BVWS bulletin

Incorporating 405 Alive / vol. 28 no. 1 Spring 2003 www.bvws.org.uk

£4.00 | free to members

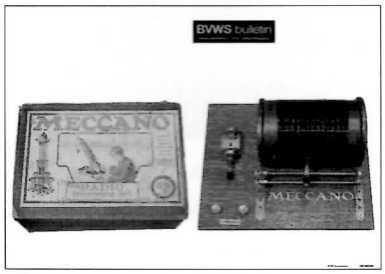
ISSN 0955-9345

Eighth page advertisements cost £22.50, quarter page advertisements cost £45, half page: £90 and full page: £180. Cheques made payable to 'BVWS' please

Bulletin of the British Vintage Wireless Society
Incorporating 405 Alive
Volume 28 No.1 Spring 2003

www.bvws.org.uk

Separations and Printing by Clipper Print



Front cover: Meccano Crystal Set
Rear cover: Meccano Crystal Set box

Permission to photograph Meccano Crystal Set kindly given by Jim Gamble, Nottingham

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Contents

From the Chair

We are now blazing into 2003. We have seen the first of the spring radio meetings at Easton in Gordano and there are still a number to come.

Of special interest, there will be two new meetings starting this year. They will be held at Haydock and organised by Andy Wilcox, the organiser of the very popular Leeds radio meetings. The BVWS will be at all of the meetings and we expect them to be a great success.

The first big news of 2003 is the book by Gerry Wells "Obsession" The Society has published Gerry's Autobiography and a copy is free to every member. The books will be available for collection at all radio meetings and you will be able to get your copy signed by the author at each Harpenden event in 2003. Copies are also available by post from the Membership Secretary; we only ask that you pay the postage.

Well, work continues here in Swindon with the move of my workshop to a new location (will it ever end?). Actually I've pinched two thirds of Malcolm Everiss's workshop, but he's not complaining yet... The re-location of all the components and other valuable spares (for 'valuable spares' read accumulated junk that might come in useful some day that I cannot bear to throw away) is going well and the old place I built as a boy from Datsun car parts packing cases is looking very bare.

I would like to send special thanks to all those members who sent in their renewals in good time. It has made Graham's life much easier and due to all his efforts we are very much better off with renewals this year than in the past. Thanks Graham!

Since the "Late News" insert in the last Bulletin, which outlined the BVWS position in respect to the 'then' possible purchase of the NVCF I have received correspondence from a number of members. Some for and others against. The main issues being the position of the Society legally and financially in respect to the purchase and running of the NVCF.

I was slightly disappointed to receive so few letters and emails, but I would like to thank everyone who did, as they brought to the Committee's attention some very specific points that we investigated and were covered before proceeding with the purchase. Thank You.

On the 17th January we met with Jonathan Hill and the NEC management team and the purchase was finalised and details were discussed. This means the first BVWS National Vintage Communications Fair" will be on 28th September 2003.

The fair will be run by a management team under licence from the BVWS, thus freeing the BVWS Committee and members from the responsibilities of organisation and running of the NVCF, for which they will receive a set 25% of final profit after all other accounts have been cleared. This means that the BVWS will receive the other 75%. We expect this 75% to equate to approximately £10,000 per year.

The NVCF will run initially under a "no change" policy until everyone is comfortable with the new arrangements, but we will be discussing a number of points with the NEC management around the areas of car parking and available beverages etc. Also the issue of collecting heavy articles from the hall rather than struggling to get things back to your car will be addressed.

The extra funds raised from the NVCF will be used for future members benefits.

These may be in the form of many different things, from more publications, special exhibitions, gaining access to private museum collections, donations to Museums to ensure preservation of historic items etc.

I would stress that it would not be best spent on reducing entrance fees to BVWS events, nor reducing the subscription as it is solidly our belief that the yearly subscription should cover the cost of the Society Bulletin production and distribution, and that the event's income will pay for extra's like CDROMs and publications like the recent 'free to members' book, 'Obsession'.

Mike...

NVCF
Statement from the BVWS Committee.

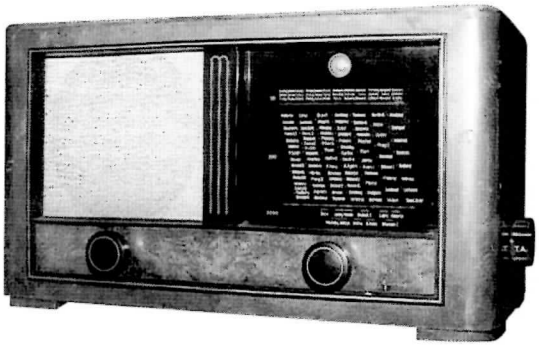
- Approach made from Jonathan Hill to BVWS to sell the event known as NVCF
- Feasibility investigated and benefits and possible problems recognised
- Both legal and financial advice sought by Committee
- From advice sought it was decided that the BVWS would not run the event, but a management team could run the event under license from the BVWS
- It was agreed that the BVWS would purchase the NVCF
- Further negotiations with Jonathan hill produced a price of sale to the BVWS of £21,000. This purchase price will be paid over three years. The first down payment being completed due to the many arrangements that have to be made months ahead of time. All other payments will be made after each event from the profits of the events. This will therefore not only start to pay back the initial start up cost to the Society but also cover the purchase instalments to Jonathan Hill.
- The BVWS will retain full rights to all names, copyrights etc.
- The BVWS have a legal statement from Jonathan Hill that he will never run any other event in competition with the NVCF
- The NEC has also committed that they will not allow any other event organiser to run any such event that may also be in competition with the NVCF
- The BVWS Committee and the Society members are removed from all liabilities for the running of the NVCF, as this becomes the responsibility of the Organiser. The Organiser being the management team.
- The first BVWS NVCF will be held in September 2003.
- This will be a "No Change" event and should run as normal
- The Committee expect to see significant funds raised for the BVWS from the continuation of the NVCF. The funds will be dependant on the numbers attending and the future success of the NVCF but we expect to bring in the region of £10,000 per annum into the BVWS.

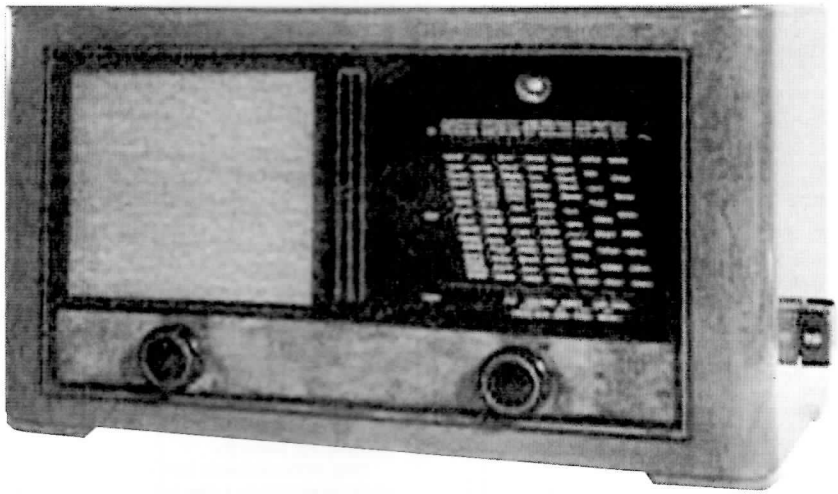
The monies raised from the NVCF will be used by the BVWS to increase member benefits. This does not mean that we will reduce the subscription fee as that is set to cover the production of the Bulletins etc. It will mean however that we can hold more events (like the 1996 show), give support to Museums and gain access to places that would require a staff to be paid to make it available to the membership for specific events. These things, we could not afford to do with the current level of funds within the BVWS.

Not a set for the Volk

by John Holloway and Bill Milne

At 216 Reichmark in 1939, the Mende MS216W was not a model aimed at the vast mass of the German people. With the famous People's receiver, the DKE, retailing at RM38 and mainly bought on hire purchase, the Mende was aimed at the higher echelons of society and senior Nazi party officials. Also because of the high sensitivity of the set, particularly on short waves, ownership by the masses would not have been encouraged!





Left: the set as found

Above: the set after restoration

The set was rescued not by myself but another BVWS member Bill Milne who lives nearby. He buys, restores and sells sets in addition to repairing older models which many of his customers are still using. I was on one of my regular visits when I spotted the Mende with a number of other sets on the floor pending action. Bill had been involved in clearing a garage full of stock, which had included the Mende. Although he had undertaken some preliminary research he had put it to one side while concentrating on more urgent matters.

According to Robert Speckmaier of the Rottenburg Radio Museum, near Munich, (rolbob@hallertau.net) Mende was established in 1923 in the city of Dresden and launched the set just before the start of the war in 1939. Following the Russian advance in June 1945 the factory was taken over, stripped and taken back to Russia. No doubt German electronic companies were also involved with the development and production of military and security equipment and like the western allies the Russians saw the potential value in purloining this technology as part of the spoils of war. I suspect the set which now graces my dining room was seen by a British soldier in the period after the war and brought back to Blighty in much the same spirit.

What its history has been since then and up to about eighteen months ago when I first clapped eyes on it is impossible to say but although it looked tired and a little shabby it was intact and apart from a minute crack in a corner of the escutcheon around the dial and speaker and the speaker fabric itself there was no serious damage. Even the back was virtually unmarked with its various connections and instructions in German.

I was attracted to the set by its appearance and its luxury feel. For, even in its rather jaded state it had the appearance of something that would fit into my rather eclectic collection of sets which in the most part are chosen on looks or at least as representing a period. I knew that when the magnificent dial was illuminated it would look absolutely splendid. I even knew where it would look best in the house; a corner of the dining room where today it is often the subject of comment with guests bringing back memories of better radio days. However, before it could take its place and win approval from the present Mrs Holloway, quite a bit of work would be necessary.

I struck a bargain with Bill for his help with the technicalities and the purchase of the set itself and carefully removed the chassis and speaker from the cabinet which I would start work on. I also offered to rebuild the eletrolytics, inserting modern replacements into the original cans.

The set came to pieces very easily and the cabinet itself came apart to make restoration and the treatment of the wood surfaces much easier. I super-glued the crack in the surround, clamped it and put it safely to one side. I also contacted Sid Chaplin for a new sample card and chose some material that though not terribly close to the original would I knew work well with the look of the set and be more robust over the years. The main body of the cabinet is veneered ply and apart from a few dents and scratches was in pretty good condition under the dirt and grime. The separate section around the front control knobs is solid walnut which, in common with the rest of the set, had been coated with a varnish during manufacture. This area plus that of the main cabinet above and below the dial and speaker had suffered from this varnish breaking down and creating a light mottled effect on the surface of the wood. The rest of the surfaces were unaffected. How to remove it without stripping the whole cabinet and re-polishing losing in the process the very patina of age which was part of the set's charm?

I decided to leave the solution to that problem for the time being and concentrate on simply cleaning the cabinet as a whole. 63 years of grime and furniture polish along with what appeared to be candle grease came away to reveal a surface that apart from some indentations and superficial scratches would be

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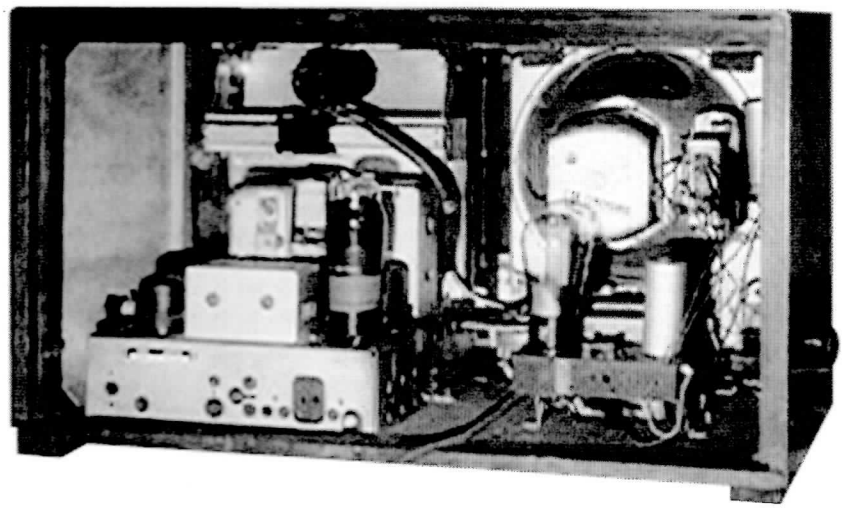

Interior showing chassis etc.

revived with copious amounts of elbow grease, a really good polish and some coloured filler wax. Years of polishing and even the grease had formed a layer of protection which was invaluable. There just remained the areas where the varnish had broken down.

Closer examination of the front revealed that the original veneers were joined just past where the curved side came round to meet the flat front of the cabinet and therefore the offending area was between these joins. The walnut insert behind the two front control knobs, being a separate piece, could be worked on away from the cabinet. This is a solid piece not veneer on ply: would the varnish respond in both areas to a quick application of paint stripper removed immediately with an almost dry cloth?

I started on the walnut insert first as I could work on this without fear of damaging any other part of the cabinet's surface. With everything to hand I took a small clean brush, dipped it in the Nitromors and applied it sparingly to a small area. No sooner had I finished than I wiped it off with the damp cloth. Some of the varnish had come away and there seemed no apparent damage to the surface underneath. I repeated the process over the same area and again more varnish came away.

I took the plunge and cleaning the cloth thoroughly between each application and wipe-down the varnish gradually disappeared and the full beauty of the walnut came through. When I was satisfied that the entire surface was clear I washed the piece thoroughly, dried it and went to bed a happier man but still with the problem of whether I could repeat the process on the front of the set without damaging the rest of the varnish.

Essentially I had three visible borders within which to contain the removal of the varnish, where it joins the side veneers and the top which is a separate rounded section making a flush joint between the front panel and the top of the cabinet. The edge that is covered by the escutcheon is hidden and with the set dismantled was just an open space. The area at the bottom of the set was less difficult as again the escutcheon hides one edge and the other has a strip of black wood, set back slightly between the wooden front feet. Only where the side veneers join it was there a problem.

Well, I decided that with the combination of my lightning reflexes and good quality masking tape firmly and carefully applied along the joins and with the cabinet on its back to prevent the paint stripper running, I would try to repeat my previous success. I tried a small area immediately next to the masking tape on the basis that if it worked here then the rest was a doddle. I wasn't too worried about the rounded section that joined the top as it was only stained wood and I reckoned I could cope with that. In its original form it didn't seem to be that close a match anyway but I took care not to go over the join.

The Gods were kind to me that day though, because it was a veneer as opposed to a solid piece of wood it needed a couple of quick coats of French polish rubbed down to match the existing finish and then polished with the rest of the cabinet with about 20 applications of Liberon Black Bison Dark Victorian polish, sometimes left overnight to harden up and act as a mild abrasive. The finished result was a glowing success. Bake-o-Brite polish worked a treat on the knobs and escutcheon; all it needed now was a working chassis.

With his normal thoroughness, Bill had already tried to find a circuit diagram. None of his British contacts could help but having followed up an advert in one of the NVFC catalogues, a contact in New Zealand, Ernie Hackenson of the New Zealand Vintage Radio Museum came up trumps. Strangely, a little later, one of Bill's contacts in Germany rang to say that he thought that only circuits were available but that they carried component values. This was confirmed when the circuit from Ernie arrived. But I'll hand over to Bill for the technical bit.

The chassis is in two parts, the receiver plus output valve, EL11, with the unusual G8 pin-outs with wiring running out to the EFM11 'magic eye' located at the top of the dial. The other chassis carried the mains transformer, rectifier and fuse with outboard wiring to the tone control and loudspeaker which has the output transformer bolted to it. The same wiring loom carries the supply to the field coil.

Running between the two chassis are two red wires, (not to be mixed up!) one for the HT the other to the output valve. There is also a dark green and dark blue wire connecting the two chassis. All these terminate at a six-way tag strip which has been carefully marked for any future repairs.

In common with many pre-war British sets, nearly all the decoupling capacitors were in a soldered tinplate box and of a quantity that severely plundered stocks. The two IFT tuning capacitors though nicely made and riveted on to ceramic basesuffered low capacitance and dodgy rivet connections; The 'capacitance' itself was covered in a dollop of gunge. However, it was clearly marked as 222pf. The same problem afflicted the oscillator can with 410pf measuring only 80pf. This was replaced with a 407pf silver mica type which was to hand.

The original HT reservoir had been disconnected and a substitute added. On test the ht voltage hurtled toward 180 volts while sizzling and boiling could be heard! Capacitors in the AF and IF stages were also replaced where necessary. The set ,which had been dead before this action, now sprang to life. Amazingly the first station received was a German language Medium Wave transmission. It was achieved on a rather inadequate aerial so it boded well for the overall sensitivity of the set under more favourable conditions. The mains energised speaker was delivering a good warm sound though the volume and tone controls

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were, as to be expected, a bit scratchy. Output was thought to be a bit low so the original EL11 was replaced by bartering 3 x 354V and an AC2P. A very dim EFM11 magic eye was the next thing to be replaced and many hours were spent scouring the country only to discover Langrex Supplies, a tram ride away in Croydon God bless 'em, could provide a new one from stock.

Other repairs followed to eliminate actual or potential problems and the volume control was dismantled and cleaned, increasing the contact pressure, with the exposed wirewound tone control also carefully cleaned up. The fitting of a 1amp fuse in the 13amp plug completed the repairs.

The time had come to put the whole thing back together. Re-assembly was easy but having switched on it was discovered that the gram input was not now working. Basic checks revealed that the signal from the input sockets was not getting through to the amplifier stage. Further examination revealed that the unique switch mechanism, which relied on cams, made from a plastic type material making and breaking various contacts was not functioning fully. One of the cams had a crack and was not turning with the spindle and was in fact not switching in the connection from the rear socket. A careful check of the various positions of the cam was made and Araldite was teased into the crack and around the spindle. The switch was left in a position where there was no pressure on the damaged cam and we waited to see whether it would hold.

Again, luck was with us and a couple of hours later finger contact on the input socket revealed a healthy amount of hum after switching to the 'Tonabnehmer' or 'gram' position. A miniature Sony SRF M55 FM radio attached to the Mende's perforated back by its convenient belt clip would eventually be connected to this socket to provide signals from Radio 3 and also Radio 4 for when Test Match Special was on Long Wave. The other connections at the rear of the set were for extension speakers with or without the internal connected Earth, signified by a beautifully drawn water tap, and another aerial connection to the lighting circuit, with an appropriate warning to use a plug and not connect directly to a wire! A German friend of Bill's kindly provided us with a translation of the text on the back cover. Finally, bearing in mind the water tap, a notice recommends protecting the set against wetness!

Up to this point in time I had not heard of the Rottenburg Radio Museum. Bill had obtained the circuit diagram through his own sources and I had merely assumed a general history of the set, imagining that it was probably a forerunner of the Nordmende brand. A few weeks ago, some 12 months after the restoration, I was browsing the net and looked again at www.paulplu.demon.co.uk/radio/index.htm which lists various other sites of interest. Among them was The Rottenburg Radio Museum which has an extensive number of exhibits covering radios, TVs, recorders and other similar items dating back to the 1920s. Imagine my delight when on the first page covering the 1930s was a thumbnail picture of the Mende which when opened up provided details of the valve line up and price in 1939. An e-mail was responded to within a day and I discovered that my contact there was Robert Speckmaier who kindly sent more information on the company along with additional information on Nordmende which, incidentally I was completely wrong about. Apparently he receives many enquiries from the UK and US about sets which found their way back home in the kitbags of Allied forces after the war. It would be interesting to know how many Mende MS216Ws made it to the UK and of course if any member needs a copy of the circuit please contact either Bill or myself.

The set is now part of the furniture and reception on all three wavebands is exceptional. It's attached to a long wire aerial which runs the length of the garden and, as if some divine force was guiding my hand, at last year's Garden Party Gerry's Bran tub brought me a period aerial switch which protects the set from the vagaries of lighting strikes. If I remember to switch it over that is!

In my house the final test of any set is how many times it is actually switched on and used, not just by me but other members of the family. I was therefore gratified to find my wife sitting using the Mende to listen to a programme the other evening. What a wonderful picture of domestic bliss that conjures up!

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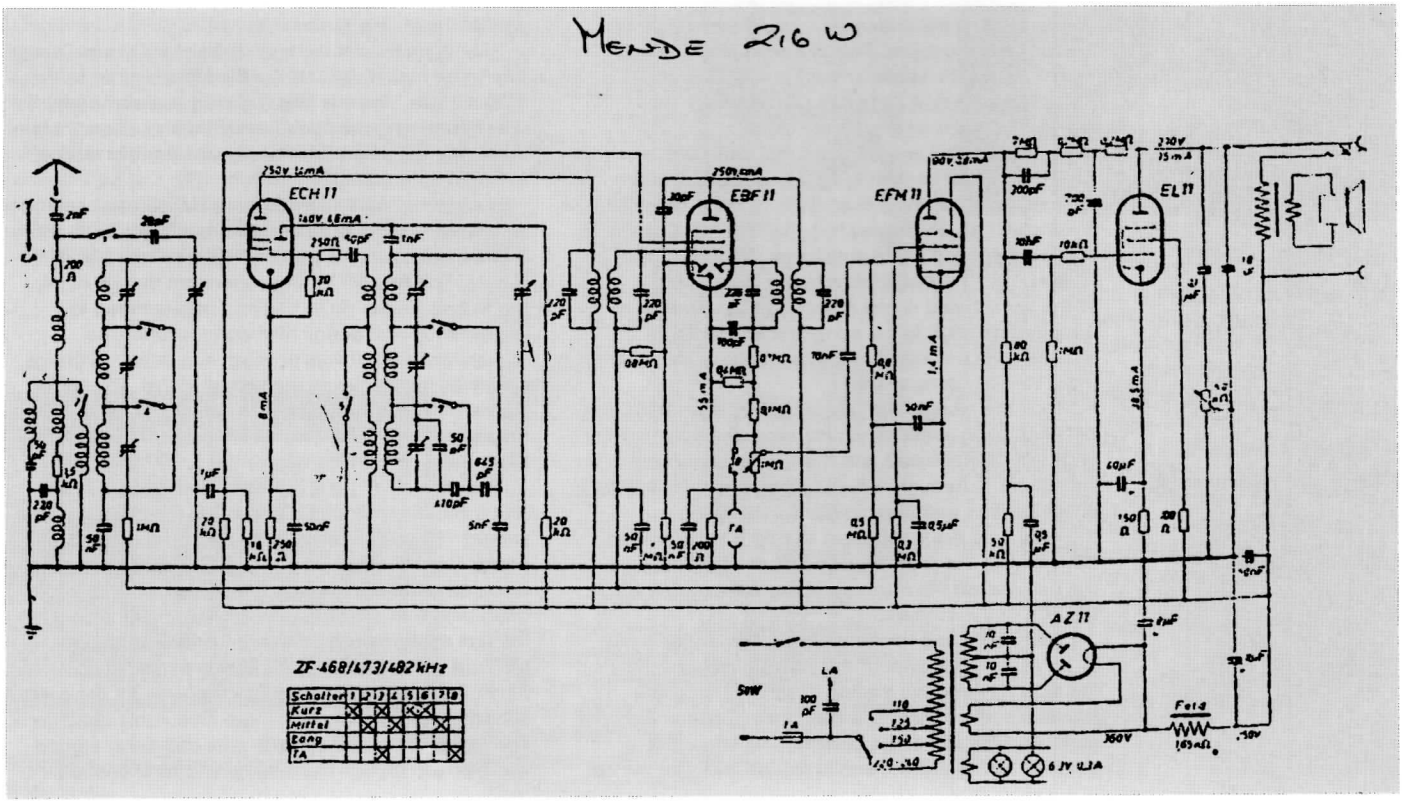

Sir Oliver Lodge, Britain's Marconi?

by Dr Colin Sumner MRCS LRCP DRCOG MRCGP G0POS

A precis of a 'compare and contrast' type of a talk given to the Medway Amateur Receiving and Transmitting Society 1922 on Friday the 4th of October 2002.

The title is intentionally provocative as each man excelled in his own sphere which, for OJL, was essentially academic, whilst GM's was as an entrepreneur. My interest was first aroused by a QSO with a Special Event station, GB0OJL, arranged for the Centenary of 14/8/1894, the date of scientific proof of wireless transmission before the British Association at Oxford.

There are so many points of contrast between the two men eg : Star signs, OJL; born 12 June 1851, a Gemini: twins, butterfly, mercurial, a communicator, as his teaching and lectures show. GM, born 25 April 1874, a Taurus, the bull, strong and fertile although the latter was bettered by OJL, an Anglican, who had 6 boys and 6 girls whilst GM, baptised a Catholic, managed two children by his first marriage and one by his second. OJL was from a family of 8 brothers and one sister.

Their homes couldn't have been more different! OJL 's was a 'brass tacks' family in the 'Black Country', Staffordshire, making pottery sundries: static but thriving. GM however, lived a luxurious life in sunny Italy, born in a Villa ('Griffone') in Bologna with well-to-do friends particularly Prof Righi of the local University, interested in the same science as OJL.

Mother of GM was an heiress of the Jameson Irish whisky family and GM was a result of a run-away courtship. OJL was one of four children whose mother was hard working and without home help, a staid family and OJL married a childhood sweetheart, Mary Marshall.

Father of GM, Giuseppe, was always on the move in employment. GM had but one brother nine years older, Alfonso, who played violin and for whom the younger Guglielmo played piano. GM, after two 'false starts' managed, like his father, to marry to money to another heiress in Ireland, this time to 70,000 acres and a castle! This union did not, however, survive the active life of GM and following the divorce he married Maria Christina by whom he had one daughter, Elettra (= 'sparkle').

Education of OJL and GM differed in many respects but compared in that they both hated it! OJL went first to a 'Dame' school until the age of eight and then to Newport Grammar School. On leaving, instead of joining in his father's business in China clay he became a 'slave' lab assistant at University College London, this aided by an enthusiastic aunt who set him up in digs in Camden Town. He walked twelve miles a day to work. On vacation he made various electrical experiments and, years later, the home was found 'riddled' with wires. GM was 'intolerant of the classroom', seldom completing the courses which his mother arranged for him. He too, however, experimented at home in their 'silk' room. He devised a system by which a bell would ring whenever there was a lightning strike nearby. He also devised a circuit which rang a bell the other side of an intervening hill whenever he operated a spark coil. This latter was also interesting Helmholtz, Hertz and Righi and must have made GM prick up his ears. It was friend Righi who tried to get him backing for further experiments by this precocious genius of GM but without help of the Italian government. This prompted GM to emigrate to Britain in 1896, aged twenty two. Meanwhile OJL had slaved away in the lab and, by 1877, aged twenty six, had obtained enormous experience and his BSc. He was appointed lecturer in Physics at Bedford Ladies College where his abilities as a communicator (Gemini) came to the fore.

Careers.

Here, there was a great divergence of the two men.

OJL continued in pure science but was really a polymath with multiple interests*, appointed Professor of Physics at Liverpool and, eventually, founder Principal of the new Birmingham University. As much as OJL was diverse (Gemini), GM was single-minded (Taurus) and exploited the commercial aspects in many ways for which we should be grateful for his foresight. He interested the War Office, Shipping companies. Broadcasting, even invented SW diathermy, microwaves, beam aerials etc. He raised money and patented many of his techniques. Unfortunately he became embroiled in patent squabbles, insider dealing of shares (the Lloyd-George PM scandals), the unscrupulous stealing of ideas without acknowledgment, and writing a letter to the War Office denigrating OJL. His patent wrangles: just one of which ended with his purchase of an existing broadcasting system set up by OJL and colleague Muirhead in the Andaman Islands (Indian Ocean), and his appointment of OJL to a sinecure post, no duties, as 'Consultant' to Marconi Co at £20,000 p.a.

Meanwhile OJL, the polymath, pursued his science. He would not argue in public with GM but conducted himself as a 'gentleman': by courtesy, not willing to boast, not willing to expose GM as a charlatan in GM's theatrical 'shows' at Cornwall, Bristol Channel, War Dept Salisbury and the Isle of Wight for the gullible public. These shows GM had made before he became established. OJL was supported in private by Kelvin and Rayleigh and even by Sir William Preece of the GPO who had originally promoted GM. OJL's attitude may have seemed a lack of intent. He was, however, recommended for a Knighthood by Queen Victoria in her last year – 1901, (which he received in 1902). 1901 was also the year GM demonstrated on the Isle of Wight near her home of Osborne House! OJL was also awarded the Albert Medal seven years later. GM was awarded the prestigious Nobel prize in 1909.

Death

This differed too! OJL passed peacefully at age 89, during the Battle of Britain on 22/8/40, GM died three years earlier at age 63 on 20/7/37, having had a coronary thrombosis in hurrying to meet his appointment with the Fascist dictator Mussolini.

*OJL's Academic studies
Induction Coils
Syntony (tuning)
Telephone
Batteries
Electro-static precipitation of dust particles
Spark-plugs ('Lodge')
Invented the Moving Coil Loudspeaker
Lightning control
Arts/Politics/Spirituality
Waves from the sun
First President of the Radio Soc. of Great Britain.

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Oliver Lodge inventor of Radio, Rowlands
& Wilson 1994. PD Pub's ISBN 1 873694 02 4
Internet; Marconi Calling/etedeschi n park
1398. net marcom100/angelfire.com

Harmsworth Wireless Encyclopaedia Vol 1
Encyclopaedia Brittanica / BVWS/ etc.

A Small Boyhood Ambition

By Peter Kyne

I was born into the post-war period, which for most was not a time of plenty. Our family's situation was worse than many but it was a common one. In 1946 my father had returned home from service in the armed forces with his health destroyed. This took its toll, not just on my father but on the whole family and in many ways, including our financial circumstances. As a young boy of course I did not realise that the chronic and debilitating condition which affected my father would eventually end his life.

Like most families we just got on with it and when you are a child even extraordinary circumstances quickly become normal. In spite of all this my father was a wonderful man, full of ideas, interest and tales from near and far that could be guaranteed to intrigue a young mind. He was also a very practical man who seemed to have the ability to make almost anything, although this was now severely limited by his condition. My father was an exceptional man right up to the end. He outlived the most optimistic predictions by about six years, by sheer will power I think, and went to a better place two weeks before my 17th birthday. I know that I'm privileged to have shared such a special relationship with this kind, intelligent man.

As a child I was fascinated by all things technical, especially if electricity was involved, which I'm sure must have been genetically inherited from my father. It seemed normal to be always making things. From the age of about six onwards these constructions also involved wire, batteries and various electrical bits cannibalised from old things given to me. Running errands provided funds to buy batteries and bulbs etc and other more ambitious parts as I got older.

Desire

Boyhood years passed and as I was entering double figures Practical Wireless became an important source of information and inspiration. When funds permitted I would buy a copy and over the following weeks and months each word was read and reread, including the adverts.

One particular advert always stood out. It invited me to "EXPLORE THE WORLD ON THIS 1-VALVE SHORT-WAVE RADIO". There was a small line drawing showing the front panel with a dial and two other controls. Beyond this was a tantalising glimpse of the rear corner of its chassis with a short wave tuning coil just visible. Exotic promises were made such as "Receives speech and music from all over the world". Then there in bold print was the problem "35/-".

For those not familiar with the currency of the day that is 35 shillings or £1.75 in pounds and new pence. This is very little in today's terms but to put it in perspective £15 per week would have been a good weekly wage then.

At 35/- it was out of the question, it might as well have been £1000. Nonetheless I always gazed at this advert, imagining how the set might look in reality and thinking about what it might be like to explore the world on a 1-valve short-wave radio.

Time went on and I got older, with new priorities and new responsibilities, this small boyhood ambition dimmed into the distance until – it was invisible.

Happenstance

Last October I was at the Southborough swapmeet. There was nothing in particular that I was looking for, as I have all the bits I need for my current and near future projects. So, perhaps something to read then? There were a few copies of The Radio Constructor from the mid 50s on a stall. Although it's my subject it's not my era really, late 20s to mid 30s is much more interesting but they might stir some nostalgic memories? So for a very reasonable price they were mine.

A couple of weeks later, reading through the July issue, part 1 of an article about a 1-valve short wave set presented itself. It soon became apparent that this was not a constructional article. It was what these days might be called "advertorial" i.e. an article produced, not as it might seem to inform readers but actually to promote a product, advertised elsewhere in the same publication. Sure enough there was an asterisk with the instruction "See advert on page 743".

Reading on we find the schematic circuit diagram, to whet the appetite of any keen novice who might be reading. No component values of course, they didn't want you building the thing without buying the kit of parts. Turning the page there were two large photographs showing the top and underside of the assembled chassis, calculated no doubt to further stimulate the appetite but no dimensions of course.

So to page 743 to see the advert and as I was reading it there was this faint sensation of a bell ringing somewhere in the back of my brain. You know, that strange familiar sensation of a long forgotten memory and then - Click!

I went off to find a copy of Practical Wireless from the early 60s and there in the back pages was the advert for that 1-valve short wave set that I coveted as a boy. The 1954 advert was different but the supplier (R.C.S.Products, London, E.17) and all the key features were the same, it was the same set.

1

Figure 1: Object of desire. This is the Practical Wireless advert that captured my imagination in the early 60s. Who knows what exciting and mysterious discoveries awaited the owner of such a set?

2

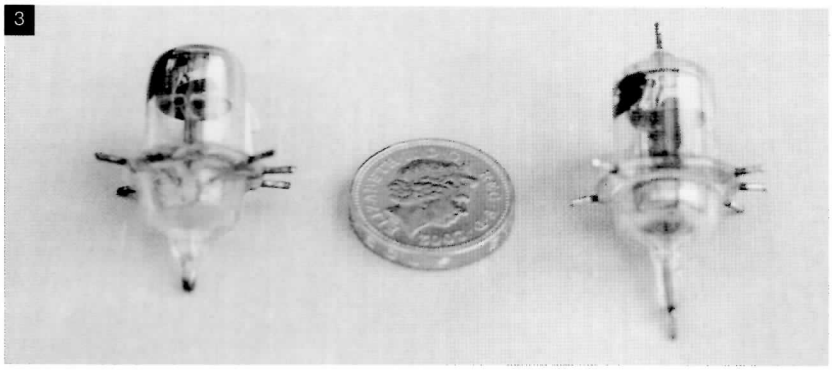
Figure 2: This is the advert as it appeared in 1954 in The Radio Constructor.

Figure 3: Two Acorn valves, the triode is on the left. Shown right, the pentode has additional pins at each end, the longer is the grid connection the other being the anode. The £1 coin, which is included to show scale, has a diameter of 7/8 inch (22 mm).

Figure 4: The circuit diagram given in The Radio Constructor.

Figures 5 a & b: Above chassis and underside views provided in The Radio Constructor.

3



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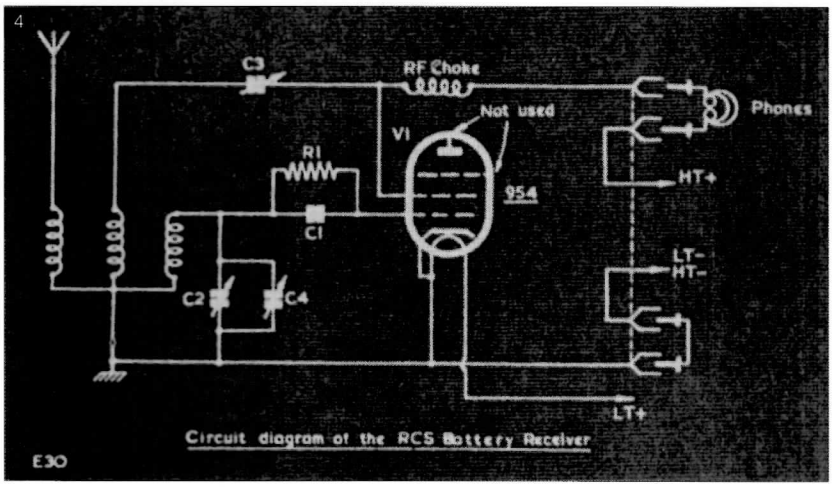

Circuit diagram of the RCS Battery Receiver

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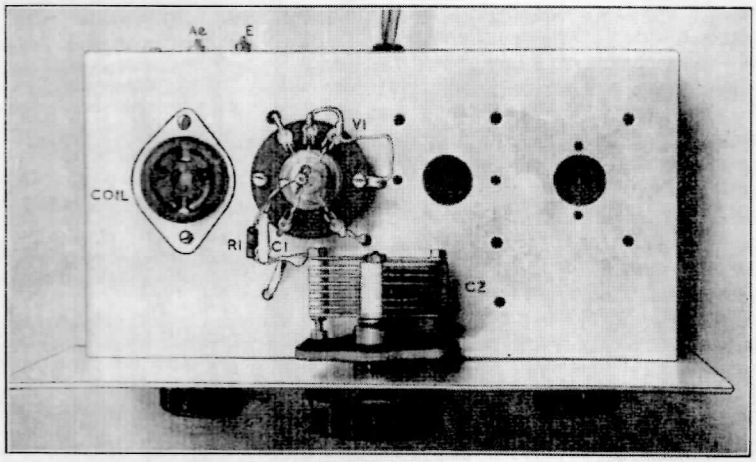
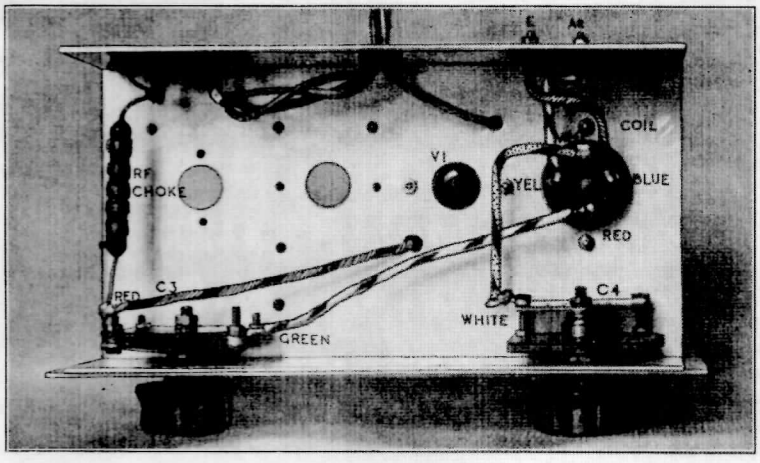


Top of Chassis Layout

5b



Layout Beneath the Chassis

Now with renewed interest I reread the article, after all these years I could find out how the set was made. There were a few surprises. The set was smaller than I had imagined as a child; although no dimensions were given, you could get an idea of the overall size from the components used. Secondly, there was the valve; it was not a 2 volt battery valve nor a 1.4 volt octal or even a miniature seven pin valve. It was an Acorn valve! Not only that, it was a pentode wired as a triode or to be more precise the screen grid was used as the anode and the suppressor grid and anode were simply just left disconnected.

A bit about Acorn Valves

The Acorn valve was developed by RCA in America and released in 1934 as a triode, designated type 955. A year later there was a pentode (954) and then the variable-mu pentode (956) in 1936. They were called Acorn valves because they were about the size and shape of an acorn. These valves are capable of giving useful amplification up to 400 MHz (75 cm). RCA claimed in their literature that these valves were "designed primarily for radio amateurs and experimenters". However the reality was that they were used extensively in military equipment.

Making a valve smaller creates the possibility of it performing more effectively at higher frequencies. This and the use of short direct connections to the electrodes are the key to the design. The cathode is indirectly heated, just as in a conventional mains valve, having a 6.3 volt heater drawing 0.15 amps and the maximum anode potential is 250 volts.

Acorn valves were also made under licence by several British companies. Just to confuse the issue some of these have lower heater and anode potentials, holding out the opportunity for the unwary to ruin perfectly good valves.

Due to their unusual construction a special holder is required. It is a flat insulated disc with a hole in the middle, which the valve wears rather in the fashion that an overboard seafarer might wear a lifebelt. The radial pins on the valve engage with metal clips attached to the holder.

Reading through the Bulgin 1940 components catalogue gives the clue to further unnecessary complexity. Under the heading for Acorn valve holders we read "Two models available, for English (90° grid-anode) and American (60° grid-anode) spacing." I checked through some holders and sure enough one of them had a wider spacing on two of the contact clips, making it completely incompatible with the RCA valves.

For readers who would like more information about Acorn valves a useful source is History of the British Radio Valve to 1940 – author Keith Thrower, OBE.

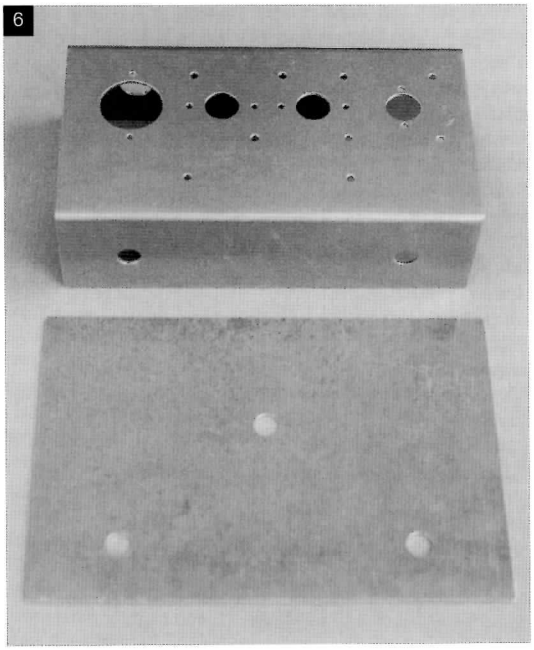
So why these valves?

Given the high specification of the Acorn valve, putting it in a little battery set intended to operate at no more than 30MHz is like using a sledgehammer to crack a nut. Also being indirectly heated means that its LT consumption is significantly higher than for a battery valve.

However, by 1954 Acorn valves had been around for two decades and were well and truly on the obsolete list. Looking through The Radio Constructor at the supplier's prices shows that the 954 pentode could be obtained for 2/6 (for the unfamiliar that's 2 shillings and 6 pence i.e. 12½ new pence). Therefore it's fair to assume that the choice was made on an economic rather than technical basis.

Filling in the gaps

By now I was starting to try to fill the gaps in the article. The circuit is entirely standard using a leaky-grid detector with reaction, it has been reprinted many thousands of times over the last 80 years or so, with



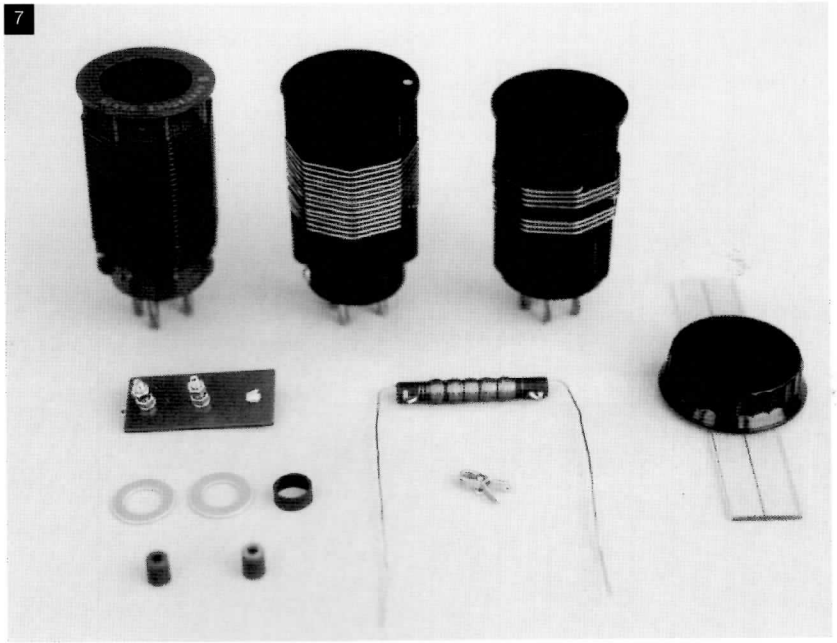


Figure 6: My home-made chassis and front panel.

Figure 7: These are the bits that I made or adapted for this little set. The tiny grid clip, although about the right size, was too chunky and was superseded by a Mk II version.

Figures 8 a & b: Above and below chassis views of the finished result. Just as in the original there are additional holes that allow the set to be converted to a 2 or 3-valver.

Figure 9: The rear of my set, this view was not shown in the Radio Constructor article.

very little variation.

The coils are not shown in the article but a B4 valve holder is used as the socket for the coil and the circuit diagram shows it with three windings. This is non-standard as British 4 pin plug in coils normally have only two windings. The tuning and bandspread condensers were shown and their appearance is consistent with the standard values used in short wave sets i.e. about 150pF and 20pF respectively. For the grid leak resistor there is a range of possible values; during the 1920s 5MΩ was common but after the war as low as 1MΩ was often used. The valve type and circuit details affect the optimum value, which is normally selected to give the smoothest reaction control. I guessed at 3MΩ as this is in the middle of the range. Grid condensers for this sort of application are often about 100pF. The reaction condenser is of a common type, careful examination of the photographs with a magnifying glass reveals that it has 3 fixed plates and this turns out to be about 300pF. For the reaction choke a value somewhere between 500μH and 2,000μH might be about right?

So just how big was it?

This is a bit more tricky. The photograph of the front elevation is poor and taken from an oblique angle. The above and below chassis shots are quite good but establishing scale is not easy as most of the parts could be of variable size. There is no visual representation of the rear view of the set.

The only part which is of a known, definite size, is the reaction condenser. Its pattern is unmistakeable and they must have been made by the million. An allowance had to be made for the perspective distortion in the photograph and I determined that the chassis was 7½ inches long by almost 4 inches deep and the front panel was 8 inches long. The height of the chassis was in the region of 2 inches and for the front panel it was at this stage difficult to say but probably between 5 and 6 inches?

Getting started

I suppose some of these sets are still around but goodness knows where? Anyway when you get to the stage of working out the dimensions you're halfway to building the thing aren't you? So it must be time to hop aboard the BVWS time machine to go back and create one.

Rummaging through my "spares box" revealed some useful bits. For tuning and bandspread there were a couple of suitable Raymart variable condensers. These have the advantage that they are easily dismantled (and rather less easily reassembled) to adjust the number and spacing of their vanes. The reaction condenser was no problem, the right one popped up straight away and I found some knobs that seemed to match those in the photos.

There were a number of 6 pin plug in coils with 3 windings and some with 4 pins and 2 windings but unsurprisingly none with 4 pins and 3 windings. As the Harpenden meeting was only two weeks away I thought I'd wait and see what turned up there.

At Harpenden, amid the distractions of tea, conversation, a late fried breakfast and all those interesting bits and pieces that you'd like but don't need and don't have space for, there were a couple of useful finds. Mike Lewis's stall produced the socket for connecting the earphones (this set uses a 4-way battery socket – economical but functional) and elsewhere I picked up an Eddystone 4 pin coil former with a horrible home rewind, a suitable case for recycling.

Also in an odd piece of serendipity I came across four more copies of The Radio Constructor, three of which covered August to October 1954 and contained the second, third and final parts of the article about this set. These describe how it can be converted to a 2 or 3 valve set and also the construction of a mains operated power supply. Again no component values.

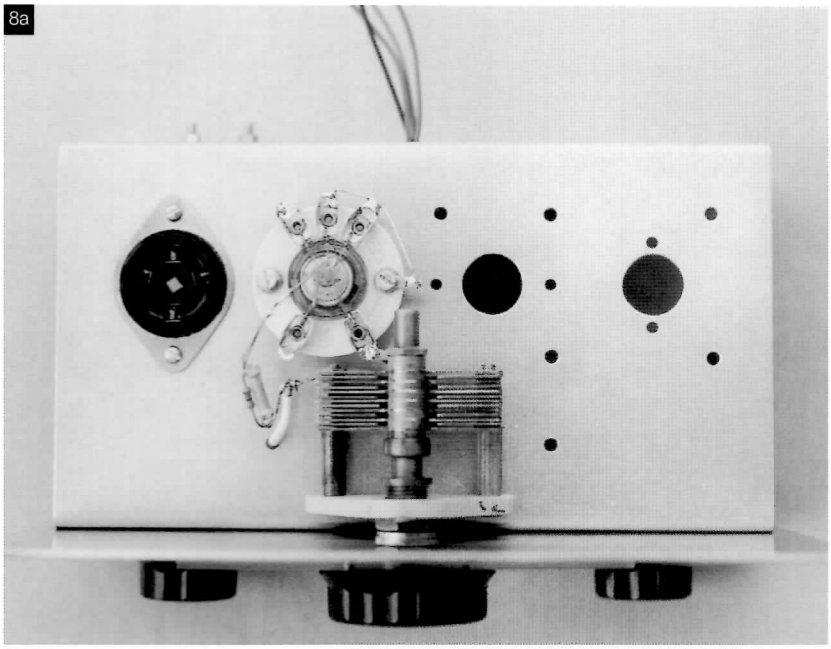
Back home I'm itching to progress things. In the garage I dig out a couple of pieces of 16 swg aluminium that I rescued from a skip several years ago. I know the length and depth for the chassis and it needs to be 2⅛ inches high to accommodate the bandspread condenser I'm using, so I can cut out the chassis blank. As the height of the front panel is still to be determined and I don't yet have all the parts that's about as far as I can go.

A trip to The Museum

I hadn't been to the Vintage Wireless Museum at Dulwich for some time and was starting to get withdrawal symptoms. Phoning Gerry Wells I asked "Are you receiving visitors?". His reply as usual was "Yes come along, we'll be pleased to see you".

Gerry was his usual welcoming self when I arrived and between cups of tea and bouts of stimulating conversation Gerry kindly allowed me to use the Museum's folding machine to convert my piece of aluminium into a chassis. He was also able to help me source the few remaining pieces for the set, including the Celestion 4 pin valve holder (used for the coil

8a



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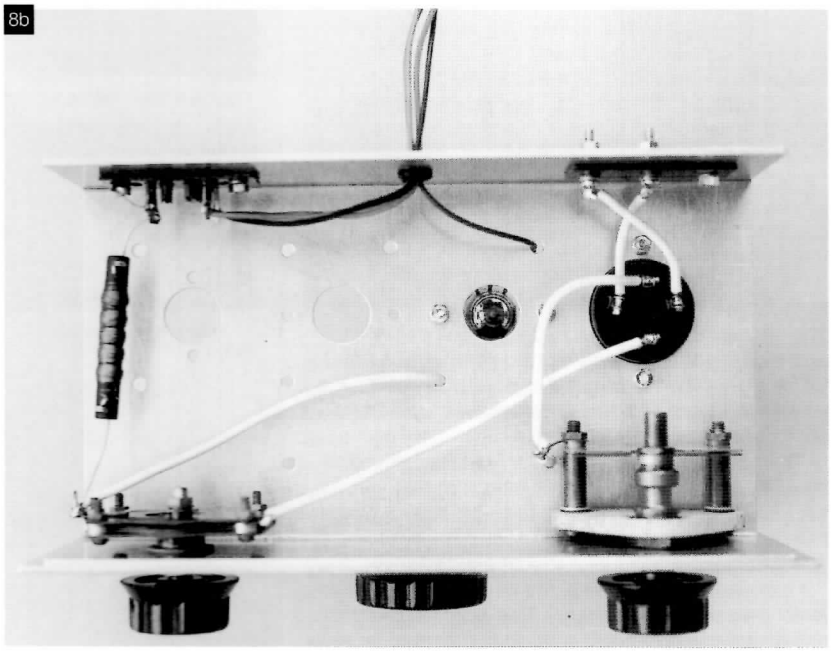

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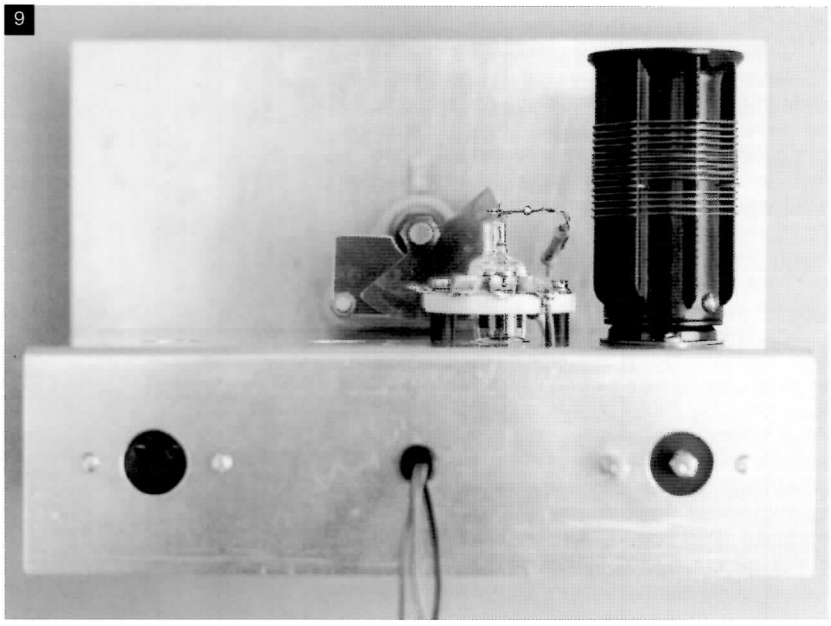


socket) and the rather pygmy sized Acorn valve holder that I needed.

Visiting the Museum is always a treat and time flies by before you know it. The exhibits are of course both absorbing in their own right and valued reference pieces for restorers and enthusiasts. The reference library is another important resource but most often it's Gerry himself who is the most effective source of guidance, with his wealth of experience and prodigious recall.

In addition to all this there is the bonus of meeting the staff, Trustees, friends of the Museum and other visitors. Also there is always the possibility of being able to see an unusual or significant receiver in the process of restoration.

On this occasion I got the full works and left with my batteries fully recharged.

Finishing the chassis

Back home I now had or could make all the parts I needed. Revisiting the rather poor photograph, in The Radio Constructor, of the set's front elevation and using a combination of measurement, estimation and calculation, I concluded that the front panel was about 5½ inches high (maybe?). The front panel was marked out and cut to size using a fine metal cutting blade in an electric jig saw. The edges were filed smooth then finished by draw-filing to produce an acceptable result.

The positions of all holes were marked on the front panel and chassis by scaling up from the photographs in the article. As I mentioned earlier there was no image showing the rear view of the set. By examining the socket used for the earphones it was clear it needed a ⅝ inch hole and two holes to take 6BA fixings. From the underside photo it was apparent that the earphone and aerial connection panels were of similar size and symmetrically disposed on the chassis and the HT & LT supplies were via four flying leads entering the centre rear of the chassis.

All holes were centre punched and for the larger ones their exact sizes were marked in with a fine fibre tip pen and compasses. I always drill pilot holes, usually 2 mm, then drill to the correct size. The exception here was the larger holes. Large drills tend to wander off centre even with a pilot hole and anyway in this instance I didn't have any drills (or punches for that matter) of the right size. For the largest hole (1⅛ inches) a series of small holes were drilled, the centre popped out and then with a half round file, it was opened out to size. The remainder were drilled to ⅜ inch and brought to size using round and half round files. If your files are sharp it doesn't take long and you can be sure the holes won't be off centre.

Tuning coils

Taking the Eddystone 4 pin coil former that I'd picked up at Harpenden I removed its rather horrible windings. Originally it had been a yellow spot (covers 22-47 metres with a 160pF variable condenser) but judging by the number and variety of ham holes it had been rewound at least twice. Following a bath in Fairy liquid and hot water it was ready for yet another rewind. As there was no information for the coils, apart from the band covered, I used an Eddystone 6Y coil as a starting point to determine the number of turns, wire gauge, spacing and disposition for the windings. A rummage through my reels of wire revealed that I had 20 swg and 24 swg but predictably not the 22 swg enamelled wire required. Also being inexperienced in the field of short wave I needed some guidance on which of the two smaller coil windings should be used for reaction. Various designs for home constructors have used either.

Time for some networking. A phone call to Ralph Barrett, who knows much about short wave (and many other things besides) soon clarified matters.

Ralph reassured me that using the 24 swg would, in this application, make no discernible difference to the performance. On the point of the reaction winding, although either can be used, generally the one that is not interwound with the grid/tuning winding is the one to use for reaction.

With the 24 swg wire I wound on the grid and reaction windings; for the aerial coupling I used 30 swg DSC wire, interwound with the earthy end of the grid winding. The earthy ends of all the windings were terminated to pin 2 on the former and the "hot" ends of the aerial, grid and reaction windings to pins 4, 1 and 3 respectively.

The same process was followed for the lower wavelength coil using an Eddystone 6LB coil as the model. For the Longer wavelength I converted an existing 4 pin, red spot coil by adding the aerial coupling winding. To ascertain the number of turns I copied an Eddystone 6R coil, the pin connections were rewired as described above.

Making bits

Various bits and pieces, which had to be made for the set, are shown in figure 7. At the rear are the three, 4 pin plug in coils. To the left is a group of bits including the aerial panel, made from a scrap of Paxolin sheet and some 6BA nuts and bolts. The mounting bush of the reaction condenser needs to be insulated from the chassis and front panel. The washers for this were cut from thin Paxolin and the insulating sleeve is a short length of 1/2 inch heatshrink sleeving, shrunk to size on a piece of 3/8 inch brass rod, using a heat gun. The two stand-offs for the Acorn valve holder are 1/4 inch Tufnol rod drilled down the centre.

I could not find a HF choke like that in the original set so it was easiest to make one. The former is 1/4 inch Tufnol rod 1 3/4 inches long, the ends are drilled to anchor two lengths of 20 swg tinned copper wire. A quick calculation using Wheeler's formula indicated that 600 turns would give a suitable inductance. This was wound in 5 separate piles of 120 turns each to keep the self-capacity down, as in the original. My winding machine was an old hand drill mounted horizontally on a piece of board and the 42 swg enamelled wire was fed on by hand. Using wire with self-fluxing enamel makes termination easier and the whole was dipped in molten beeswax. The wax (obtained from a local beekeeper) was melted over a lighted candle in a small pan, custom made from aluminium kitchen foil. When measured the finished choke showed an inductance of 600µH.

The tuning cursor was made from clear Perspex with a line scribed in the rear surface and filled with black ink from a felt-tipped pen. The excess was removed using a cloth dampened with meths. After drilling and tapping, the cursor and knob were joined with 8BA screws.

To connect to the grid or anode of an Acorn pentode a special clip is needed, the manufacturers specifically warn against making a soldered connection. The small clip shown in figure 7 was made from thin sheet brass. Although about the right size it was too chunky so a Mk II version was made from a piece of copper foil and a tiny brass safety pin supplied by my wife.

Assembling my kit of parts

Having obtained or made all of the parts, assembly was straightforward. The Radio Constructor article contained a list of instructions but I find such things more confusing than helpful. I just followed the pictures.

The front panel is attached to the chassis by the bandspread and reaction condenser bushes and everything else is held in place with 6BA nuts and bolts of various sizes. The Acorn valve holder I used was ceramic so a couple of home-made fibre

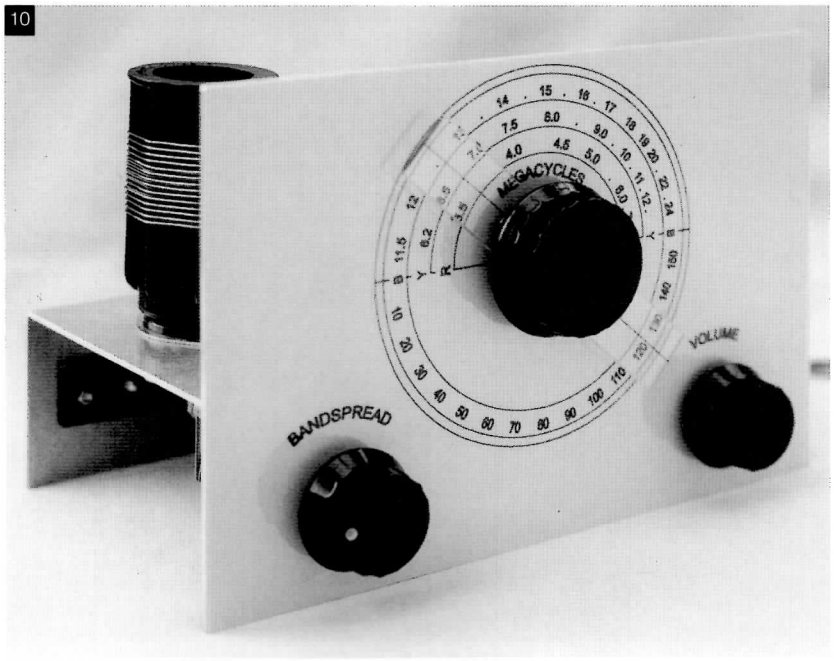


Figure 10: After a delay of a few decades I've got my 1-valver.

Figure 11: THE END.

washers were added to cushion the pressure of the bolts. For connecting up I used PVC covered wire, 6 amp for wiring the chassis and 3 amp for the HT and LT supplies. These sizes were chosen, as they looked similar to the wiring shown in the photos of the original.

The only point where particular care is needed is when inserting (or removing) the valve, to avoid cracking the seal between the connecting pins and the fairly fragile glass envelope.

Calibration

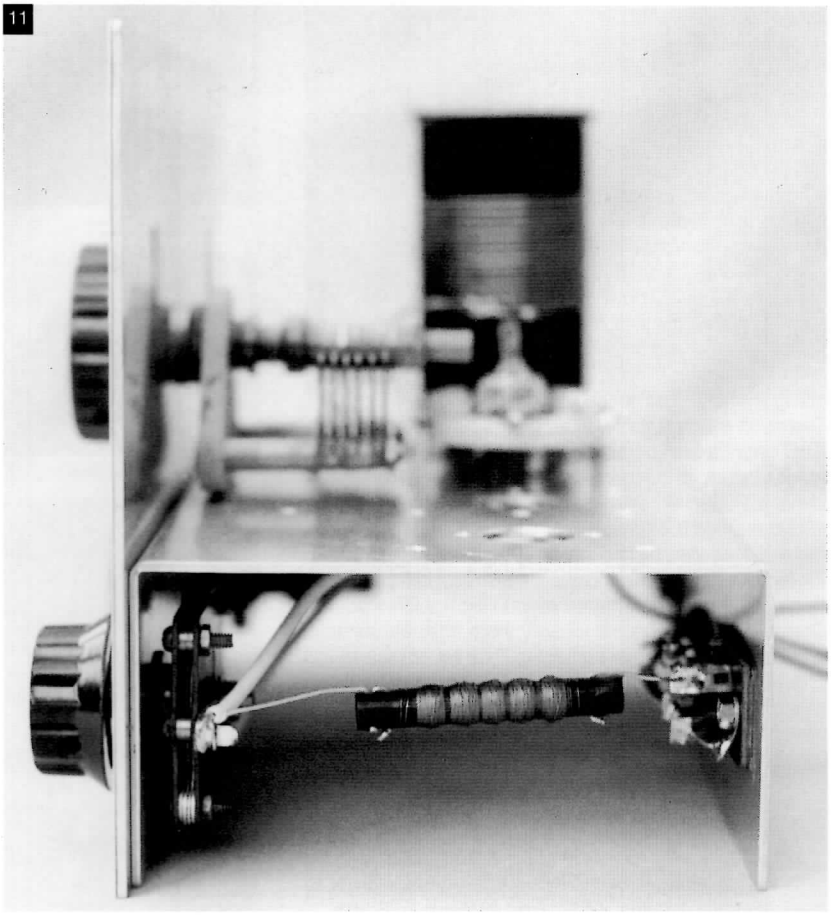
The set needs 6 volt LT and 30 volt HT supplies and high impedance headphones; mine were 4,000Ω. Using a good earth but rather lacklustre aerial the set worked first time on all three wavebands: well there's not much to go wrong is there?

The next task was calibration. Normally calibration involves adjusting components to ensure that the set's tuning aligns with markings on the tuning scale. However as there was no tuning scale the process was reversed.

I had already produced a mock-up of the front panel on a desktop computer. This included the three tuning scales without any calibration marks or figures. A plain paper printout of this was taped to the set's front panel. A knob with a suitable pointer was fitted to the tuning condenser and the bandspread condenser set to its centre point.

Working through the three bands I discovered there were massive "dead spots" where no reaction could be obtained at all. This was due to the usual cause of the aerial being too tightly coupled to the tuning coil. Had I got too many turns on the aerial coupling windings or did the instructions that came with the kit advocate the use of a series aerial condenser? I don't know but to keep things simple I coupled the aerial via a small capacitor, 10pF seemed to give the best results.

Time to call into service my £2 signal generator. This is a Taylor model 65B, which I bought (for £2) in the auction at the Wootton Bassett swapmeet. It was complete, original and in fairly good condition. All of the paper and electrolytic condensers needed replacing. Also I glued one of the iron-dust tuning cores back together with Araldite as it had spontaneously disaggregated with age. It was realigned using a multiband transistor radio with a digital readout. If you beat the signal generator output with an off-air signal of known frequency you can



achieve a far greater accuracy than is needed.

My £2 signal generator was connected to the set's series aerial condenser via a dummy aerial (390Ω resistor in series with a 250pF mica capacitor). The calibration process simply consisted of feeding in a modulated carrier at various spot frequencies and marking the paper scale in pencil. This was done for all three bands.

Finishing off

According to the text in the Radio Constructor article the front panel was grey and it was apparent that the markings were in a light colour (probably white). I could not achieve this with the means at my disposal but I could manage black print on a grey background.

To do this my pencil calibrated paper front panel was photocopied onto a transparent sheet. The transparency was attached to a computer screen and with the screen's scale adjusted to display actual size I filled in the markings to line up with those on the transparent sheet. The finished result was printed on grey paper, which I had laminated at my local stationers.

This sheet was cut slightly oversize and the back covered with strips of high tack, double-sided adhesive tape. After punching out 3/4 inch holes to clear the fixing nuts of the front controls the sheet was attached to the aluminium front panel and trimmed to size with a craft knife. The final result is shown in figure 10.

I'm not sure that patience is a virtue but.....

Following a delay of 4 decades I finally got that 1-valve short-wave radio. How well does it work? Well it certainly fulfils its promise of "speech and music from all over the world" so I suppose I'm satisfied.

Six of the Best at Stourbridge

Kaleidoscope offer some of the best TV entertainment, absolutely FREE! Just a collection dish for the RNLI, a huge telly screen and a bar full of beer. Can you afford to miss the return of Kaleidoscope Events? So put some money in the bucket and ask: "what's on the box?"

7th June 2003

CHARLES ENDELL ESQUIRE - Slaughter on Piano Street.
Iain Cuthbertson reprises his role from BUDGIE. 1979.
NEW FOUND LAND - Last Legs.
ARMCHAIR THRILLER - A Dog's Ransom episode three.
PUBLIC EYE - A Mug Named Frank. This adventure of Marker was shot in monochrome and has not been transmitted since 1971.
DAFT AS A BRUSH - untransmitted 1967 ABC sitcom pilot.
A collection of idents from THAMES TELEVISION including the original suggestions that were never used.

5th July 2003

ORLANDO - Dangerous Waters, episode three.
A recently discovered episode from the Sam Kydd show, circa 1966.
PROBATION OFFICER - 1961 ATV drama series starring John Paul.
NEW FOUND LAND - Love is a four-letter word.
ARMCHAIR THRILLER - A Dog's Ransom episode four.
SUNDAY NIGHT AT THE LONDON PALLADIUM - ATV's popular variety series.
TERRAHAWKS original promotional film.

2nd August 2003

A UNIQUE DOUBLE BILL:
CALLAN - You Should Have Got Here Sooner (ABC, 1967 ep) &
CALLAN - Wet Job (ATV, 1981) David's final assignment.
NEW FOUND LAND - Lost.
ARMCHAIR THRILLER - A Dog's Ransom episode five.
All the surviving Film Insert footage from LETTERS FROM THE DEAD (Southern, 1969 thriller series).
Extracts from BOYD QC and THE HIDDEN TRUTH.
Two of Rediffusion's most popular drama serials - this footage does not exist in their archives.

13th September 2003

FILE ON HARRY JORDAN - Anthony Skene's surreal play, remade by YTV in 1978.
NEW FOUND LAND - Solid Geometry.
MYSTERY AND IMAGINATION - The Fall of the House of Usher.
THE MIKE AND BERNIE SHOW - 1971 edition of the Thames show, returned by Kaleidoscope in 2000.
ARMCHAIR THRILLER - A Dog's Ransom episode six.

7th June 5th July 2nd August 13th September 2003
Stourbridge Town Hall, Stourbridge, West Midlands
6.30-10pm

Discussions with the copyright holders of ABC, ATV and LWT material are ongoing and are subject to change.

Web site: http://sixofthebest.kaleidoscope.org.uk/
Email: sixofthebest@kaleidoscope.org.uk

Walt Disney's Television Treasures

Andrew Henderson opens the lid on some forgotten gems.

On a shimmering, baking hot Sunday Afternoon in July 1955, Walt Disney's Disneyland opened with a simultaneous live broadcast (from a former orange grove in Anaheim, California). An hitherto unheard of 24 Television cameras were used to unfold a 90 minute survey of the new theme park. This spectacle was seen by a staggering 90 million American Television viewers. And all this at the peak of the summer, on one of the hottest afternoons of the year! This historic and interesting broadcast was recorded as a kinescope (16mm film recording) and is now available as a region 1 DVD, as part of the 'Treasures of Walt Disney' series. Although you can't buy the DVD in the U.K. it can be ordered from America. Also included in this special DVD set are four other television films (two of which are b/w from the 50s and two from the 60s, made in colour). This review will concentrate on the first two b/w films. These are the live Disneyland outside broadcast (1955) and the first Disneyland Television programme (1954).

ABC Television prepared the historic opening outside broadcast from Disneyland as they helped to finance the park in cooperation from the Disney Company (ironically, forty years later Disney would actually buy the ABC network). This deal also included a weekly television programme which was supplied to ABC on film by the Disney Company (initially in b/w and later in colour). Right from the start, the Disney Television brand denoted quality. Walt Disney was concerned that his company provided a Television show worthy of the Disney name. The original series Disneyland began on October 27, 1954. Whilst other Television shows aimed at the family audience were generally unimaginative and often downright cheap, the Disney broadcasts were so well made that not only do they stand up today, but they have entertained generations of children. Disney used his 'trump card'; cartoon animation to provide a visual sophistication lacking in contemporary Television. The animation was used sparingly, but with great tact and this means that there was often a perfect blend of visual entertainment.

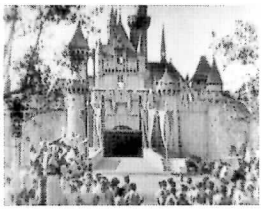
As well as the use of animation, live action series were also premiered, which were of a quality hitherto only seen in the commercial cinema. The most famous example is the fondly remembered 'Davy Crockett' series (remember the theme tune?). This series of films was so popular that they ended up re-edited and printed in Technicolor as one of the first transition films (and probably the first ever) to appear initially on Television and then released as a cinema attraction (that is, if you exclude Frederick Knott's thrilling 1952 BBC play 'Dial 'M' for Murder', later turned into a Warner Bros 1954 3-D film by Alfred Hitchcock).

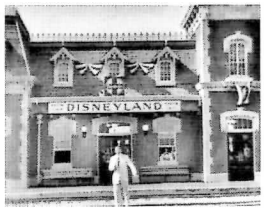
The Crockett films were shot on colour negative stock and although originally broadcast in b/w, there were printed in blazing Technicolor 35mm for issue to the cinema circuits. In fact, all of these early Disney Television offerings were prepared on film and we are all possibly familiar with them (in the UK, the BBC had shown a great many of these prints up to the late 1970s). Something rather more unfamiliar to our eyes is Disney material shot on electronic cameras. To their great credit, the producers of this new DVD have presented the complete 1955 opening Disneyland broadcast as originally shown. These days this is still a rarity and to see the unedited broadcast reveals a wealth of information about the Disneyland site in a unique way. Walt Disney himself presents part of the broadcast with actor Bob Cummings and Ronald Regan.

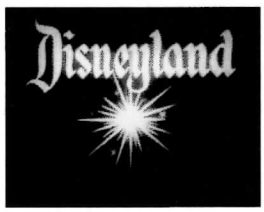
With our enquiring 21st Century eye, we can see that this early outside broadcast could have developed into a complete disaster. With no autocue present and a host of background difficulties (including water supply failures and sticky, melting asphalt); it seems a genuine miracle that the broadcast proceeds smoothly. Mr. Disney seems a bit nervous in the early introductions (which is hardly surprising given the pressure on him personally and the circumstances of the broadcast). As the show progresses he looks more happy and relaxed, eventually perhaps realizing that everything is finally going well and that not only is the broadcast a Television triumph for its time, but also has served both ABC and his own company very well. From a technical point of view, in these images you will see every kind of visual affliction which used to 'grace' a typical BBC 1950s outside broadcast. We have picture interference, missed cues, focusing problems, lens distortions, Kinescope defects, and picture geometry defects. None of these are problems caused by the Disney Company, but those that directly stem from the defects and problems of early telecasting. The list of picture problems is seemingly endless, however in comparison with the usual 35mm film it is also both refreshing and vital. The technical defects are actually a plus point as we watch with almost the same anticipatory wonder as our wide-eyed 50s counterparts. In fact, I enjoyed this programme far more than the more lavish, colour filmed items on the other disk. A quick word on those. The colour films are two editions devoted to Disneyland at night and the tenth Disneyland anniversary. Although pleasant, they don't quite have the fascination of the 1950s b/w programmes.

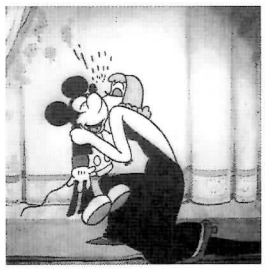
In contrast, the other item in b/w is the earlier (1954) first edition of the Disneyland television series. Here, we find that things are a bit more controlled. This film was of course prepared before the theme park was completed. The opening animation introduces us to four themed zones to be built in the Disneyland Park; Frontierland, Tomorrowland, Adventureland and Fantasyland. After this brief introduction we see from the air a captivating shot of the Walt Disney Studios in Burbank, California. At that very time we find Kirk Douglas, Peter Lorre and James Mason all working on the Technicolor live action (and first Disney CinemaScope) film 20,000 Leagues under the Sea. At that time, this film was of immense importance as not only did the film confirm Disney's command of the live action screen, it also was used to influence a submarine attraction at the Disneyland Park. Anyone who has seen this splendid film may also recall the ingenious solution to filming underwater with the early and unwieldy scope (wide screen process) lenses. This involved shooting with a 'normal' camera, but with all the models and backgrounds squeezed up so that they would expand in the correct ratio on the big CinemaScope screen.

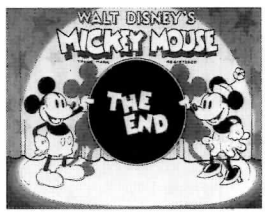
Far away from the Nautilus of Jules Verne is the pre-animation work on another Disney CinemaScope (actually Technirama to be precise) production. This is one of the life model classes held for animators to draw pre-animation drawings for the upcoming Sleeping Beauty. Although the Disneyland crew filmed this segment in 1954, it would be 1958 before the completed feature reached the cinema screen. Moving away from the charm of the drawing class, we come to the 'Plans Room', in which we greet Walt Disney, who sets out his concept for the completion of the Disneyland Park. The accompanying maps and models serve to illustrate the themes of the upcoming Television shows as well as his hopes for the themed development of the new park. The biggest attraction was to come from the last surprising entry -











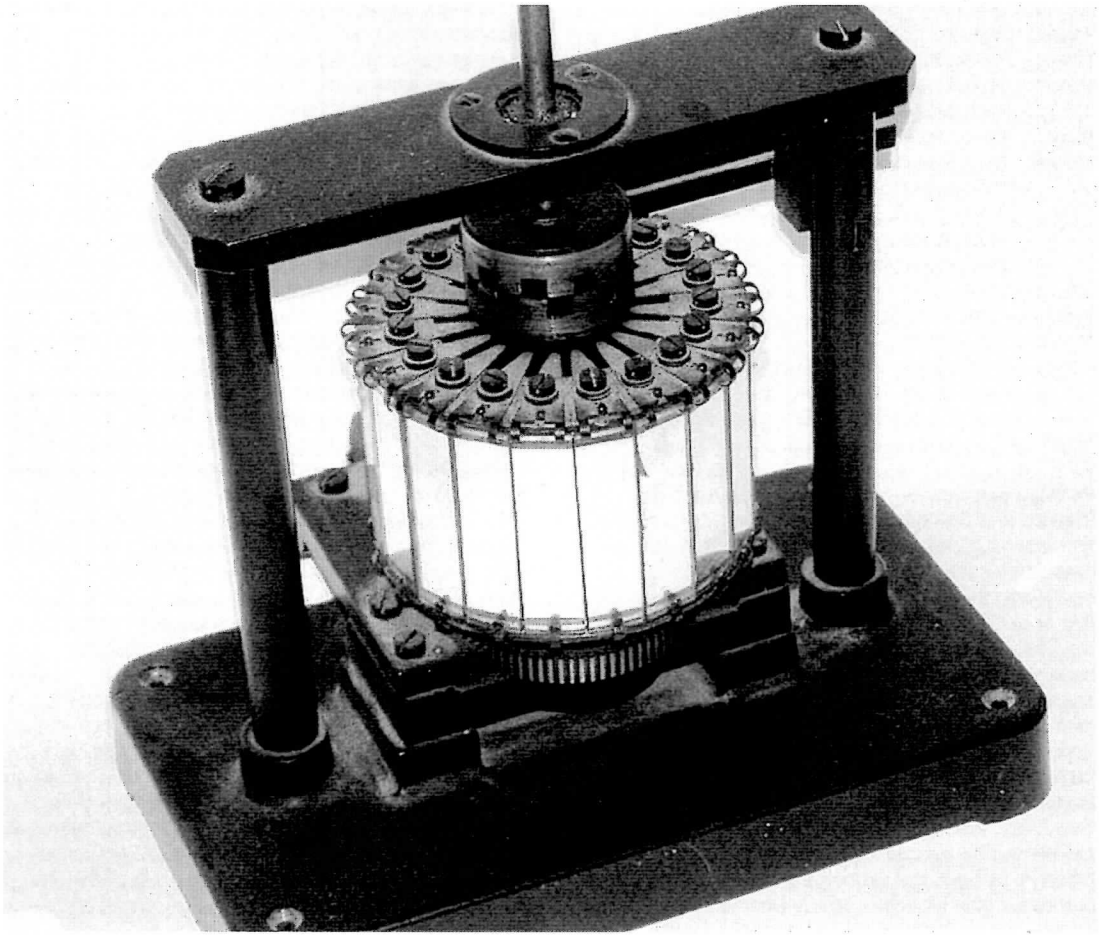
Frontierland. We meet Norman Foster, the director of the colossal television hit, Davy Crockett. In front of the cameras (shooting a Davy Crockett test) is the titular star, Fess Parker, who sings for the first time the memorable 'Ballad of Davy Crockett'.
The next segment has dated a little as we encounter Adventureland. In this, True Life Adventures producer Ben Sharpsteen surveys a round the world trip through different animals, cultures and locales which must have seemed exotic in 1954, but rather uninteresting and stereotyped today. It would be hard to justify footage of Portuguese Bullfighters in the more knowing world of today. However all this footage has considerable charm and many readers will recall these films as supporting shorts (in colour) accompanying a main feature at the Cinema. Perhaps the most exciting area for the 50s child was outer space, or rather a particular fixation on the Earth's Moon.
Only in Tomorrowland do we encounter the work of legendary 1930s Animator Ward Kimball. He elaborates a journey of progress through space exploration and the expected benefits from this, the fruits of which seem to create abundant wonder in the expectant 1950s world. The distant date set for the future is 1986 and today we have, of course, crept past that date. In some ways we have lost that sense of wonder first revealed fifty years ago. Prepare yourself for a great many predictions.

The final zone is Fantasyland, which is primarily used to serve as a primer for next week's programme (Alice in Wonderland). The real purpose of Disneyland is to provide undiluted happiness and enjoyment. As an illustrative clip, we see Uncle Remus from the little seen 1948 film 'Song of the South' which serves to show good natured fun "Ev'rybody's Got a Laughin' Place". From the contemporary new fangled Technicolor multiplane animation to the squeaky, squawking 1928 shoeless version of Mickey Mouse (in the short 'Plane Crazy'). We see the rather primitive looking rodent with equally new fangled companion Minnie in a recap of Mickey Mouse's career. Originally called 'Mortimer', the change to a 'Mickey' tag was one of a brilliant set of character progressions which lead to the Disney Company as we know it today. Also included are some other extracts such as Pluto in 'The Pointer' and the 1938 short 'Lonesome Ghosts'.
All merit to Disney, this DVD is a four star effort. Not designed for children, but really designed for adults to cherish. There is another Disney DVD worthy of a quick mention. This is another Treasures edition called 'Mickey Mouse in b/w'. What makes this appealing to inquisitive 1930s Television aficionados is the inclusion of those early shorts seen on pre-WW2 BBC Television. This also includes the much quoted 'Mickey's Gala Premiere'. Perhaps since the Television Jubilee book, this film has acquired a legendary status. It wasn't as is often quoted cut off in mid flow (as proved by Andy Emmerson) and doesn't end with Greta Garbo either! It is true to say that Garbo does talk and the last sounds heard on BBC pre-war Television were Pluto slurping! To witness what that is all about, well....fellow enthusiasts, you'll have to buy the disc.

Region 1 (US and Canada only) Closed-captioned, Box set
Only 150,000 sets issued
Disc One: The Disneyland Story, Dateline Disneyland
Disc Two: Disneyland After Dark, Disneyland Tenth Anniversary Show, 'The Magic Kingdom and the Magic of Television' with Leonard Maltin, Still Gallery
ASIN: B00005KARE

What is it?

Well...it is a Mirror Drum from the 1930s, but not Baird! This is one of the few relics from a Scophony Mechanical High Definition Television. A few mirrors have fallen off, but it is remarkably intact. No pre-war Scophony sets are thought to have survived.



Back to the junkyard: Re-visiting "Steptoe and Son"

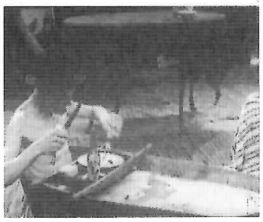
Andrew Henderson finds much enjoyment in a new BBC book.

Albert: What do you want now? I'm trying to watch the television.
Harold: That isn't BBC2.
Albert: I know it's not.
Harold: I specifically want to watch Rudolph Nureyev and Margaret Fontana
Albert: I'm not watching that rubbish
Harold: We agreed that Mondays, Wednesdays and Fridays should be my choice of Programmes... ...and Tuesdays, Thursdays and Saturdays your choice... ...with us each having every alternate Sunday.
Albert: That's right.
Harold: Today is Wednesday... ...I want BBC2 on.
Albert: Well, I don't.
Harold: That is a very unfair attitude to adopt. We made an agreement. We shook hands on it. I've got the law of contract on my side.
Albert: I've got the knobs on my side.

Perhaps surprisingly, a comprehensive book on Steptoe and Son hasn't been published before. Let's first look at a new book on the series and then develop this into a look at the missing editions, continuing the theme running through this issue. With this book (in association with Galton & Simpson and the BBC) we have a worthy attempt to capture the history of the series in print. We have 288 pages on the famous 'Shepherd's Bush' Rag and Bone men (and a few b/w and colour glossy photos thrown in for good measure). In the past, author Robert Ross had received criticism from comedy fans who perceived inaccuracies in his earlier books on the subject. Thankfully, this volume is virtually free from these problems. The text develops methodically and it is a pleasure to read. Only in one area do we really feel perhaps a little let down. This is because Ross insists on a detailed synopsis of each episode and then goes on to highlight key moments. Sometimes, this often pedantic detail could have been reserved for the copious synopsis in the appendices.

The people who will possibly buy this book will already be fans and thus familiar with the episodes. They will not be especially pleased to see great chunks of scripts reused and this space could have been devoted to perhaps further production details. The famous scriptwriters who created the programme, Galton and Simpson, give a good account of this period and also furnish the book with a solid framing structure. Their comments are inserted into the text in a progressive manner. This lends depth to Ross's comments and often serves to deepen and enrich the accompanying text. Over 288 pages later you will encounter all you're likely to want to know about the series. Although Ross details both the BBC and public reaction to the series, he never really penetrates the key question of why was the programme so popular? After all, why should the lives of two rag and bone men become such a legend in such a short period?

It isn't just a simple case of well written comedy, but a complex web of situations that contributed to success. These range from the particular actors (rather than comedians) chosen to the fortunately memorable theme by Ron Grainer. The main answer though, probably lies in that the series wasn't much to do with totting (rag and bone slang for their trade), but with human dependency. Both characters, father and son - regard themselves as the moral superior of the other and also think that they can't do without the other. In fact, both are interlinked to such a degree that their relationship has become a somewhat farcical 'marriage'. In a certain sense, the repressed life they lead keeps them out of touch with the changing world of the 60s. The son sees this more keenly than his 'snake in the



grass' father and wants to escape. The father wants to see time stand still. In that lies the essence and conflict of every episode. The detailed information supplied by Galton and Simpson for the book, in the form of an interview, enlarges on this premise and explores how they developed each character and how they plotted the development of both.

To the casual viewer, there may not be much difference between a 1962 edition of Steptoe and a 1972 edition, but in reality Galton and Simpson changed the characterisation towards greater realism in speech if not in actions. One thing which proved a continuing problem was the ageing of the actors, which caused particular problems in the later years when Harry H. Corbett was no longer a mid-30's idealist. Something which is also very welcome are the inclusion of details and discussions on the often forgotten cinema films ('Steptoe and Son' 1972 and 'Steptoe and Son Ride Again' 1973), the commercial records ('a Golden Guinea Product'!) and BBC radio shows (transcriptions of all but the most visual television shows). There is also mention of the rather shorter lived stage show, which had dates both in Australia and the U.K.

In addition to even all this detail, there is a spare chapter devoted to the recovery of the missing editions of the show. Missing Editions you ask? Well, in keeping with the theme running through this Bulletin, even a famous series such as Steptoe didn't survive purges. Like most of the output at that time, the majority of the episodes were transferred to film and kept for later repeats. However this wasn't the case with the early 70s colour editions which were never copied to film and literally vanished (in fact 13 of the 15 episodes made in 1970 were erased – the two survivors kept as an example representation of the colour series). The source of today's complete surviving recordings (from this missing period) was in an unlikely place, namely Ray Galton who had bought the expensive Sony CV-2000 reel to reel video recorder to keep copies for personal use. Why did they bother doing this? The rather sorry answer is that the BBC at that time wouldn't supply Galton and Simpson with recordings for their own private use. So, stuck with a low-band format with only half field recording, with much team effort including a great deal of BFI technical engineering, all the missing 1970 editions were copied to a stable format. One of these was a 1965 edition called 'My Old Man's A Tory' which was originally never repeated (and thus never copied to film). The 1965 edition was thought to have dated quickly and therefore never re-shown. This particular edition is in the worst condition of all, being a camera copy direct from a 405 line monitor.

To this day, there has been no effort to try to tease an electronic conversion from the ancient videotape (though this is possible in theory, if not in practice). So, there they all are. Some dog eared and tatty, just like the props used in the Television show. Tapes which could have ended up as junk preserved 14 priceless editions. One does wonder what happened to the original copies sent to the Commonwealth – is there an answer? Certainly by 1978 the standard BBC repeat package only consisted of the colour editions which have survived to this day. Perhaps somewhere in Australia or New Zealand, pristine 16mm film prints exist in brute comparison to those slightly wobbly, fuzzy CV-2000 transfers? One thing is for certain, you shouldn't be fooled by the condition of the 60's editions as shown on BBC-2 or those available on video. Apparently, the BBC has a set of negatives for all of these b/w editions. We may have to blame internal cost cutting for the ratty viewing prints or BBC enterprises prints which are the source for these re-broadcasts. Even the inclusion of 'The Bath', on the second 'Best of Steptoe & Son' DVD begs the question – what are the BBC doing? Did the staff involved in the re-broadcasts know about the existence of pristine film 16mm Telerecording negatives?

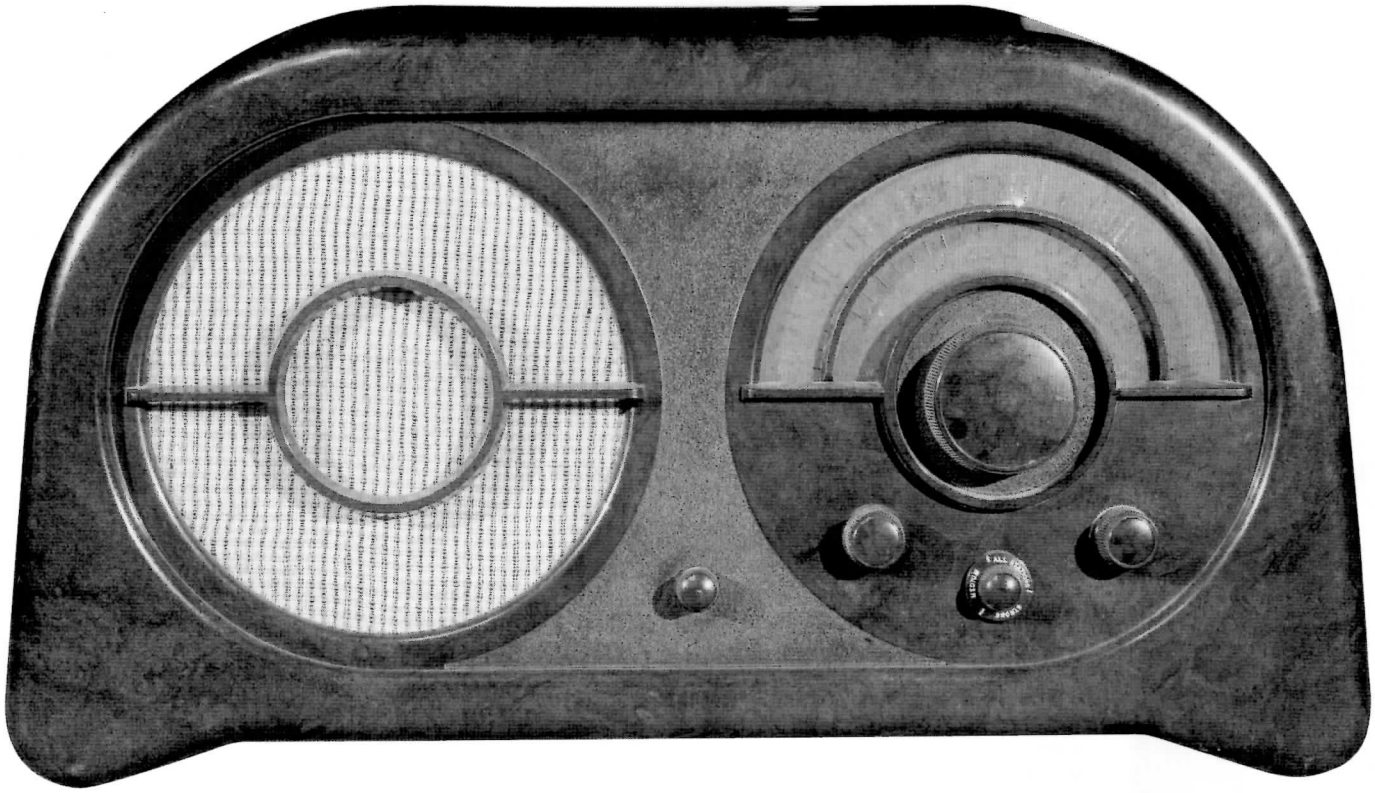
The situation is similar to that of another famous show – namely "Dad's Army". Despite much ballyhoo in the early 90's, the release of the first series (1968) on VHS was a rather disappointing affair, the reason being the fluffy, ill-defined film recordings on show (most of the episodes were recorded from 625 line b/w on VT or 35mm film). Only just a few years later the more recent late 90's repeat run showed that better material had been available all along. Yet, the version the public got by paying (in the form of 2 VHS tapes) was inferior to the picture quality of the recent repeats! In theory, it should be the other way round! Thankfully the BBC does deserve credit for the recent splendid DVD releases of both 'Steptoe' and 'Dad's Army' which are noticeably superior to the television showings. In fact, it wouldn't be an exaggeration to say that the first Steptoe disk contains images so clear as to almost look three dimensional. Although the question of whether you want a more realistic looking Wilfrid Brambell is perhaps best left unanswered. In truth, that extra portion of picture and sound definition creates the impression of seeing these comedies for the first time and these come up as fresh as new paint. Of all the missing comedy programmes, perhaps Steptoe deserves better than the ropey surviving copies of the first five series.

continued on page 39

The Ekco AC86 or 'Dougal' by Gerald Wells

This set got the nickname of the Dougal because the shape puts you in mind of Dougal the dog on the children's programme 'The Magic Roundabout'.

It is a very handsome set and came in brown or black and chrome Bakelite. It sold for 13 guineas in 1936. Working on the principle that if it would work well in Southend it would work anywhere, it would blot out hair dryers, razors, trams, trolley buses etc. At that time the fluorescent light, dimmer switch and thyristors hadn't been invented.



The Trader sheet, circuit No 656 covers it very well with a very good description of the circuit. However it doesn't help the 'little old man' next door that tries to fix it; after all, he should be able to because he is an expert, he built a Scott Taggart ST300 in 1933.

The circuit is a bit unusual, although at first sight it looks conventional. The valve line up is quite standard for that period i.e FC4, AC/VP1, 2D4A, 354V, AC/PEN and a IW3 rectifier. All seems normal until you see that the cathode of the mixer is 60 volts up in the air and the cathodes of the next 2 valves are up in the air as well but are controlled by a variable resistance on the front of the set. The control knob is marked e.g no stations, some stations and all stations. This control is used to wrinkle out unwanted stations and noises.

When this set is working properly it gives the impression that it is a short wave set. You wouldn't believe there were so many stations still broadcasting on A.M. They usually work well for years but when they go wrong they can give you a lot of worry. Quite often the set will work a bit but not well. You would be able to get three or four local stations after a fashion but a bit distorted.

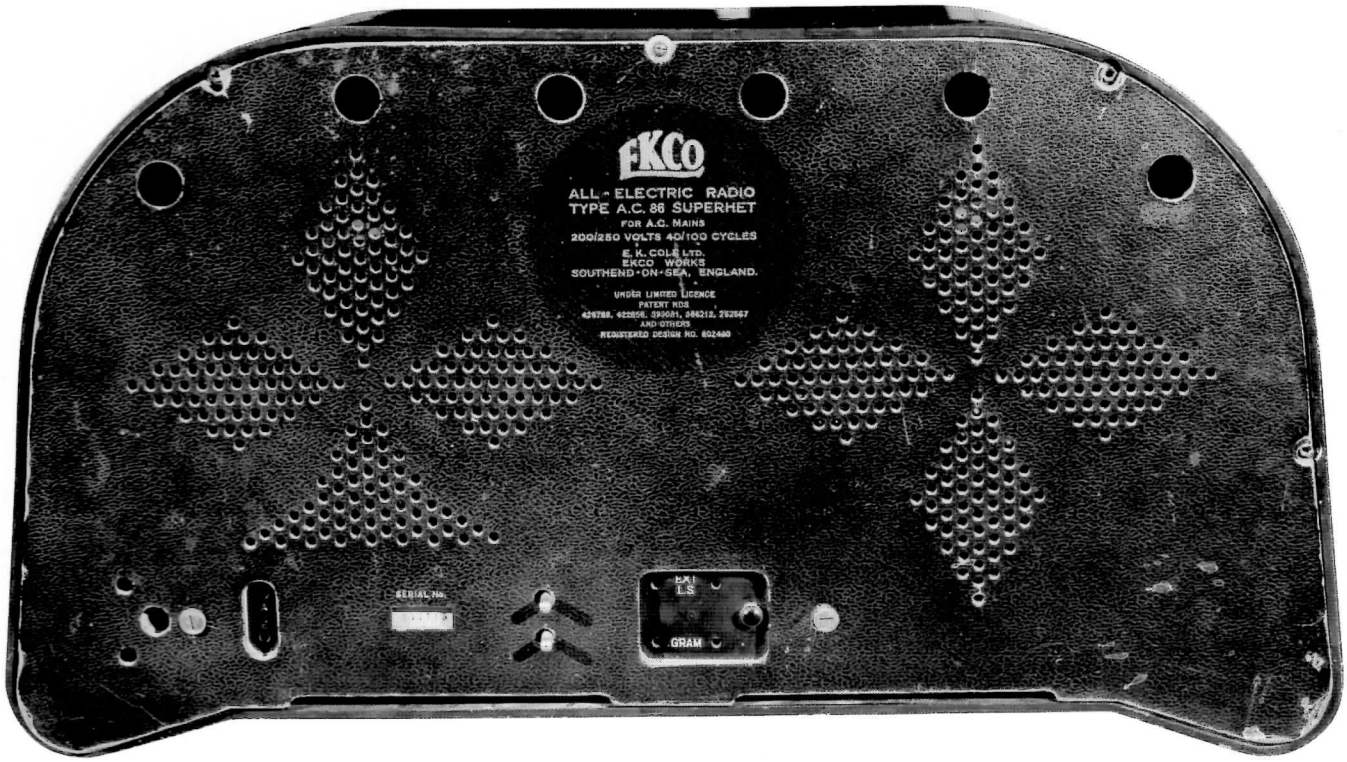
The first thing the average engineer will do is to change all the valves. This makes no difference at all. He then changes every condenser in the set. Now the set is completely dead, not even a hum because he has changed all the electrolytics as well. This requires some explanation, if you examine the circuit you will see that the FC4 has in its bias network R2 and C3, a 6K resistor and a 10µF condenser. The 6K resistor goes open circuit and has been so for some time, the set keeps running because of the excessive leakage of the 10µF condenser.

A quick and easy check is to put one finger on the top of the IF transformer and the next finger on the gold screening of the FC4. If you only get a slight shock then the 6K resistor is OK but if you suddenly jump up and down and run round in circles then the 6K resistor is open circuit. If however the results are still poor then the chances are that the secondary of the first IF transformer has gone open circuit or some previous 'little old man' has tightened all the nuts on top of the transformers with his 6BA box spanner. It is not the end of the world if the IF transformer has gone open circuit because anyone with an AVO wave winder machine can put you on a new winding of 900 turns in fifteen minutes.

If the set now gets plenty of stations but sounds as if it has been strained through an old sock then you should make sure that the AC/PEN hadn't been replaced by an AC2/PEN. It is a good idea to check the condition of R18. It is the bias resistor for the AC/PEN.

Have you noticed how many empty cabinets there have been around lately? Many nice sets get separated from their cases. Somebody will take the

When this set is working properly it gives the impression that it is a short wave set. You wouldn't believe there were so many stations still broadcasting on A.M.



Two AC86 cabinets, quite empty, turned up in one week. One from Brighton and one from Essex. Both clients wanted me to put them back to the original specifications.

set out of its case to see if they can fix it, find that they can't and haven't got enough discipline to put it back in the case, or they snuff it and it gets turfed out with all the other rubbish that the old fellow collected over the years. The widow then goes off and gets her blue rinse and joins a bingo club.

Two AC86 cabinets, quite empty, turned up in one week. One from Brighton and one from Essex. Both clients wanted me to put them back to the original specifications. The first thing I had to do was to dismantle the Dougal that I had on display. I took it apart as much as was necessary. The first job was to get a couple of dials made up. The only way I could think of was to do a photocopy of the original and have it laminated. This I did and it looked very good.

I had enough Ekco knobs for two sets because I had made too many for the round Ekco's. All I had to do was to cast up copies of the big tuning knob and the 'All Station' knob for the front. The chassis was really quite simple to do because all I had to do was replicate my own one.

The mains transformer is quite easy to copy, as any 4 volt transformer of the same size will do. A shroud can be made out of 22-grade sheet steel and shaped up in a small vice. The voltage tag strip is quite a standard part and can be found in most junk boxes.

Finding the right sort of tuning gang was not so easy as it meant going through two cubic metres of gangs in order to find two that were three gang with one shaped section for the oscillator. Making the coils wasn't too difficult. They are wound on 5/8 inch dowel with 900 turns on each winding.

I had to dismantle the oscillator coil on my own set and count the turns. The band pass coil I couldn't take apart as Ekco had sealed it in a box with the wave-change switch so I had to look up the notes for the AD65's that I had made a few years previously. The DC resistances seemed to be the same, anyway they worked very well.

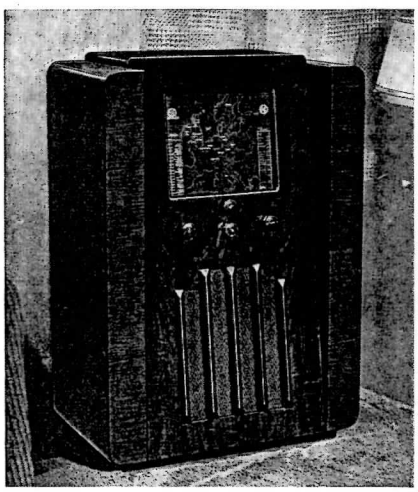
The wave-change switch was a bit of a problem. In the end I managed to make two switches by taking 6 old ones apart; in the end they not only looked right but also worked well.

The two loud speakers were also a bit of a problem, I found three dud ones of the right type, took them apart and managed to make two good ones. I still feel that anybody with a home workshop, a good vice and a few simple metal-working tools can copy most chassis. I wouldn't recommend a Philips monoknob though!

Pye quality radio sets of the late 1930's

By Andrew Denton

I was prompted to pen this small article after reading the recently published book. Radio Man, chronicling the life of Mr. C.O. Stanley of Pye Radio. I can thoroughly recommend this book as superb reading and very informative, well worth the outlay especially with the special offer to BVWS members. There is however just one small sentence with which I take issue: that is regarding connoisseurs' thoughts on Pye late 1930's radio sets and their lack of apparent quality. Whilst I think it is fair to say that Pye produced quite a few budget sets to obtain their market share for bulk cheaper sets, the M.P. to name just one, Pye also produced quite a few decent quality radios with novel features during the later part of the 1930's. I shall give just a brief description of some of these sets which I consider worthy of note.



SUPERHET CONSOLE MODEL T12

Here is a set you must handle yourself to know its real performance, to feel the fascination of its wonderful new ★ map-dial, to see each station appear as you tune it in. When you buy a Pye set of this type, you have got beyond the stage where higher prices buy greater range or greater volume. You are buying the most modern and de luxe type of radio entertainment up-to-date methods can devise. You can handle it yourself at your Pye Service Agent's showrooms any time.

★ *"Travelight tuning" is the very latest de luxe radio feature. As you tune in to each station, a spot of LIGHT appears on the illuminated map in the CORRECT GEOGRAPHICAL position for that STATION.*

5-valve (including rectifier) A.C. mains superhet console for use with external aerial. Q.A.V.C. Special illuminated travelight tuning dial. Additional visual tuning indicator. Pre-set sensitivity control. Variable interference filter. 9" mains energised non-focussing moving coil speaker. Triode output valve giving 2.5 watts undistorted. Provision for gramophone pick up and external loudspeaker. Dimensions of exquisite walnut console cabinet 32" high; 22" wide; 13" deep. Mains consumption 60 watts. Mains voltages A.C. 100-250 volts, 25-100 cycles. (3 models).

PRICE **21 GNS.** CASH

MODEL Q.AC 5. Six-valve (including rectifier) superhet for A.C. mains. 100–250 volts, 25–100 cycles. Consumption 95 watts. Five wavebands: 6.5–10 (including television sound), 11–28.6, 24–66.7, 200–565, 880–2,000 metres. Quiet delayed A.V.C. Planetary coil units. Flywheel tuning. Four-position selectivity and tone control. Output 7 watts. Dimensions: 21" high, 16½" wide, 10½" deep.

PRICE 18 Gns. H.P. terms: £1/2/11 down and 12 monthly payments of £1/12/9.

A new luxury five-valve superhet with automatic press-button tuning on six (interchangeable) pre-set stations in addition to manual tuning. Three wavebands. Inclined tuning dial. Organ stop balance control. Bass boost on volume control. Gramophone and extension speaker sockets. For A.C. mains operation. Cabinet: 19½ in. high × 17½ in. wide × 11½ in. deep.

Model 806 **16½ Guineas**

Console T12 Jan 1936
A standard superhet with some features such as sensitivity control with Q A V C to pre-set the level of background noise between stations during tuning. Lamp type tuning indicator varying in intensity, being dimmest when the station is tuned in. Special transformer coupling between the AF and output stage to give sharp tone filtering, the set has a Triode type output valve. The chassis looks well made, however the most unusual feature of this radio is the Travelight tuning scale which takes the form of a map. When tuning, a spot of light indicates the correct geographical location of the transmitting station. Very few U.K. manufacturers employed this system. It was however used on some continental radio sets such as the Ingelen Geographic which is highly sought after. This feature I feel sets the T12 radio apart from most of its contemporaries and therefore worthy of collecting.

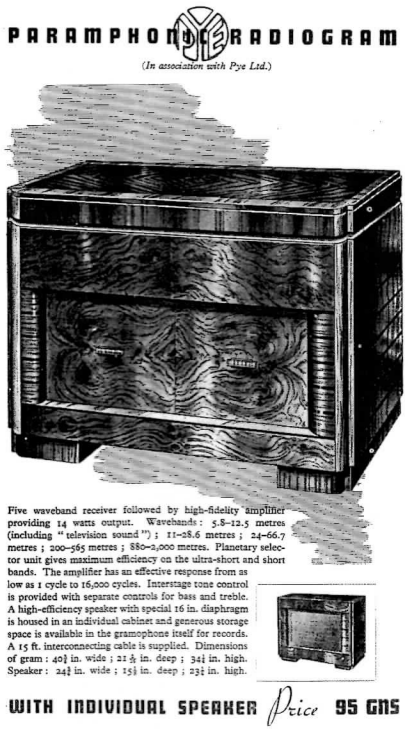
Table set QAC.5 Jan 1937
This set has a generic style of cabinet typical of its period. It is however a 5 waveband set using 6 valves giving a 7 watt output and utilising the Pye Planetary coil unit system designed to minimise RF wiring.

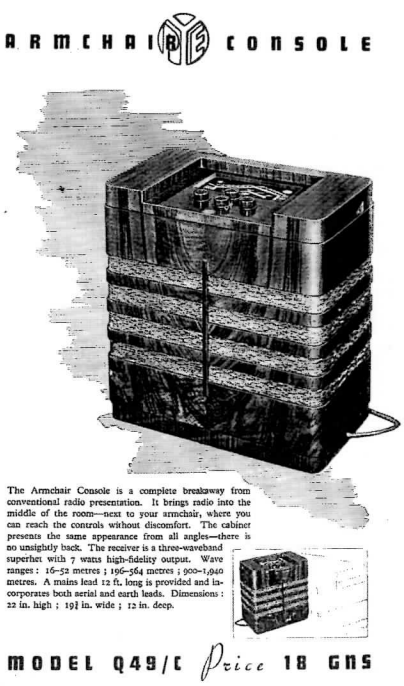
Table set 806 June 1938
A pre-set push button set. This type of set is not a favourite with collectors. However, it has a stylish cabinet and some features not normally associated with this class of radio. A normal or dipole aerial input which can be screened for approximately 30 feet without any material signal loss to allow the aerial flat top to be installed away from interference. Variable selectivity, negative feedback, contrast expansion 6 watt pentode output stage, large elliptical loudspeaker, 2 speed manual tuning, push button tone control and cathode ray tuning indicator makes this set stand very favourably alongside its contemporaries.

Console Q49C August 1937
Not much information on this. It has a standard superhet circuit with a 7 watt output stage and an unusual cabinet which was designed for armchair use. The cabinet looks similar from both the front and the back which I think is unique.

Console Q43 August 1937
A set of worthy of inclusion in any late 30's collection. 12 valves, 5 wavebands, RF stage, automatic tuning correction [AFC] utilising 2 valves, Pye Planetary coil units, variable selectivity, contrast expansion, push-pull output, audio stage up to 12,000 cycles, negative feedback, separate AF amplifier chassis, large loudspeaker. Very impressive for Pye in 1937

Radiogramophone Model 95 March 1938
Known as the Paramphonic, this gram has all the usual features such as 5 bands, variable



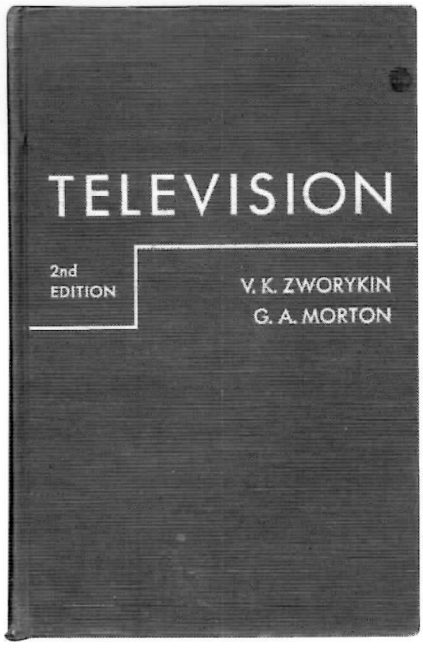


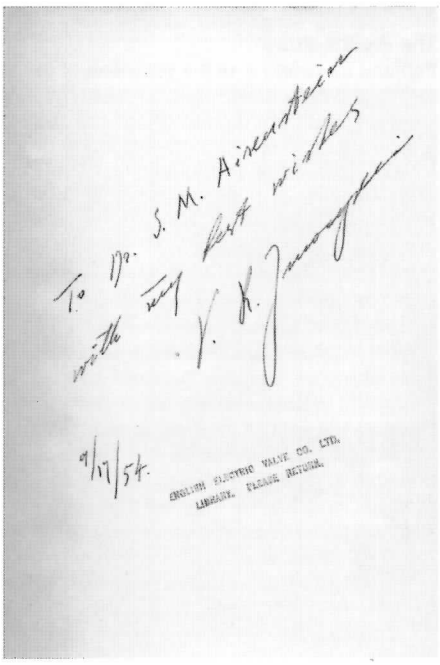
selectivity, flywheel tuning, separate bass and treble controls, RF amplifier, push-pull output utilising Mullard D024 triodes to produce 14 watts, negative feedback, cathode ray indicator, separate amplifier chassis and unusually a separate loudspeaker enclosure for the 16 inch energised speaker.

During the late 1930's Pye also produced some accessories not seen from other manufacturers such as armchair headphone control, remote control (on the Stentorian system) and a large extension speaker unlike any other for domestic use. Being biased to the late 30's I think the above sets are worthy of collecting. My hope is that while Pye might not be known as top drawer during this period it will be recognised as producing at least a few worthy sets, which should be taken into consideration when evaluating Pye during the late thirties. It is my feeling that most collectors are unaware of these sets as they hardly ever show up at swap meets and info on them is not easy to locate. In my opinion the Q 43 console is the high point during this period.

Dicky Howett reports on a 'find'.

A friend just happened to mention that he had a 1954 copy of 'Television' by V.K.Zworykin and G.A.Morton. Nothing particularly unusual there. But this was not any old copy of 'Television'. Indeed it was nothing less than a signed copy by Mr Vladimir Iconoscope himself. Rare enough. Even more so when the dedication in the book (see picture) is to Dr S.M. Aisenstein, the then director of the English Electric Valve Company. So there we have it. A bit of history. The book itself used to be in the EEV library, but was 'cleared out' many years ago and given to my friend. Fortunately, he had preserved the book and now, to his credit, has donated it into the archives of the National Museum Of Photography Film & Television. They were grateful. They didn't even have a copy of this book, let alone a signed one!



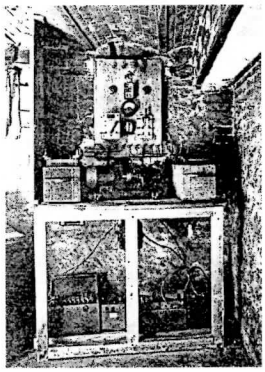


Radio Normandy - the station that shook the BBC

by Eric Westman (with grateful acknowledgements to Monsieur J. P Durand-Chédru of Fécamp)

Its name appears only on the dials of radios built in the 1930s and its transmissions to Britain lasted barely ten years, yet Radio Normandy changed the whole tenor of broadcasting in this country - to the fury of the BBC's dictator Sir John Reith.

Radio Normandy owed its success to two remarkable men: the visionary Frenchman, Fernand Le Grand, who founded the station in the 1920s, and the eccentric Englishman, Leonard Plugge, who adapted it into a thriving commercial alternative to the BBC in the 1930s.



Far left: Monsieur Fernand Le Grand, the founder of Radio-Normandie.

Left: The chateau of Fernand Le Grand, the original home of Radio-Fécamp, 1926.

Above: The power source for station EF81C in a cellar directly under the transmitter in Fernand's salon.

The French Story

Fernand Le Grand was the grandson of the founder of the Benedictine liqueur distillery at Fécamp, a seaside town in Normandy opposite the south coast of England. Before the First World War (1914-1918), while studying Law at the Catholic Faculty in Paris, he often 'bunked off' to the laboratory on the next storey of Professor Edouard Branly, whom the French regard as the 'Father of Wireless' for having invented the iron-filings coherer in the nineteenth century. This device enabled wireless telegraph signals to be detected, and Marconi later modified it for his own original receivers. The Professor befriended the young man, who soon became "hooked" on wireless but had reluctantly to postpone any active participation in the new science until he had completed his Law studies.

It was not until he was 29 years old that Fernand was able to devote himself to his true vocation, wireless. He gathered together a group of would-be wireless enthusiasts, and on the evening of December 23rd 1923 assembled them at the home of a prominent local tradesman. There they were excited by the novelty of hearing the programme from Radio Paris playing at good volume from a horn loudspeaker, a thrill even eclipsed when the famous announcer suddenly declared: "At this moment, in Fécamp, at the home of one of the town's best grocers, the Radio-Club of Fécamp is being formed." Fernand had persuaded the most powerful station in France to help at the birth of his venture.

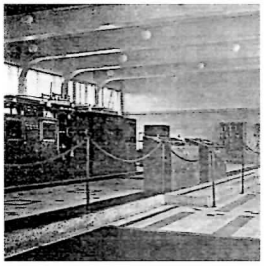
But despite its auspicious beginning, the Club gained only two members during its first year of existence. Fernand put the lack of interest down to the bother of travelling across town to the weekly meetings in the rue Georges Cuvier, particularly in bad weather. To whip up enthusiasm, he gave each member a good quality wireless receiver. But this made matters worse, for the slothful members now rarely turned up at all, preferring to stay comfortably at home listening to their free radios.

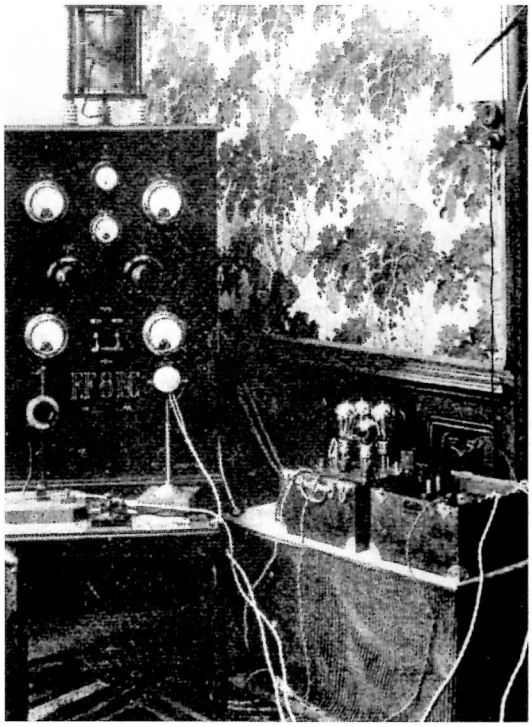
Since the members would not come to the Club, he decided to take the Club to them - by transmitting. In 1925 he built and installed in his salon a small wireless telephony transmitter with power fed from a cellar below and with an aerial stretched above his roof. He was granted permission to broadcast matters of a technical nature over its range of three kilometres, and the station was allotted the callsign EF81C. Such was

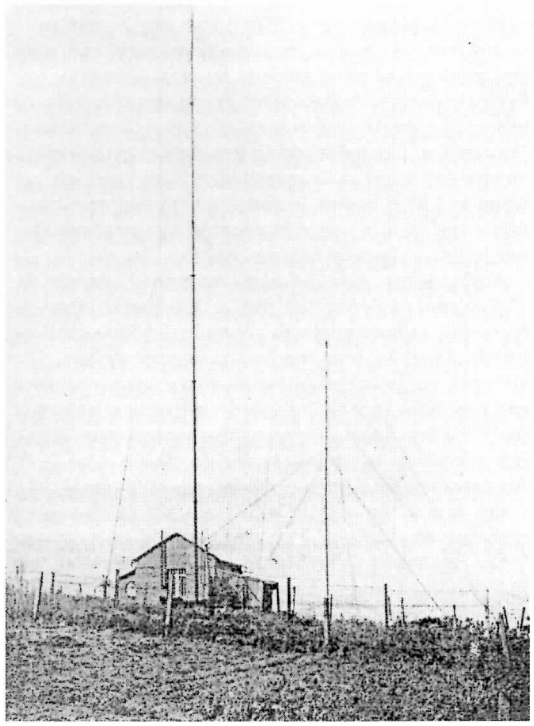
the humble beginning of what was to become the renowned Radio Normandie.

At first the station operated irregularly on its allotted wavelength of 200 metres, then Fernand increased its power to 50 watts and began to transmit gramophone records and local news and announcements. As the number of listeners grew, he took to announcing his station as 'Radio Fécamp' and broadcasting the sound of the distillery's hooter as an identification signal. Noticing the station's growing audience, local businessmen signed contracts with him to advertise their goods, which helped cover his expenses; he had put a lot of his own money into the Club. This success stimulated him into installing a new transmitter in 1928, thereby extending the range to 100 kilometres and covering several major towns. The new transmitter was installed in his glass conservatory, while his salon was transformed into an auditorium. The little station increased in status and received subsidies from the town of Fécamp and from the Chamber of Commerce. In 1929 two aerial masts 50 metres high were erected on a nearby hill dominating the town, and the Radio-Club's former meeting-place in the rue Georges Cuvier converted into a small studio. Between the aerial masts a small building housed the apparatus, now removed from Fernand's salon and cellar. At the same time, the station became officially accredited as one of France's twelve private stations; and in acknowledgement of the district in which its transmissions were so widely received, Fernand honoured it with a new name: Radio-Normandie.

The station was now so busy that Fernand took on a teenage shorthand typist, Francine Lemaitre, to take down Press messages telephoned from Paris. Two months later, when Fernand was delayed, she had to take his place at the microphone and so achieved the distinction of becoming the first woman announcer in France and the youngest in Europe. An amateur actor with a warm voice, Roland Violette, was also taken on as an announcer, and together they became Aunt Francine and Uncle Roland to the radio's Children's Club, which eventually had 30,000 juvenile members







Above: The transmitter and the control console of the first Radio Normandie at Louvetot.

Right: Fernand Le Grand's original transmitter EF81C in the salon of his chateau at Fécamp, 1926.

Far right: The hill-top 50 metre aerial of Radio-Fécamp, 1929.

Below:Radio Fécamp's first two announcers, Francine Lemaitre and Roland Violette. (Aunt Francine and Uncle Roland).

and at least as many adult ones.

From now on. Radio Normandie was on the ascendant. Although operating only four days each week, the station gradually opened studios in other important towns and fitted a van with equipment to relay outside broadcasts. In 1931 Fernand signed a contract with the Englishman, Leonard Plugge, who rented the transmitter at certain hours to broadcast advertising programmes to England: more of that later.

By 1933 the station's growing importance necessitated the erection of two aerial pylons 100 and 113 metres high, which greatly extended the range and increased the station's audience in Britain. But misfortune struck in 1934, when the new Lucerne Plan of wavelength allocations came into force. Normandie was relegated to the common wavelength - the lowest - of 200 metres and its 25-kilowatt output severely reduced. Fortunately, the station was reprieved when it was permitted to operate on the unused 206-metre wavelength of the Eiffel Tower.

Radio Normandie, by now an important European station, had outgrown its cramped quarters in Fécamp even with the addition of two large studios in the new Maison de la Radio. Also, the powerful signal from its aerial so near the town interfered with the reception of other stations by local listeners. Fernand dealt with the matter in his accustomed visionary manner, and in August 1935 a Government Decree was passed allowing the station to relocate several miles inland to two sites, at Caudebec-en-Caux and at Louvetot. In keeping with the station's name and its location in Normandy, the architecture would be in classical Norman style.

At Caudebec, Fernand acquired a fine Napoleon III chateau set in a spacious park on the bank of the Seine and converted it into prestigious administrative headquarters for both the French and the British services. Its ground floor became a reception centre and bar-restaurant for the many visitors and artistes, while the first floor and part of the second were fitted out as offices, discotheques and studios. Accommodation for the staff occupied the upper floors, and at the bottom of the park stood emergency recording studios.

Six kilometres farther north, on a high plateau at Louvetot, Fernand sited his state-of-the-art transmitting station. The main building, four storeys high and 53 metres long, was built over huge cellars and cisterns. On the ground floor, a modern engine-room and a large workshop for maintaining the plant; on the first floor, the transmitter room, accumulator room, laboratory and emergency studio. Comfortable accommodation for the staff occupied the second floor; and crowning all, a huge loft. An adjoining tower housed the Station Manager's office, while lower down the terrain an electrical power station containing two diesel generators provided power for the transmitter.

Centrally on the site, the antenna, a triangular Blow-Knox pylon system 170 metres high, stood on its point, stayed by three thick cables. Access to the terrain was through an imposing gateway flanked by two buildings also in classical Norman style. A six-kilometre underground cable connected Louvetot to Caudubec.

With these two sites, Femand Le Grand had created an acclaimed model transmitting complex of which the sixteen original members of the Radio-Club of Fécamp could never have dreamed. Large groups of British visitors, brought by the paddle-steamer *Brighton Belle* during the summer of 1935, came to pay honour to their favourite station.

After prolonged testing, the new station came into regular service in December 1938, broadcasting on 274 metres nonstop from 6.30a.m. until 2a.m. the following morning. On the 4th of June 1939 the new Radio Normandie received its official opening; three months later, on 7th September, it closed - the Second World War had begun. The station was taken over as a relay in the national chain, and in June 1940 it was taken over by the occupying Germans.

Above: The administration château in its park at Caudebec, 1935.

Right: Fécamp – the two masts 100 and 113 metres high that replace the original aerial.

When the war ended, Fernand was unable to regain his station. He then considered moving to Jersey and opening a new one, but it was not to be. Fernand Le Grand, the creator of much-loved Radio Normandie, died in 1953.

The English Story

The great impact of the little transmitter among English listeners came as a direct result of the general dissatisfaction in Britain with the programmes provided by the British Broadcasting Corporation, the sole organisation permitted to broadcast entertainment in this country. Ruled dictatorially by its Director General, John Reith, a Scotsman with strict religious views, the BBC transmitted mainly very sober fare, and Sunday in particular was for listeners a day of nonstop gloom. People yearned for brighter programmes, and above all they wanted dance music, but Reith forbade the broadcasting of such music on Sundays.

But one man determined that British listeners should have their dance music, even on Sundays, and he would be the one to supply it, as well as making himself wealthy in the process. This was Captain Leonard Frank Plugge - his military title derived from his service as a Scientific Researcher with the Royal Air Force - a dynamic eccentric and inventor. The first volunteer to drive a London Underground train during the General Strike of 1926, he later became the Conservative Member of Parliament for Chatham with the topical slogan 'Plug in with Plugge.'

Since no competition with the BBC was allowed in Britain, Plugge decided to rent time on a foreign station and broadcast his dance music from there. Accordingly, he set off on a tour of the Continent to compare the strengths of various stations. His large car was equipped with a radio - a rarity at that time - powered by 25 kilogrammes of batteries welded to the car's chassis and operating a loudspeaker hanging from the roof like a lampshade. The vehicle had already caused him trouble in London when he ostentatiously parked it in the West End with the radio playing loudly. So many people crowded round that Plugge was arrested, taken to court, and fined for causing an obstruction.

It is recounted that Plugge was driving along the coast of Normandy around 1930 and stopped for refreshment at Fécamp, where he was intrigued by a programme of music and chat on the cafe radio. He asked the *patron* what station it was: Radio Fécamp, he was told, and it belonged to Monsieur Le Grand, the manufacturer of Benedictine liqueur, who lived in the nearby big chateau. Plugge called on M. Le Grand and was shown the radio station in the owner's salon. Le

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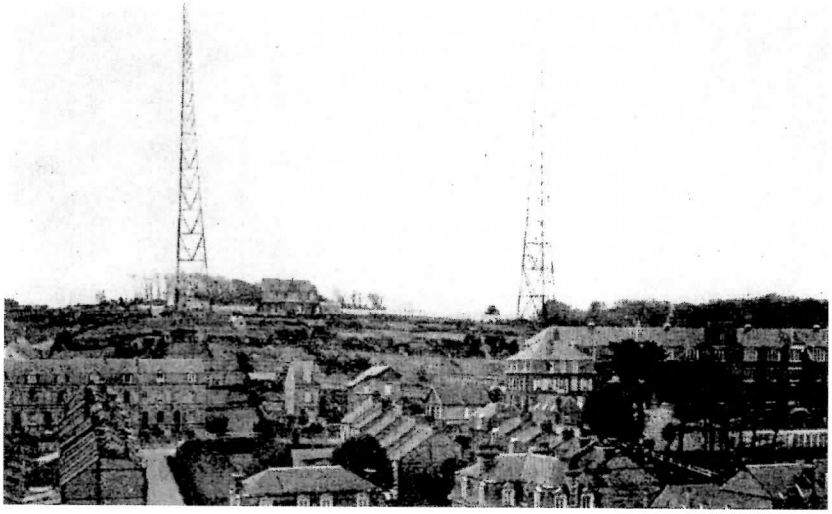

Plugge called on M. Le Grand and was shown the radio station in the owner's salon. Le Grand told Plugge that it was his custom to broadcast continuous music and to intersperse it every half hour with talk. He related how he had one day mentioned on the air the name of a shoemaker in Le Havre and what good shoes he made, and that straight away the shoemaker's trade had increased enormously.

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This anecdote impressed Plugge immensely. It was just what he had in mind: commercial radio. After making arrangements with M. Legrand, he drove into Le Havre to buy a pile of popular records (78 rpm in those days, 25.4 centimetres diameter). On the way he stopped at the National Provincial Bank to draw the necessary money and asked the teller, a young Englishman named William Evelyn Kingwell, if he knew anyone who would go to Fécamp on Sunday evenings and play a few records over the radio. Kingwell, who owned a motorcycle, said he would do it and so became the original disc jockey for Radio Normandy's English Service. He filled this part-time post for several weeks until the first regular presenter, Major Max Staniforth, arrived from England.

Staniforth, unemployed during the Great Depression and desperate for a job, had read Plugge's advertisement in the Daily Telegraph, applied personally, and obtained the post of running Radio Normandie (as it was at first). Plugge told him to take a box of records to Fécamp and announce each one over the microphone before playing it. In particular, at the start of every session he was to say: 'This is IBC starting its transmission for England.' IBC (International Broadcasting Company) was the name of the company Plugge had formed to operate the service. To bring the station to the notice of the British public, Plugge tried to advertise it in newspapers, but not wanting competition in this lucrative advertising field they refused his announcements. One, the Sunday Referee sporting newspaper, did briefly carry his advertisements in October 1931, but threats of punitive measures by the Newspaper Proprietors Association forced them to be stopped. But word had got around and Radio Normandy soon amassed a sizeable audience on 246 metres medium wave, especially on Sundays when the BBC opposition was negligible.

Having proved that the station could be heard in England and that he had an audience - sometimes greater than the BBC's - Plugge's next move was to find out if he could sell listeners anything 'over the air.' As an experiment, he and his co-director George Shanks made some face cream from a simple formula they had read in a household encyclopedia. In the kitchen of Shanks's mother, they mixed the ingredients in a saucepan and poured them into little black pots bearing the label 'Renus Skin Food.' These were sent to Max Staniforth with orders to advertise them over Radio Normandy. Staniforth produced an excellent sales pitch and promised all listeners who sent two shillings and three pence (about 11p in modern money) in stamps or by cheque to an imposing sounding address in London, that they would receive 'a delightful jar of Renus Skin Food.' So much money poured in that Plugge and his partner had to employ an industrial chemist to produce enough face cream to satisfy the demand. Plugge now knew with certainty that he could sell through this radio station.

To popularize the station and increase his audience, Plugge started a club - motto 'Better and Brighter Radio' - for keen listeners to Radio Normandy. On 12 June 1932 the Sunday Referee newspaper announced that 50,000 applications for membership had been received since the club's formation a week previously. The next night the station began regular midnight broadcasts of dance music until 3 a.m and by April 1933 Radio Normandy was broadcasting English programmes twelve hours on Sundays and six and a half hours on weekdays and Plugge began publishing a weekly IBC Programme Sheet. The popular Radio Pictorial magazine carried the station's schedule from 31 August 1934, for the station was by then a major attraction to British listeners.

Plugge's success with Radio Normandy infuriated the BBC's Director General who did not think radio should be used commercially any more than it should broadcast dance music on Sundays. Reith regarded himself as the arbiter of what the British public should be permitted to listen to on their radios, but as no law was being broken there was nothing he could legally do about it, even though it was suggested that he should jam Radio Normandy. In the end, he too was forced to broadcast light dance music on Sundays and to generally brighten the tone of the solemn Sabbath programmes. To add to Reith's fury, Plugge cheekily sited the headquarters of his International Broadcasting Company in London's Portland Place, right by the BBC's imposing Broadcasting House. The rival BBC and IBC staffs engaged in slanging matches in local pubs.

As Radio Normandy evolved, it changed its wavelength to 1304 metres long wave to give much better reception to a larger audience. Listeners to Plugge's programmes soon enjoyed music supposedly played by 'IBC orchestras' in 'IBC studios', but in reality neither the orchestras nor the studios existed: they were part of an image created by Plugge to impress his listeners. He equipped a mobile recording van to visit circuses and music halls, and his radio audiences were thrilled when the programme presenter announced: 'We take you now to such-and-such theatre where the show is just beginning'. What they really heard was not a live performance but a recording made some time before. Occasionally, this deception misfired, as when he unwittingly transmitted a 'live' show two weeks after the theatre had burned down!

As time passed and the station continued to thrive, Plugge aspired to broadcast genuine live dance-band music from famous ballrooms as the BBC were now doing, but the Post Office refused to rent him the high-quality telephone lines that he needed. Plugge overcame this setback in his own inimitable manner: he bought some 35-millimetre cinematograph cameras and recorded the bands on the sound tracks. The resulting quality was so amazingly realistic that his announcer easily persuaded the radio audience that they were listening to live broadcasts of the world's finest dance bands. Even the BBC were fooled and could not understand how it was done.

Plugge, aware of Reith's hostility and fearing that a 'dirty tricks department' operated by a hostile BBC, Customs and Post Office triumvirate would waylay his programme recordings, made intricate arrangements to avert any such sabotage. Instead of sending them direct to Fécamp, he included them in despatches to a record shop in Paris, where a clerk in his pay surreptitiously extracted the parcels and took them to

the French station, Poste Parisien, one of a chain in which Plugge now had an interest. The French station took out its own records and put the rest on the train to Fécamp. The programmes always got through.

Radio Normandy's move in 1935 to larger premises at Louvetot, with a 170 metres high pylon antenna fed by a 25-kilowatt transmitter, greatly increased the range and consequently the number of listeners in Britain.

The format eventually adopted by Plugge was to sell air time, usually 15 or 30 minutes, to individual advertisers who supplied their own recorded programme to be broadcast at a stipulated time. Directed at different sections of the British public, these programmes were designed to appeal to prospective purchasers of the advertised products. Thus, the manufacturers of a famous brand of working men's overalls broadcast 15 minutes of stirring march music deemed to suit the taste of manual workers. Palmolive toilet soap presented half an hour of modem music and Yankee-style cross-talk to attract a young audience, and a well-known brand of cigarette papers broadcast sporting news as being appropriate to 'own -rollers.' The programmes were extremely popular and many featured top entertainers of the era.

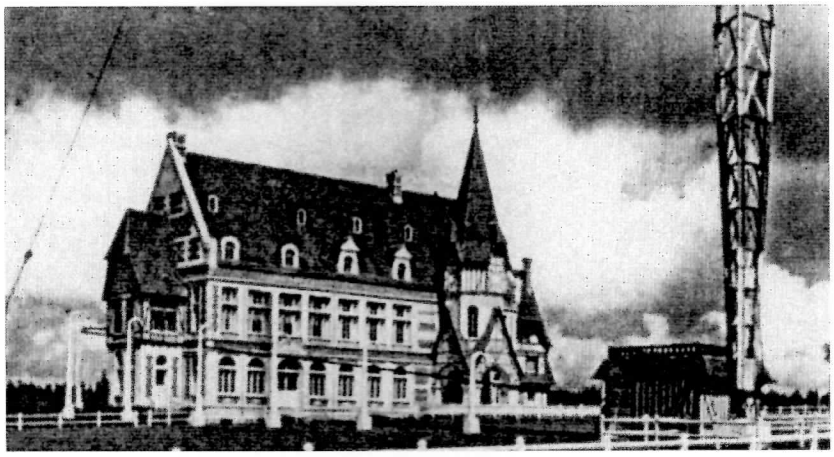
The time of day at which the advertisements went out was also important. On Sunday mornings the makers of a famous gravy powder aired a programme aimed at Mothers preparing the special Sunday dinner, whilst in the afternoon the makers of stomach powders targeted those who had partaken too well of the dinner.

Children were the objective of many programmes such as the Post Toasties Radio Corner featuring the serialised adventures of the twins Teena and Tony, plus the thrilling possibility of winning a half-crown (twelve and a half pence) prize; or Uncle Cough drop telling them exciting stories through the interested generosity of Pineate Honey Syrup Children's Cough Mixture. Cutey Cream Caramels aimed higher and presented The Story of Little Black Sambo, a popular classic.

Homemakers alone in the house all day enjoyed such programmes as Leisure at Eleven, with fluff-brained Mrs Feather, presented by Goblin Vacuum Cleaners during the morning tea break; Cookery Nook (clever play on words) 'a teatime rendezvous with a cookery expert' from MacDougall's self-raising flour; popular cinema organist Harold Ramsey playing by courtesy of Mansion Polish; Your Old Friend Dan (homespun Canadian philosophy and songs) from the rival Johnson's Wax Polish; and the Potted Show with Potted Facts and Puzzles from Senior's Potted Meats. Heart-wrenching daily soap operas wrung tears of sympathy from tender-hearted British housewives.

Health products made up a large number of sponsors: The Record Spinners, popular discs from Bismag Bisurated Magnesia; Thrilling Dramas from Cystex 'guaranteed cure for kidney troubles;' Teaser Time, a quiz set by Genozo Toothpaste; and Radio Normandy Calling, a half-hour show from Maclean's Toothpaste and Stomach Powder. Gypsy Petulengro told fortunes on behalf of Skol Antiseptic, whilst a rival disinfectant presented the Milton Singing Sisters (all unrelated), an imitation of the celebrated Viennese Seven Singing Sisters, one of whom incredibly sang basso profundo!

Keep Fit exercises to piano music, courtesy of Freezone Corn Remover, animated the early morning, and time-signals from Ingersoll Watches punctuated the day. Talent-spotting competitions challenged those who fancied their performing abilities. Stanelli and His Hornchestra (composed entirely of motor horns) entertained on behalf of Symington's Powdered Soup, and Philco presented a Slumber Hour of dance music - as well as the Philco Symphony Orchestra. And at the end of transmission, the haunting Close Down song 'Goodnight, Sweetheart, Goodnight' was crooned romantically by Ted Lewis. Most of the artistes and the styles of programme were peculiar to that era and will be recalled with more than affection by older listeners, as will the single gong stroke that preceded all announcements.



Top: Louvetot – the main entrance, an archway flanked by two classical Norman buildings.

Above: Louvetot – the main building and base of the 170 metres high aerial pylon, 1935.

Having achieved his objective of supplying British listeners with the lighter programmes they craved, and moreover forcing the BBC to do the same, Plugge simultaneously fulfilled his second ambition – to make himself wealthy. His enterprise brought him in £1000 a week (£50,000 a year; over US $200,000 in those days) considered big money and he spent freely. His family lived in a house in London's fashionable Hyde Park tended by 15 servants including gardeners and chauffeurs, and he owned a private 50-seat cinema with professional projecting staff and a bar, as well as a yacht he kept at Cannes.

A social climber keen to cultivate the acquaintance of important people, Plugge threw lavish parties whose guests included foreign kings and queens. He ignored lesser people, and although the French government had awarded him an honour, he always considered he merited a higher title than that of *Chevalier* and should have been upgraded to *Commandeur.* Like Reith, he envisaged himself as eventually running this country and not merely a chain of radio stations, but he never came as close to attaining this goal as Reith did.

Radio Normandy's existence as a private station came to an end at the start of World War II, when it was taken over by the State. Its very last broadcast, ending at 1a.m. on Thursday 7th September 1939, was 30 minutes of English dance music in one of Plugge's programmes. Radio Normandy had had a most eventful life, and its invigorating effect upon the output of the BBC won it the heartfelt thanks of millions of British listeners. Many well-known radio and television personalities had begun their careers

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at Radio Normandy.

During the 1930s the British government had sided with Reith in trying to have broadcasts in English from foreign stations suppressed. They persuaded the International Union to agree that no nation should, as a general practice, broadcast in languages other than its own. Yet the BBC was among the first to break this rule with its propaganda broadcasts made after the Munich Conference. And from 1937 onwards a government-supported political organisation, the Joint Broadcasting Committee, hired time on Radio Normandy and other British-owned commercial broadcasting stations to transmit propaganda programmes, in German, to Germany. Plugge cooperated in this, and his multilingual engineer/disc jockey during 1938 and 1939 was attached to War Office Intelligence. Owing to the international agreement, such broadcasting had to be done circumspectly.

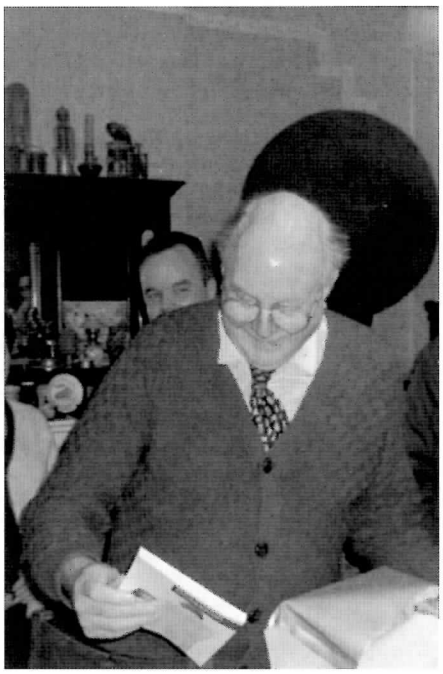
In 1945, with the war in Europe ended, Plugge lost his seat as a Member of Parliament during the General Election. He was not able to resurrect his association with Radio Normandy or any of the other stations in the chain he had created, and gradually faded from public view. The only prewar commercial station that recommenced transmissions to Britain was Normandy's great rival, Radio Luxembourg, which continued for some years.

Plugge died in California in 1980, eccentric to the last; he was 92. Sadly, there is no monument to this remarkable entrepreneur or to his great partner, Radio Normandy, either in England or in France. The cafe in which Plugge conceived his great idea survives, though it now bears a different name, as does the square in which it is situated. But of the station that put the name of the little French town on millions of British radio dials there is no trace; even the building that housed the original transmitter no longer exists.

But in recent times there has been a resurgence of interest in Radio Normandy and its great impact on broadcasting in Europe. A citizen of Fécamp, Jean Lemaitre, has written a booklet "Allo! Allo! Ici Radio Normandie," Plugge has an English biographer, while the BBC itself has broadcast a brief history of its old adversary, with evocative recorded excerpts from the prewar programmes. Yet Radio Normandy does have its memorial - in the countless independent radio stations that today entertain the British public. From the outlawed Radio Caroline to popular Talk Sport, the spirit of Captain Plugge and Femand Le Grand lives on.

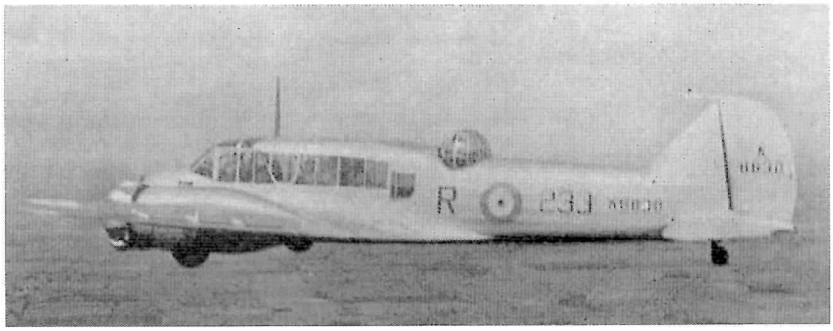
Gerry's autobiography lands at Rosendale Rd

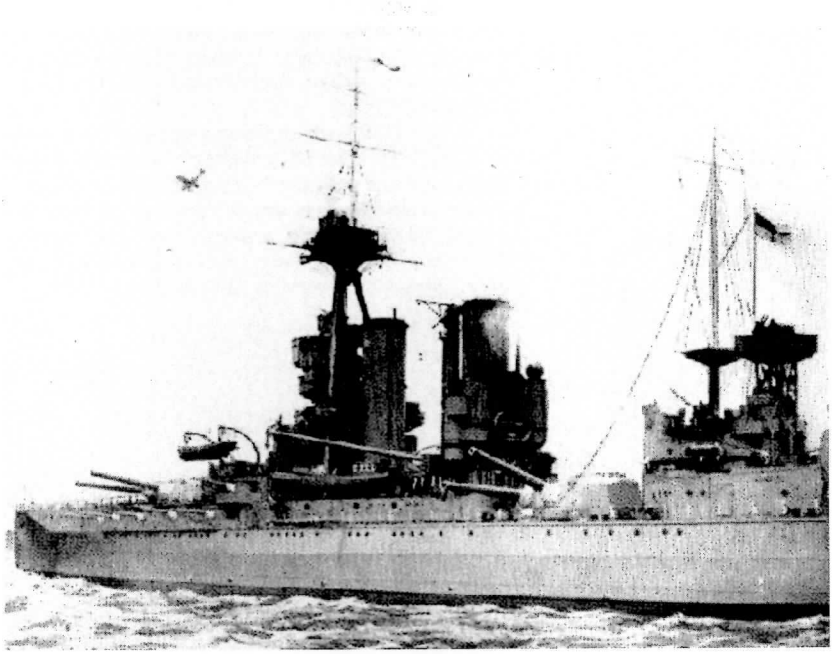
photographs by Jeffrey Borinsky and Carl Glover



British Television Aerial Reconnaissance: Trials and Tribulations. Part 3

By Dr Adrian Hills





An Avro Anson similar to the type used for television reconnaissance trials

HMS Iron Duke

This is the final part of three articles which discuss the first 20 years of Britain television aerial reconnaissance. This information is based on the research undertaken by Adrian Hills at the University of Strathclyde for his PhD thesis entitled *An Early History of British Military Television with special reference to John Logie Baird.*

By 1939 Marconi-EMI (M-EMI) television equipment had already been tested in a British aircraft as well as a French aircraft. Baird Television Ltd (BTL) equipment was also in the process of being tested in a French aircraft. The results of the 'foreign funded' trials were now available for further British investigations.

British military trials, under contract D.T.D./787/R, were designed to provide information for the Air Ministry, Navy and War Office. For the trials an Avro Anson aircraft, serial N. 4872, was fitted with Marconi-EMI television equipment. A second aircraft was destined to be fitted with M-EMI equipment but in the event was not used. Receivers were to be fitted in the famous battleship HMS Iron Duke for the Navy, whilst another receiver would be placed in a Crossley trailer and used by the Air Ministry and Army alternately. 22 Group, the Army co-operation organisation, were to take charge of the interests of the War Office.

By May of 1939 all equipment was properly installed and ready for testing. James Hall was the Anson pilot whilst Mr J.P.W. Houchin of M-EMI was in charge of the technical side of the trials. In a similar disposition to the BTL fitting of the Marcel Bloch aircraft, Anson N. 4872 was fitted with a camera forward of the cockpit and another in the rear turret. On the 21st and 22nd of June 1939 tests were conducted with HMS Iron Duke in harbour and on the 27th and 28th whilst at sea. The sea trials employed the ship's 16 and 13.5 inch (40 and 34cm) guns for the observation of fall of shot. This use of TV/AC was similar to that proposed by Lt. Col. Lefroy back in 1926 as mentioned in Part 1.

The June 21st flight provided good television pictures and a facsimile system was also tested. In the morning due to low cloud the aircraft had to fly below 1500 feet (450 metres), but this cloud cleared and the afternoon flights were between 3 to 4 000 feet (912 to 1220 metres). From these heights it was possible to obtain transmission ranges up to 50 miles (80 km) for television images and 60 miles (100km) for facsimiles. However, at greater heights of 10 000 feet (3050 metres) it was not possible to identify the ship and shell splashes were confused by dark shadows to the right of white spots on the viewing screen.

The Signal School reported in July 1939 that it was difficult for the receiving observer to recognise the line of fire of the shell as well as the line of sight from the aircraft. The camera operator's difficulty of tracking the target compounded this problem, as well as basic recognition of the target. The definition of the received image was inferior to that which an observer in the aircraft could see with the naked eye. The writer of the report notes *"...there is no call for direct television for reconnaissance, but facsimile might be of value, since the observer can make a plan of what he sees and transmit this to the ship immediately."* [i] The same opinion was also held by Naval staff, and later the Director of Communications of the Royal Aircraft Establishment (RAE) suggested that attention could be directed again towards the system developed by Baird Television Limited, the Intermediate Film technique (IF).

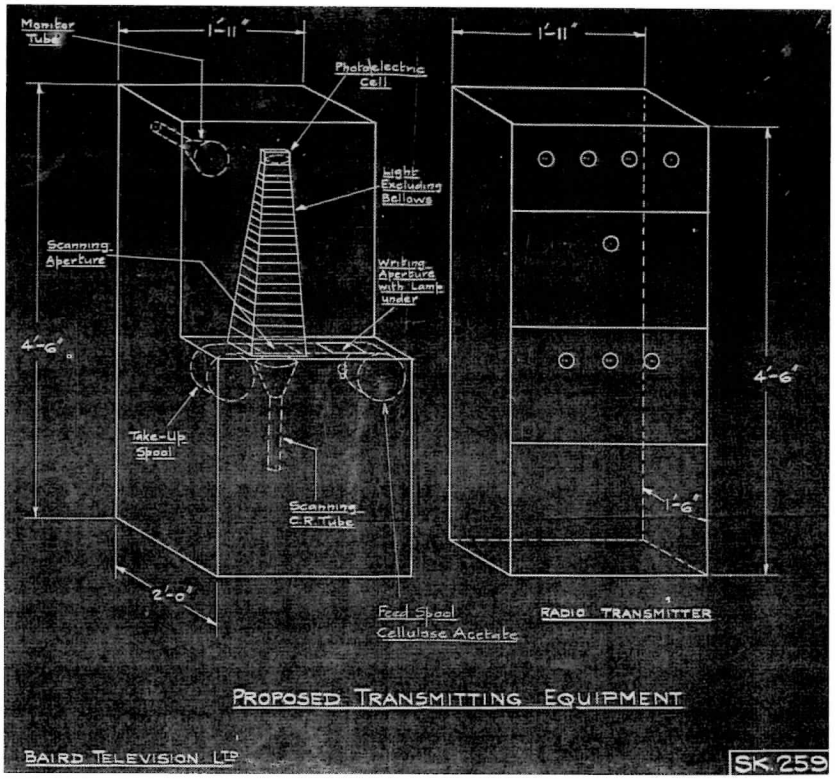
The Intermediate Film technique had been developed at BTL from August 1934 by Gordon J. Craig (now OBE) under the direction of Mr A. C. Banfield, F.R.P.S. The Admiralty became interested in the system in 1937, and so by July 1939 there was a history of technological development as well as Admiralty interest in BTL IF equipment.

Here is a brief precis of military interactions with BTL concerning IF up to 1939.

At the Alexandra Palace television trial the intermediate film system was much maligned and cited by some as one of the reasons BTL was not chosen to broadcast public television in Britain. However, on February the 5th 1937, the day BTL transmissions were finally switched off, representatives from the Admiralty visited Alexandra Palace and requested modification of the BTL IF system for use in signalling. Items specifically discussed were:

1) Simplification of apparatus and improvement of definition by reducing the rate of scanning.
2) Employment of the system for facsimile transmission, i.e. transmitting a diagram drawn by the observer in the aircraft instead of using direct television.[ii]

Eleven days later Mr. N. Hecht of the Air Ministry visited Captain A.G.D. West at BTL and was given a demonstration of an aerial reconnaissance system that used the scanning rate of 5 frames per second.[iii] On the 20th of July 1937 Captain A.G.D. West and A.C.Banfield visited the Signal School to discuss further modification of BTL IF equipment. On March the 17th 1938, the BTL System was considered of such importance that it was placed on the secret list.[iv]



Above: The general arrangement of the BTL apparatus under consideration by the Admiralty in 1938 Source: ADM 1/18581.

Right: A Vickers Wellington Mk 1C aircraft

Lower right: Secret Cypher message. Source PRO AVIA 13/1263

R.A.F. Form 683.

SECRET.

CYPHER MESSAGE.

To— 22 Group for R.A.E.

Date 3rd 12. 40.

Time of Receipt 1450 Despatch 1515

From— M.A.P. (DDCD 2) APX 334 2/12 System Hand.

Serial No. 95

Reference fitting of television sets in Two Wellington aircraft understand one now delivered at Odiham and a second ready for your installation party as soon as convenient.

Confirm arrangements satisfactory & work in hand.

On the 26th May 1938 Admiralty staff visited BTL at the Crystal Palace south tower and were given a demonstration of facsimile equipment. It will be noted from the diagram on the left that equipment had now changed markedly from a basic IF arrangement. This last development from BTL was therefore the system that the Signals School were aware of by 1939.

There then followed further tests of M-EMI TV/AC equipment.

Next it was the turn of the Air Ministry and War Office to evaluate M-EMI equipment. Trials were arranged for the 24th to 28th of July 1939. Unfortunately, the weather hindered these trials and the maximum height of aircraft was restricted to 3 000 feet (915 metres). The dullness of the sky also affected the television image that had correspondingly low contrast. During November 1939 tests were conducted over Larkhill School of Artillery where shell falls were observed. The facsimile system was utilised in these observations and an image of a map was transmitted with the shell falls indicated. Further trials were also conducted over Salisbury Plain,[v] Aldershot[vi] and Mytchett.[vii]

The second series of demonstrations started in January 1940 and then again between April 3rd and 8th. For the purpose of these demonstrations a Crossley trailer was towed to Horse Guards Parade whilst the aircraft was to fly over Heston or Croydon. Due to the possibility of hostile aircraft directly over London it was considered unwise for test aircraft to be in this vicinity. Members of the French Air Mission attended the first April demonstration. The last flight of the Anson with M-EMI equipment is recorded by J.P.W. Houchin and occurred on the 8th April. On the 12th of June the equipment was removed from the aircraft and trailer and the television equipment was placed in the RAE Care and Custody Stores.

The next record of British television reconnaissance equipment offers a fascinating enigma.

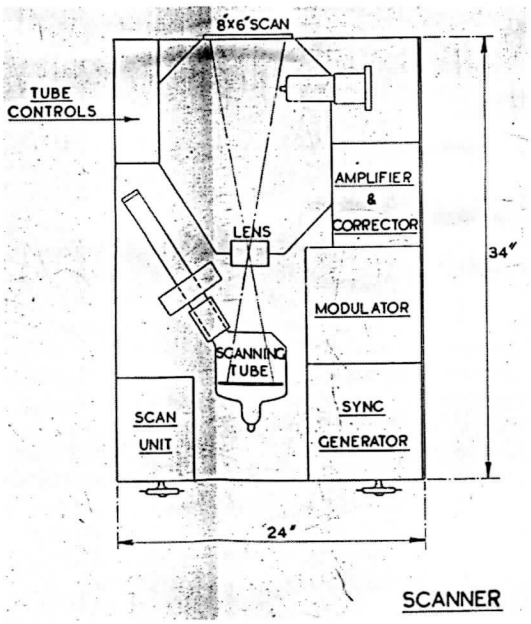
On the 30th of November 1940 W.T.Davies of the Royal Aircraft Establishment referred to *"the Wellington 'Television' job"*. In his memorandum which was directed at Group Captain De Burgh of RAE 10 Department, Davies stated that the Wellington aircraft arrived at the RAE without the standard fitting of guns, oxygen and radio equipment. It was suggested that either a Maintenance Unit or the Operational Unit that was to receive the aircraft could fit this equipment. The aircraft was then delivered to Odiham as shown in the secret cypher message on this page.

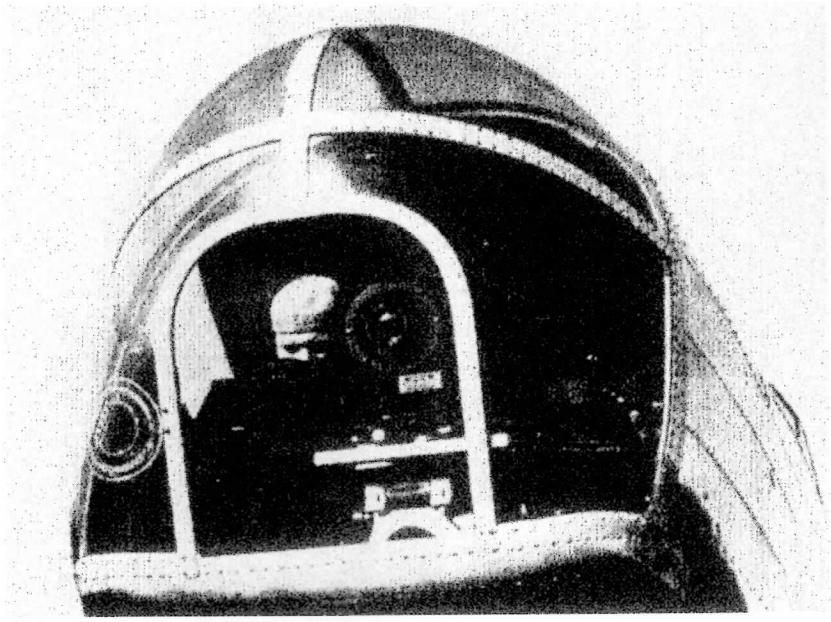
By the 4th of December installation of equipment had been started and Mr Tiltman of the Ministry of Aircraft Production was consulted regarding the fitting of the aforementioned service equipment. There was only enough 'special transmitter and receiver equipment' to fit one aircraft and the question of the fitting of a second Wellington aircraft was left for further consultation.

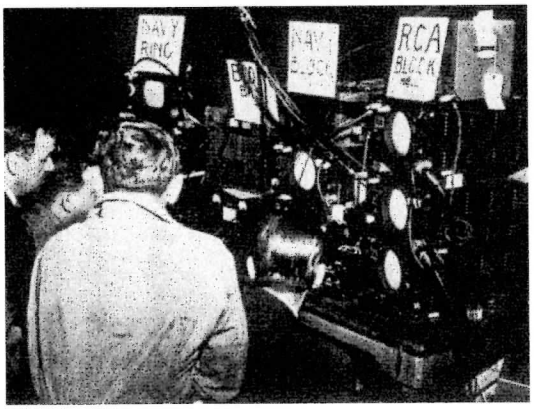
The above is the entirety of information about the fitting of television equipment to a Wellington aircraft found by this author. Much research has been undertaken and any assistance in finding more about this enigma would be greatly appreciated.

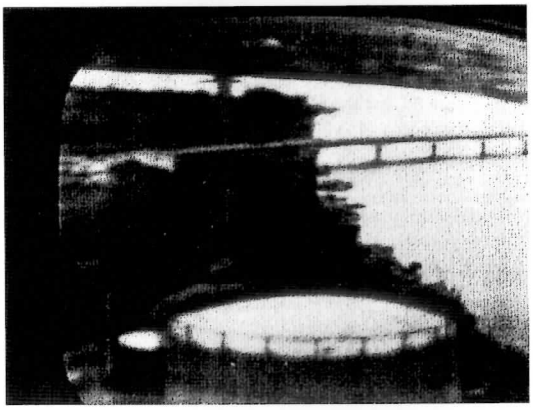
By the summer of 1940 television in aircraft trials *seem* to have been completed using Marconi-EMI equipment. Baird Television Ltd had focussed their attentions on the facsimile method of transmitting intelligence and at least four different systems had been produced. In February 1940 BTL considered a further system and submitted their proposal to the Admiralty. The difference between the two systems illustrates a fundamental change in the proposed uses of the facsimile system.

Since 1938 a fundamental re-arrangement of the apparatus had occurred. The 1938 system scanned a series of images, passing light through the image and on to a receiving photo-electric cell. The 1940 system









Top left: The transmitter section of BTL drawing S.204, February 7 1940. Source: ADM 1/13764.

Above: American aircraft fitted with RCA television equipment Source: RCA

Left: Ground receiving equipment for American aerial reconnaissance tests and (right) a photograph of an image received. Source: RCA

scanned the surface of individual opaque images such as maps and diagrams. The size of the apparatus had been reduced, using improved definition which could resolve an image with 500 words and could then send it at 25 rather than 5 frames per second. However, the author has no evidence of further activity with this system and the British government record no interest in TV/AC until 1943.

In June 1943 J. Stewart, the Head of the Radio Department at RAE provided an assessment of air to ground television systems to date. Stewart was emphatic in his conviction that an Iconoscope (M-EMI) based system was not suitable to record intelligence. As an alternative he suggested the use of the Cinema Television Ltd (formerly BTL) facsimile system which might provide 1000-line definition. These suggestions were not undertaken during the period of war and interest concerning this application of television was again postponed.

Interest was then directed towards American systems.

The American government had investigated and demonstrated television reconnaissance in early 1940. Now, in 1944, American equipment was developed to assist intelligence transmission to ships during the landing phase of amphibious operations as well as spotting for gunfire. A demonstration had been provided but the results were not good due to interference from 'electrical disturbances'. The amphibious carrier borne aircraft flew at a height of 400 ft to optimise the quality of image and could transmit up to a maximum range of 10 miles. The receiver ship, the U.S.S. American Legion, was fitted with CRT receivers for display and had a facility for recording images on film which like the British system could be rapidly processed. However, the American system although tested did not see active service. Perhaps it was fortunate the American system was not used because an aircraft flying at just 400 feet would show confusing images and be susceptible to attack by small arms fire.

The British Television reconnaissance systems also did not see active service before the end of hostilities. In January of 1945, three months before the end of war in Europe, Wing Commander Leedham noted that although various British parties were interested in developing TV/AC technology it was not pursued due to lack of operational requirement as well as interest by all three services. With America entrenched in Britain as an ally it was decided to wait until their tests reached conclusion.

Reconnaissance using television is now a part of many Nations' military intelligence gathering activities. It is interesting to note that until the mid-1980s some nation's TV/AC equipment, particularly Germany, used the intermediate film system that had its direct ancestry in pre-war equipment.

i H.M. Signal School. (1939, July 7). Trials of EMI television equipment in HMS Iron Duke. 21st and 27th June, 1939. PRO ADM 1/18581.

ii Report of visit to Baird Television Company at Alexandra Palace. (1937, February 5). PRO ADM 1/18581.

iii Hecht, N. (1937, February 16). Visit to Baird Television Company. PRO AIR 2/1775.

iv PRO ADM 1/18581.

v PRO AVIA 2/3568, PRO AIR 25/520.

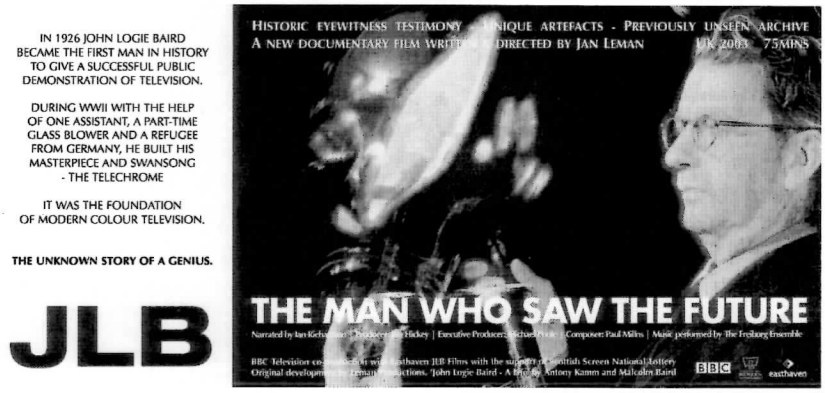
vi PRO AVIA 13/1263.

vii Operational record book 22 Group. (1939, December 4). PRO AIR 25/518.

J.L.B.

Andrew Henderson reviews the premiere of a new widescreen and digitally recorded biographic film transmitted first in January 2003 by BBC-4.

Echoing the conspiracy theories surrounding the film J.F.K, the new documentary J.L.B. attempts to restore John Logie Baird's tarnished reputation.



The Premiere of the partially completed film took place in Edinburgh on a warm summer evening in August last year. The venue was the Royal Museum of Scotland, who had also added a special Baird Exhibition comprised of the 'Falkirk' Transmitter, a Telechrome CRT tube, a mock outside and inside of a Televisior, a Baird Undersock and other items of ephemera. Baird's son Malcolm was present at this showing and in a moving speech, described his thoughts on the film and on the impact of his father's work.

Popular history recounts how Baird 'invented' Television, but was finally succeeded by a 'superior' all electronic system. It is virtually a myth, but follows such strong lines of tragic drama that it has been accepted as if there is little more to add to the story. Anyone attempting further investigation of Baird's life immediately hits a stumbling block which is partially overcome by this new film and the accompanying book. The key figure in the new film is Baird's son, Malcolm, whom we see revisiting the places which figured prominently in Baird's life. This is a journey which starts in the original Baird family home in Helensburgh with Malcolm recognising relics from the past. These are both his own and his father's initials. These are still visible as engraved into an ordinary house window pane by a diamond. From there we move through other places, such as the Attic in London's Soho (Frith Street) in which history was made with the first true half tone images sent across the single span of one room. This contrasts with the sea air of Hastings and a small arcade (which is now a fish shop, but once the scene of an early experiment which resulted in an electrical explosion).

Malcolm is joined on his retrospective journey by other people important to the Baird story and we have Paul Reveley and Ray Herbert, both originally employed as engineers, who fill in the often neglected 'missing' areas of the Baird story. From the single public memory of 'the discovery of television' we gain a much more comprehensive picture of achievement. The documentary touches on the main achievement list after the initial transmission of wireless. Television is formidable: Phonovision (1926 patent for electrically recorded Television on 78rpm discs), Transatlantic Television (first images broadcast in 1928), Television broadcast to be received by a moving ship (1928), Daylight Television (1928), Colour Television (1928), Stereoscopic Television (1928), Talking films on Television (1929), Experimental BBC Service (1929), Large Screen Television (1930), Derby Televised (1931), Ultra-short wave Television (1932), Official BBC Service (1932), Large Screen Cinema Television projected (1937), 405 Line projected Television (1937),Colour Cinema Television (1938), Airborne Television (1939), 600 line Colour Television (1940), Colour Stereoscopic Electronic Television (1941), two-component electronic colour display cathode ray tube (1944).

These were some of the major milestones in Baird's career. There were others, but reading the list, one is continually aware that after the point of mythical 'decline' in 1937 (with the rejection by the BBC of the Baird Company's Television System), a wide range of achievements was still made, under increasingly difficult circumstances. The mention of Baird's 'Company' is also deliberate. Most people don't realise that Baird had little to do with the fitting and supply of Television equipment for Alexandra Palace. He was the brand name, but by that point was concentrating on the new field of big screen Cinema Television. It is also important to emphasise that the Baird Company lost vital parts during the infamous Crystal Palace Fire and that in the last few weeks of service provision were already using the Farnsworth Electron Camera. This was completely electronic, though it suffered from different inherent defects than Marconi-EMI's rival 'Emitron' camera. The problem was that the Farnsworth produced pin-cushion distortion and needed more light. The 'Emitron' wasn't as perfect as is often claimed. In fact, there was little to choose between 'Baird' and 'Marconi' in the early days.

Another important component in the Baird story is the vital lack of insight as to Baird's character. Was he really the stereotype 'eccentric' inventor? Or perhaps he had a deeper and sharper personality. Happily the documentary shows the latter to be the case and Baird was fond of dry wit and shaggy dog stories. Some of this comes across in his published memoirs. Baird also has something quite rare even at that time, a true inventive imagination. He could see what those less gifted were blind to. In effect he 'saw the future'. One vision and one goal. Not the cold clinical committee work of a large company or the limitless automation workers of a great factory. The Baird product was a single man's vision of order and Baird was well aware that there was no such thing as completely all-electronic Television. Even today, we still reply on mechanics to get a DVD to spin out its television signal. A mechanical contrivance, different in pure electronics, but the principle is the same as the disc on which he recorded electric television signals in the 1920s.

The documentary brings all of these ideas to form a new, richer tribute to a man who effectively was years before his time. He saw the 'potentials', but was often defeated by his much feared commercial interests or simply by the limit of 1930s technology. One other important thing to consider is that Baird proved that Television was possible. No-one can take that crucial accolade and claim it false. The true image of a simple face covering the bare room of a London attic was the first ever glimpsed in world history. A defining moment which caused ripples and effects which have never ceased to this day.

Baird also has something quite rare even at that time, a true inventive imagination. He could see what those less gifted were blind to. In effect he 'saw the future'.

‘Let’s Murder 4:3’

Andrew Henderson looks at a disturbing new concept in widescreen television.

As we are often told, digital times bring better storage and dispersal for all forms of media, including Television. Recently, there has been an increase in distribution of a fair number of surviving archive programmes. Most of these are issued on DVD or used for clips in documentaries. Given the need to rectify mistakes made in the past, most of the DVD authoring respects the original ratio the material was shot in. This means, as far as the U.K. is concerned, a 4:3 aspect ratio (used between 1949 and around 1998). Of course, Televisions are now mostly made with a 16:9 ratio picture tube. Most of these sets have the capability to show 4:3 material with black borders on either side of the image. This can also be ‘zoomed in’ to create a pseudo widescreen picture by unceremoniously cropping the top and bottom of the image. Whilst many home viewers are keen to get as much widescreen as possible (regardless of the corruption of the image), they can be forgiven in their ignorance as this is a personal preference (much in the same way that some people like deeply saturated colour and others prefer subtle hues). Remembering the great deal of care the BBC invested in getting PAL colour television ‘right’, you might be forgiven for thinking that widescreen broadcasts would be handled with the same degree of attention. Far from the case, sadly. Programme schedules regularly feature an often confusing mixture of 4:3 and specially shot 16:9 material. It is generally up to the viewer to make a decision on how they watch the individual programmes. Sadly the majority will probably have no idea what aspect ratios are and will simply want to fill their screen with a wide picture.

This brings me to recall the words of a BBC Engineer at the launch of a public demonstration of Digital Television. In a question and answer session, I asked if the BBC would crop ‘classic’ films and archive Television. He smiled and said, absolutely not. For example, we wouldn’t see ‘Citizen Kane’ in Widescreen. The message was, ‘the BBC care about quality broadcasting’. Inevitably, ‘it’ had to happen and whilst his engineering intentions may have been sincere, the current evidence shows that the BBC is gradually allowing cropping of old material to fit the new 16:9 widescreen ratio. What effect does this have on the image? For a start, you lose part of it. The definition also drops as the image is enlarged to fit the wider screen.

Take a recent example, an important BBC Wednesday play from 1968; ‘On the Eve of Publication’ by David Mercer. This play was recorded on 625 line videotape. It now exists as an inferior recording transferred to 16mm film for archive purposes. Whilst it is unfortunate that the play only exists on film, it is rather fortunate that at least it has survived the notorious cull of b/w television. This play was re-broadcast in 1988 as part of a Mercer season and was only seen again this October 2002 on the new Digital Channel – BBC 4. However, on the re-screening the whole play had been cropped to 16:9 ratio. Look at photographs taken of the broadcasts, those on the left showing the original 4:3 ratio and those on the right showing the cropped 16:9 widescreen version. Almost instantly, we can observe that the cropping has created a complete loss of artistic composition. This is the same sort of butchery which was inflicted on many early cinema ‘classics’ which were re-issued in the 1950s and 60s in ‘widescreen’ versions. The film cropping practice has mostly stopped, but its use in Television is a menace to be discouraged. Where does the fault lie? Is it the impassive face of the BBC? A new generation of production teams who don’t care about the past? (Production credited to ‘TIMESHIFT’ BBC Bristol). There are many people who have never seen this play or other archive material from the 1960s. For them, this is the definitive version and they will have to suffer a poor rendition of what was once a high quality recording. To add insult to injury, there is a function on some digital receivers which crops 16:9 to 4:3 by chopping off the sides. A viewer watching the Mercer play in this manner would probably have loose 50% of the original image, effectively watching a small area in the centre of the original image. Part of the publicity for BBC-4 claimed that this new station would offer quality programming. In many ways a chance therefore to emulate what BBC-2 was like before

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BBC4

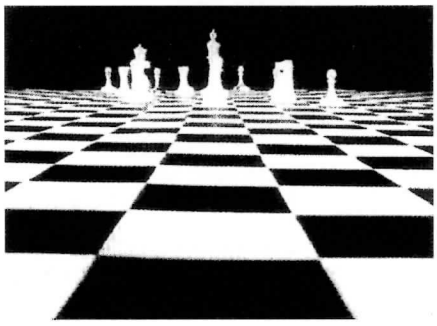
Sky 161, Dig terr 10, cable

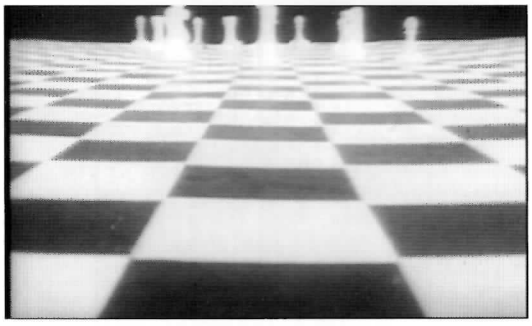
7.00pm Buckminster Fuller Exploring the work and ideas of the American architect. *2289819*

7.05 The Writer’s Trade Examining the changing image of the novelist over the last 50 years. Part of the *Time Shift* strand. (W) *1652345*

7.45 Evelyn Waugh in Conversation An insightful interview with the novelist from 1964. (W) *9539398*

8.05 Leo McKern: On the Eve of Publication Dramatisation of David Mercer’s play, starring Leo McKern and Michele Dotrice. (BW) (S) *7002987*

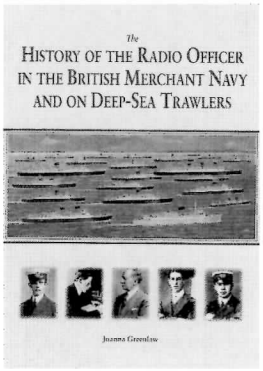




'yoof' programming took over. At one time there was unjustly, a complete lack of programming aimed at teenagers. Today the situation is all but reversed. It may be that we are also looking at an 'inmates take over the asylum' situation. In the midst of all this, the BBC still gives the vague impression of carrying an Olympic torch of quality. To an extent it has, though through a sort of 'Pyrrhic Victory', the programmes are broadcast, but they often suffer from the defects I have been writing about. It also seems that the family audiences aren't generally interested in quality and judging by audience figures, are quite happy to watch drama series which are on a formulaic level not seen since the days of the 'pulp fiction'. Only a smaller minority would watch something as unusual as an old 1960s play. If you are reading this and are equally angry about the current conditions, please complain to the BBC. The complaints might be in a minority, but the issues involved will eventually affect the majority. The situation may possibly even change for the better. Let us hope it doesn't get worse.

Book review: The History of the Radio Officer in the British Merchant Navy and on Deep-Sea Trawlers. By Joanna Greenlaw, Dinefwr. 2002

Reviewed by Tony Constable



The Marconi Company published its house magazine, *The Marconigraph* from April 1911. They renamed it *Wireless World* in April 1913 and in 1925 it became the independent journal we all know so well.
The pages of *The Marconigraph* were awash with accounts and pictures of Marconi-trained wireless operators as they moved about the world and it included such famous names as Jack Phillips, Harold Bride and Harold Cottam. That, for many of us, is where our knowledge of wireless operators at sea ends. But the story goes much deeper and Joanna Greenlaw has now provided a comprehensive survey of the subject. Her book gathers together a lot of good history from the time of the first ship's radio operator, Marconi himself. The book starts with a potted history of the development of radio but this section is weak and unreliable. The author states that Hertz demonstrated electromagnetic waves in the mid-1880s while he was professor of theoretical physics at the University of Kiel. This is irritatingly wrong; his first physics professorship was in 1885 when he moved from a lectureship at Kiel to the Technische Hochschule at Karlsruhe and it was there that all his experimental work was done between 1885 and 1888. She also says Oliver Lodge christened Branly's tube of iron filings the 'Branly Tube' whereas Lodge devised the name 'coherer' for all such devices and generally simply referred to Branly's tube as a 'filings tube'. These are small matters and there are others. But the main thrust of the book is not the early history of radio; it is a serious account of wireless operators, their training schools, their status aboard ship, their courage in times of distress and their role aboard the great liners of the jazz age. She recounts some of the famous stories of sea disasters such as the collision between White Star's *SS Republic* and the Italian *SS Florida* in 1909, the first major occasion when the importance of a wireless operator became widely recognised in saving lives. The passengers were removed from the sinking *Republic* and successfully transferred to the *Baltic*. When gold commemorative medals were later struck they bore the distress call CQD and were awarded not only to all three captains as might be expected but also to Jack Binns, the wireless operator. The author also recounts the story of the arrest of Dr Crippen aboard the Canadian Pacific *Montrose* and, of course, the story of how the names of Jack Phillips and Harold Bride of *Titanic* and Harold Cottam of *Carpathia* became history's most famous wireless operators.

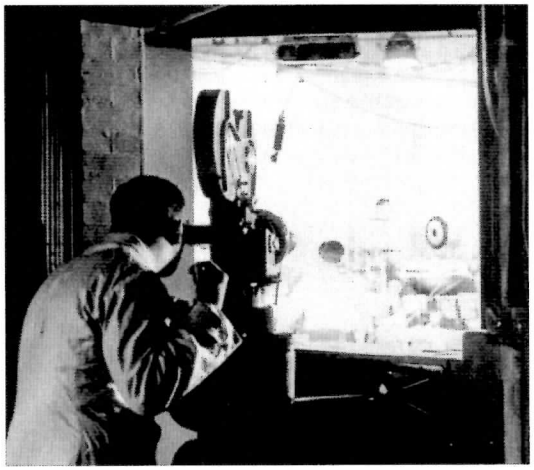
Apart from such well known events, the book is full of details of the everyday life of the wireless operator at sea and how the sometimes indifferent attitude of Captains towards this new 'passenger' slowly turned to a wholehearted acceptance. The first British ship to carry a wireless set was the *Lake Champlain* in 1901 and the poor wireless operator, F.S.Stacey, was given a makeshift wireless shack 4' 6" x 3' 6" made for the princely sum of £5. It took many years before wireless operators became fully accepted as essential members of ships' crews. The author devotes a full chapter to the topic of women radio operators. The first British ship to carry a woman radio operator, we are told, was the *Duncraig* a little over thirty years ago when Dallas Bradshaw sailed with her in 1970. She was trained at the famous Wireless College at Colwyn Bay where she obtained her PMG certificate. If the first woman operator was really as late as 1970, the British Merchant Navy was rather late on the scene. On reading excerpts from *The Marconigraph*, I noticed that a wireless operator called Miss Edith Coombes had sailed from San Francisco in 1912 aboard the *SS Roanoke* which, according to the Lloyds Register, was American built and owned. Perhaps there is more to be learned from *The Marconigraph* on this topic.

The book is reasonably well indexed, contains eleven appendices and 128 illustrations as well as a short foreword by the Duke of Edinburgh. Apart from an appendix containing a few of the basic facts about early transmitters and receivers, the author obviously chose not to include any serious technical material or details of the equipment used on board ship. This will be a disappointment to those readers for whom marine radio equipment is a subject of great historical interest. Nevertheless the book makes good reading though the author throws little new light on the more famous episodes she describes.

The book can be obtained by contacting the publisher's sales office (Tel: 01269 851989) and costs £19.95.

Film in TV

Dicky Howett traces the interaction of film with the development of video



Old fashioned film has always been involved with television. More than 75 years ago, back in the electronic dark ages, film played a significant part in the development of transmittable video. Film proved indispensable. It was a quick way of achieving an image, especially as in the 1920s, 'live' electric pictures proved almost impossible. Back then, tv consisted mostly of 30 lines/12- fps with mechanically generated pictures of moth-eaten ventriloquists' dummies or riveting silhouettes of windmills. By modern standards, image resolution was almost non-existent. Those early tv images were created by whizzing discs with the end result displayed on postage-stamp sized screens, lit by orange neon bulbs. No doubt fun to watch for a minute or two, but realistically, the entertainment value was practically nil. American cinematographic pioneer (and founder member of the SMP(T)E Charles Francis Jenkins was an early tv dabbler. He transmitted crude shapes and films in 1928, from his experimental Washington station W3XK. Resolution was getting better- at 48 lines/15fps- but still lacked the elusive 'live' aspect.

Later in London, Scottish inventor John Logie Baird projected, before a paying audience, the 1932 Derby onto a 10x8ft screen at the Metropole cinema. This was a big achievement but the displayed tv image was relatively tiny. This consisted of three 30-line pictures projected in step, side-by-side to complete a whole frame. But at least it was real live actuality, even if the image showed only the winning post area and the riders flashing by. A few years later, a company called Cinema Television (Cintel) perceived a big future for rediffused television and began installing tv projectors into several London News Theatres. (The 1937 Coronation was thus shown.)

In 1935, the British government gave the green cue-light to start a 'high definition' public television service, to start sometime in 1936. John Logie Baird was invited to participate but couldn't get his mechanical 'spotlight' system to perform live as 'high definition'. Unfortunately, poor old Baird was up against a technological brick wall. Getting more resolution out of any mechanical tv system means faster spins (in a vacuum), more and smaller pin holes, and greater amounts of light. Naturally, none but the very brave relished sitting anywhere near such a potentially eyeball-bashing rotary tv scythe. The future for mechanical television was dark.

British television standards in 1935 had been set at a minimum of 240 lines, which was about 200 lines greater than Baird had achieved live up to then. Undaunted, John Logie turned to film for his salvation. His whizzing-wheel flying-spot telecine had been cranked up to 240 lines sequential and it actually produced a very clean, bright, sharp and attractive film image. But Baird needed another means to produce the elusive 'live' picture, this in order to compete with EMI's all-electronic mobile iconoscope camera, known to all down at Hayes as the 'Emitron'.

John Baird then invited W.Vinten Ltd to construct an intermediate film system (developed originally in 1927 in the USA by H.E.Ives & R.V.L Hartley at the A.T&T labs) similar to that used by the German television service at the 1936 Olympic Games. (One has to pause here and mention that although the BBC likes to think it was first in 1936 with a 'high definition' television service, the German Post Office ran a scheduled 180-line service in Berlin, a year earlier. They too, called their television system 'high definition'. Admittedly it was of a lower standard and the Germans were not all-electronic, but then neither in 1936 was the BBC. It was a case of choosing your definition of definition.)

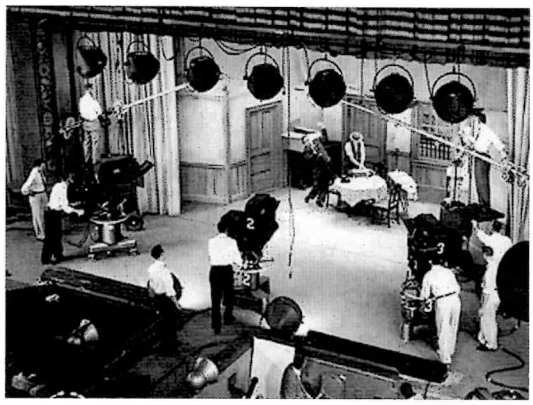
German television covered the entire Berlin Olympics with five 'high definition' 180-line cameras. This modest technical array consisted of two prototype Iconoscopes, one Image Dissector, and two van-mounted mobile intermediate film cameras. The intermediate film system was an ingenious delay mechanism which produced a reasonable quality image from motion picture film. The film was developed continuously in dedicated tanks, and whilst still wet, was scanned through a glass-sided gate for immediate transmission. The German Fernseh company got their I. F. record-replay system down to an incredible 15 seconds. Baird for his BBC service at Alexandra Palace chose a slightly more sedate 64 seconds.

The Baird I.F. system used an adapted 35mm Vinten 'H' movie camera, converted to 17.5mm. The movie camera was bolted atop the developing tanks. The camera peered out of a glass-fronted booth into Studio B at Alexandra Palace. Real-time programmes running a maximum of 20 minutes were filmed from this fixed location, with lens swings in vision. The recorded image (scanned through a glass panel by the familiar Baird vacuum spotlight disc) had also a variable density sound track which suffered-along with the picture-when air bubbles encroached during playback. Baird used also a Farnsworth Image Dissector camera which performed badly. Left only with his trusty mechanical spinning spotlight system, it came as no surprise when Baird was trounced by the slick, EMI Emitron video camera with its live interlaced 405-line pictures and relative reliability.

TV history is full of wishful thinking and science fiction. One perpetuated myth is that the movie business was, post war, dead afraid of television and wouldn't have anything to do with it. In fact Hollywood was fully apprised of the possibilities of television. Paramount Studios owned two tv stations and part-owned the electronics company A.B.DuMont which itself owned three tv stations. A major stock holder of 20th Century-Fox was electronics company, General Precision Laboratories and MGM, Warners and Disney, all were considering 'diversifying' into tv by buying licences to transmit. However, US anti-trust legislation put the lens-cap on it. (ABCtv is now owned by Disney).

In the late 1940s, the idea of 'Cinema Television' emerged again. Hollywood saw in tv technology, a quick (and cheap) production tool. Entire movies made with a couple of tv cameras, and filming the result off a tv screen. Simple. The ultimate aim was for a system that could be used to transmit movies direct to cinemas (that idea is again now under serious consideration) but back then the quality of the recorded image wasn't up to large screen projection, and in any case the general public preferred (free) tv viewing by the fireside.

The German Fernseh company got their I. F. record-replay system down to an incredible 15 seconds. Baird for his BBC service at Alexandra Palace chose a slightly more sedate 64 seconds.



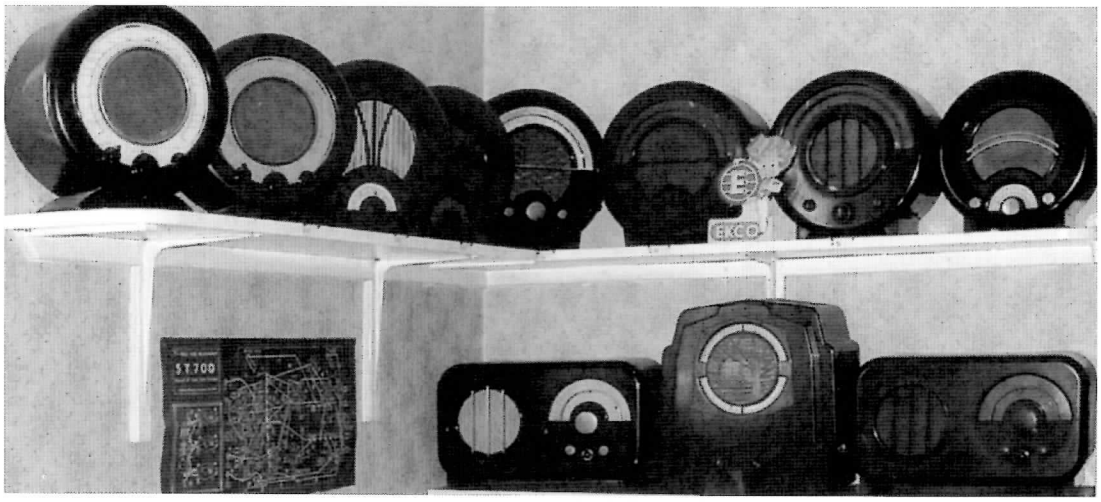
Above: The Electronicam and Right: Electronicams in action.

Undaunted, the movie and video camera then formed another partnership. American tv had to cross immense distances and inconvenient time zones. Local stations proliferated and coast-to-coast networking wasn't achieved until 1951. Live shows produced in Hollywood couldn't conveniently be shown in New York or vice versa until the advent of off-screen 'kinescope' film recordings which were then posted to various tv stations for replay. These kinescopes were not ideal. What enticed producers was the thought that given a high quality method of recording, production costs could be recouped by reruns and foreign sales. The gravy was in the residuals. Jerky 525 line-30 Hz-3" Image Orthicon16mm off-screen film recordings, (you can appreciate the problems) were not the answer.

And then the DuMont company strapped one of its standard tv cameras to a blimped 35mm Mitchell and lo and behold, the 'video assist' was born! DuMont's called it the 'Electronicam'. It was a boon, especially to comedy shows which could be transmitted live and filmed before an audience simultaneously in one evening. Pristine 35mm edited prints could then be shipped. It all paid off. Fifty years later, shows such as 'I Love Lucy' and 'Bilko' are still in syndication earning the sauce. The 'video-assist' multi-movie camera technique persists to this day. A successful marriage of film and video. A quality solution. Ultimately, video will prevail as a means of total origination, but dear old film will still be around. I mean, haven't you ever heard of archiving?

What a nice corner!

Gerry is very nice to talk to and I learned a lot, both from him and his assistants. The museum is worth a visit for any one reading this magazine.



A visit to Gerry

by Eric Godley

A short time ago I acquired a pre-war Defiant radio. Of course Plessey made it but when I tried to get a circuit I couldn't find anyone who could supply one. So I rang Gerry and he said that he could fix it. I arranged to come from the wilds of South Yorkshire and take it to him.

I booked in a hotel on the Friday in order to be with the expert on Saturday morning. I arrived and parked outside his house –a great surprise, I bet that was the only vacant parking space in London! Knocked at the door and was greeted by Gerry. I collected the set from my car and went inside through the house, getting a shock by the reception of all the radios in the hall. I carried the radio into the workshop and Gerry said, "Have a look round," while a cup of tea was organised. His helpful staff soon did this.

We had a chat and then the expert had a quick look at the set. It was the day the photographer [also Bulletin Editor!] was arriving to take photos for Gerry's book. Gerry put a tie on for the shoot and said "All the doors are open, have a look round". I could not believe what I saw. Although as an apprentice I had worked in A.C.Cossors in Highbury I don't think I have ever seen so many tabletop radios in my life. The range and makes was staggering.

I spent the next two hours just looking at them and taking 32 photos to show to my wife and associates who think that old radios have all disappeared.

The photographer left and after several teas we went back to the radio. Gerry peered inside and poked about with a screwdriver and condenser [capacitor], took one reading with an Avo Model 8 I think and said "The heater chain is not earthed". Soldering iron action, another try, excessive hum! Another look, "That wire is on the wrong tag". Resited wire to next tag. Audio section worked but not a meaningful sound. Looked at the valves and said "wrong position". This rectified. Plugged in aerial and the sound blasted out. "OK" he said. I nodded, too amazed to speak. So it was all over, the quest to get my early [1935/36] Defiant to work. That was after 6 emails and 3 phone calls to various sites to try to get information.

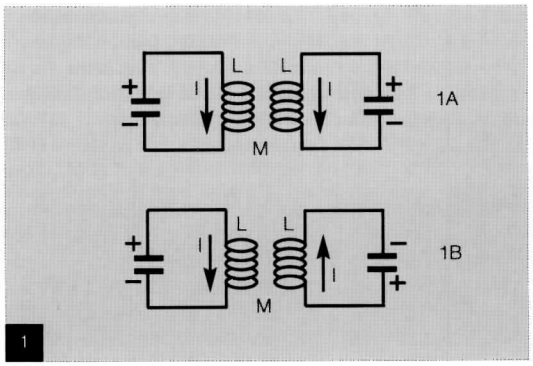
After that I helped to move some worms, they were in their wooden homes at the time, and had a look at a pile of junk that I was going to help his assistants to put in the waste bin. In the end most of it went in my four-wheel drive (It took me nearly a week to add bits to my stock). Now we came to a black piece of plastic, inside of which were some valves, may be good, may be not, but they have trebled my stock. Hopefully I will be able to sort them at a later date.

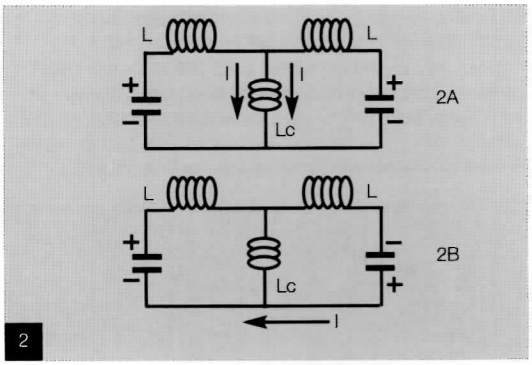
Brilliant day. Gerry is very nice to talk to and I learned a lot, both from him and his assistants. The museum is worth a visit for any one reading this magazine. Worth the travel and the horrors of London's traffic.

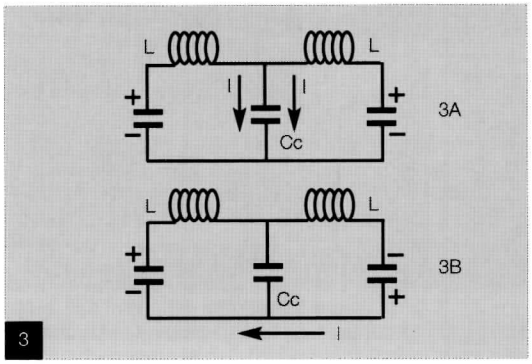
Bandpass Filters

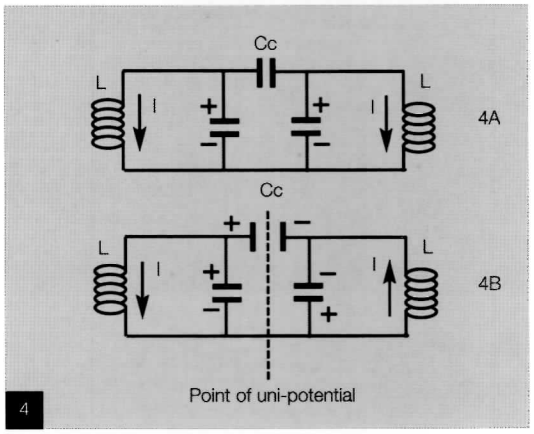
By Gary Tempest

It's true that the early radios, up to the mid 30's, had greater technical differences. This makes them more interesting to work on for me. More to ponder: how did that work? why did they do it like that? and so on. Thus it was that I became interested in the bandpass filters used in the early sets having IF's of around 100Kc/s. The filters were needed to reject images which would be much closer than when the higher IF of around 450 Kc/s was adopted. Getting rid of the filters must have been a nice cost reduction for the manufacturers. Technically it is also an improvement, although radios with correctly designed and adjusted filters can perform very well.





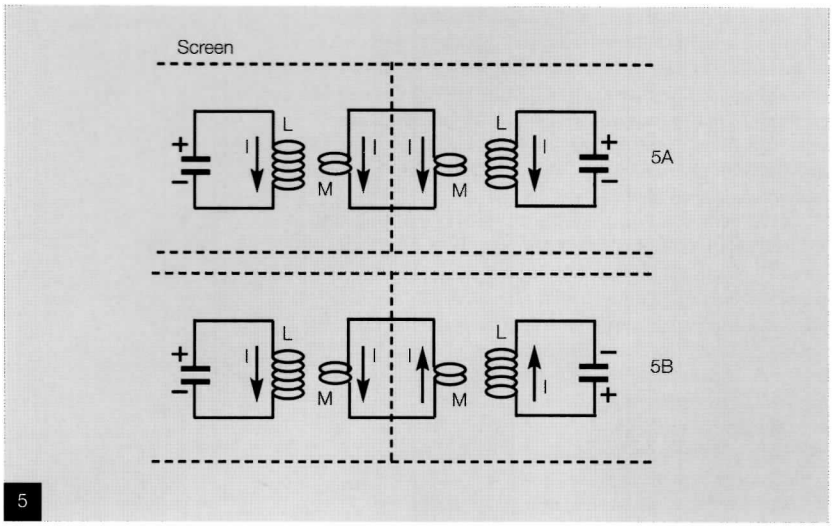




In most descriptions of radios the bandpass filters are glossed over in a line or two. I wanted to read something more substantial about them and turned to my not very extensive library. Um! Not much in Scroggie, RSGB Handbook is not very helpful, but quite a lot in the Radio Designers Handbook by F Langford Smith. Alas, this latter tends to obscure the wood for the trees, for most of us. There is such a lot of theory that getting the idea of what is happening is difficult. Fortunately, I have quite a lot of early Wireless Worlds and so I started to go through these. This always takes plenty of time because I get diverted to read or re-read a lot of unrelated articles. Eventually, I came across the article "Why the Double Hump" by G.W. O. Howe in the issue of August 4th 1933. For me this author had got what I wanted having a way of explaining without a lot of theory. I have re-written the gist of the article and have simplified it further, hopefully without losing anything of value along the way. Also, I have included snippets from the Radio Designers Handbook where they are helpful.

The title "Why the Double Hump" refers to the response curve of bandpass filters, where you get steep sides and two humps either side of a flat top, in the ideal case. The author describes the filters in an electrical manner and by making use of a mechanical analogue based on pendulums. For me the electrical method made things clear so I have left out the pendulums. It starts with considering the case of two filters coupled only by mutual inductance, see Fig. 1. The filters are assumed tuned to exactly the same frequency and then brought (coupled) together. Fig. 1 splits into two cases 1A and 1B, where the charges on the condensers are as shown, when imaginary switches are thrown, creating the circuits. In Fig. 1A the current through both coils is in the same direction and the magnetic field of each will be increased by the proximity of the other. Thus the self-inductance of each coil is increased by M the mutual inductance. In Fig. 1B the current through both coils is in the opposite direction and so the magnetic field of each will be decreased, by the proximity of the other. Thus the self-inductance of each coil is decreased by M the mutual inductance. It follows then that for two coupled circuits, they have two natural frequencies at which large currents will flow, if they are acted upon by an electromagnetic force. Another way of looking at things, other than the starting conditions of the

Fig. 1: Coupling by Mutual Inductance
Fig. 2: Coupling by Common Inductance
Prim. & Sec. components are screened from each other
Fig. 3 Coupling by Common Capacitance
Prim. & Sec. components are screened from each other
Fig. 4 Top Capacity Coupling
Prim. & Sec. components are screened from each other
Fig. 5 Link Coupling
Fig.6 Beethoven 77 (1937)
Fig.7 Ferranti Arcadia (1934)
Fig.8 Phillips Super Inductance (634A) (1933)



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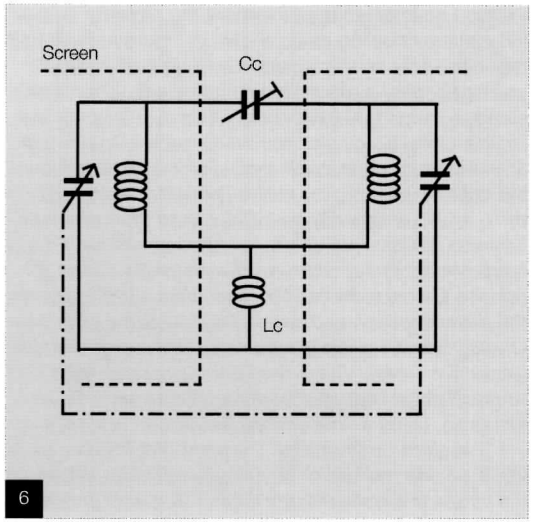

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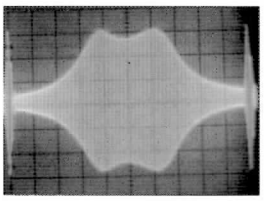
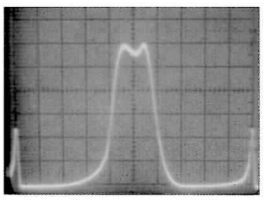
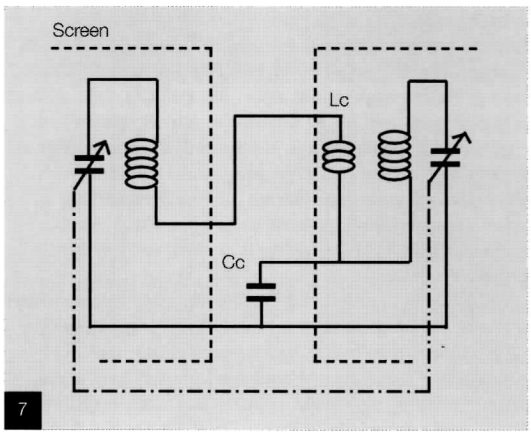


Bandpass filter Ferranti Arcadia



Ferranti Arcadia IF response



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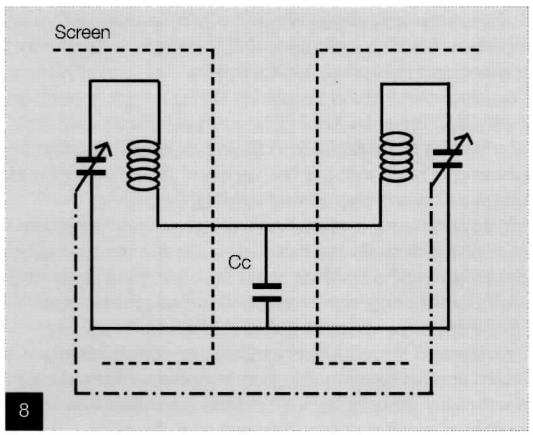

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condensers (this is just an analytical tool) is to think in terms of the phase in the two circuits. At one frequency the current in the windings will be in phase and in the other exactly 180 degrees out of phase.

Having understood the mutual inductance case, for coupling, other coupling methods can be evaluated in a like manner. In Fig. 2 the coupling method is by common inductance. Note in this and all the cases to follow, that the primary and secondary components are completely screened from each other to eliminate magnetic and capacitive coupling. In Fig. 2A the currents are both flowing the same way through Lc, and Lc can be imagined to be two inductors, each of value 2Lc, in parallel. Thus the inductance in both the primary and secondary circuits is increased from L to L + 2Lc. In Fig. 2B, no current at all flows in Lc; effectively both its connections are at the same potential. It is like a balanced Wheatstone Bridge when opposite arms are equal. Hence the two natural frequencies in this case will be inversely proportional to L + 2Lc in one case and L in the other.

In Fig. 3A (coupling by common capacitance) the currents are both adding through Cc and it may be replaced in imagination by two capacitors in parallel of Cc/2. Thus the capacitance of both the primary and secondary circuits becomes C and Cc/2 in series and the capacitance in each circuit is reduced.
In Fig. 3B the coupling capacitance has no current flowing through it and the capacitance in both circuits is just C. So the natural frequencies in this case will be inversely proportional to C x Cc/2 divided by C + Cc/2 and C, in the two cases.

Figures 2 and 3 are known as "bottom coupling". Note how it is the lower frequency that is shifted in the inductance case and the higher in the capacitance/case.

In Fig. 4 is shown the case where so called "top capacity coupling" is used. In 4A, the initial charges on the tuning condensers mean that no current flows in the coupling capacitor. In 4B, the charges are such that there is twice the voltage across the coupling capacitor to that on the main condensers. Here Mr Howe cleverly imagined that there is a point midway between the plates of the coupling capacitor which does not change potential. Thus you could have a screen at this point and it would make no difference to the oscillations. From this, it is a short step to thinking of Cc as two capacitors of value 2Cc in series. Further, if their centre point never moves then each can be considered in parallel with its main condenser. Thus the two natural frequencies in this case, will be inversely proportional to C and C+ 2Cc. In this example it is the lower frequency that is shifted.

Now here's a case I worked out for myself, Wow! In Figure 5 is shown so called "link coupling", where windings associated with each main winding, are connected together. In 5A the charges are such that the currents, induced into the two link coils, cancel each other out. Therefore, the link coils have no effect and the frequency is determined simply by L & C in both circuits. In 5B the charges make the currents in the link coils additive. So each main inductor has its value increased from L to L+ M, where M is the mutual inductance to its particular link coil. Thus in this case it is the lower frequency that is shifted and the circuit performs similarly to the bottom inductance case.

In many cases the two peaks of the filter will not be uniform, one may be smeared off and badly attenuated. Now having an understanding of how the filters work it is easy to see why any resistance or loss in the coupling elements will affect only one frequency or peak. Also, it can be seen that if it is wished to flatten or broaden the response of a filter then resistance should be applied to the main circuits and not the coupling elements.

I read an interesting point about the mutual inductance coupling case, shown in Figure 1. Note that this is the only coupling method where both the lower and higher peaks are shifted symmetrically, from their stand-alone natural frequencies. This in practice is our old friend the IF transformer. In the book, "Coil Design and Construction Manual" by B. Babini, he says that the coils are coupled by mutual inductance although there is also a capacity coupling due to the capacity between the bank wound coils. Apparently it is commercial practice to make the magnetic coupling oppose the capacity coupling by winding both coils in the same direction and connecting either the two starting or two finishing leads to anode and grid of the respective valves. I have tried this both ways, for a single IF stage and could see no difference in response, using a Wobbulator. See Note 1.

F. Langford Smith makes the point that for bandpass filters no one method of coupling is optimum across the whole of a particular waveband. A mix of coupling methods may give a better result. This is commonly referred to as a "mixed filter".

A popular mix came about in 1931, according to Wireless World. It combined the common capacitance (one natural frequency being higher), Fig. 3, and link coupling (one natural frequency being lower), Fig. 5, methods. The link coupling is normally drawn with the connecting arms crossed. This is to indicate that the phasing is such that the reactance of the capacitor and the reactance of the mutual inductance are not opposite in sign, and cancelling, but are of the same sign and aiding. To me this simply means that the two peaks are pushed further apart by combining these two methods of coupling. Wireless World says that thus the circuit behaves so as to give the affect of "negative inductance" and that terminology ("negative inductance filter") is often used in circuit descriptions of the time. I don't really like this term; I can see what they are getting at but it doesn't clarify for me. I think I would have called it an "LC combination filter" (in modern slang, an 'LC combo filter'). Apparently "...with good design it is possible to keep the filter bandwidth nearly constant over the whole tuning range".

Now to some practical examples. Note: Shown for the MW band only with all waveband switching and AVC feeds omitted for clarity.

Figure 6 shows the Beethoven 77 (1935). Here there is bottom inductor coupling with a small amount of capacitor top coupling. This trimmer consists of brass plates, of around 3/8" diameter, separated by a piece of paxolin. Their relative positions can be altered by loosening a small nut and bolt, which is off centre in the plates, and swivelling one away from the other. The capacity is only a few pF. In other radios, the simpler practice of a couple of pieces of wire twisted together is used. This is the only radio that I have come across where 3 adjustments to the filter can be made. In others, using different coupling methods, there are only the trimmers in shunt with the main tuning condensers.

Figure 7 is from the Ferranti Arcadia of 1933. This circuit is more complex, being a 'combo filter' but it comes down to bottom capacity coupling with half of a link coupling, there being only one coil on the secondary side. The frequency on the primary side will always be inversely proportional to L + Lc (where Lc is the inductance of the coupling coil). Practically this is just L, as it is very large (270 micro-H) compared to Lc, which was too low to measure. The frequency on the secondary side will be inversely proportional to L + LM (where LM is the mutual inductance of the coupling coil), when the currents are aiding and simply L when the currents are opposing. Thus it is the lower frequency that is shifted, like the full link circuit.

I have included two pictures of Wobbulator outputs for this radio. One is of the bandpass filter and the other of the IF response. The IF response is a particularly good example of a classic ideal. In other radios, I have not been able to achieve such splendid "double humps" and neither can it be seen on a single IF stage. In this case the two natural frequencies, caused by coupling and the small amount of mutual inductance, are just too close together. They will be merged, serving only to broaden a single peak. The picture here is a bit of a cheat really and out of context with the article. For this radio, it seems possible that it was designed to have the peaks of the two IF stages staggered (so called "stagger tuning") to broaden the overall response further so that two humps are seen. But these are obviously not the two humps that Mr Howe is referring to. For other radios, and probably dependent upon the coil Q's, one side of a broad peak will fall in amplitude and smear out on one side. This will be the 'staggered' stage shifting and falling in gain. So obviously when using a Wobbulator some experience and understanding of what you are trying to achieve is necessary. As an experiment, I tried adjusting this radio with a signal generator, and simply peaked the IFs for maximum output. Then I connected the Wobbulator to see what the response was like. It was just one peak, having a sharp spike, which was pulled out on one side. The adjustment required to make it as shown was quite small, and was achieved with no apparent loss in gain. How would the radio have sounded under the two settings? I suspect that I would not have been able to tell any difference. However, I'm glad to have left it set as shown in the diagram.

The picture of the bandpass filter fits the article exactly. The double humps are there, because the circuit values are such as to cause a large enough shift in the two natural frequencies. The response is very dependent upon where the filter is tuned in the waveband. The bandwidth is certainly nowhere near constant.

Fig. 8 Philips Super Inductance (634A of 1933). This uses simple common capacitance, but in this receiver there are two more tuned stages, at the outputs of two RF pentodes.

Hopefully, you have found this topic of interest and will be able, as I am, to look at bandpass filters with a new appreciation. I'm sure Mr Howe would be fascinated and pleased that what he wrote 70 years ago is still giving us something to ponder over all this time later.

Note 1:
Wobbulator: A generator, in which the output frequency is swept either side of a centre frequency by a small percentage. This can be applied to a circuit and the response displayed on an oscilloscope kept in synchronism with the sweep.

The BBC Research Reports referenced in my article "So you want to build a standards converter...." in Bulletin 27/3 are not easy to find. Malcom Everiss informed me that the BBC has placed most of them on their web site. The URL is http://www.bbc.co.uk/rd/pubs/reports/index.htm. There are many other interesting documents including a report on the 1962 Telstar transmission.

Jeffrey Borinsky

Steptoe and Son continued from page 17

A complete guide to the Television Series, including archive holdings

Pilot – Comedy Playhouse: 'The Offer' – 5.1.62
Two London Rag and Bone men argue resulting in the son announcing he has been offered a job elsewhere...

Series one (TX from 405 line b/w VT – estimated average 13 Million viewers) (note that this first series started with a repeat of 'The Offer')
Regular Cast: Albert Steptoe: Wilfrid Brambell
Harold Steptoe: Harry H. Corbett.

Episode 1. 'The Bird' – 14.06.62
Now exists as 16mm film recording.
Harold is getting excited about a date. Something which his old man disapproves of..

Episode 2. 'The Piano' – 21.06.62
Now exists as 16mm film recording.
Moving a grand piano from a luxury block of flats presents a few problems...

Episode 3. 'The Economist' – 28.06.62
Now exists as 16mm film recording.
Harold buys 4000 rejected dentures in a bit to create a quick profit. His father has better ideas.

Episode 4. 'The Diploma' – 05.07.62
Now exists as 16mm film recording.
Harold studies to become a Television Engineer by using a correspondence course.

Episode 5. 'The holiday' – 12.07.62
Now exists as 16mm film recording.
Harold dreams of a foreign holiday. His old man dreams of Bognor.

Series Two (TX from 405 line b/w VT estimated average 19 Million viewers)

Episode 1. 'Wallah Wallah Cat's Meat' – 03.01.63
Now exists as 16mm film recording.
The Steptoe's horse; 'Hercules' is sick and requires treatment before it is too late.

Episode 2. 'The Bath' – 10.01.63
Now exists as 16mm film recording.
The old man's bathing habits result in a desperate drive by Harold to improve their personal bathing arrangements.

Episode 3. 'The Stepmother' – 17.01.63
Now exists as 16mm film recording.
Albert unexpectedly announces that he is to marry again. Harold becomes increasingly distressed.

Episode 4. 'Sixty-Five Today' – 24.01.63
Now exists as 16mm film recording.
On Albert's birthday, Harold arranges a night out in the West End, including a meal in a Chinese restaurant.

Episode 5. 'A Musical Evening' – 31.01.63
Now exists as 16mm film recording.
Albert loathes Harold's purchase of some classical records and a battle of musical tastes ensues.

Episode 6. 'Full House' – 07.02.63
Now exists as 16mm film recording.
Harold has acquired some new friends who have some rather unique gambling habits.

Episode 7. 'Is That Your Horse Outside?' – 14.02.63
Now exists as 16mm film recording.
Albert advises his son on the facts of life – as he sees them.

Series Three (TX from 405 line b/w VT
estimated average 22 Million viewers)

Episode 1. 'Homes Fit For Heroes' – 07.01.64
(recorded 13.12.63 - Studio 3. BBC TV Centre)
(Recorded on V1/1/20620 VT and 16/TU/20620 16mm Transcription) Now as a 16mm film recording.
Harold suggests that his father would be better off in a luxury old folk's home.

Episode 2. 'The Wooden Overcoats' – 14.01.64
Now exists as 16mm film recording.
Albert's fear of coffins in the house drives Harold to sleep in the house alone with his new hoard.

Episode 3. 'The Lead Man Cometh' – 21.01.64
Now exists as 16mm film recording.
Harold is sold cheap lead by a passing stranger. Albert realizes that it's too good to be true.

Episode 4. 'Steptoe a la Carte' – 28.01.64
Now exists as 16mm film recording.
Harold meets an attractive au pair girl, but trouble ensues when she meets Albert.

Episode 5. 'Sunday for Seven Days' – 04.02.64
Now exists as 16mm film recording.
A night at a cinema is ruined by Albert's grumpy mutterings and complaints.

Episode 6. 'The Bonds That Bind Us' – 11.02.64
Now exists as 16mm film recording.
Albert wins £1000 on Premium Bonds which incites Harold to protect his father from a 'gold-digger'.

Episode 7. 'The Lodger' – 18.02.64
Now exists as 16mm film recording.
Harold threatens to move out and force Albert to take in a lodger.

Series Four (TX from 405 line b/w VT
estimated average 18 Million viewers)

Episode 1. 'And Afterwards At' – 04.10.65
Now exists as 16mm film recording.
Harold's wedding and its aftermath.

Episode 2. 'Crossed Swords' – 11.10.65
Now exists as 16mm film recording.
A rare Meissen piece causes financial trouble for the Steptoes.

Episode 3. 'Those Magnificent Men and their Heating Machines' – 18.10.65
Now exists as 16mm film recording.
A new central heating system doesn't quite work as planned.

Episode 4.'The Siege of Steptoe Street' – 25.10.65
Now exists as 16mm film recording.
Desperate times for old Albert as the bailiffs arrive.

Episode 5. 'A Box in Town' – 01.11.65
Now exists as 16mm film recording.
Harold decides to rent a flat on his own...

Episode 6. 'My Old Man's a Tory' – 08.11.65
Now exists as a Sony CV-2000 Video transfer
Albert and Harold support different political parties. Both argue for their own cause.

Episode 7. 'Pilgrim's Progress' – 15.11.65
Now exists as 16mm film recording.
A visit to the First World War battlefields moves Albert and also causes problems.

Christmas Night With the Stars: Short sequence (TX from 625 b/w VT) – 25.12.67
Now exists only from b/w external film sequences the studio material has been junked.
The Steptoes have Christmas pudding trouble.

Series Five: 'The Return of Steptoe and Son' (TX from 625 line colour VT – estimated average 19 Million viewers)

Episode 1. 'A Death in the Family' – 06.03.70
Now exists as a b/w Sony CV-2000 Video transfer
A good friend of the Steptoes has passed away.

Episode 2. 'A Winter's Tale' – 13.03.70
Now exists as a b/w Sony CV-2000 Video transfer
Harold's enthusiasm about skiing does not impress his father.

Episode 3. 'Any Old Iron' – 20.03.70
Now exists as a b/w Sony CV-2000 Video transfer
A rich antiques dealer takes on Harold as his protégé. However, Albert quickly realizes that the dealer has a hidden agenda.

Episode 4. 'Steptoe and Son and Son' – 27.03.70
Now exists as a b/w Sony CV-2000 Video transfer
Harold's previous girlfriend shows up at the yard with a baby...

Episode 5. 'The Colour Problem' – 03.04.70
Now exists as a b/w Sony CV-2000 Video transfer
Albert wants a colour television....at all costs.

Episode 6. 'T.B. or not T.B.' – 10.04.70
Now exists as a b/w Sony CV-2000 Video transfer
Could Albert have Tuberculosis?

Episode 7. 'Men of Property' – 17.04.70
Now exists as a b/w Sony CV-2000 Video transfer
The Steptoes decide to move up in the world.

Series Six (TX from 625 line colour VT – estimated average 18 Million viewers)

Episode 1. 'Robbery with Violence' – 02.11.70
Now exists as a b/w Sony CV-2000 Video transfer
Albert has been robbed and Harold's valuable collection has been stolen.

Episode 2. 'Come Dancing' – 09.11.70
Exists as 625 colour VT Master Recording
Harold decides to take up Ballroom Dancing.

Episode 3. 'Two's Company'- 16.11.70
Now exists as a b/w Sony CV-2000 Video transfer
Albert meets a widow at the 'Darby and Joan' club, which has embarrassing consequences for Harold.

Episode 4. 'Tea for Two' – 23.11.70
Now exists as a b/w Sony CV-2000 Video transfer
Prime Minister Edward Heath will visit Albert at home...

Episode 5. 'Without Prejudice' – 30.11.70
Now exists as a b/w Sony CV-2000 Video transfer
Harold decides he wants to move to a more up market area.

Episode 6. 'Pot Black' – 07.12.70
Now exists as a b/w Sony CV-2000 Video transfer
Snooker fever hits the Steptoes.

Episode 7. 'The Three Feathers' – 14.12.70
Now exists as a b/w Sony CV-2000 Video transfer
Harold has picked up a bargain piece... a 19th century commode.

Episode 8. 'Cuckoo in the Nest' – 21.12.70
Exists as 625 colour VT Master Recording
Albert's long lost sun turns up unexpectedly.

Series Seven (TX from 625 line colour VT – estimated average 17 Million viewers)

Episode 1. 'Men of Letters'– 21.02.72
Exists as 625 colour VT Master Recording
The Parish magazine starts a battle of wits for the Steptoes.

Episode 2. 'A Star is born' – 28.02.72
Exists as 625 colour VT Master Recording
Harold becomes star struck and wants to become an actor.

Episode 3. 'Oh What a Beautiful Mourning' – 06.03.72
Exists as 625 colour VT Master Recording
A Steptoe funeral takes on farcical proportions.

Episode 4. 'Live Now P.A.Y.E. Later' – 13.03.72
Exists as 625 colour VT Master Recording
Albert reveals that he has been claiming fraudulent benefits.

Episode 5. 'Loathe Story' – 20.03.72
Exists as 625 colour VT Master Recording
Harold has to visit a psychiatrist to unravel his increasing difficulties with his father.

Episode 6. 'Divided We Stand' – 27.03.72
Exists as 625 colour VT Master Recording
The aggravation between father and son becomes so strong that they decide to split the house in half.

Continued on page 43

Letters

Dear Editor,

Another entertaining edition including Bernard King's tale of old tv. The story of his visit in 1952 from BBC Children's Newsreel was charming. As an addendum, I managed to get a telecine copy made of the 200ft of 35mm negative off-cuts which Bernard was given as a souvenir by the grateful BBC. If nothing else, some of this footage proves that even professional cameramen can get exposures wrong (in this case wildly wrong). Bits of the footage were so dense it baffled the electronics of the telecine, machine producing some very nice pure white images of nothing! Fortunately most of the negative transferred correctly and very nice it looked too.

Another item in the magazine: The DVD Review was helpful but the anonymous author meant I couldn't safely assess the 'authority' of the piece. I suspect author was Andrew Henderson, in which case his advice is valuable and pertinent. I think you will agree it's important to attribute all BVWS Bulletin writers.

Dicky Howett

Andrew Henderson replies:
Many thanks for the interesting information about the Chidren's Newsreel. All I have on 16mm is one item from this series, prefaced by the famous A.P. mast graphic.
The grading problems are something I've seen before on 35mm material. I am constantly surprised by greatly varying exposures given by contemporary cameramen. I saw an advert reel last year which had some appalling errors. These required shot by shot re-grading on telecine. In the original film, most of the shots were taken at the same location, so, why were they so varied? Finally, yes Dicky the DVD review came from my own hand. I think it was a necessary exercise, with so many DVD discs now available and with potential purchasers unsure of the quality (particularly an issue with b/w Television).

Dear Editor,

BVWS Bulletin 27/4 - DVD Review

Congratulations on your six page review of DVDs!

Only this Autumn I purchased a Philips DVDR 880 with the intention of buying some of the archive TV material available, as well as remastering certain programmes and music tracks from my 800-plus video tapes.

Having only joined the BVWS a few months ago I don't know if you have previously reviewed DVDs (or videotapes) of TV content but I am writing on the assumption that you have not. I say this because I have obtained DVDs of some sitcoms from the early days of colour TV, all of which I can recommend for their colour and definition. I had, in addition, acquired the same sitcom episodes just months earlier on VHS and these too are much superior to the 'off-air' copies I had made in the mid-1990s from the satellite TV stations UK Gold and Granada Plus. The DVDs that may interest our readers are as follows:

Father Dear Father - The first six episodes are in colour, from series three, transmitted from the 12th of May to the 16th of June 1970, all are from remastered 625/PAL digital videotapes. Sadly the b/w episodes from 1968 and 1969 are presumably not considered commercially viable to remake on tape or disc. Of the thirteen episodes made in those two years just three remain in the archives (5/11/68, 19/11/68, 3/6/69) again stored on D3 format. Hopefully in time we may see these and further colour episodes. Catalogue No. SITDV006 (from Clear Vision Ltd.), price £12.99.

Bless This House - The first five episodes in colour, from series three, transmission dates are the 23rd of March to the 20th April 1971; again sourced from D3 tapes. The earlier b/w episodes (of series one) have not been made available. Of those seven episodes (2/2 to 16/3/71) five exist on D3 format, two are lost. Curiously when UK Gold reshowed the entire seven series (62 episodes out of 65) in late 1997 they included 4 of the 5 surviving episodes. I don't believe these have been included in more recent showings on Granada Plus. Catalogue no. SITDVD005, price £12.99.

The Liver Birds - All 12 episodes of series 2, transmitted from the 1st of January to the 25th of March 1971, again being the first season in colour; all from D3 source. Prior to this series five episodes were made in b/w, one for comedy playhouse transmission date 14/4/69, and four in series one 25/7 - 15/8/69. Just one survives; episode one, series one on 16mm monochrome film and it is likely that this was used as a brief clip within BBC2's 'The 1970's' when documenting the year 1971 shown on 30/7/00. In those b/w episodes it will be remembered that Pauline Collins played opposite Polly James, prior to Nerys Hughes, Pauline having moved on to 'Upstairs Downstairs'. A colourful box houses three discs, price £24.99, Catalogue No. 9073353.11, BBC Worldwide.

Man About The House - All seven episodes of series one are crammed onto one disc at162 minutes. The colour and definition is excellent and it is all sourced from D3 format. All 39 episodes exist in archives. Transmission dates of the material featured on this disc are from 15/8 to 26/9/73. Catalogue No. SITDVD004 from Clearvision ltd., price £12.99.

Much more material is available from the 1970s from Dep't V, Clearvision Ltd., PO Box 148, Enfield, Middx EN3 4NR. The telephone number 020 8292 4875 seems to consist of advertising messages.

One grumble I have been making for the last twenty years is the lack of facts given on the packaging of video tapes and now DVDs. For example none of the four DVDs reviewed in this letter state the original transmission dates anywhere. Surely this is essential information for the serious purchaser of archive TV material. The only clue is the year shown against the © owner, in tiny print.

Referring to the Railway Children on DVD (reviewed page 48 in 2002's Winter Bulletin) a comparison with the VHS tape put out a year ago shows no real improvement, but is, as stated, an historic and rare survivor from BBC Children's TV, transmitted from the 12th of May to the 23rd of June 1968 and repeated from the 14th of August to the 25th of September 1969. Sadly we will never again see the 1951 and 1957 versions of Edith Nesbit's novel as no copy exists in the NFI television archives.

Finally, I must say I am heartened by the news on page 48 of the last Bulletin to see that the BFI are releasing more archive material. Whilst much from the 1950's to early 1970's has been lost, nevertheless a vast amount of recordings are retained albeit in various formats. With the TV of the last two decades being dominated by soaps, fly-on-the-wall cheap documentaries and endless food/gardening/DIY programmes it is to the golden era of television that I love to go. Perhaps we will soon see again on DVD some of the variety shows, headed by a big name from show business. Maybe (and I'm stretching my luck here) interactive television will one day allow us to select our own reshowings from digitised masters held in electronic archives. I can only dream!

Yours Sincerely
Frank George

Dymchurch,
Kent
Tel/Fax: 01303 874431
email: frankdymarsh@bushinternet.com

Andrew Henderson replies:
I'm certain that these extra details about early ITV colour sitcoms will be of interest to BVWS readers. In compiling the selection made, I tried to avoid programmes not broadcast in color (at the time of original transmission). Some of these (ITC material and 'Sherlock Holmes') are in colour, but mostly seen in b/w at that time. The sitcom list could be extended to include some of the BBC range, such as Dad's Army etc - what do other readers think? Please write in and express your opinions!

Dear Editor,

Mr Grant's interesting feature on the GEC 3045R reminded me of a GEC portable set I had for some years and sold at Harpenden many years ago. It was a GEC portable just like the one in the piece but was mains operated with a manufactured PSU (not homebrew) in the battery compartment. It worked well enough on local stations, but was rather deaf and hummy on more distant signals. I didn't find it interesting except for the U5 rectifier, so I changed this for a DW3 and sold the set, keeping the U5 for my valve collection. I already had some Point 8 valves in the collection, so they stayed in the set.

Two questions: Did GEC make a mains version of the BC 3045R, and is it still with a BVWS member?

Sincerely,
Tony Hopwood

Dear Editor,

The January 2003 issue of the excellent American magazine 'Antique Radio Classified' contains two letters warning about the dangers of using cyanoacrylate glue, with trade names such as Super Glue, for repairing valves. I think the message deserves repeating here.

Restorers often need a fast-curing glue for cementing loose glass into valve bases but danger lurks here. The problem is that the difference in the coefficient of expansion of glass and of the cyanoacrylate will cause the glue to act like a hot wire glass cutter cleanly cutting the glass off at the base when the valve heats up to full operating temperature.

The bottom line is never use this glue on any valve or tube that runs too hot (when up to full temperature) to hold your hand on the tube. This means no power output valves and no rectifiers. However, this glue is considered safe, with some reservations, for battery valves and most small signal valves, if they don't get too hot. Cyanoacrylate glue also makes a conductive path. When applied with the tube held in a vertical position, the glue can leak down into the pin area; not a good thing. It is suggested you use the gel-type version of this glue, which does not flow as easily. Or else apply the normal fluid glue with the valve in a horizontal position. For display and non-functioning exhibits there's no problem at all.

Credits go to Don Harrill in the USA and Gordon Wilson in Canada for these words to the wise.

Andy Emmerson.

Dear Editor,

I was so taken by the article on the Felix novelty crystal set in your Spring 2002 issue that I decided to have a go at making a replica.

The result you can see from the attached photos. I used black plastic sheet for the 'cat' figure and the tuning 'leg'. I have to admit tracing the excellent front page photo and cutting it out with a fretsaw. I used a variometer in place of the original basket coils and was fortunate to have the components to make up the crystal and catswhisker assemblies.

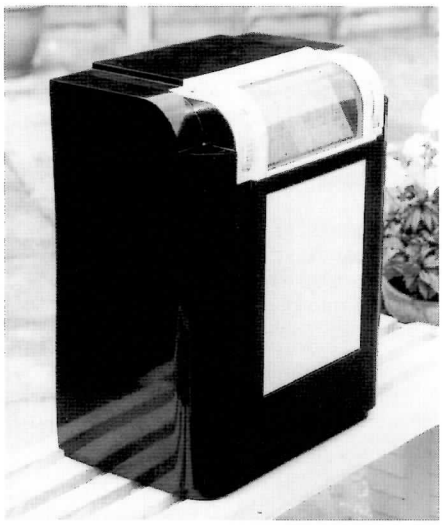
The completed set works quite well and is suprisingly sensitive. I have a 70ft garden aerial and the set is quite happy with that.

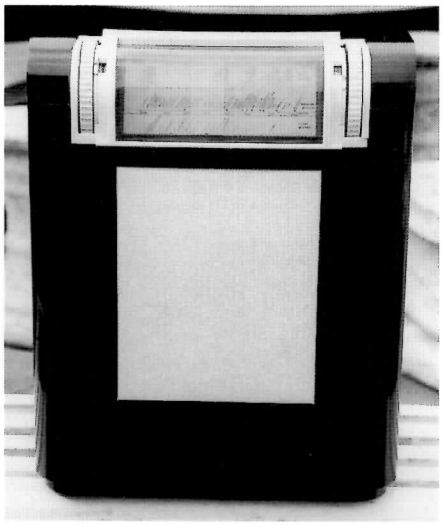
The set was a lot of fun to build and took only a day or so to complete.

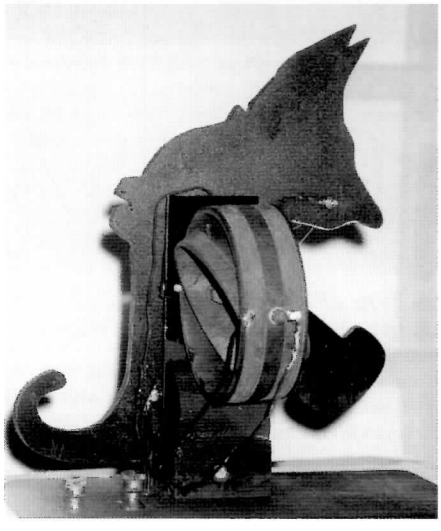
Phil Rosen.

Dear Editor,

I thought that other members might be interested to see what I believe to be quite a rare Ekco radio that I was fortunate enough to buy at auction in Norfolk recently. It is







model number AW88 and dates from around 1937. Before I saw this particular set I was not aware that it had been available in black and ivory. If there is another member that owns one of these I would be interested to hear from them. I have in the past had a couple of brown examples but unfortunately these both had badly damaged cases. This radio is in quite good condition; there is just one crack in the ivory trim.

Mike King.

Dear Editor,

On recent holiday in Eastbourne, I picked up a leaflet regarding the nearby Seaford Museum, which is located in a Martello tower on the esplanade.

I went along on the offchance of seeing a few old radios and was absolutely staggered at the collection there. In a large gloomy hall beneath the old Martello tower, I counted over 1000 radios, TVs, tape recorders and items of test equipment. While admittedly a lot of it was of 1950s vintage there was nevertheless some extremely ancient and interesting stuff.

I have not seen it advertised in any BVWS or Radiophile issues, so perhaps it is not widely known.

I can well recommend it to any member who happens to be in the area. It is not open every day so it is best to phone up beforehand. The number is: 01323 898222.

Phil Rosen.

Dear Editor,

I read with great interest Mr Arthur Dungate's article on telerecording on page 28 of the latest issue of the Bulletin.

On page 30 (heading 'The other system', paragraph 3) there was some uncertainty as to what type of film was used in the 16mm projection system. This question can be answered by referring to Wireless World, August 1949 page 306. The article, written by DA Smith (BBC Television Service) and entitled 'Television Recording - a simplified system' describes in some detail how to adapt a cine projector into a television recorder.

Apparently two different types of film stock were used. One was Kodak Super X (Panchromatic) nowadays available as Kodak TRi X reversal or Double X negative (speed rating Neg: 250 ASA daylight and 200 ASA artificial light. Reversal 200 ASA and 160 ASA respectively).

The second stock used on a more 'experimental' basis was high contrast positive print stock also from Kodak. This is available today but to special order. The film industry now has less use for it as travelling matters tend to be computer generated.

I have been doing a lot of work in this area and I have also built some equipment for use with standard 8mm cine film telerecording using print stock. If readers are interested I could write a short article with photographs. 8mm telerecording is fun and the results are interesting. I also collect video recorders.

The purpose of Mr Smith's 1949 article was to encourage people to build their own

Continued on next page

Letters continued from previous page

telerecorders. If people had done this, much early television would survive for us to view today. The reasons why they did not are many but the most obvious one is that of austerity. It was very difficult to obtain most things, eg: EMG Gramophones during 1949 could not obtain any wood to make their cabinets and film was in short supply too. The period 1945 to 1953 must have been difficult for those who lived through it.

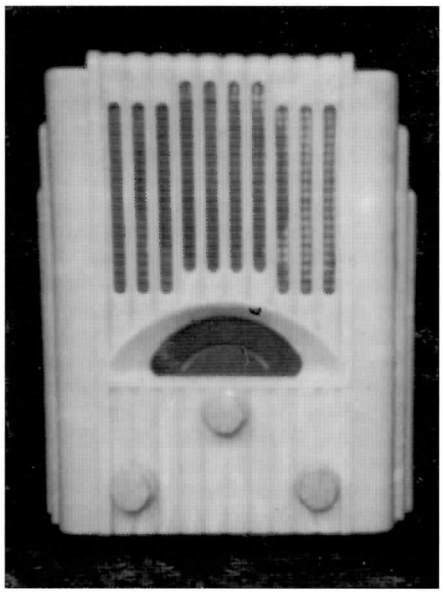
One further comment before I close this letter; I also enjoyed Bernard King's article about 9.5mm telerecording. If he wants to get in touch with me I could arrange for his 78 rpm gramophone record to be played in sync with his 9.5mm cine film telerecording. I need to know the Frame per Second setting on the camera so that a strobe disc can be drawn up to link gramophone and projector together. This was a common method of synching amateur talkie films in the 1930s & 1950s and I have made equipment for this too.

Good wishes
ESC Nowill.

Dear Editor,

Can anybody help?

Some years ago I purchased at auction the set below. The chassis is a Pye 802 and the cabinet is of marbleised plastic/plascon.
I am at a loss to explain how Pye could entertain selling this particular model to the British public in 1938 in view of its avant-



garde appearance. I would greatly appreciate any help that members could give regarding its provenance.

Please contact: Peter Wilson (BVWS member) via the Bulletin editor.

Dear Editor,

Re NVCF
The society should not buy this event as in my opinion it's in decline. Stick to Harpenden which has deteriorated due to NVCF, attendance is down, the quality of goods on offer are poor, the best are kept for the NVCF event. J. Hill should offer the fair to a magazine such as 'Radio Bygones' or a niche exhibition organising company. Should the society buy the rights to the NVCF, seek legal advice, talk to an accountant, form a separate limited company or form a Trust to run NVCF. Protect the BVWS members if things go wrong. The firm that runs the NEC will want their fee for the event; they will hold the officers and members of the BVWS responsible for any debts etc.

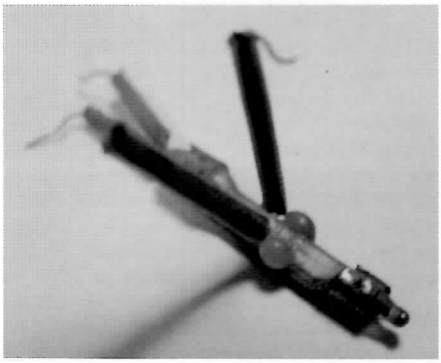
Regarding parking fees; people who come by bus, train, aeroplane etc. could claim discrimination with the proposed refund of parking fees.

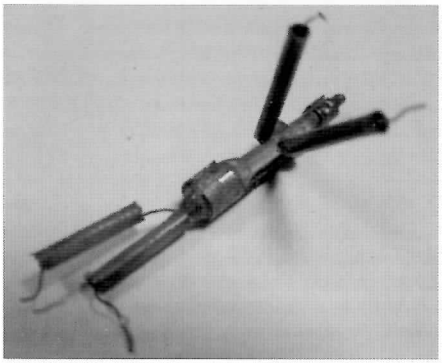
To date you have done a great job in improving the Bulletin, continue with the good work.

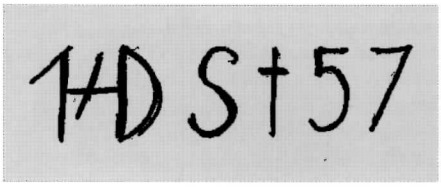
Regards
Vincent Farrell

Dear Editor,

Does anybody know what this is?
I think that the little item might be a very early 'point-contact' transistor. The body is about 25 mm long and the legs in a single solderpoint. There is an inscription 'pat







3102179' in the little metal piece around part of the body and a strange second inscription that you can see in the pictures.

With very kind regards,
Fons Vanden Berghen

Dear Editor,

At the suggestion of Gerry Wells I have just started to catalogue the archive of Rupert Kinross which has recently been lodged with the Museum by his son.

Rupert Kinross was responsible during his time at EMI with the design of the 'short superhet' which was the basis for a whole range of Marconi and EMI sets in the 1930s. He was also at Philco for a couple of years prior to serving in the army in WW2. Immediately after the war he was with Rediffusion as Chief Engineer working on cable distribution systems.

I'd be grateful to hear from anyone who had personal contact with him in order to obtain a more rounded picture of the man as I intend to write an article for the Bulletin when I have had a chance to go through the archive thoroughly.

Many Thanks
John Holloway
0208 542 7721

Dear Editor,
Interactive TV

Harry Greene's feature on remote controls reminded me of the pet trouble suffered by friends who had an ultrasonic TV remote control many years ago.

This time the tables were turned. The TV kept changing channels and doing other random things without authority, so it went back and forth to the service agent.

After some months without a cure, one of the viewers noticed that the TV changed channels when the dog jingled its collar chain.

Problem solved. The chain jingled at just the right frequency for the ultrasonic receiver in the set!

Sincerely,
Tony Hopwood

Dear Editor,

On perusing some 1952 copies of Practical Wireless, which I had recently acquired, I came across the following advertisement that may be of interest to other readers.

2/-; 0-2 amp mains droppers, 800 ohm, with fixing rod, **2/-**. Twin hum Suppressor Chokes, **2/-**; ½ and 1 watt Resistors, **1/6** doz. (our selection); Toggle Switches, DP. on-off, **1/-** ea. Special Offers: Ekco Superhet, 2-band round type bakelite cabinet; reconditioned and complete with 4 new valves; aerial tested; bargain at **£3/17/6** ea., plus 6/- carr. Philco 2-band Superhet in light or dark oak cabinets, A.C. or A.C./D.C. Mains, reconditioned cathedral model, **£5/10/-**, plus 6/- carr. Garrard Gram Motors, A.C., with pick-up and board, **£4/10/-**, 6/- carr. Terms: C.W.O. or C.O.D. over £1

It would appear that one of the most sought-after wireless sets of today wasn't always so popular!

What price time-travel with today's bank balance?

Regards,
Richard Warren

Dear Editor,

I thought that you might be interested in the enclosed photographs.

I took these scenes of a wireless collection and also of a radio repair workshop in a museum near Grränna, southern Sweden while on holiday in July. It contains a fine collection of vehicles, cameras, TVs and radios, many of them of local manufacture, although I'm sure you will recognise some models! As you will see there is a large emphasis on Luxor products, also Norna and Radiola, and don't you just love the set unceremoniously dumped in a cardboard box behind the engineer in the workshop?

Annoyingly I can't remember the exact location of the museum as I was taken there by my hosts but it is a famous establishment, well worth a visit for any radio and car enthusiast visiting the area between Gothenburg and Stockholm, where it is situated about midway between the two cities.

By the way I have just placed an order for a 'Domino' 405 converter; I have high hopes of reviving my several round-tube and later fifties TV sets after only being able to test them on a rather boring pattern generator.

With best wishes
Patrick Hemphill

Dear Editor,

Greetings once more from the 'Wild and Woollies', with thanks for interesting reading (in my dotage). Here are a few comments as the white-capped memory bank gets triggered: I recalled the Coronation well (it rained!) and a 'zoom' in of Richard Dimbleby from the Admiralty Arch, from the entire cathedral 'down' to the man's head, via a 13 lens (Hallmeyer?) system on moving guides enclosed in a 'box' as big as a camera..

It was lovely to see an (un BBC-modified) NAGRA tape deck on page 19 of the Summer Bulletin - they were £400 each in 1968; full-track and lots of U2 cells and heavy! I well recall a buxom blonde reporter on the Isle of Wight, lugging one on her hip. Also one sat sedately in a BBC 'OB' van 1,000 feet up a Welsh mountain recording a 'Cymanfa'.

It's quite amazing that the 'Jewel' radios were produced at all (see Summer Bulletin 2002); were there any original surviving complete sets left? And it's nice to see (three) ladies participating in 'our' trade.

Hopefully
Wyn Mainwaring

Steptoe and Son continued from page 39

Episode 7. 'The Desperate Hours' – 03.04.72
Exists as 625 colour VT Master Recording
Two escaped convicts break into the junkyard and hold the Steptoes prisoner.

Christmas Special – 24.12.73
Exists as 625 colour VT Master Recording
Harold books a holiday whilst Albert worries about being alone at Christmas.

Series Eight (TX from 625 line colour VT – estimated average 16 Million viewers)

Episode 1. 'Back in Fashion'– 04.09.74
Exists as 625 colour VT Master Recording
Some photographers want to use the junkyard as a photographic set.

Episode 2. 'And So to Bed' – 11.09.74
Exists as 625 colour VT Master Recording
Harold decides he wants to buy a waterbed.

Episode 3. 'Porn Yesterday' – 18.09.74
Exists as 625 colour VT Master Recording
Harold discovers his father has a 'Cinematographic' secret.

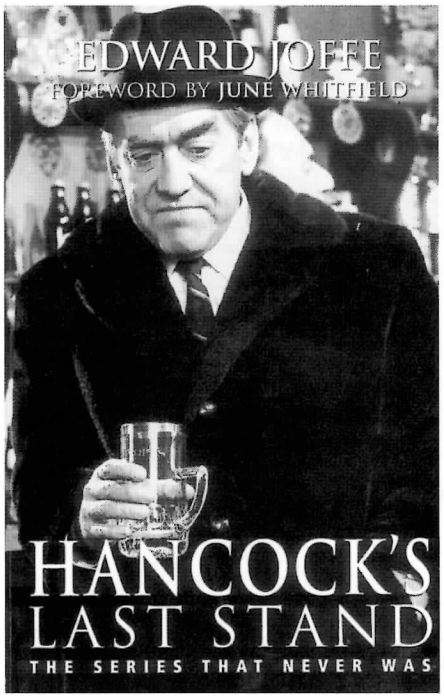
Episode 4. 'The Seven Steptoerai'– 25.09.74
Exists as 625 colour VT Master Recording
Kung Fu fever hits the Steptoes.

Episode 5. 'Upstairs Downstairs, Upstairs Downstairs' – 03.10.74
Exists as 625 colour VT Master Recording
Harold becomes a servant to his bedridden father.

Episode 6. 'Séance in a Wet Rag and Bone Yard' – 10.10.74
Exists as 625 colour VT Master Recording
The Steptoes hold a séance.

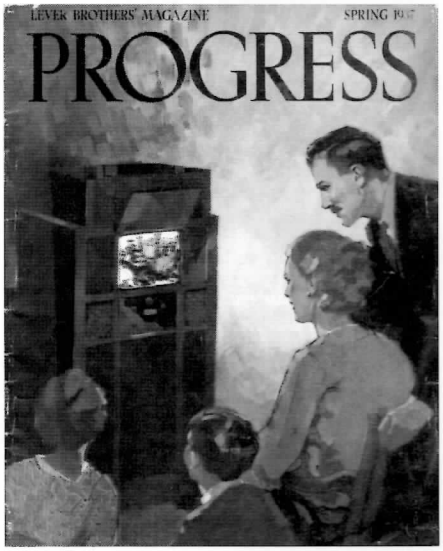
Christmas Special – 26.12.74
Exists as 625 colour VT Master Recording
Again, Harold wants to spend Christmas abroad, but he hasn't reckoned on his wily father.

Recent Sightings spotted by Andrew Henderson



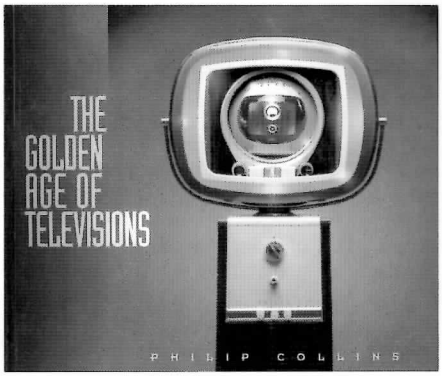
'Hancock's Last Stand' by Edward Joffe is a recent Paperback which is a painful, but enlightening account of the last months in the life of the famous comedian. Over 200 pages with photographs tell the story of the Australian 1968 series which was never completed. Author Joffe was in charge of the production of this television series and also personally looking after Tony Hancock. He pulls no punches in describing in intricate details the sad and bitter, self destructive streak that led to his tragic suicide. Joffe treats his subject with absolute respect and we often gain glimpses into the Hancock before drink and drugs took their toll. (ISBN 0-413-74040-4 RRP £7.99).

Spotted in Past Times - this pseudo period Television!

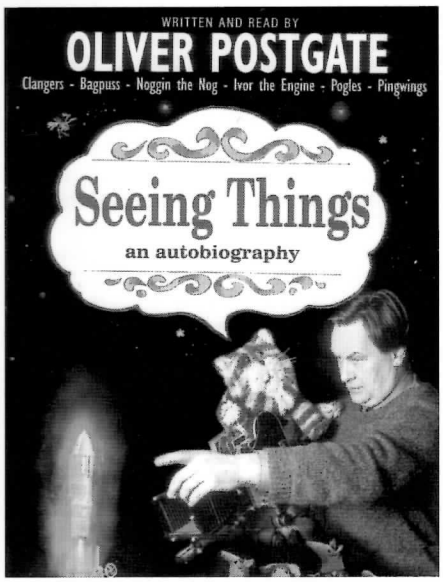


In Spring 1937, Coronation fever hit the country and even 'Progress', the Lever Bros Staff magazine celebrated with this unusual pre-war family watching the great day on their family set. Can anyone identify the set?

Issue 34 of 'Test Cards' is now available. It features a mysterious BBC Test Card, the new Apollo Sound CD Vol I 8. BBC history dates plus a photograph section. Check www.test-cards.fsnet.co.uk for further details or e-mail Keith Hamer: keith@test-cards.fsnet.co.uk for subscription details.



Worth seeking out! .... a copy of 'The Golden Age of Televisions' a 132 page glossy American softback by Philip Collins (ISBN: 1-57544-019-9 RRP $15.95 USD). This profusely illustrated volume features Televisions from the Baird Televisor to more recent colour (or should that be color) sets. The content as expected is predominantly American, but also features some standard British sets. There is little text to speak of and the accent is on the quality photographs (all in colour) of each set. Apart from a few date inaccuracies this is a lovely book to browse and enjoy. Published by General Publishing Corps – Los Angeles.



Although 'Seeing Things', the autobiography of Oliver Postage, is available in book form, you might be better pleased with the charming audio book released by Macmillan. The novelty here is that most people will instantly recognise the distinctive nostalgic voice of Mr Postage, who with the label Smallfilms produced well remembered stop-motion films for the BBC. These included 'Pogle's Wood', 'The Clangers', 'Noggin the Nog' and 'Bagpuss'. Over 3 hours we, gain an appreciation of the origins of the films as well and the warm hearted story of a life rich with colour and life. The charm of the films still stands the test of time. Generations of viewers who enjoyed 'Ivor the Engine' will not be disappointed! (Audio book code MAB 202 – phone 01624 675137 for details).

Back issues

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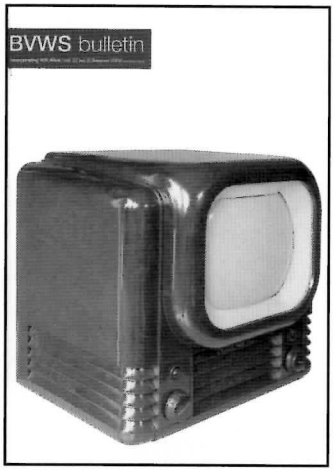
Vol 12 Numbers 2, 3 Inc. the Emor Globe, The Fultograph, Ekco Coloured Cabinets.
Vol 13 Numbers 1, 3 Inc. Direct action tuning, The Philips 2514, Noctovision.
Vol 14 Number 3 Inc. Cable broadcasting in the 1930's, The story of the Screen Grid.
Vol 15 Number 2, 3 Inc. The wartime Civilian Receiver, Coherers in action, Vintage Vision.
Vol 16 Numbers 1, 2, 3 Inc. The Stenode, The Philips 2511, Inside the Round Ekcos.
Vol 17 Numbers 3, 5 Inc. Wattless Mains Droppers, The First Philips set, Receiver Techniques.
Vol 18 Number 5 Inc. The First Transistor radio, The AVO Valve tester, The way it was.
Vol 19 Numbers 1, 5, 6 Inc. The Birth of the Transistor, Super Inductance and all that, reflex circuits, A Murphy Radio display, restoration.
Vol 20 Numbers 3, 4, 5, 6 Inc. Radio Instruments Ltd., Japanese shirt pocket radios, Philco 'peoples set', notes on piano-keys, the story of Pilot Radio, the Ever Ready company from the inside, the Cambridge international, the AWA Radiolette. This Murphy tunes itself!
Vol 21 Numbers 1, 3, 4 Inc. Marconi in postcards, the Defiant M900, GPO registration No.s, Personal portables, the transmission of time signals by wireless, the Ekco A23, historic equipment from the early marine era, the birth pains of radio, inside the BM20, plastics, Ferdinand Braun, pioneer of wireless telegraphy, That was the weekend that was, The first bakelite radios, BVWS - the first five years, the world of cathedrals, Pam 710.
Vol 22 Numbers 1, 2, 4 Inc. Another AD65 story, the Marconiphone P20B & P17B, Listening in, communication with wires, the story of Sudbury radio supply, French collection, Zenith Trans-oceanics, Farnham show, Alba's baby, the first Murphy television receiver, AJS receivers, Fellows magneto Company, Ekco RS3, Black Propaganda.
Vol 23 Numbers 1, 2, 3, 4 Inc. Sonora Sonorette, Bush SUG3, RNAS Transmitter type 52b, North American 'Woodies', Why collect catalin, Pilot Little Maestro, Theremin or Electronde, The Radio Communication Company, Early FM receivers, an odd Melody Maker, Black propaganda.
Vol 24 Numbers 1, 2, 3 Inc. The Superhet for beginners, Triode valves in radio receivers, History of GEC and the Marconi - Osram valve, KB FB10, Great Scotts!, Riders manuals.
Vol 25 Numbers 1, 2, 3 Inc. Repair of an Aerodyne 302, Henry Jackson, pioneer of Wireless communication at sea, Zenith 500 series, Confessions of a wireless fiend, RGD B2351, John Bailey 1938 Alexandra palace and the BBC, Ekco during the phony war, Repairing a BTH loudspeaker, The portable radio in British life.
Vol 26 Numbers 2, 3, 4 Inc. How green was your Ekco?, The Amplion Dragon, Crystal gazing, The BVWS at the NEC, Installing aerials and earths, Novelty radios, Machine-age Ekco stands of the 1930s, Volksempfänger; myth and reality.
Vol 27 Numbers 1, 2 Inc. The 'Felix' crystal set, The 'Telly Doctor', An Emerson midget re-born, British television aerial reconnaissance: the fisrt ten years, part 1.



Supplements:
1 'The story of Burndept'.
2 'Seeing by wireless' the story of Baird Television
3 Reproduction Marconi catalogue
4 The BBC 60th Anniversary "Just a few lines"

Earlier Bulletins and supplements are priced at £2:00 each + postage. Bulletins from volume 21 onwards are priced at £2.50 each. + postage.

Postage:
for individual Bulletins add 50p, for 2-5 bulletins add £1, for 6 or more add an extra 20p each. 23 Rosendale Road, West Dulwich London SE21 8DS Telephone 0181 670 3667. Cheques to be made payable to 'The Vintage Wireless Museum'.

News and Meetings

The keeper of the list
Martyn Bennett still has the role of custodian of the BVWS list of G.P.O. Registration Numbers. As many members will know the project of assembling this list was started in the early days of the BVWS and, more recently, has been enthusiastically carried on by Pat Leggatt. Members are strongly urged to help build the list, whenever they get the opportunity, particularly as it is something that will help with the identification of vintage wireless in years to come. The list is by no means complete and the GPO no longer have a record of the numbers granted to wireless manufacturers. The BVWS Handbook contains the current listings - one in numerical order and one ordered by name. Please let Martyn have any additions, or suggestions for corrections, by mail or over the phone.

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e-mail: martyB@globalnet.co.uk

2003 meetings

Feb 16th Audio Jumble
Feb 23th Easton in Gordano, Bristol

March 2nd Harpenden AGM & Auction
March 16th Leeds Radio Meeting

April 20th Workshop at Gerry's

May 4th NVCF

June 1st Holiday Inn, Haydock, Lancashire
(contact Andy Wilcox: 0113 266 4077)
June 7th Garden Party at Gerry's
June 8th Harpenden
June 29th Wootton Bassett, Swindon

July 13th Workshop at Gerry's

Sept 7th Harpenden
Sept 28th NVCF

Oct 19th Workshop at Gerry's
Oct 26th Southborough
Oct 26th Leeds Radio Meet
(contact Andy Wilcox: 0113 266 4077)

Nov 23rd Harpenden
Nov 23rd Holiday Inn, Haydock, Lancashire
(contact Andy Wilcox: 0113 266 4077)

Dec 7th Wootton Bassett, Swindon

New Articles
If you have anything interesting to say concerning Wireless, Television, Broadcasting, Collecting etc. please send it to the Editor for future publication in the BVWS Bulletin. Your article can be just a few paragraphs long if you think it conveys its message to your fellow members. Also if you have any photographic material that would look good in the Bulletin, don't hesitate to post it to the Editor. The chances are that I will definitely use it!

Please send to: Carl Glover, 33 Rangers Square, London SE10 8HR. Tel: 020 8469 2904 email: choris.b@virgin.net


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