box filled with carbon granules. Edouard Branly observed its sensitivity to radio-frequency voltages in about 1890 and his coherer consisted of a glass tube with metal filings between two metal electrodes. Fig.1. shows the various forms this coherer took in the hands of the better known pioneers. There is no good reason to suppose any one of these performed better than others except that those contained in evacuated or sealed-off tubes retained their sensitivity better than those exposed to a corrosive atmosphere. Well-made sealed coherers made at the turn of the century

perform just as well today as when they were first used. The constituents of the metal filings and electrodes vary enormously and were selected empirically for the most part. Marconi's electrodes were made of silver amalgamated at the ends with mercury and his filings consisted of 95% nickel mixed with 5% silver. Any loosely contacted conducting materials will behave as a coherer to some extent and a few curious examples are shown in fig. 2..

All the coherers shown so far, once activated into the low resistance state by an RF voltage, remain so until reactivated by some external mechanical, electrical, magnetic or electromagnetic device, which, however sophisticated, simply shakes up the filings. This shaking restores the coherer to a stand-by high-resistance state to await the next actuating signal. Numerous restoring or de-cohering devices were introduced and the most famous of all was the "tapper" or electrical bell-hammer probably first used by Lodge but also used by Popov and Slaby (see previous coherer article in BVWS Bulletin Vol.7. No.4.) A few of the other de-cohering devices are schematically illustrated in fig.3.

The coherer with its restoring device was rather slow in operation and could often be very unreliable. But it continued in use despite the many self-restoring coherers that were available. The self-restoring principle was nothing new and, to some extent, it was present even in those carbon/steel microphonic detectors used by Professor Hughes in his pre-Hertzian demonstrations in 1879. Popov, in 1900, used a carbon-granule detector in a very smart receiver made by Ducretet in Paris. This was self-restoring and required none of the clumsy bell-hammer mechanisms and associated circuitry we tend to link automatically with coherers of this period and particularly to those used by Popov. Fig.4. shows a few of the self-restoring coherers, or autocoherers as they were sometimes called, used at the turn of the century. Perhaps the most famous was the so-called "Italian Navy" coherer devleoped by Solari and Castelli a year or so after it had first been described by Tomasini in 1899. It consisted in its simplest form, of a globule of mercury between iron or carbon plugs as shown in fig.4(a). By December 1901, it was widely available and had achieved such a measure of reliability and sensitivity that Marconi discarded his own bell-hammer coherer in favour of the Solari/Castelli mercury coherer at the time of receiving the famous " Three Dots" from Poldhu. Nevertheless, Marconi, at a later Royal Institution lecture, did not speak very highly of this self-restoring detector. Even on such hollowed scientific ground it was probably commercially expedient for him to commend none other than his own.

Unlike virtually all the detectors which followed, the coherer was not a rectifying device. Its high and low resistance states simply operated as a switch or relay. The multiplicity of designs did not achieve very much in the way of fundamental improvement. The coherer was a dead-end device: it had no scientific nor commercial future and during the time it was actively researched it contributed practically nothing to fundamental knowlege. But it had a magnificent place in the early days of wireless technology. Many sophisticated measurements were carried out with with well-designed equipment which might have led to the design of a reliable instrument, but despite all efforts, there was nothing there to develop and it always remained an uncertain device. It is difficult, we are told, to make a silk purse out of a sow's ear and when all is said and done, no matter how sophisticated a manufactured coherer became, its polished exterior simply houses a bad electrical contact- a dry joint.

FIG.1 (a) BRANLY

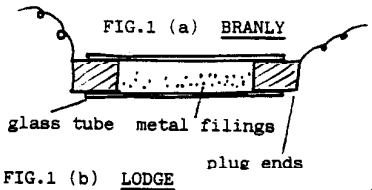


FIG.1 (b) LODGE

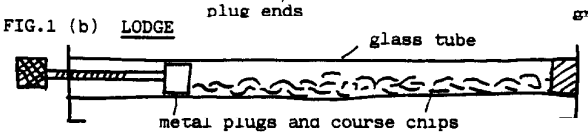


FIG.1 (c) LODGE

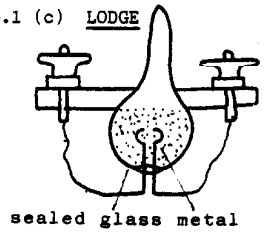


FIG.1 (d) POPOV

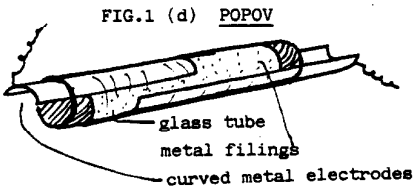


FIG.1 (e) MARCONI

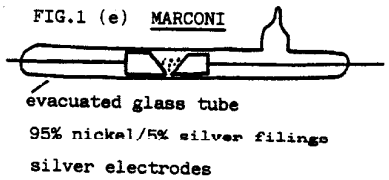


FIG.1 (f) BLONDEL

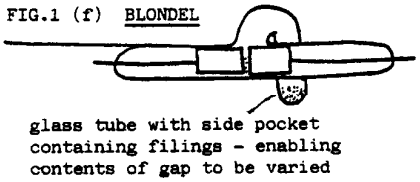


FIG.2 (a) BRANLY'S TRIPOD

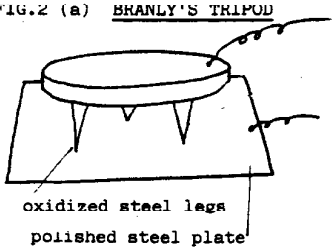


FIG.2 (b) ODENBACH'S SLING

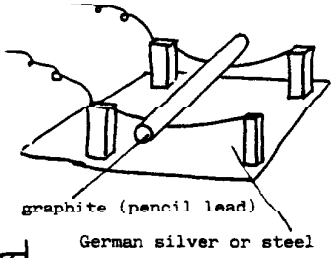


FIG.2 (c)
RAY'S MAGNETISED RINGS

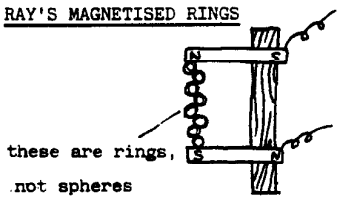


FIG.2 (d) MACKELYNE'S CONJUCTOR

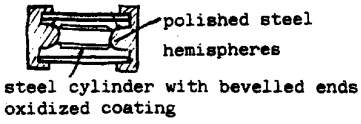


FIG.2 (e) CHUNDER BOSE'S SPRINGS

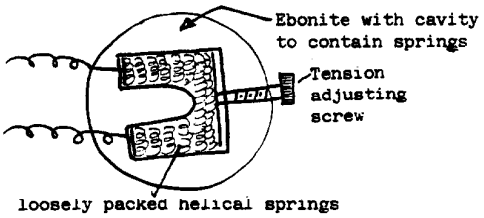


FIG.3(a) MAZZOTO'S
ROTATING
MAGNET

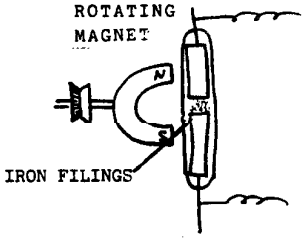


Fig.3(a)
SHOEMAKER'S ELECROMAGNET AND STEEL BAL

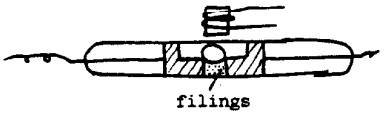
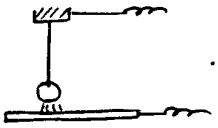


FIG.3 (c) TOMMASINA'S PENDULUM



SOLARI-CASTELLI "ITALIAN NAVY "

FIG.4 (a)

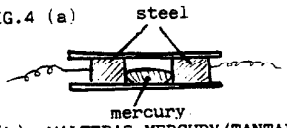


FIG.4 (b) WALTER'S MERCURY/TANTALUM

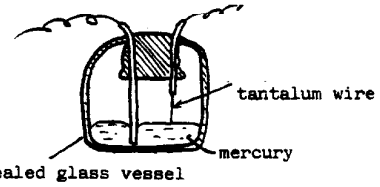


Fig.4(c)
LODGE-MUIRHEAD ROTATING WHEEL

oil normally separates
wheel from mercury.
incoming signal breaks
insulating barrier and
rotating wheel ensures
self restoring

Reference: Only a few years ago, it would have been necessary to refer to several works to pull together an article even a brief as this one. But most of this material is now readily available in a single book:"Early Radio Wave Detectors" by V.J. Phillips, published by Peter Peregrinus Ltd. in Association with the Science Museum in 1980.

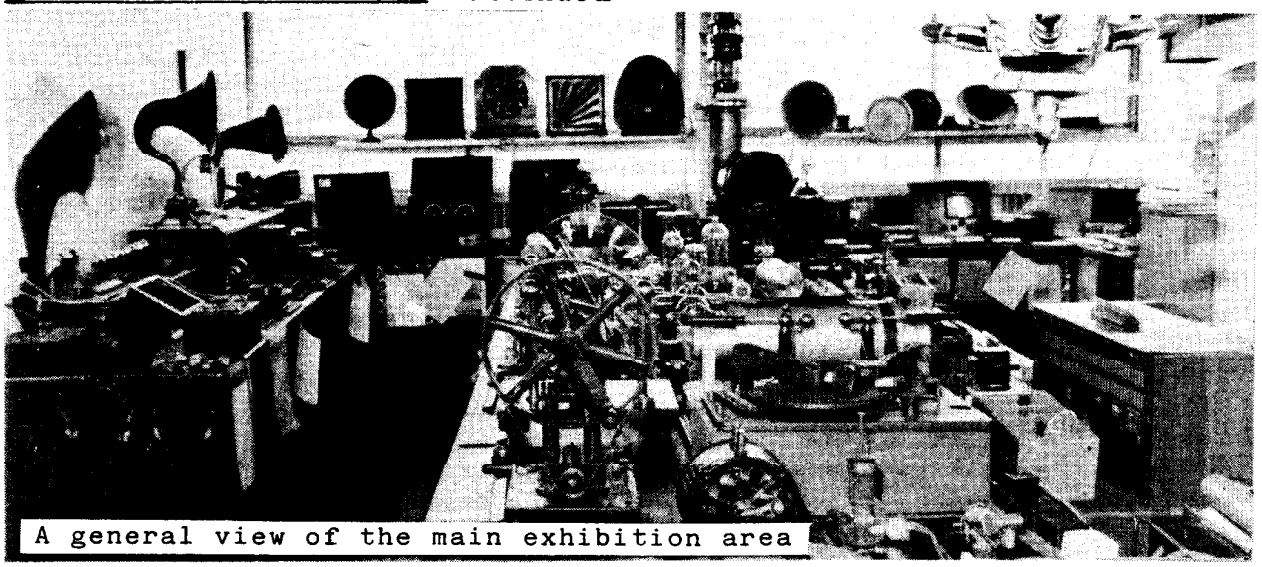
A Scottish museum

Harry Mathews pictured with a Wimshurst machine and a wartime "resistance" set in its original suitcase.

An interesting little museum in Scotland is that founded by BVWS member C.H.C. Matthews who is here introduced by the Editor with the recommendation to pay a visit to the collection which is housed in the James Clark Maxwell Building at Edinburgh University. Known as the" Museum of Communication " it has a remarkable variety of objects on display: radio,electrical, radar, audio, thermionic tubes, radiosonde, telegraphic, telephonic,sound-recording - and other objects which few collectors seem to take the trouble to preserve. Here Harry Matthews outlines developments he represents in his museum displays.

The part of history I am trying to represent occurred a short time ago, yet already, a large number of its artifacts have disappeared from view. A commemorative stone at Poldhu, a few tablets here and there, the occasional abandoned chain aerial: these, apart from transmitting stations, are all that is obvious to the ordinary viewer. Even the telephone wires are gradually going underground. In our own day, change has so accellereated that more of relevance to proliferating humanity has happened in the last century and a half than in the previous millenium. The world of this time has seen the development and use of technology and science as never before in history. Technology and science need communication to enable their growth; they produced that communication to spur their growth, and humanity was pulled along, protesting in its wake. In the " Scots Magazine of 1753, an article was published headed " An expeditious method of Conveying Information " by C.M. The system required one wire for each letter of the alphabet. Each wire was to be fitted with a small pith ball at the receiving end which attracted a piece of paper corresponding to the letter signalled. It was intended to use static electricity and the

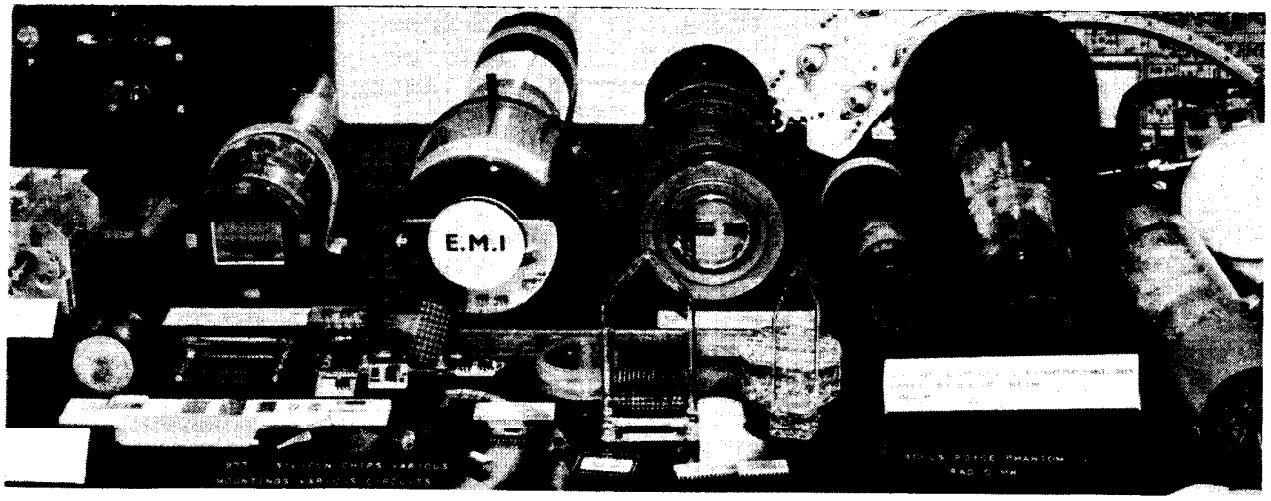
author suggested "covering the wire with jeweller's cement to prevent any part of the electrical fire from mixing with the atmosphere ". This was the first known suggestion of an electric telegraph. The word " Telegraph was, as far as is known, coined by Claude Chappé around 1770. Several"static electrical" system were later suggested and tried with varying success. One even caused an explosion at the receiving end to ensure attention. A successful experimenter was told by a Government Minister of the time "Telegraphs of any kind are now wholly unecessary". The weakness of any static system is insulation. Only on a very dry day is it completely successful. The two discoveries which made the telegraph and all that followed from it possible came in the early ninteenth century. The first was Volta's"Pile" - a form of primary battery- at the turn of the century. It gave a continuous current and required only moderate insulation. Oersted's discovery, in 1819, that an electric current flowing in a wire deflected at compass, now gave an indicator for the messages. From Faraday came the idea of "Lines of Force" both magnetic and electric. He also saw no requirement for the "Aether" required by the theories of his day and insisted that they look into the " Dialectric" .This did not attract much attention until James Clark Maxwell put Faraday's ideas into a mathematical form better able to be appreciated by academic minds. Set out in a series of papers, this was brilliantly finalised in his Electromagnetic Theory of Light. This led Heinrich Hertz to demonstrate radio waves by sending them from one end of his laboratory to the other , and showing reflection similar to light, from a coppper sheet, as predicted by Maxwell. His generator was, finally, an induction coil producing sparks, and his receiver a small circle of wire with a spark gap. Oliver Lodge experimented with Branly's "Coherer", a glass tube filled with metal filings. These "cohered " when in a field of radio waves and became a good conductor capable of passing current to an indicator. The experiments of Hertz and Lodge were followed by Popov in St. Peterberg, who , in 1895, set up a similar transmitter and receiver, and transmitted in code , the words "Heinruch Hertz". He was working for the Russian Navy at the time,and his experiments were for their communications. Captain Jackson(later Admiral of the Fleet) in Britain, and others, were also experimenting on behalf of their governments, but their success or otherwise remains shrouded in secrecy. The young Guglielmo Marconi lived near Professor Righi in Bologna , and, becoming interested in Righi's experiments, he saw the commercial possibilities. At his home, he developed apparatus (helped in many ways by his Irish mother). He used a Righi three-sphere spark exciter and an adapted Branly coherer, with an electric bell-minus its dome- to tap and "decohere" it. His experiments opened up the Hertz radiation system and it became a more efficient "Aerial and Earth" system. So, by modifying the inventions of the pioneers, he improved the equipment and made it adequate to demonstrate to Sir W. Preece and the British GPO in 1896. The story of Marconi is too well known to go into in detail, but at that time there were two disadvantages of the system. One was that the transmission could be received by all receivers, and, with more tranmitters, all signals were received on the receiver and were thus unintelligble. The second was that the "experts" could "prove" that if radio waves behaved as light, then they would travel in a straight line over the horizon and be lost for ever. The first objection was overcome by the use of one of Lodge's patents "Adjusting to Syntony" as he called it - "Tuning" as it is known today. Marconi, from his experiments covering many miles at sea, refused to believe the " straight-line" limitation , and progressively increased the distance covered until he had his "three dots" sent across the Atlantic to Newfoundland in 1901. He did this despite gales felling his aerials at both ends, using a kite from the Canadian end, without amplification !
Magnetic detectors superseded the coherer, and carborundum-steel detectors folowed in 1908-12. Professor Fleming, who helped Marconi



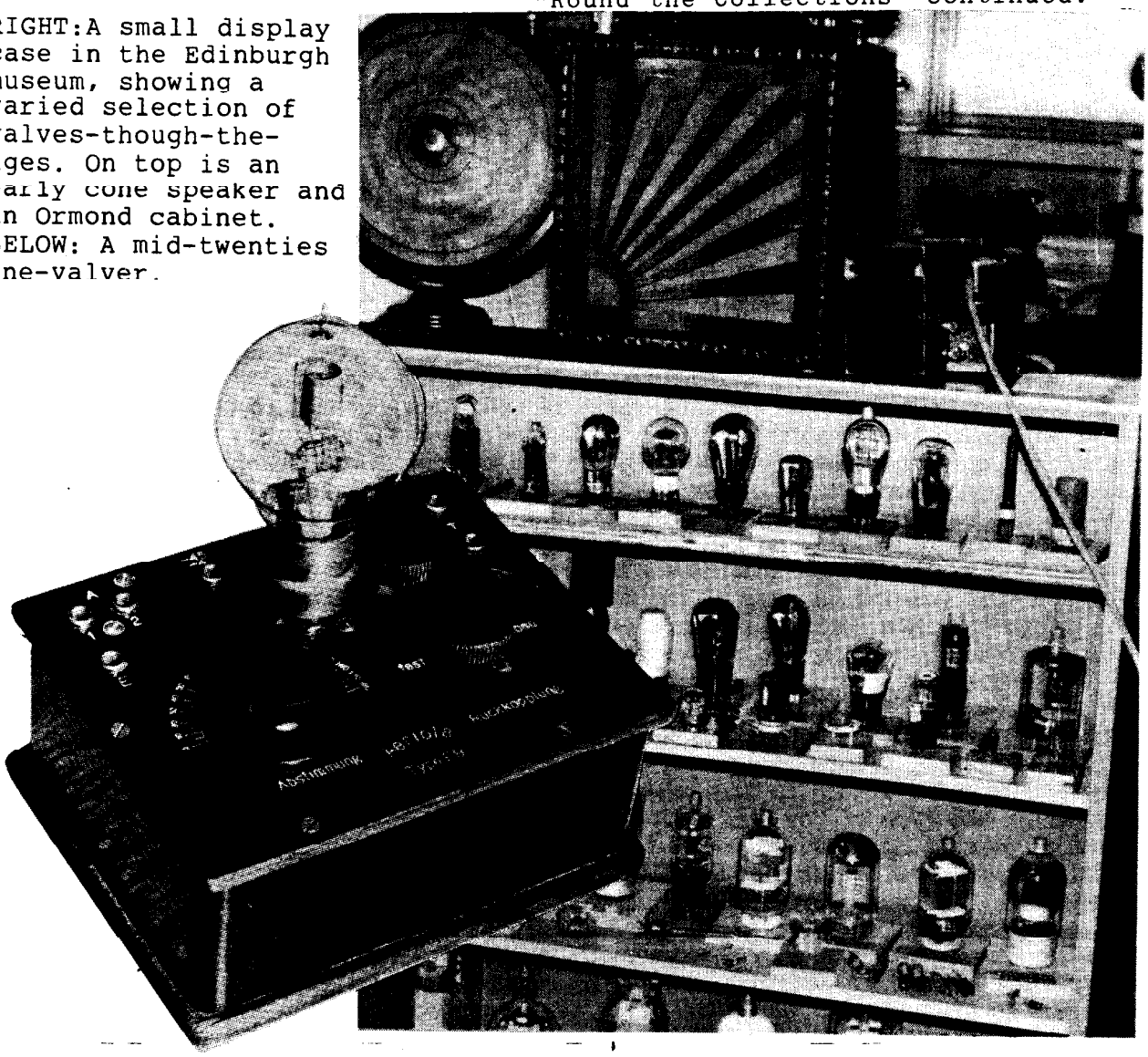
A general view of the main exhibition area

with much of his tranmitter design, took one of the lamps from his earlier experiments with the "Edison Effect - in which current flowed in only one direction- and used it as a detector. It was not noticably better than the earlier idea, but was much more stable and reliable. He patented the device in 1904 calling it the " Oscillation Valve" . Lee de Forest, of the USA, improved this device by placing a "Grid" between the filament and the metal "Plate" of the Fleming Valve, and amplification was attained. This was followed by " Feedback" circuits from Meissner in Germany and other sources, in 1912-13. These produced sustained oscillations. The first valve transmitters followed shortly after, during the First World War. In the military field, experiments were conducted by all the services in the United Kingdom. In the early days of the war, concern was primarily to improve the spark transmitters and carborundum crystal receivers to make them more efficient and easier to transport. They also had to be able to withstand handling by service personnel not noted for their careful methods. The transmitter , of course, radiated its signals in all directions at that time, which did not endear it to security-conscious commanders. The other disadvantage was the ability to hear the spark for a considerable distance at night. The alternative was often to ask for a volunteer to operate the Begby Lamp -within sight of one of the enemy sharpshooters ! One has to remember that telephone and telegraph lines were often cut by shellfire and repairs could cost a lot of lives. Cable markers often disappeared, having been used for firewood in the cold trenches. All this caused a demand for light-weight, quiet valve transmitters, with their ease of changing wave-lengths as security demanded. This requirement meant that large numbers of valves had to be manufactured and it was agreed that most of this work would be done at the French ECT directed by General Ferrié . The valve therefore became known as the "French Valve" , and was used in all receivers. Called the "R Type" ("R" for Receiver), it was designed for a four volt filament supply(two wet batteries) and a high-tension supply of 75 volts. It had a four-pin base, two for filament and the others for grid and plate (anode). Transmitters used several valve types, manufactured and developed by Marconi and other lamp manufacturers. These were able to generate about 100 watts each- limited by poor vacuum equipment and the heat produced. But these at last gave a light, small transmitter-receiver for aircraft which were by then increasing in numbers, and enabled the use of the planes as "spotters" for the artillery. Valves of up to six kilowatts were eventually made by a method attributed to Major Mullard, which used silica glass(quartz) able to withstand greater heat, and an improved pump , allowing higher voltages to be used. At the end of the First Word War, there was

a"blank" period until 1920, when , experimentation not being permitted,the Wireless Society of London invited all wireless societies in the UK to become affiliated to them, and held a conference at the Adelphi which demanded licensing of transmitters for amateurs. Within half an hour, Captain Loring, representing the Post Office, announced that 10 watt transmitting licences would be issued to approved applicants. From this, and being permitted to use the "short waves " that "experts knew were useless other than for short distances ", the amateurs proceeded to send their messages across the Atlantic, using anything from one to ten watts. At the same time, Marconis opened a 15 kilowatt short-wave transmitter at Chelmsford, Essex. A Handley-Page commercial aircraft, fitted with a wireless telephone , completed its maiden flight to Paris. In April 1920, the Dutch PCGG began transmitting concerts from The Hague, and in June of that year Dame Nellie Melba, the Australian singer, gave a concert from Chelmsford. A petition from the Amateur Radio Telegraphists of Great Britain to the Post Master General, was instrumental in getting permnission for the transmission of calibrating signals and telephony programmes for half an hour weekly. These were to be transmitted from an experimental station 2MT, at Writtle near Chelmsford, provided by the Marconi company. It operated for eleven months until January 17th 1923. The great success of "Two-Emma-Toc " was due to its engineer Captain P.P. Eckersey, who acted, sang, and made comments on current affairs, joyously helped by his " boys" . After this , the public demand for daily broadcasting was too strong for the authorities to resist. A group of Wireless Equipment manufacturers formed the British Broadcasting Company and a licence was granted for a daily service to be transmitted by the London station 2LO and it began on November 14th 1922. Birmingham and Manchester broadcasting stations began shortly after. Crystal sets were the initiation for most people and were cheap and easy to build, giving adequate earphone volume for a single listener. The policy of the BBC was to produce signals strong enough to operate crystal sets. But the family soon demanded a loud-speaker so that they could all listen at once. The early horn speaker was virtually an uprated earphone with a trumpet added. They required a valve amplifier, a dry battery and accumulator to operate- and the wet battery required regular charging at the local wireless-shop or garage. The enthusiast's ambition was to build a multi-valve receiver on which he could receive foreign stations to brag about - especially America. The next move was to put the loud-speaker into the same cabinet as the receiver . With the coming of new valves, particularly the screened-grid valve, it was possible to secure a large gain from each stage, and large aerial arrays began to disappear. Single - knob tuning gradually arrived , to simplify tuning for users who were looking for programmes rather than experimentation. Broadcasting had arrived in the home as an entertainment.

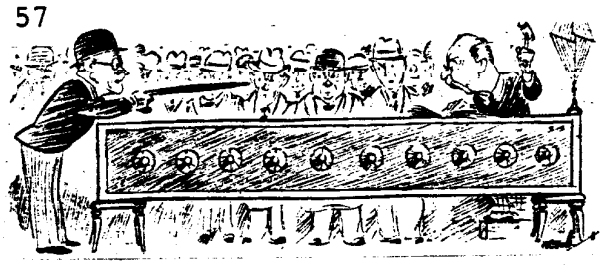


RIGHT:A small display case in the Edinburgh museum, showing a varied selection of valves-though-the-ages. On top is an early cone speaker and an Ormond cabinet. BELOW: A mid-twenties one-valver.



The Museum of Communication represents most of these developments as well as the inventions and discoveries of more recent years: such a radar, the transistor, the silicon chip integrated circuit and even the video disc. The collection of radio and electrical apparatus is not behind glass and is intended to be handled. A fair number of the receivers are working, as are primitive electrical machines. Metal rectifiers of the 1920's are represented, as are much earlier components. Crystal receivers- condenser tuned, tapped coil tuned and variometer tuned, are displayed , and one is permanently working (except when the cleaner knocks it). Recievers from a one-valver of 1922 to multi-wave and multi-valve, motor-tuned, push-button and communication types are represented. Valves, from 1917 "R" types to 1970 miniature types are on display, and transmitting valves from 1916 100 watt models to 100 kilowatt . A Fultograph picture-machine of 1928 and a teleprinter are on show, as are also deaf-aids,wireless for the blind, loudspeakers of all types , radar items and spy sets. A good selection of technical material including books from 1850 onwards and blueprints is also kept at the museum .

The museum is open to the public at certain times, and members of the Society who would like to see it should write or telephone to Harry Matthews at 15, Marchmont Street, Edinburgh EH9 1EL , (229 6518. The museum is on the third level, James Clerk Maxwell Building, The King's Buildings, Mayfield Road, Edinburgh. The collection in not funded, and welcomes donations of equipment and literature.



REPORT OF THE WINTER
WIRELESS SWAP MEETING
Sunday October 30th 1983
by Jonathan Hill

Judging by the attendance this year -200 members, families and friends, I would say this was our most successful yet. My beautifully worked out plan went to pot almost as soon as I had arrived at Harpenden Hall, since an extra seven members turned up wanting stalls and another row had to be fitted in, making a total of 48 stalls. We were pleased to welcome Dutch member Marcel Ritmeester who brought along several European manufactured radios together with a lot of information about the Dutch Radio Society. (Mr. Ritmeester hosted the first International Meeting of Wireless Societies in 1982 and has a splendid electrical museum: telegraphy , telephony, lighting etc. which is well worth a visit if you find yourself in Holland.
As usual, there was a hectic morning of buying and selling but by about 1 oclock, things had quietened down- at one point in the morning there seemed to be an endless stream of people entering or leaving the hall with armfulls of sets. Despite the ever-increasing number of people who seem to be getting interested in vintage wireless, there seemed to be the usual large number of sets for sale, even if the quality was a little less than usual. Many more people were having a clear-out this year and were passing on some of the more modern examples from their collections (sets from the late forties and fifties). In the ante-room several mouth-watering articles were shown. My own set, a 1930s radio/drinks cabinet provoked as many looks of disapproval as it did of approval- it might have had something to do with the quality of the alcohol filling up the miniature bottles contained within the cabinet. Someone identified the set as a 1934 Chicago-made R.K. Radio Labs. model. Tony Hopwood exhibited a very early Bing Spark Transmitter and coherer receiver, made before 1909 and claiming to have a working distance of 20 yards. The set was typical of the type of toy outfit sold by firms like Gamages up to the 1920s.Other items of note on display included a MacMurdo Silver Corporation 15-17 housed in a glass cabinet showing off its lavishly chrome-plated chassis; an Excellophone Type 4c made in 1926 by the Excelsior Motor Company of Birmingham, a very early,rare, 1930s set made by Orr Radio Limited, model D3 and an unusual post-war car radio made to fit on a sun-visor. One new idea this year was to have a paid attendant on the door to collect entrance fees (a chore which normally falls to a few volunteers who have to miss the fun to do the job). This cost a very small amount and proved a great success as well as helping with security. Door receipts were up by about £75. However, some members entering by a rear door "forgot" to pay, so we shall probably have to have someone stationed there too next time. Another problem which came to light was to do with those " guests" brought along by members. As you know, any member can bring along guests to Harpenden, but like everyone else they have to pay the £1 entrance fee. However, over the years, many guests have become familiar faces, so much so that seeing some of them at Harpenden twice a year buying up radios leads us to think they are paid-up members of the Society: but they are not. They have not sought membership and have not coughed up the modest £6 subscription, but get the privilige of Harpenden for £1. This is not playing the game. To have the privilage of buying at Harpenden you ought to be a member of the BVWS. The term "guest" has never really been defined. From my own observation I would say there are four types of guest.(1) Family, (2) Prospective members(collector friends or acquaintances who have been invited by a member to come to see what the BVWS is all about, (3)Non-Collector friends invited as helpers or interested visitors, and (4) Wireless Collectors or even dealers who have no intention of joining. The first three classes are the only genuine "guests" , since "guests" can only be invited by BVWS members, and those members must ensure that their guests know that if they wish to do any buying they must first join. This is becoming a serious problem and the BVWS is losing money because of these " Cuckoos in the nest " . If anyone has a view on this problem I should be glad to hear from them. NEXT HARPENDEN MEETING: The date of Sunday June 17th has been confirmed and this will be a joint American Wireless Association and BVWS event, plans for which are now being drawn up.

EDITOR'S NOTE: This report was published in the December issue of Jonathan Hill's " NEWSLETTER" and was thought to be so interesting and important that it should be reproduced here for those who may not have seen it. (The Newsletter may be obtained - by UK members only- see advertisement on a following page).

VINTAGE VISION

Baird "Televisor"

REPORT FROM ROY SONNEX

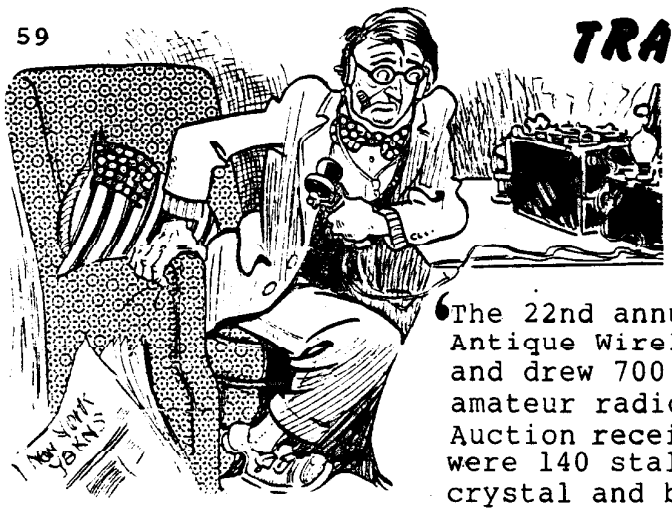
At an informal gathering during the Harpenden meeting on 30th October 1983 seventeen members of the Society met to discuss their common interest in television, especially in 405 line equipment. The following points met with common acceptance: (1) There is a possibility of redundant 625-405 line standards converters being made available to the Society. Of the two types in use, the digital version appears to be the more generally satisfactory option to us. Pat Leggatt was thanked for his undertaking to be the BBC-BVWS liason man in the matter and he will attemp to acquire one or perhaps two units for our use. Costs are expected to be nominal only. (2) It was proposed by Roy Sonnex and seconded by Gerald Wells that in the event of the main committee of the BVWS agreeing to the formation of a Vintage Television section of the Society, John Gillies should be asked to be its first chairman. The proposal was accepted by John and by the members present. By a similar process, Geoff Turner was accepted as "Number Two" to John. (3) For the time being, to simplify matters, the link between Pat Legggatt and Roy Sonnex will be the one used in connection with acquisition of ex-BBC equipment. (4)Roy undertook to inform the BVWS committee of the outcome of the meeting.Apart from those already mentioned, others at the meeting were: Ken Brooks, Jim Butterworth, David Dallow, Brian Forster , R.S. Jeffery, Bill Journeaux, John Narborough, Steve Ostler, Steve Rowley, D . Webb,Keith Wilson and Dennis Yates. ANYONE INTERESTED IN THE PROPOSED "VTV"SECTION IS INVITED TO CONTACT ROY SONNEX AT "THE HAUNT" ,SMUGGLERS WALK, GORING, WORTHING, SUSSEX. TEL: 0903 48213. THE EDITOR WOULD ALSO WELCOME ARTICLES, OLD PHOTOGRAPHS AND OTHER MATERIAL RELATING TO TELEVISION FOR PUBLICATION IN THE "BULLETIN".

TRANSATLANTIC VISIT

Report by Tony Constable

For our summer meeting and AGM in 1984 we expect to be joined by a number of US visitors from the Antique Wireless Association. We hope to expand our usual one-day affair into three days- Saturday, Sunday and Monday, June 16,17 and 18. On Saturday we shall probably meet our American visitors at the Science Museum, and then later in the day go to Gerald Wells' museum where all aspects of wireless history and collecting will be on show. On Saturday evening a theatre outing may be planned. Sunday will be spent at Harpenden as usual, with active trading remaining the central feature of the day's events. However, the side hall at Harpenden will be used for demonstrations, talks,slide presentations and other interesting events. On the Monday, we plan to visit at least one museum out in the country- and what could be better than the Chalk Pits ? Perhaps we will treat AWA visitors to a ploughman's lunch at a local pub and then go off in the afternoon to a second place of interest. In the evening we plan to have a dinner with one of two speeches from members of both societies. So, why not plan your 1984 holiday arrangements to include these BVWS events ? If you have any helpful suggestions to make please write to Tony Constable at 1, The Ridings, Ealing, London, W5.In the next Bulletin we hope to include an application form for those planning to join us on the Saturday and Monday. The Harpenden Swapmeet will be organised in the usual manner by Jonathan Hill.

TRANS-ATLANTIC LETTER



From DAVE BRODIE ,whose last letter we were unable to publish. We are glad to report that Dave, who was prevented by illness from visiting us last year, is now recovered and we look forward to seeing him with other American friends at our June International meeting.

"The 22nd annual historical conference of the Antique Wireless Association lasted five days and drew 700 people representing every US amateur radio district and some from Europe. Auction receipts totalled $17,000 and there were 140 stallholders. Best sellers were early crystal and battery sets, examples of which were a Radiola crystal set at $370 and a Kennedy 220 at $465 and an Attwater Kent breadboard at $370. UK sets featured in the quipment contest,including a Revophone and two Marconi sets. A variety of programmes included seminars on loudspeakers, repairing, collecting, transmitting through water and early transistors were enjoyed, plus visits to the AWA museum. AWA will recognise 1944 as " Marconi Year" and Ms. Gioia Marconi Braga, daughter of the illustrious radio pioneer, will be the guest of honour at our conference. Our museum has 30 pieces of Marconi gear including a complete 1901 ship installation."

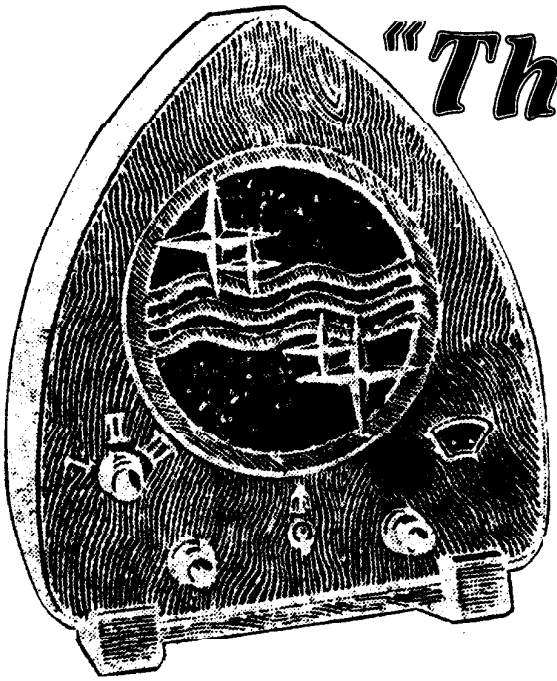
The missing numbers

A slow trickle of BBC " Postmaster General Approved numbers " is still coming in following the appeal in Volume 8 , number 1, but there must surely be more in the possession of some members. May we then request anyone who has a set with a number not on our list already to send details to our registrar Mike Field at 116, Tanhouse Lane, Malvern Link,Worcs. Mike tells me that some members have contributed new numbers and have pointed out errors in the original list. Additions you can now include on your list are :

124. Wemco crystal detector panel.
200. Gamage Ideal crystal set.
220. Ditto
384. Cinchro crystal set.
506. Big Ben Type 4 crystal set.
854. Scottish Wireless Tel. Splies Cr. set.
879. CA type B448 Crystal set.
900. Davenport Crystal set.
901. Claristal Crystal set.
902. Midge Crystal set.
1008. HPR Simplex 1valve set.
2002. Walters "Valve panel" 1 valve amp.
2021. Arcadian 2 valve set.
2094. Manchester Radio Type B3 2valve set.
3000. Gecophone 1 valve set.
3046. Walters Note Magnifier unit 1.
3260. Arcadian 1 valve amp.
3359. Forest 1 valve amp.
4121. Unidentified crystal set.
4232. ABR 4 valve table model.
4542. Graves Crystal set.
4547. E.D. 1 valve set.
4991. T.P. Brady Co Crystal set.
5146. Met Vick Cosmos VR3 2 valve set.
5146. Ditto A5 3-valve amp.

Mistakes and amendments: 118 Butler set - same set by "W.W Ltd"? ; 177 must be Fellocryst; 564 Gamages, printing error, should be 584; 2181 should be 2184 (Sterling 1588); 0281 and 2002 should be reversed. Do you have accurate dates for any numbers on the list ? If so, please send them . Has anyone received a copy of Bulletin Vol. 8 no.1 list on which are hand-written additions please? I may have sent this out by mistake and the new numbers noted are important. I will be glad to swap with an unmarked copy and pay the postage for return of this copy - Robert Hawes.

"The Classics" No.3.

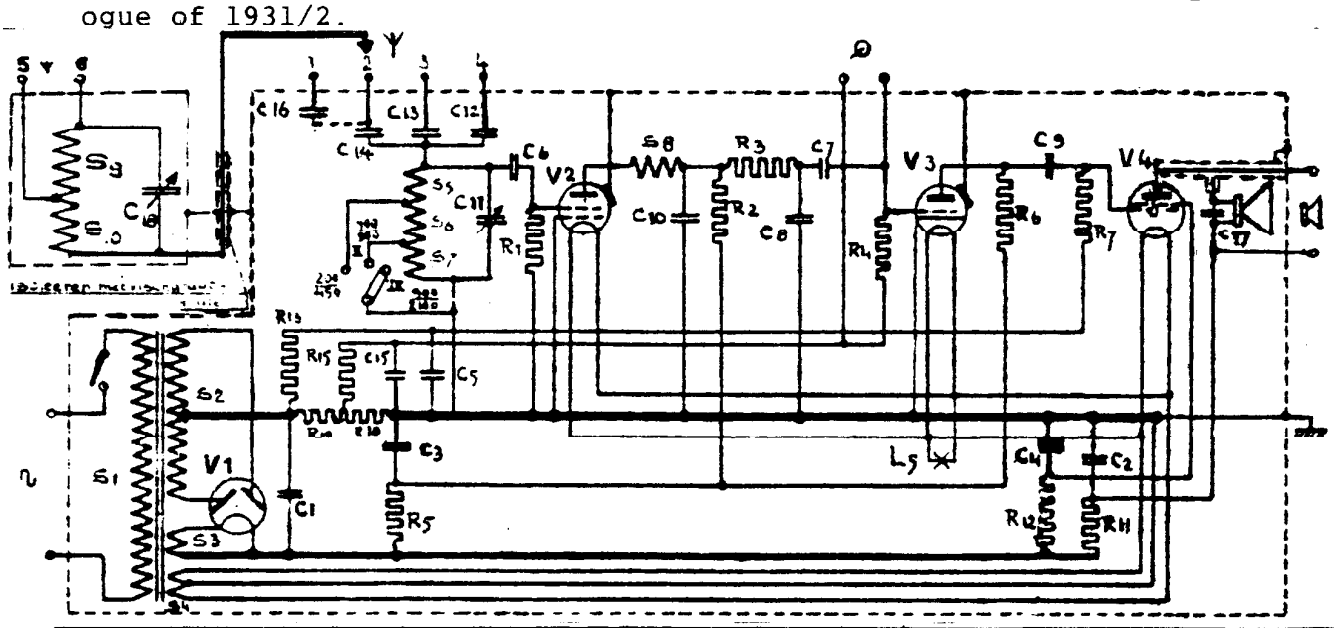


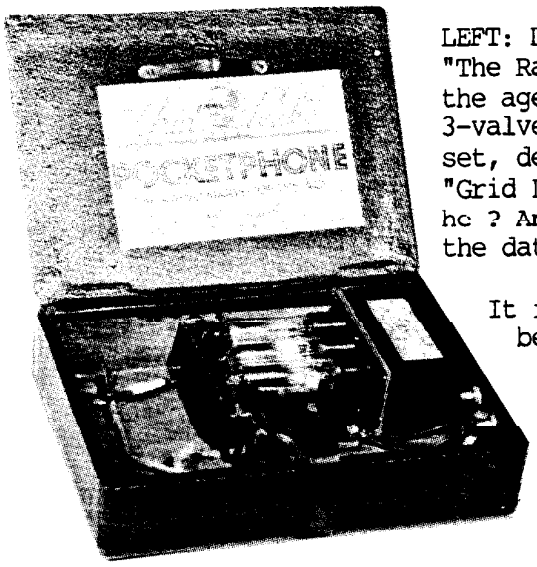
There are certain pieces of Vintage Wireless apparatus which have a special significance for many enthusiasts: perhaps because they represent a technical innovation or oddity or because they are important histoical landmarks- or even just because of their attractive or strange appearance. We began with the Marconiphone V2 and the Gecophone "Smoker's Cabinet" which are both early receivers. Our current "Classic " dates from the beginning of the 'Thirties.

Robert Hawes

Though well known to collectors, the Philips 930A is technically unremarkable. What makes it attractive to many people is simply its appearance which may be one reason for its rarity. Athough we find it so attractive today this distinctive "Cathedral" style set which is often described as "Art Deco" was decidedly less popular when it was launched just over half-a-century ago. Was the boldly innovative cabinet too far ahead of its time ? Certainly, the cabinets of most sets on the market in 1930 were of more old-fashioned design- and mostly made from real wood instead of man-made material. But perhaps the cabinet design was not the only reason why the 930A was not as popular as other sets of the day, for the performance was unremarkable too. The cabinet of the set is made from a thin resin-based material exclusive to Philips and known as "Arbolite" which , in appearance, is not unlike modern laminates and which has a finish which excellently imitates polished Rosewood. The material is easily bent to shape and held rigidly by a simple metal framework in the 930A which probably ly made it cheap to produce. Perhaps because the unusual Arbolite cabinet version of the set did not sell well, Philips offered exactly the same chassis in a more traditional Walnut real-wood cabinet as the 930B (certainly in 1931 and possibly at the same time as the introduction of the 930A). Both models appear in the Hobday 1931/2 catalogue but seem to have disappeared by the following year, although it is not known how long the set was on sale in Britain. My own example presents a dating mystery. The cabinet and chassis appear identical to other 930A examples I have inspected, yet mine has a factory label on the back which suggests it was made ten years after the original introduction of the model. The label, clearly contemporary, and in Dutch, gives a factory"control number" and a pencilled note on a dotted line records that it was " passed on 23/3/1940 " . Puzzled to find a "1930" set manufactured so late, I sought the opinion of Gerald Wells of the Vintage Wireless Museum. On inspection, he pronounced that the components- all apparently original- were of the late vintage but was as surprised as myself at the late date of the set. Equally incredulous was another well known BVWS member, Gordon Bussey, who is an expert on Philips. His suggestion is that my set might be a "factory reconditioned" one . Many companies offered such a service until a few years ago, making such a good job of "reconditioning" that customers could hardly believe the brand-new looking things returned to them were the origin als. If this was not the case with my set , then the only possible

explanation is that the Dutch were still manufacturing the 930A in March 1940 - perhaps like British manufacturers they were trying to make as many domestic sets as they could put together from old parts laying about the factories, to satisfy a public starved on new sets because the industry had gone over to war production . If anyone has information which might throw light on the mystery, I should be grateful to hear from them. Finding information on the 930A is not easy. The set does not appear to have been reviewed in the Wireless Press at around the launch date and there does not appear to be a "Trader sheet" which refers to it. I am indebted to Gordon Bussey for the circuit diagram published here, which was the best copy available from Eindhoven. The circuit refers to the AC version (930A and 930B) but there is also a DC version(930C), which is similar but has no output for external loudspeaker. According to Hobdays catalogue of 1931/2, this DC version was then available"only in Walnut cabinet " , but Bulletin Editor Norman Jackson has a DC version in an Arbolite cabinet. The catalogue describes all three versions as "The Philips'Three' local station receiver with large LF amplification and built-in loudspeaker" . The publicity blubs says that "although the set is expressly designed for high-quality reception of the local stations, it is capable, in most parts of the country, of giving a choice of several distant stations". The wave-range is 200 to 2,100M and it has a tuning control, reaction control and illuminated dial. The loudspeaker has a 4-pole balanced armature movement set within a micro-thin brittle black material which might be some form of bakel ite. All three versions were offered at £12 each in the Hobday catalogue of 1931/2.





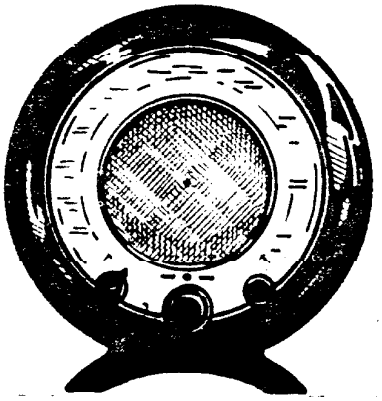
LEFT: Described as "The Radio Marvel of the age" this is a 3-valve constructor's set, designed by "Grid Leak". Who was he ? And what is the date of the set ?

It is thought to be just pre-2nd W.War.

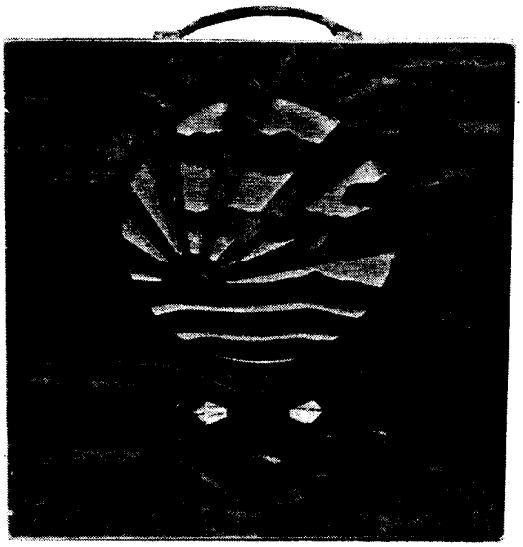
Puzzle corner

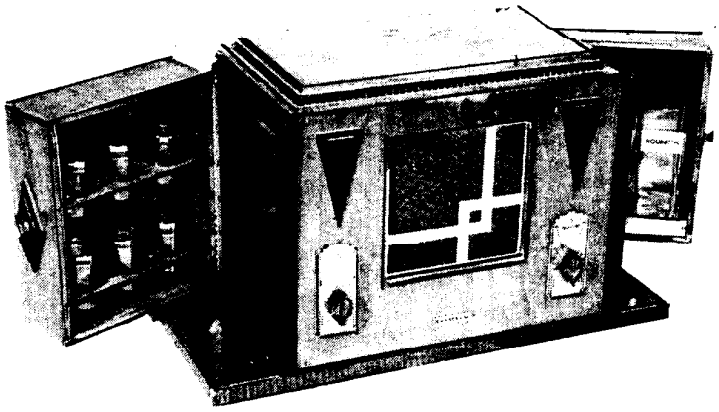
THESE "MYSTERY" SETS BELONG TO SEVERAL MEMBERS WHO SEEK INFORMATION ON THEM. IF YOU CAN HELP PLEASE CONTACT THE EDITOR. IF YOU HAVE A PUZZLE: SEND A GOOD SHARP PICTURE

BELOW RIGHT: Pye 4-valve portable, solid oak cabinet with small bakelite dial escutcheon. What is the date and model number ? Is it Pye SP/B of 1934 ?



LEFT: This is the late Round Ekko A22 of 1945. Four pre-war ones were: the AD65 of 1934; the AD36 of 1935; the AD76 also of 1935 and the AD75 of 1940. But does that comprise the whole set of round Ekco's ? Do you know of any others ?





LEFT:

REPLY to one of the pictures in the last issue. This "cocktail cabinet set was produced by R.K Radio labs, Inc. of Chicago, Illinois early in 1934. There are a few of these sets around - but not many. From Dave Brodie, our Transatlantic correspondent.

REPLY to one of the puzzle pictures in the last issue: The MCR1 is a 5valve super-het with four plu-in coils ranging from 150 KCs to 15 MCs in use in the field. Power was supplied by dry batter of 7.5v LT and 900v HT. The receiver is part of a radio station no .8/1 which has a modified B2 transmitter, a Nichols hand-generator for its 300-600v requirement, skull-type headgear and cards of wire for aerial and earth, and two section telescopic aerial. BOB WARNER.

MORE LETTERS TO THE EDITOR Continued from inside front cover.

" Northern Branch " ? Two members have contacted me concerning a suggestion for a branch to be formed in this part of the country and I have suggested we meet at my home, until the membership reaches say, ten, and we can find a suitable venue. I welcome visits by members but would appreciate notice. I have almost a hundred sets as well as literature. FRED HAY, 27, Crayke Road, Stockton on Tees, Cleveland .

MARKET PLACE

WANTED: Information on Wirek tape machine, also spools and information on the "Tape Writer" . Franz Jansen, Withuysstraat 95, s'Gravenhage 2523 GR Holland.

WANTED: Decca stereo Decola radiogram. FOR SALE: many pre-war and post war radios and radiograms, valves. Send SAE for list.

WANTED: Radiospares "exact replacement" transformer PM4. Ray Turner, 5, Squires Walk, Spinney Hill, Northampton. Tel: 0604 32334 or 43128.

WANTED: one EBL1 side-contact valve; two side-contact valve bases and dial glass for a Philips 735A. Adrian Cottrell, 13,Spadesbourne Road, Lickey End, Bromsgrove, Worcs. Tel:0527 76451.

WANTED: Slopng panel, external valve set.For exchange I have some early crystal sets to offer including Gec and BTH. ALSO WANTED: 1-valve BTH amp for VR2. Phone 0455 617523. D. Smith.

FOR SALE: Sets KB ER30, Pye T19D,Gec BC4650, Mk 123 in wood case with spares, Grundig tape recorders TK35 and TK20, Ferrograph amp, Garrard 401 with SME arm and plyth, various books and magazines. Valves LS5a, Q, B12 in original boxes (filaments intact. WANTED: BRO kit for Zenith Royal 3000-1 part no.S-53472. Also Lafaette HE80 comm. receiver. Alan Gates, 3b St. Philip Sq. Battersea, London SW8. Tel:(Evenings) 01 720 5839.

WANTED: Spade tuner and supporting metalwork for V2. Also aerial-earth panel for V2. Will buy or exchange. Mike Field, 116, Tanhouse Lane,Malvern, Worcs. 0886 32107.

WANTED: Ex-govt equipment: radios, transmitters, power units, leads, plugs, control boxes, handbooks etc. Also spy radios, keys earphones etc.Bob Warner, 45, Eastry Close, Ashford, Kent. Tel: 0233 36185.

FOR SALE:Ekco RG25 part restored; Gec BC3248; Graves SG3 (1929)mint, and gramophone. WANTED Gecophone 2-stage amp and Marconi 22. R. Jones, 2, Rose Ave, Alvechurch, Worc.Tel:021 445 3264.

WANTED: Sloping panel set, Burndept or Ultra or similar (I am interested in any open-panel type set). Items I have for possible exchange include Re-Echo 2valve Brig ht-emitter set ;Gecophone BC4000 1923; Chakophone 3-valve smoker's cabinet 1924; BTH valve-crystal set ; Western Electric valve-crystal set; Mk 3 Tuner in mint condition; World Globe type set (American 1932); Gecophone no.1 crystal set; Meepon crystal set; General Radio crystal set no.6 ; Burndept screened 5 (as in Bulletin Vol.5 no.1) Miniature wireless and horn speaker (As Bob Hawes' article in Bulletin Vol.6. no.2. FOR SALE: Avo model 8 mk.3 £35. Dennis Yates, 327, Coppice Road, Arnold,Notts. Tel: 0602 205441.

WANTED:Details of Marconi 21 set, including circuit,instructions, coils 200-400m and 400-600m. Ing.J.van Herksen, van Karnebeeklaan 27, 4102BZ Culemborg-Holland. Tel:03450-143 79.

WANTED: The following valve sets: (all c1924) Empress model A (GPO no4777) also model B;Any sets by ABGAR and Madge c1924; Also W.R. Less, Devom model, 111 ,1V and V1; Western Electrical Manufacturing Co. (not Western Electric). Jonathan Hill, 14, Victoria Court Kingsbridge Avenue,W3.(01903-1306)

FOR DISPOSAL: Very rare Adey 1-valve and 3 valve receivers.Offers, cash or exchange. Gordon Bussey, 64, Pampisford Road, Purley,Surrey.

FOR SALE: Vintage TV sets: 12" RGD B23551T £20; 12" Invicta 110 £15; 12" Pye FV1C £20; 12" Philco 1551 £5; 600A Philips table projection set £15. And. WANTED: pre-wat TV sets (any size),knobs for Pye MM; top cover for Philips 2514; Ekco AC97; Battery eliminator inc. HT,LT and GB. Steve Rowley, 3, Colton Road, Rugeley, Staffs. Tel:088 94 78416.

WANTED: Loudspeaker (or parts thereof) for Deutschen Kleinempfänger DKE 1938 (german People's set using cardboard speaker chassis). Norman Jackson, 5, Fyrmont Road, Strand-on-the-Green, London, W4. Tel: 01 994 3886.

WANTED: Information on R.A.S. sets, and in particular model 551 (post war). Was it a Marconi company ? Ray Holmes, 10, Daddlebrook, Hollinswood, Telford, Salop. Tel:0952 594590.

FOR SALE: Avo valve tester and handbook. Reg Dykes, 312, Carterhatch Lane,Enfield Tel:01 363 7494.

DISPOSAL: Philips 2553 bakelite case. And WANTED: Bound copies of twenties wireless magazines; two transformers for Brownie 2v amp; transformer and chokes for Marconi RB10; Brown mic amplifier and 2-stage version; Pye M78F portable; Marconi or Gecophone early wavemeter. Robert Hawes, 63, Manor Road, Tottenham, N17. OJH. London. Tel:01.808 2838.

WANTED: I have a Marconi 'Billi" condenser on part of the original panel. Does anyone else have bits of these early receivers, Marconi disc condenser, carborundum detector etc. ? Does anyone have a Marconi "Universal Crystal receiver" I could photograph and make notes on ? And please can anyone supply me with a photocopy of the Thorpe valve advertisement in Wireless World, 13th Feb. 1924, adpage XXV1. Desmond Thackeray, 7, Beech Close, Byfleet, Surrey. Tel: 41023.

WANTED: HMV 1403; Marconiphone 891; a 1940 1.4volt portable; Phips 855X -Mullard MAS 103; 1939 push-button mains receiver for spares. M. Hill, Hillside, Peaslake, Guildford, Surrey.

MODERN WIRELESS

April 7th, 1923.

Judge Settles Wireless Dispute.

In the Law Courts to-day Mr. John Citizen asked for an injunction to restrain Mr. Amateur from committing a nuisance by using his wireless. The nuisance was found to be caused by the Defendant's loud-speaker.

After the Defendant had been heard the Learned Judge suggested an ULTRA LOUD SPEAKER would restore harmony.

The Plaintiff and Defendant left the court completely reconciled.