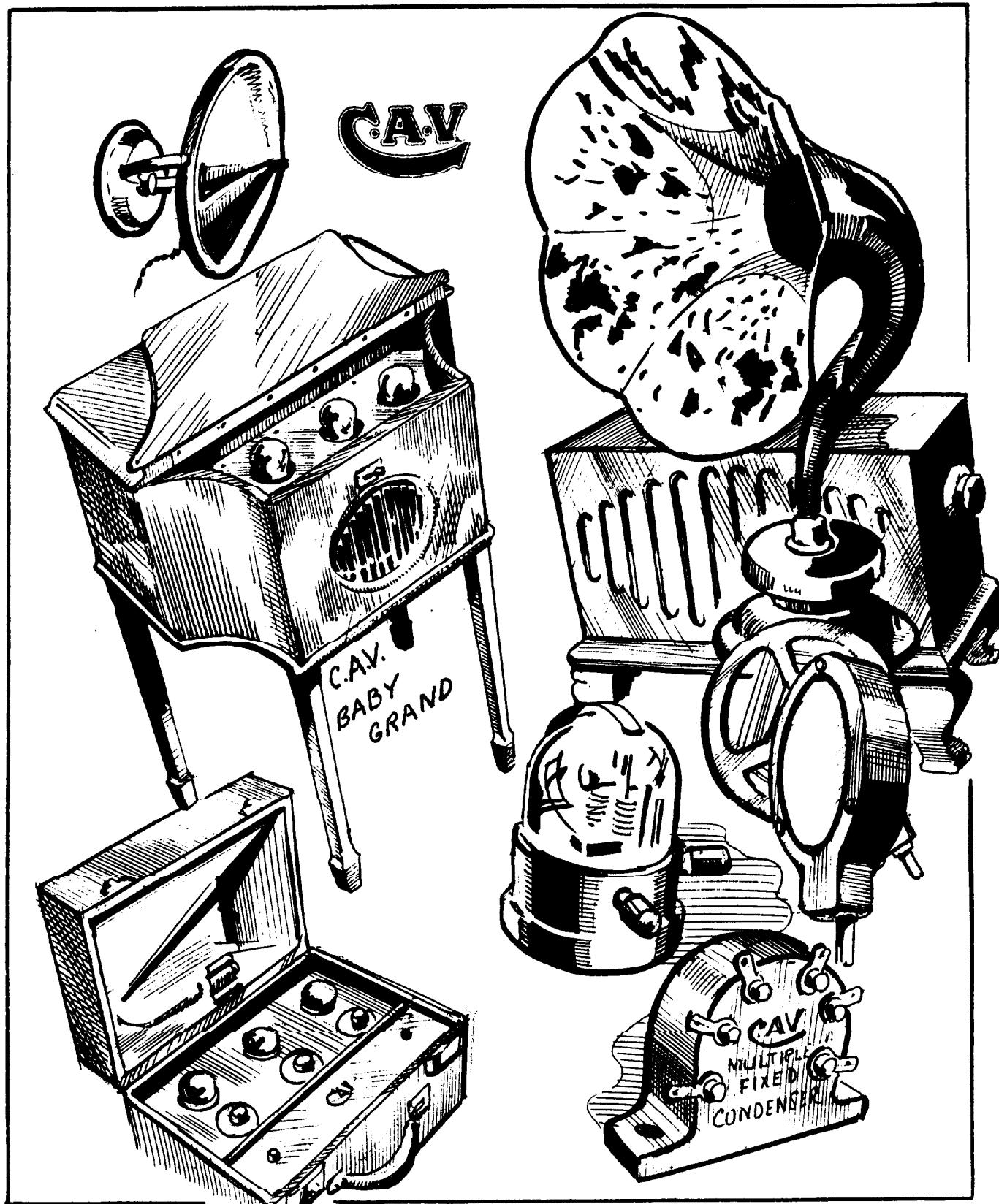


BRITISH

VINTAGE WIRELESS

SOCIETY



Bulletin Vol.3 No.3

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THE BRITISH VINTAGE WIRELESS SOCIETY

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DEADLINE FOR NEXT ISSUE: February 23rd 1979 Send all material (articles, ads etc.

to the editor.) Type if possible and, in the case of written articles, please indicate at the top of the first page how many words there are.

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Front Cover

The C.A.V. Baby Grand 3-valve receiver made in 1926. This set had hidden controls with a single external switch to select either of the two stations one had previously tuned it to with the controls inside. This set was one of the few on the market in 1926 which had a built-in speaker. A C.A.V. external speaker could be remotely situated and the internal speaker could then be disconnected. To quote a 1927 distributor's catalogue: "The splendid qualities of the Baby Grand as a broadcast receiver are in no small measure enhanced by an artistic and unique appearance. In any home this instrument will impart an added charm to its surroundings; it is an enviable possession to be treasured by the most discerning lovers of music and good furniture. Faithful reproduction and simple one-switch control are the two outstanding features of this radio receiver. A duplicate tuning system enables any two selected stations to be tuned in, and either can be reproduced by operating the control switch."

The price of the receiver, as quoted in this catalogue, was £25. 0. 0. plus a royalty of £1. 17. 6.

As far as can be determined, no collector has yet found one of these sets. But let us know if you have one or know of one.

The other C.A.V. components on the front cover are: Top left - the 'Musicola' loud speaker. Bottom left - the battery portable. Horn speaker - 'standard'. Cabinet speaker. Tuning coils. Crystal detector (domed). Multiple fixed condenser.

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Volume 3 Number 3

BULLETIN

December 1978

EDITORIAL

By the time this issue of the Bulletin goes to the post office we hope to be able to include in the envelope a copy of a reproduction Marconi catalogue. This will be our first attempt at publishing reproduction material and we hope members will appreciate what is fully expected to be a first class facsimile of the original catalogue. The availability of catalogues from the 1920's and 1930's, particularly for new collectors, is very poor and can only get worse in the future. When catalogues are found they are often in extremely poor condition and not in a fit state to be passed round among collectors. There seems, therefore, to be good reason for having some of the better catalogues reproduced in limited editions for distribution among BVWS members. Of course, it may be argued that a reproduction of any sort is a 'fake' and should not be encouraged. However, as long as no attempt is made to pass a reproduction item off as anything but a reproduction, then I personally see no objection to the idea. At the last A.G.M. those who attended seemed very keen on the idea and agreed that we should devote some of our funds to having a first attempt - well here it is. Please let us know what you think of the Marconi catalogue and send your comments to the Bulletin editor. We would like to have some suggestions about future publications of this sort and, if you have got some very choice material which you think other members would like to share, please let us know about it and be prepared to loan it to us while it is being reproduced. We are most grateful to Gordon Bussey for allowing us to use his catalogue for this first venture and also for doing virtually all the work of both finding a printers capable of doing the job and negotiating the costing with them. Thank you Gordon.

The 'Winter Wireless Swap' which took place at Harpenden on November 26th was felt by most people to whom I have spoken to be a great success. The Harpenden Hall proved to be a magnificent building for this purpose. Built in the 1930's it had all the atmosphere for the occasion. There was plenty of room for all the activity without any jostling and the meeting started at 1.30 and ended at 6.00p.m. exactly as planned without any fuss or rush. Roger Snelling and Roger Rayment, of Chelmsford and St Albans respectively, brought along the most important equipment of the day two wives with lots of food! Thank you, Mrs Snelling and Mrs Rayment for providing as usual such excellent fare. This was the third time the catering had been so superbly organised and this hat trick performance prompted our treasurer to visit a high class perfumery in order to present the ladies with a small token of our appreciation.....and we hope to see them next time.

Two members have been co-opted to the committee. Mike Field has offered to serve as the organiser of our 'Vintage Wireless Register' so please send your lists to him. Roger Snelling has offered to serve as our meetings organiser so please send your suggestions for the next meeting (the A.G.M.) to him ..(and also encourage him to book his wife for the catering.!)



By A.R. Constable

C.A.Vandervell & Co. Ltd. was a well established electrical firm when wireless became the boom growth industry in the 1920's. Among the products manufactured by this Acton based firm were dynamos, starter motors, ignition sets, lamps, batteries and sparking plugs for motor cars. When broadcasting began in the early '20's, most of the well established electrical firms immediately began manufacturing crystal sets, valve sets and components of all sorts. But C.A.V. were apparently in no hurry to join their competitors in this new industry and simply began adding 'Radio Batteries' to their range of lead-acid accumulators.

The founder of the company, Mr. Charles Anthony Vandervell, trained at the School of Electrical Engineering and Submarine Telegraphy and spent a short time at the Lithanode Storage Company and when he was a mere 18 years of age felt confident enough to open his own factory in Kensington in 1892. Vandervell's father was a well known stockbroker which probably accounts for his early ability in business matters.

Among the early items manufactured by this new firm were accumulators and electric lights for various applications. The young Vandervell also found a very nice line of business making illuminated tie-pins and jewellery for actors and actresses. These were powered with small batteries concealed in pockets and handbags and early CAV catalogues illustrate a range of 'pocket accumulators' some of which were slightly curved - not unlike a hipflask. Carrying accumulators in this way must have resulted in frequent 'accidents'! Battery illumination of every description was supplied by CAV particularly to the motor and carriage industry. Small lamps were fitted to horses heads and must have been quite a delightful sight as they bobbed across the commons late at night. CAV have for many years supplied the lighting for the Royal Carriage and still do.

In 1902 the company moved to Willesden and produced the sixth 'enlarged' edition of their catalogue illustrated with accumulators for all purposes, portable lamps, cycle lamps, electric jewellery, ignition batteries, X-ray sets, gas engines, motors, dynamos, cautery sets and 'Weston Type' meters. A couple of tie pins are illustrated, one in the form of a miniature carriage lamp and the other in the form of a circle of brilliants.

In 1904, CAV moved again, to Warble Way, Acton, London W. (Later designated London W.3.). Starter motors for automobiles were manufactured from 1914 and the firm became a Limited Company in 1916. In the early 1920's CAV accumulators were being advertised as 'Radio Batteries' but it was not until 1924 that a range of wireless components began to appear. By September 1925 the CAV Catalogue showed illustrations of four main types of loudspeaker, two L.F. transformers, an aperiodic I.F. transformer, tuning coils, a multiple fixed condenser, a low capacitance anti-vibration valve holder, a filament rheostat, a very splendid crystal detector and the inevitable radio crystal with silver cat's whisker in a blue and white tin box. The CAV loudspeaker seems to have been their first venture into the world of wireless and it is quite possible that the Company's expertise in manufacturing automobile electric horns prompted this move.

It is quite surprising that no crystal set was manufactured. Their neatly designed crystal detector and their boxed galena crystal implies that there was a full awareness of the market potential. The many hundreds of manufacturers making crystal sets at the time were all trying to get their share of the enormous demand from the very prevalent low-wage earners who could not possibly afford the expensive outlay for a valve set. CAV remained quite aloof from this scramble and then suddenly, in about 1926, they introduced their very attractive 'Baby Grand' three valve set. This set is illustrated on the front cover and, unlike most sets of the period had a built-in loud speaker. It also had provision for an extension speaker and allowed one to switch the internal speaker in or out as preferred. The tuning panel was entirely enclosed and the tuning circuitry was duplicated in such a manner that, after careful setting, a single external switch allowed one to select either of the two pre-selected stations. As far as can be determined no member of BVWS owns one of these very attractive receivers but it would be very nice to be proved wrong on this point! Please write to the Bulletin

editor if you know of the existence of any C.A.V wireless set - anywhere. The original Baby Grand used two PM3's and one PM4 but the circuit details are unknown. A suitcase portable was also made in 1926 in maroon or black morocco finish. This was also a three valve set with a folded horn speaker mounted in the lid. By 1928 these sets were joined by two more expensive models of the Baby Grand....a four valve version and a five valve with frame aerial version. All three Baby Grands looked similar and the standard models came in oak or mahogany but could be supplied in satinwood or figured walnut at extra cost.

Joseph Lucas took a controlling interest in C.A.V. in 1926 and this connection has remained ever since. In 1927, about 45% of the Company's sales were in lighting and starting equipment to private car manufacturers and radio accounted for a mere 7%. By the late 1920's or very early 1930's C.A.V. seem to have stopped radio production altogether. In 1931, a new company was formed with Robert Bosch A.G. of Stuttgart called 'C.A.V.-BOSCH LTD.' This took C.A.V into the very important field of fuel injection equipment. At the same time manufacturing began on 'Mary Ann' vacuum cleaners and 'Blue Spot' radio sets. During the first year of C.A.V.-Bosch, the radio business constituted just over 3% of the total - a disappointing result. And so, for the second time, C.A.V. ceased manufacturing radio receiving sets.

Today, C.A.V., as part of the Lucas organisation are the biggest manufacturers in the world of fuel injection equipment for diesel engines and, as diesels become more widely used, are expanding their efforts in this direction. C.A.V. no longer make batteries but they still make electrical equipment for commercial vehicles. Their research effort is currently in the direction of electronic fuel injection and, as legislation tightens on the emission of noise and exhaust pollution, the company now sees a future in microprocessing technology.

The author is grateful to the C.A.V. Company for providing him with much useful information and in particular to Mr John Downs, Technical Analyst at C.A.V. for his personal help in gathering together the few facts and dates used in this article.

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THE SEARCH FOR A TOP-PIP BRIGHT EMITTER

Part II

By Philip Beckley

Those acquainted with high vacuum work will recall that one way of estimating the hardness of the vacuum in an experimental set-up is to have a thermionic valve sealed into the system. A whole range of special 'manometer' tubes, or 'hot cathode ionization gauges' have been devised for this purpose over the years. In general ionization of residual gas is produced by keeping an electrode about 100volts positive with respect to a hot cathode and then measuring the current collected by a further electrode held negative to the cathode. This negative electrode collects positive ions and the current drawn indicates the amount of gas present. Such tubes use pure tungsten filaments as cathode because tungsten is fairly resistant to a moderate amount of ion bombardment.

Most tubes are specially designed to work well as gas detectors and some have an 'inside out' arrangement of electrodes with the filament outermost. Such tubes do not work as conventional triodes. However one S.E.C. tube type A1998 (now obsolete) was found to be based on the electrode structure (so far as I could see) of the Marconi R5V triode. This valve flourished in the early 1920's (could they have had jigs left over from then?). The S.E.C. literature showed it as using an R5V type bulb and specified a 5volt 0.66amp pure tungsten filament... (Fig.1)

A few of these tubes were purchased. They were delivered sealed hard but complete with a sealed long extension tube intended for joining to a vacuum system. Such a tube, when connected to a radio circuit worked quite well, and two of them operated a Marconiphone V2 nicely. However, the long extensions were a problem and, short of boring holes in the lid of the V2 or building them on to a right angle base (Fig.2) ... (one of which was built for trial!), it seemed essential to re-work the valves.

I will draw a veil over my own efforts to work on these tubes. Clearly it is not possible to become an expert glass worker and vacuum technician overnight!

Eventually a firm specialising in laser production was found who could undertake the task of shortening the valve extension down to a normal pip and re-exhaust and outgas them. The tubes actually supplied did not have an R5V shaped bulb but an AR shaped tubular one; so the final result is an AR or ORA shaped tube containing electrodes of the R5V type. The later type of pinch and bottom exhaust tube had been used, but when completed on a proper base this was difficult to spot.

Suitable bases were made using copper central heating fittings lathe finished to shape. (Beware, turning soft copper is terribly prone to tool 'dig-in'). Pins were converted from split wander plugs and pin insulator was turned from best ebonite. One wander plug (ex W.German type) was found which, when lathe adjusted, gave a valve pin just like some used by Ediswan.

It would be nice to use old nickel bases from broken valves, and the writer would be glad to purchase a few if anyone has any to spare. In common with any valve factory, accidents happen and some tubes did not survive all the work on them. However, a few came through and were suitable for eventual use (Fig.3)

Next arose the problem of type number. The soft copper base shells were, as any do-it-yourself plumber would know, stamped with 'BEB5'... maybe readers can work out that code! In any event, the total production run can be counted on the

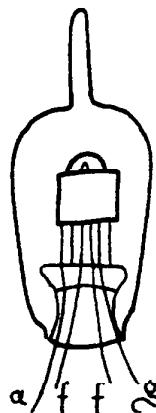


Fig. 1

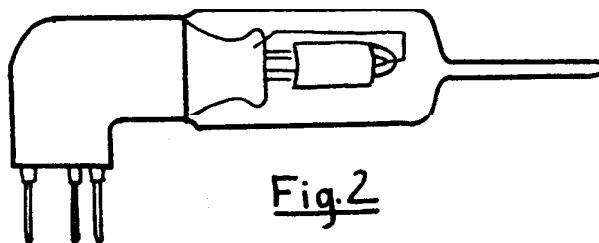


Fig. 2

fingers ofetc!

The cost of purchasing specialist tubes, glass work, evacuation, outgassing, baking etc is considerable. The lathe work needed to produce base shells, insulators, pins, cementing bases etc etc make BEB5's prohibitively expensive and very laborious to produce. When the memory of the hard work and expense had faded somewhat I was tempted to try again. To my dismay (or relief!) I found that, "...the all time stock of the A1998 tubes has now gone and definitely no more will be made....."

What about characteristics? Working out what should be the correct filament operation of a 'new' type valve, and finding out its characteristics and the spread of characteristics in a 'production' run is a fascinating job which really makes one revise all the theoretical knowledge and make the thing work.

After much plotting of graphs, stated briefly, the BEB5 came out at $\mu = 11$

$$g_m = 0.33$$

$$R_a = 36,000 \text{ ohms}$$

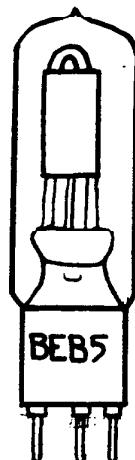
Two of them produce quite a nice local station loudspeaker output from a V2 .. just like old times!

Lengthy and extensive market research uncovered dozens of types of hot cathode ionization gauge tubes, long, short, fat, thin, twin filament etc.

Those with B9A bases and other space-age features were rejected.

Only one other radio-adaptable tube was uncovered. I will describe it in Part III entitled, 'To Drive a Loudspeaker'.

Fig. 3



COMPANY HISTORIES.

The short history of the C.A.V. Company which appears in this issue of the Bulletin is the fifth such article on the history of radio manufacturing firms active in the 1920's. The previous histories have been on the B.T.H. Co., Metropolitan Vickers, McMichael, and Cossor. Gathering material to write even such a short thumb-nail sketch is not always an easy task. Many companies simply have not preserved the sort of material that we would like to get hold of when writing their history. Of course, there are those cases where the memories of one individual could provide us with endless material (John Ludlow's knowledge of Metro-Vick is like this!). But generally speaking, there is very little material available from which to draw the facts we require. If any member has any special knowledge of a company, we would like him to either write an article or let us 'use' his knowledge to prepare one.

A search is presently going on to find material on the Burndepot Company. So far, we know when the company was formed, how the name came into being, who the original directors were, where their factories were, their involvement with the BBC Company and we know a certain amount about their equipment. But we are still looking for more material - anecdotes are always useful, technical details, sales figures, the social environment both inside and outside the factories, important personalities behind the scenes etc etc. So please, if you have any information that might be of some help, send it to the editor as soon as possible.

Other companies we might be writing about are: G.E.C., Ferranti, Brownie, Western Electric (U.K.), Igranic, W.G.Pye, Brown etc etc if only the right information is forthcoming. We are always very grateful to the people at the firms themselves for the information they give us but BVWS members are very well informed and lots of facts can be had from those dusty bits of paper on your book shelves and in your files so your letters please.

Editor

HOW TO FIND A BURNDEPT SUPERHET

By Alan Gates

It seemed to be the usual story. Someone has some wireless equipment which they believe to be worth pounds, but really amounts to nothing of any interest. But it's always worth taking the trouble to go and see. The unexpected treasure will only be unearthed when we take note of even the faintest clues.

At work, my vintage radio interest is well known for obvious reasons. Finds have been infrequent but occasionally something turns up - books, valves and once a Pye portable. The Burndept story started when a friend said he knew of somebody who was moving house and had some radio 'bits and pieces' which he thought might be of some use to a person with an interest in radio. I was interested but at this stage I did not know the full story and I had no idea of the treasure trove I was going to find.

I telephoned the next day to arrange a meeting. The person's father, I was told, had been interested in radio for many years and in their old house in Highgate he had had a special room in which to pursue his interests. The person I talked to mentioned moving house to Chelsea in the late 1930's and I began to get carried away wondering what dates would apply to the 'bits and pieces' could it be the 1940's, the 1930's or even possibly the 1920's? This seemed too hopeful, but it sounded very promising. I went there as soon as possible. The house was very large. We went through a long panelled hall into a library and leading off this was a small box room. I later realised that this had probably been used as the old man's radio shack, but at this moment it was a storeroom and very full. Poking up from the back were two diamond shape frame aerials. I quickly sorted these out from among the boxes and dust; they were marked 'Burndept'. I then found a Burndept wavemeter with the original ticket inside dated 1923, also many valves and components. I was really experiencing the pleasure of my find, but I had no more time and I had to get back to work.

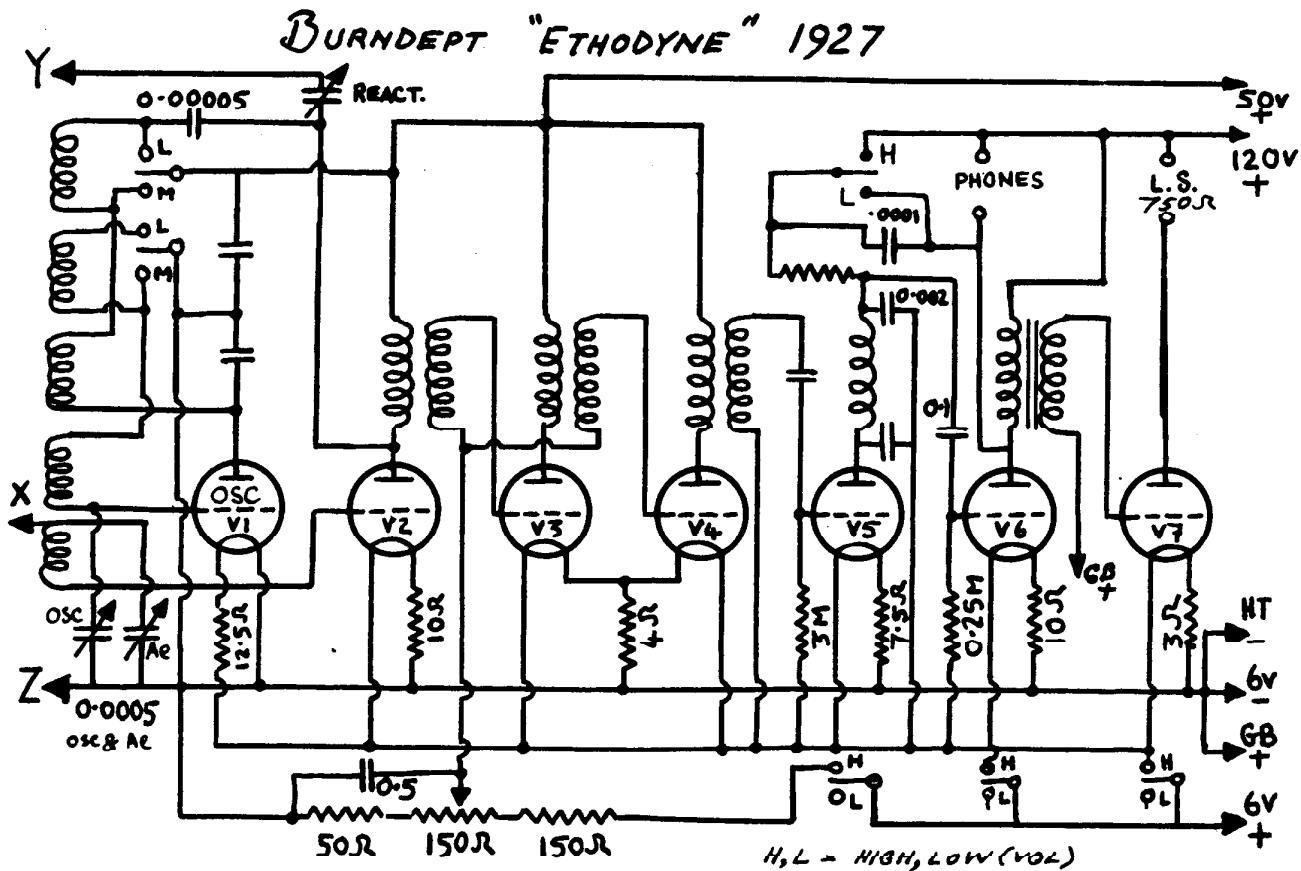
The next day I collected the wavemeter, valves and components, but couldn't help thinking about the frame aerials where was the set, if any? But it did not seem to be there. I cleared all the wireless parts I could find and could do no more. I had searched everywhere and, although I was pleased with my find, I was still rather sad about the aerials without a set! Later I received a telephone call asking me to come over quickly as some more 'boxes and radio bits' had been found and the removal people were coming tomorrow. After a quick excuse at work, and a very fast ride on the motorcycle, I was there again.

This time we found many more boxes and valves, including 'R', LS2 and V24. There were resistors (always in 'Craven A' cigarette boxes) and a box of coils for the wavemeter. I found many other items including a Brown microphone amplifier and a Celestion speaker. There were lots of boxes about and pieces of furniture, but lying in a corner I eventually saw a mahogany cabinet with terminals at the bottom. It was covered in dust like everything else. But this was it! As I cleared the top and lifted the lid I could see the name 'Burndept Ethodyne' and it was complete with all the valves - marked 'Burndept'. It must have been lying there since the late 1930's.

I was surprised that there were no books. This seemed strange for a man with so much interest in the subject. Then I rescued one from the rubbish - Scott Taggart's 'Vacuum Tubes' 1st edition - the interesting part being the writing and drawings in the fly leaves.

After checking the Burndept, which was in remarkably good condition, I had it working quite soon. This superhet was advertised in 1927 for £49.30 which, in those days, must have been a small fortune. I think you will understand why, when I tell you that this had been a very exciting week.

Members are invited to send in stories of their exciting finds. I am sure that all members are pleased that Alan Gates had such luck ... and I think a little jealousy will be excused. Ed.

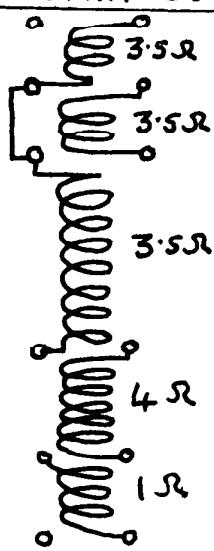


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RELEVANT PATENTS:

BURNDEPT: 240918, 254036,

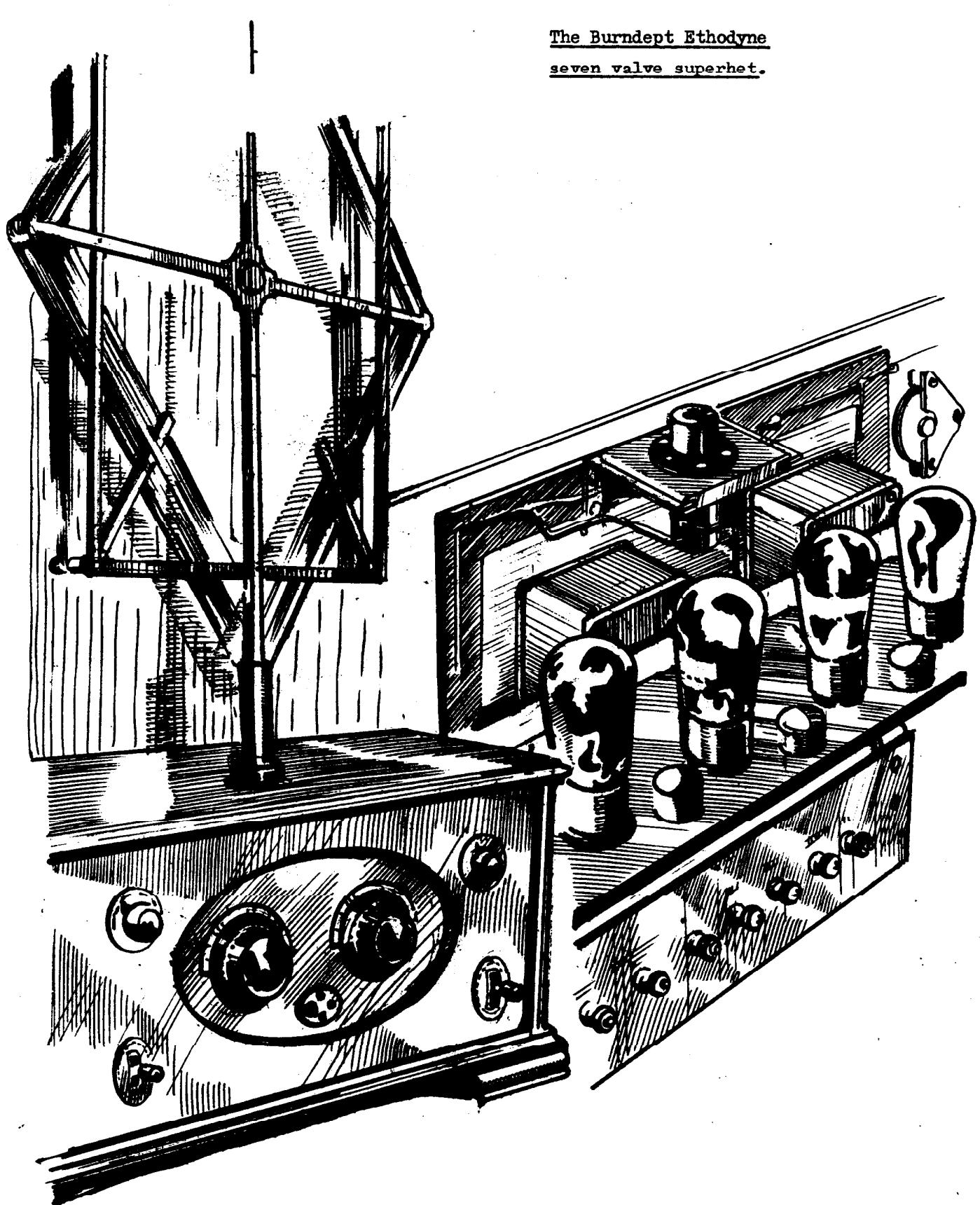
5848/26, 14948/26

WESTERN ELECTRIC: 141046.

G.B. VALUES AT O/P GRID:

<u>H.T.</u>	<u>L525</u>	<u>LL 525</u>
100	4.5	10.5
120	7.5	15
150	10.5	22.5

The Burndupt Ethodyne
seven valve superhet.



FROM THE EDITOR'S BOOKSHELF

Alexander Popov Inventor of Radio. by M. Radovsky translated from the Russian by G. Yanovsky. (Series: Men of Russian Science.) Foreign Languages Publishing House, Moscow 1957. 130pp.

To describe anybody as 'Inventor of Radio' has a decidedly old fashioned flavour about it but not many years ago it was a favourite sport. Whatever Alexander Popov was, he was certainly a very active experimenter in the early days of radio. This little book is very informative and full of good references. It starts in the year 1859 when, in a small village called Turyinskiye Rudniki in the industrial Urals (some 12 km from the Bogoslov Copper-Smelting Works in Verkhoturye Uyezd), Alexander Stepanovich Popov was born on March 16, (March 4th old style)....and it ends at 5 o'clock in the evening on December 31st 1905 when Popov died of a brain haemorrhage. Between these two extremes of life the author attempts to show (not very successfully, as would be expected) how Popov became the inventor of radio. The book is badly written (though this is probably due, in part, to the translation) and not very logically constructed. It is extremely difficult to see how even the author believes that Popov or anybody else 'invented' radio. However, despite these minor criticisms, the book contains a lot of useful information about the work of the Russian hero as well as mentioning the great contributions to the subject made by such men as James Clerk Maxwell, Heinrich Hertz, Michael Faraday, Oliver Lodge, Guglielmo Marconi, Eduard Branly and Jagadis Chandra Bose. The date for the invention of radio is given as May 7th (April 25th old style) 1895, the day that Popov read a paper in the Physics Department of the Russian Physical and Chemical Society entitled, 'On the Relation of Metal Powders to Electric Oscillations'. But, it is emphasised that Popov arrived at his discovery much earlier and that the May 7th address was a 'legal confirmation'. It is quite intriguing to read of Popov's work with coherer detectors and kite aerials for the detection of distant thunderstorms, of Popov's education at the St. Petersburg University, his work as a teacher at the Torpedo School in Kronstadt, "an excellent school for army electricians", his own attempts to establish his priority to the invention of radio and of Lebedinsky's efforts to rehabilitate Popov after the Great October Revolution. There are many interesting photographs in the book; several of Popov, his birthplace, his wife and his companions; other scientists and inventors; Popov's equipment used for his demonstrations in 1895 and later sending and receiving stations manufactured by the firm of Ducretet. The book is well worth acquiring and is to be commended on its well written foot-notes. A.R.C.

Marconi, by W.P.Jolly, Constable (London) 1972. £3.95 292pp + 24 $\frac{1}{2}$ tone illust'ns.

Although Professor Jolly is a physicist and electronics engineer, this concise and lucid biography aims mainly at an account of Marconi's personal life and the political and commercial effects of his achievements. Where technical exegesis is needed, the writer's simplified explanations are presented clearly and with authority, as might be expected from his role as teacher and researcher, but the specialist in the history of technology will learn little. For the general reader, however, it provides compelling and sometimes entertaining material. In view of Marconi's spectacular early career it is perhaps inevitable that nearly two-thirds of the book should be occupied by the events of his first ten years in Britain. From the start, Marconi had his detractors, some tending to see him as an opportunist exploiter of other's ideas, notably Lodge's. Opportunist he certainly was, but in a fascinating passage of Prof. Jolly's book strong support for Marconi's genuine originality is elicited from Captain Henry Jackson, an early independent worker in naval wireless telegraphy. In a report to the Admiralty brilliantly reviewing the status of Marconi's discoveries, Jackson states that his own early achievements were made in complete ignorance of Lodge's work and that he was therefore disposed to think this was also true of Marconi. Lodge's complaints of plagiarism against Marconi appear jealous and egotistical as reported in Prof. Jolly's book. On a lighter note, an anecdote is related from the Carlo Alberto trials of 1902. When the ship lay in Gibralter Bay in the small hours of 4th September, attempting to receive Poldhu in the 'shadow' of the Spanish land-mass, nothing was heard at first because of a failure at the transmitter. At 3.00 a.m. however, signals were received, the critical message reading 'The Empress of Russia has had a Miscarriage' and causing Admiral Mirabello to remark on the irony of a great failure confirming a great success. I.E.H.

TRANS-ATLANTIC LETTER

From Dave Brodie

It is difficult to believe that a year has rolled by since I reported on the 1977 National Conference of the Antique Wireless Association. Nevertheless, here we go again with what can only be a brief summary of the expanded 1978 Conference held in the resort town of Canandaigua, State of New York, during the four days ending October 1st 1978.

Program The Association adopted the theme 'World War 1 Radio Stations and Signal Corps Gear'. Several movie and slide presentations were given relating to that period. These included a rare movie of W.W.1. super-power transatlantic stations, slide-showing of the conversion from spark and crystal sets to valve equipment, a new A.W.A. show covering early amateur operations and the founding of the American Radio Relay League (this program included a 'visit' to an Air Corps Signal School and discussion of W.W.1. aircraft receivers and transmitters). Other programs covered the history of two famous early stations, NBD and WSL, each of which is the subject of a fascinating story of war-time operations. In addition to the 'theme' programs the membership enjoyed other outstanding presentations, including: The story of the brilliant television inventor Philo Farnsworth, a brief history of R.C.A. (G.E.) valve development from the late twenties to the present (supported by a spectacular display of valves), and a brief history of the Federal Telephone and Telegraph Co.

Auctions Two auctions were held, one for general equipment and the other for valves. The equipment auction grossed about \$11,000 and the valves grossed about \$2,000. These annual auctions help maintain the A.W.A. Museum since 10% of the gross receipts are deposited in the Museum fund. Although the names of the equipment may be unfamiliar to many British collectors, it may interest you to scan a few of the items sold:

Federal Jr. crystal set \$125, Federal 57 \$325, Steinite crystal \$95, Atwater Kent sign \$225, Zenith 4R \$200, Western Electric horn \$75, RCA 100 speaker \$15, Grebe CR12 \$400, G.E. Wavemeter \$60, Electric Import Company 1919 catalogue \$27, Federal 61 \$450, Sparton T.R.F. \$22, Duck catalogue 1920 \$33, Signal loose coupler (original box) \$500.

Valves: Telefunken RV-25(new) \$17, Myers \$36, Mercury rectifier \$95, W.E.205D \$6, Moorhead E.R.(no filament) \$30, Brass based U.V.201A \$10, Spherical audion (no filament) \$75.

Equipment Contest Ten classes of equipment were established which attracted 92 entries. Marconi equipment captured first place in the 'Prior to W.W.1.' category and also in the 'W.W.1.receiver' category. Other winners: Crystal sets - U.S. Army signal corps BC14A, Regenerators - Sterling two valve, Superhets - Norden Hauck C-10, T.R.F. - Priess, Other Receivers - Freed Eiseman, Transmitters - DeForest OT-3, W.W.1. transmitters - Air Communications, Equipment Associated with W.W.1. - Audion control box. And the 'Best in Show' - French receiver used at W.W.1. transatlantic station NBD (Otter Cliffs, Maine). This set is owned by B.V.W.S. member John H. Caperton.

General Comments The 1978 Conference was surely one of the most successful ever held by A.W.A. as is evident by a record attendance of about 600. The banquet on Saturday evening attracted a capacity crowd of 312 and the flea market was invaded by dozens of cars, vans and trucks ... which started to arrive three days before the scheduled opening date of the Conference. Once again, we commend our member Bruce Kelley for his continued assistance in making the 1978 A.W.A. National Conference such a remarkable success.

The above account of the A.W.A. Conference sounds as if these Americans really know how to do things. Perhaps we should invite them to hold one of their big meetings in the U.K. one year (they may be able to get tax relief on their annual European holiday that way!). If any British based member of BVWS thinks our meetings should be conducted along these lines, write to Roger Rayment and don't forget to volunteer your services! Editor.

LETTERS TO THE EDITOR

Dear Sir, May I add a few comments to the article on A.C.Cossor Ltd which appeared in the September issue of the Bulletin. The trade mark 'Melody Maker' was used only for Cossor battery and mains receiver kits until 1936 when kit manufacture ceased.

The name 'Superferodyne' was used for several years from 1935 onwards for factory built 3-valve TRF battery and mains sets, the first being models 350, 353 and 358. 'Melody Maker' as a trade mark was revived for a very short period before the 1939-1945 war but really made a come-back when model 494, a 4-valve + rectifier 3-waveband superhet in plastic cabinet, was launched with great success in 1948. It was followed in subsequent years by other 'Melody Makers' in wood and plastic cabinets. Writing of trade names reminds me that the name STENTOR was applied only to battery output valves.

In conclusion, I would add the not very widely known fact that G.E.C. acquired a substantial interest in Cossor from 1926 onwards. In 1928 they held half the ordinary shares and 100 management shares. W.R.Bullimore, who built up the Cossor company, held, together with his wife, the other half of the ordinary shares and also 200 management shares, which of course gave him control. There was little if any evidence of G.E.C's interest but there was undoubtedly some co-operation between Cossor and M.O.V. on the valve and perhaps C.R.tube side of the business.

When W.R.Bullimore died in 1937, both Mrs Bullimore and G.E.C. sold all their shares and A.C.Cossor Ltd. became a public company in 1938 and, as was mentioned in the original article, has been owned by the Raytheon Company of America since 1961.

Frank Brittain, Southgate, London.

Dear Sir, One problem (among many others) which has plagued me in the restoration of vintage radio is the poor state of magnets in moving iron loudspeakers and headphones. In one pair of phones the magnets were so weak that the diaphragms fell off on being turned over! The making of an effective re-magnetisation device proved a long and demanding task, but after much research, great expense and loss of life(!), a completely successful machine has been made. This also includes a simple device for checking by how much the magnets have been improved.

If members would like to make use of this magnetiser I would be happy to help out. Send the magnets to me (magnets only please), I will do the rest and return. My job (Radio Officer Marine) does not allow me too much time but I am in the U.K. once a month - so delays will not be excessive.

Tome Howells, 93, Wellington Rd., Denton, Newhaven, Sussex.

P.S. May I say how much I enjoy the Bulletin and congratulate the compilers on producing so much of real interest and worth. Thanks. Ed

Dear Sir, I think there is some confusion in the quote from Wireless World (28/9/27) which appeared on the back page of the September Bulletin. First of all, may I give you a few historical facts about Six-Sixty valves.

The Electron Company Ltd. was incorporated in May 1923 as a valve manufacturer using the patents and processes of a Dr. Levy. They became one of the early members of the British Radio Valve Manufacturers' Association (BVA) when it superseded the Valve Manufacturer's Association (VMA) in 1926. In January 1926, an agreement between the Electron Co. and Mullard was signed under which Mullard would supply all the Electron Company's requirements and the latter would cease to manufacture. The full agreement was signed in April 1927.

In April 1928 Mullard contracted to buy the whole of the Electron shares and in June 1929 the name was changed to the Six-Sixty Radio Company Ltd. It had been using Six-Sixty as a brand name for some years and it is believed that the name was derived from the filament voltage/current of their first valves. They used, as an advertising slogan, the phrase: "Better by Six times Sixty".

From 1926/7 onwards, Six-Sixty valves were current Mullard types but were fitted with mottled green moulded bases whereas valves with the Mullard label were black.

P.T.O.

LETTERS CONT'D

In 1935 Mullard sold all their shares to the Ever Ready Co.(G.B.)Ltd. This was the result of complicated negotiations between Mullard, Lissen Ltd., and Pye Ltd. The Six-Sixty Company changed its name to Ever Ready Radio Valve Co. Ltd. and the Six-Sixty trade mark disappeared.

Now for the confusion! In 1929 or possibly 1930, Philips marketed a 4-valve screen grid battery portable in a large upright wooden case (transportable would be a better word!) called the 'Radioplayer'. I am not sure but I think the model number was 2522. I remember quite well that the triode detector valve was a Mullard PM2DT which was a normal PM2DX encased in sponge rubber and enclosed in a fairly large outer bulb which was, of course, not evacuated. The PM2DT was the only valve of this construction made by Mullard to overcome microphonic problems of the day and I believe it was used only in the 'Radioplayer'. I cannot remember it being marketed as a Six-Sixty type.

It is possible that when the Electron Company started marketing the PM range of Mullard valves under the Six-Sixty brand, they knew of the proposed PM2DT and wrongly concluded that the whole range was to be of similar manufacture. Perhaps the only person likely to remember the details is Stanley Mullard - now at the grand old age of 95.

Frank Brittain, Southgate, London.

We are grateful to Frank for this information - though hasten to add that we are in no position to check his facts! Frank Brittain has been associated with the valve industry since before many members were born and is always extremely helpful to us in providing information which cannot easily be gleaned from available literature. His comments about the curiosity extracted from WW and reported on the back page of the last Bulletin make a lot of sense. Thanks, Editor.

VINTAGE WIRELESS COMPANY

ESTABLISHED 1976

(PROP. GERALD L. WELLS)

23 ROSENDALE RD., WEST DULWICH, LONDON, SE21.

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EXCHANGE

SEARCHING Lid instructions for Gecophone No.2 and Townsend Buzzer. C.Heys,
E.E.Dept., B.I.T., Doane Rd., Bolton Lancs. Tel: Bolton 28851 Ex 213.

Valves: DER and DE6 ...one of each in working order. Amplion Concert Dragon or BTH C2 horn speaker in restorable condition. Murphy war time receiver, Philips 830A or 834. An 'R' type bright emitter (for display only). Any Brownie valve set. G.A.Horrox 65, Greenwood Rd. Crowthorne, Berks, RG116JS Tel: 03446 3758.

Any information, electrical or mechanical on Philips console radio model 2607 or 2601. D.E.Hewlett 23, Grace Rd., Downend, Bristol BS16 5DY Tel: 0272 569897

Details of wiring circuit, valve line-up, voltages, coil numbers of the Gecophone valve set BC3200 (1923/4) (Inst.No.2671) This model has battery door, not drawer. D.K.McCrossan, 'Dunworley', 94, Moorfield Pk., Newbridge, Co. Kildare, Ireland. Tel: 045-31098

A good commercial crystal set. Also crystal detectors, variometers, ebonite sheet, copies of 'Popular Wireless', 'Amateur Wireless', 'Practical Wireless', 'Modern Wireless', 'Wireless Magazine' c 1922-1935. Also crystals in tin boxes with cats-whiskers. Norman Richardson, 2, Edna Rd., Maidstone, Kent.

Two-volt battery valves. W.E.Caugley, 35, Gilnahirk Pk., Belfast BT5 &DX
Tel: 657577

Range blocks for V2/V3: 185-250, 245-305, 400-600m etc. Also, will exchange a long wave (1300-2100m) Regenerator Unit for a medium wave one (300-500m). Philip Beckley, Church Farm Ho., Bettws Hill, Bettws, Newport, Gwent, NPT 6AD. Tel: 0633-213906.

Circuit diagrams for: BTH VR4 Form 4B 4-valve set (1927). Pye personal Portable M78F (1948) small cream set with 'rising sun' motif in L.S. grill. Zetovox automatic radio (1932) has lever operated station change mechanism. Albert Noble, 19, Furzedown Drive, London, SW17. Tel: 01-769-5472.

400cycle generator to demonstrate WWII set (Loran) indicator. Everything considered, 110v, 200-300 watt desired size. Also info to make solid state unit, 220v 50Hz input. Also req'd: Luftwaffe block plug-in units EK;EL;SK;SL;FWS1;AFN1 to complete FuG 10 radio installation (as e.g. fitted to JU 88) and other radio installations, particularly VHF:-FuG16; Lichtenstein; X Geräte; Wotan etc. Also: 27 set - VHF tunable plug-in unit for British R1355 WWII service radio (part of the 'Gee' set - see photo p.83 'The Secret Was' Brian Johnson, BBC pub.). Also: Philips All electric receiver types 2515, 2514, 2511 (last one preferred). Also: Any pre-war or WWII VHF items, particularly Hallicrafter S27. Also: Large streamlined casing of wireless generator propeller driven by slip stream of Imperial Airways H.P. Hannibal Air Liner c.1925. Also: any bits of RAF Telephone wireless aircraft, radio telephone transmitter 1917. Finally: Information wanted about the 'Compton' crystal set. J.A.Williams 11, Moreton End Lane, Harpenden Herts. Tel: Harpenden, 3054.

Ferranti Radios made at Moston or Hollinwood (i.e. pre-1956) Also: components, kits valves, literature etc. Jim Forster, 'Allways', 71, Upper Garth Rd., Bangor, Gwynedd, LL57 2SS. Tel: 0248-2133.

Ecko radio, model AC85 in restorable condition (electrical state unimportant). R.M.R.Chacksfield, The Old Telephone Exchange, South Town Rd., Medstead, Nr Alton, Hampshire GU34 5ES. Tel: Alton 63760

Valves: Mullard 164V, S4V, early PM24A; Philips 506K, 2505. Also: manual for Taylor 65C signal generator. Photo or good drawing of internal layout for Sterling 'Anodion One' receiver. P.S.C.Taylor, 14, Willow Walk, Canewdon, Rochford, Essex. Tel: Canewdon (03706) 598

Circuit diagram or any data appreciated on McMichael 'Dimic Four' c.1928. Also: set of plug-in coils for above. K.R.Brooks, 24, Matford Close, Brent, Bristol, BS10 6LR. Tel: 0272 504359.

Old electro-medical (quack) machines wanted ... like induction-coil shock devices (magneto or battery operated), Ozone generators, electric belts, violet ray

searching cont'd:

apparatus (if unusual). Also: spark-gap diathermy, old X-ray apparatus (with Rum-korff's coil or electrostatic generator). Will purchase or exchange for American made old medical devices or "merican made battery radios. Dr. Olgierd Lindan, 1404, Dorsh Rd., Cleveland, Ohio, 44121, U.S.A., Phone 216-382-7113.

DISPOSING

Admiralty pattern 1309K (1942) 15 kHz to 20 MHz (wt: 56lbs) 3-valve.

Ultra, model 26; G.E.C. type 37; Murphy A122C; Hotpoint L54ME (Australian); KB FB10; EKCO AW108. C. Heys, E.E.Dept., B.I.T., Deane Rd., Bolton, Lancs. Tel: Bolton 28851.

(a) Newnes Compl. Wireless Vol 3 + parts 9,10,14,15 and 29. (b) R.D.Bangay, Elec Princ. of W.T., part 1 (1918). (c) Catalogue of all Philips receivers 1927-42 (copy) (d) Pritchard & Hobbs, Wireless Constr.(1925), very nice book. (e) Elektronen-Röhren H. Barkhausen, part I 1924 German. (f) Service manuals of: Marconiphone 535+ 536 (1932); Seeburg Select-o-Matic '100'; Avo valve tester Mk II (copy) + tubes lists; Radio receiver BC779B/794B/1004BC (1943). All on exchange basis except copies. Frans Driesens, De Wijer 6, Hapert, Holland.

Avometer Model 8 Mak 2. & Greysham CR50 Bridge ... both requiring minor attention. Decca projection T.V. wall projection model c 1950 ... original & complete but cabinet tatty. Last used in 1968. Also: two ex WD 38 Mk2 walkie talkie sets with throat mikes & phones (QP21 line-up). Also: Murphy radio Baffle model A46C, cabinet poor but complete. Large selection post war valves, mostly miniatures. Prefer to trade for items req'd in my searching ad or W.H.Y. G.A.Horroox, 65, Greenwood Rd., Crowthorne, Berks, RG11 6JS. Tel: 03446 3758.

News Chronicle Wireless Constructor's Encyclopaedia by F.J.Camm. A quantity of new boxed 2v valves. Norman Richardson, 2, Edna Rd, Maidstone, Kent.

Vol.1 and 2 of Newnes Complete Wireless'. Also Vol's 29 & 30 (Bound) of Wireless W. Albert Noble, 19, Furzedown Drive, London, SW17. Tel: 01-769-5472.

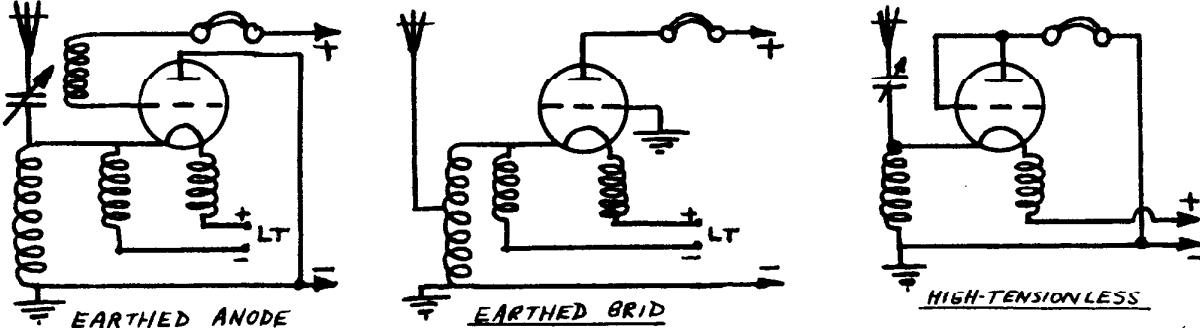
Tool kits for Plessey Mk6 connectors. J.A.Williams, 11, Moreton End Lane, Harpenden, Herts. Tel: Harpenden 3054.

Output transformers, Gardners, Swatt. Also: new and boxed replacement transformers made c 1938 - various impedances all with centre tapped primary - ideal quality replacement for any mains radio. R.M.R.Chacksfield, The Old Telephone Exchange, South Town Rd., Medstead, nr Alton, Hampshire GU34 5ES. Tel: Alton 63760.

Large selection of pre and post war valves in exchange for those req'd in my searching ad above. P.S.C.Taylor, 14, Willow Walk, Canewdon, Rochford, Essex. Tel: 598.

FILADYNE CIRCUITS

Following Tom Howells' letter on the Filadyne in the last issue of the Bulletin, several readers have made their comments. John Williams writes about his personal experiences in the 1920's and shows among other things that he has an exceptionally good memory (see next article). Philip Beckley pointed out that it had been the subject of discussion in Practical Wireless in their 'Old Circuits Reviewed' series in April 1946 and he sent reprints of this material....from which the following circuits are extracted. These will also help the reader to follow John Williams' article without referring continuously to Tom Howells' letter in the last issue.



THE FILADYNE

By J.A.Williams.

I was delighted to read Tom Howell's letter in the Bulletin (Vol.3 No.2. p.27.) about an old friend of mine - the Filadyne. I made up the circuit he showed back in 1928/29. Some comments on the circuit he shows: L3 is the reaction coil and the coils L1 and L2 are the tuning coils through which the filament obtains its current. They are in parallel which helps to lower the H.F. resistance of the tuning systems which was stated to be one of the advantages, I remember. Another advantage, I seem to recall, was the physical separation of the two circuits: reaction obtained from the anode and AF output from the grid of the first valve (cf. the conventional circuit in which both functions come from the anode). It seems that the original concept of the Filadyne circuit, in which the electron stream is controlled at source by feeding the H.F. signals to the filament, was prompted by a statement (was it?) from Lord Rayleigh that one should always consider inverting the conditions of an experiment that already worked - to see if it would not work better that way!

Another point I think I recall was that the Filadyne circuit was originally conceived with the filament of the valve being fed through two H.F. chokes and the H.F. input was then fed to one side of the filament from a conventional tuning circuit. This was found to be extremely cumbersome as, in effect, the two H.F. chokes are in parallel and have to have double the number of expected turns. Additionally they would have to be wound with a heavy gauge of wire as each choke has to carry the filament current with minimal voltage drop. One can easily imagine what colossal things these H.F. chokes could be!

The idea of placing the filament of the Filadyne valve at the 'hot' end of two tuning coils virtually in parallel was a stroke of genius by the staff of 'Popular Wireless'. It was the means of producing a circuit - the Filadyne - that could easily be made by the home constructor of those days and capable of giving excellent results.

I believe the reflex circuit Tom Howells mentions in his letter was not all that successful....I think I would have remembered it if it had been - but my memory may have slipped. When I built the two valve Filadyne, I remember using the carefully cleaned tubes off VIM containers for L1 and L2. One coil was wound with 20 s.w.g. double cotton covered copper wire and the other with 18 s.w.g. The latter was L1 and had looped aerial tappings. I had enough wire to put 300 turns on each former the VIM container was a tall one - once seen not forgotton! I should mention that at this time (1928/29) I was a young student at University College, London and living with my family near Cheltenham Glos. The only radio station which gave a good signal in that area was the long wave station at Daventry, 5XX. This explains the 300 turns on L1 and L2 which being in parallel, were equivalent to 150 turns - the normal number of turns for receiving 5XX. L3, the reaction coil was, I believe, 30 turns of 24 gauge DCC also wound on the L2 former - and I only just got it on! The tuning condenser was a 0.0005 μ F by Ormond fitted with an Igranic slow motion drive. I tried a number of variable resistances for the reaction control and the Igranic 30,000 ohm gave poor results compared with a 600 ohm porcelain one - though one heard the movement of the slider over the wire when adjusting the reaction.

My only departure from the circuit as shown in the last Bulletin was to put an R.F. choke between the grid and the transformer. Regarding valves, my star performer for the Filadyne valve was a 2-volt DER though I also tried a Marconi R5V bright emitter and again a 'modern' PM2. I used a Blue Spot moving iron speaker which had a shellac doped diaphragm 2ft X 2ft stretched on a wooden frame. The results were amazing - decent loudspeaker volume on 5XX and really excellent quality. I compared the performance with a conventional leaky grid detector with everything else unchanged - a very poor performer with a thin distorted sound. I longed to try a Filadyne on short waves as the thick wire of Igranic s.w. plug-in coils simply invited it - but examination pressure intervened. After my degree, and many years later, I started to renew my interest in wireless - but the Filadyne had been long forgotten. But who knows, now that I am retired and have the time - and the life - I may have another go at the Filadyne. I only hope you find these details of my work interesting.



'Sounds Vintage' is a new magazine for vintage wireless and sound enthusiasts. All aspects of vintage sound will be dealt with including gramophones, recordings, instruments etc. The first issue is due out on January 16th and, although it is not possible to give full details of the contents, wireless collectors might like to know that an article on the Marconiphone V2 will be included.

The editors of 'Sounds Vintage' are Colin Riches and Norman Stevens. Many BVWS members will know Colin Riches as the editor of the 'Going Back' series which Practical Wireless used to feature. Colin is also a member of BVWS and we look forward to seeing the results of his efforts in January. Norman Stevens has also had long connections with Practical Wireless and was Editor from 1960 to 1970.

The magazine will be issued six times a year and the subscription rate is £5.80 per annum. The first issue is available for 65p (inc. postage) to anybody who cares to send off this amount to:

Sounds Vintage,
28, Chestwood Close,
Billericay,
Essex,
U.K.
Tel: 02774 56642

HARPENDEN WIRELESS SWAP

This meeting was successful and all who attended enjoyed the opportunity to both meet other members and to exchange gossip and, most of all, to buy, sell and swap. It is quite evident that, even in such a narrow speciality as vintage wireless, what is junk to one person is a treasure to another. Lots of brisk business went on throughout the afternoon and the three traders present lent a professional air to the meeting they each had a different approach and I am sure that they each found the meeting worth while. These occasions provide a very useful guide to the current prices in all the different shades of its meaning. Many items were available at give-away prices but others were patently out of the reach of most collectors ... though perhaps 'second generation' collectors do not find these high prices all that surprising. Vintage items are no longer available at the junk-prices the 'first generation' collectors were paying only a few years ago. It is all very well for the well established collector with over fifty choice items in his collection to say in a superior tone, "Well, I have never paid more than £5 for a crystal set". But there are now many people involved and prices simply have to be competitive but let's keep as much of the competition as possible in this country, one might say. But even this is not easy. When all said and done, why should national boundaries get in the way? Of course we would all like to see the best vintage treasures well looked after wherever they go and it is sincerely to be hoped that those which are going overseas are also finding their way into good homes.

Anyway, most people who attended Harpenden went away feeling they had achieved something. (We would like to hear from those who felt otherwise, of course.)

There were about 50 people there and we hope that more members will be able to attend the next meeting (A.G.M.) wherever that might be any suggestions? No meeting location can possibly suit all members and a lot of consideration has been given to the subject at Committee meetings - send your ideas to Roger Rayment.