

# BVWS bulletin

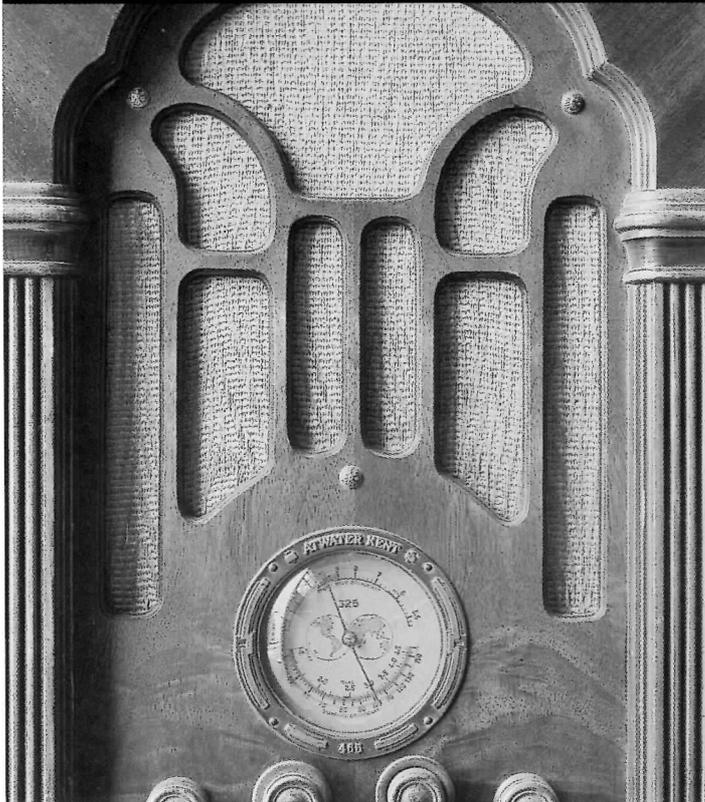
volume 23 number 4 Winter 1998 [www.bvws.org.uk](http://www.bvws.org.uk)



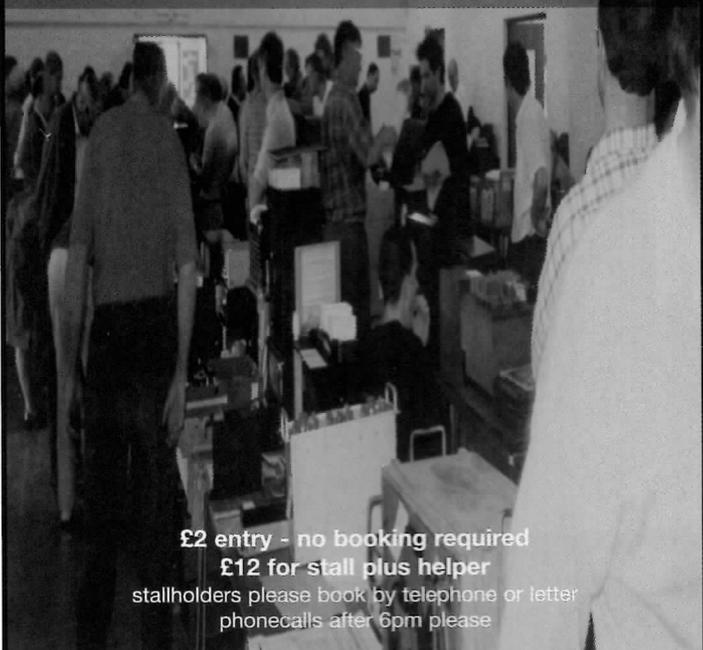
# The Vintage Wireless Museum

23 Rosendale Road, West Dulwich London SE21 8DS  
Telephone 0181 670 3667

Proprietor: Gerald Wells. Please make appointments beforehand



Swapmeet at  
**Wootton Bassett**  
 The Memorial Hall, Station Road, Wootton Bassett  
 (3 miles from M4 Junction 16, turn left after Town Hall)  
**6th December 1998**



**£2 entry - no booking required**  
**£12 for stall plus helper**  
 stallholders please book by telephone or letter  
 phonecalls after 6pm please

Mike Barker: 59 Dunsford Close, Hillside Park, Swindon, Wilts SN1 4PW  
 Telephone 01793 536040

# Radio Bygones



The leading vintage wireless magazine

**INCLUDING IN THE OCT/NOV '98 ISSUE ...**

- Telefunken short-wave receiver T32
- VHF communications at RAE, 1937-1942 Part 1
- Anatomy of a wireless fake
- 'Lisbeth' - an illegal Norwegian receiver of WWII
- The domestic portable record player
- We never closed - secret WWII history of Ally Pally
- A loudspeaker repair

**PLUS ALL THE REGULAR FEATURES ...**

- News and events in the world of vintage wireless
- 'Can you help?' - readers' queries and requests
- 'Feedback' - readers' letters
- RB Bookshelf - mail-order book service
- Readers' adverts - the ones that work!

**Annual subscription (6 issues) £18.50 in the UK  
£19.50 to Europe**

**£23.75 the rest of the world, by airmail  
Or send £3.25 or a US\$5 Bill for a sample copy**

*Please make all cheques payable to G C Arnold Partners*

G C Arnold Partners (B11), 9 Wetherby Close, Broadstone,  
Dorset BH18 8JB, England. Telephone/FAX: 01202 658474

# NATIONAL VINTAGE COMMUNICATIONS FAIR . . . . our 12th show!

MAKE A NOTE IN YOUR DIARY NOW!

**NEC Hall 11 • 10.30 - 4pm  
Sunday 9th May 1999**

VINTAGE RADIOS • CRYSTAL SETS  
EARLY 1920s VALVE RECEIVERS  
HORN LOUDSPEAKERS • TRANSISTORS  
VALVES & COMPONENTS • EARLY TVS  
VINTAGE HI-FI/CLASSIC AUDIO  
TELEPHONES • KIOSKS • GPO ITEMS  
GRAMOPHONES • RECORDS (78s to CDs)  
SCIENTIFIC INSTRUMENTS *plus all*  
ELECTRICAL & MECHANICAL  
ANTIQUES *and* COLLECTABLES

**STALL BOOKINGS/DETAILS:**

Sunrise Press, 13 Belmont Road, Exeter, Devon EX1 2HF.  
Telephone: (01392) 411565 E.mail [sunpress@eurobell.co.uk](mailto:sunpress@eurobell.co.uk)  
Web <http://www.angelfire.com/tx/sunpress/index.html>

NVCF sponsors and supports the  
**British Association for the Advancement of Science** & the  
**British Vintage Wireless Society**

**BVWS Committee****Temporary Chairman:**

David Read,  
25 Temple Fortune Hill,  
London,  
NW11 7XL  
Tel: 0181 455 9523

**Bulletin Editor:**

Carl Glover,  
c/o Runciter Corporation,  
33 Rangers Square,  
London  
SE10 8HR  
Tel/Fax: 0181 469 2904

**Treasurer:** David Read,

25 Temple Fortune Hill,  
London,  
NW11 7XL  
Tel: 0181 455 9523

**Events Co-ordinator:**

Steve Sidaway

**Membership Secretary:**

Mike Barker,  
59 Dunsford Close,  
Hillside Park, Swindon.  
Wilts SN1 4PW

**Members' Advertisements:**

Ian Higginbottom,  
5 Templewood,  
Ealing,  
London W13 8BA  
Tel/Fax: 0181 998 1594

**Committee Secretary**

Guy Peskett

**Ordinary Members**

Jeff Borinsky

Bulletin of the British Vintage  
Wireless Society  
Volume 23 No.4 Winter 1998

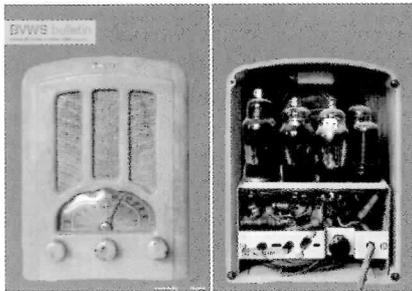
www.bvws.org.uk

Copyright: No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means without the prior permission of the publishers, The British Vintage Wireless Society. Copyright may also be the property of contributors.  
©1998 British Vintage Wireless Society

Separations by Cutting Edge  
Printed by Apollo

**Honorary Members:**

Gordon Bussey I Dr A.R. Constable  
Ray Herbert I David Read  
Gerald Wells



Front Cover: Emerson AU190 'Tombstone'.  
Rear cover: Rear of Emerson AU190.

Cover photography by Mark Groep.  
Graphic Design by Carl Glover

## Contents

- 1 Emerson AU190
- 2 Advertisements
- 3 From the Chair, Pat Leggatt
- 4 The Pilot Little Maestro
- 6 NVCF, Sunday October 11th 1998
- 8 Restoration of a Bush Model PB51
- 11 The proof of the pudding  
Editor Speaks
- 12 Theremin or Electronde
- 14 Marconi centenaries in 1998
- 18 Why collect Catalin
- 20 Invicta the forgotten make
- 23 Rare Corsor television discovered
- 24 405 questions and answers
- 27 Re-enactment of the first use of  
wireless by the Royal family in 1898
- 28 Taken the plunge yet?
- 30 Return to Rochester
- 32 The origins of the valve
- 33 Around the world for £5.03
- 34 Letters
- 36 BVWS minutes
- 37 Back issues, Advertisements
- 38 News & meetings, Advertisements
- 39 Advertisements
- 40 Rear of Emerson AU190

## From the chair

BVWS members will be deeply saddened to learn of the sudden death of Pat Leggatt.

His obituary, written by his old friend and former colleague at the B.B.C. and I.E.E. Alan Carter, is in this issue of the bulletin. This 'From the Chair' is a short personal tribute to the memory of a very special individual whose untiring work for the BVWS found expression in everything from a multitude of marvellous articles for the Bulletin, to largely unseen help to anyone who needed it. That he was our Chairman for two periods he would regard as unimportant since self importance was entirely absent in his character; his approach was always 'to do rather than to be'. When the present Committee sought to make him an Honorary Member in recognition of everything he has done for the Society over so many years, he quite typically refused the honour.

Those who worked with him on the Committee know that at times he was not the easiest person to deal with. He did not seek to



disguise woolly thinking or lack of effort in others and this could make him seem autocratic or to lack a diplomatic touch. Yet this was misleading as his first priority was always to be helpful, and those who got to know him found in him a constant friend whose help was unstinting and available immediately rather than tomorrow or next week. He took up the job of Membership Secretary in the few months before his death because, in unforeseen circumstances, the job became vacant and had to be done. He was both a demanding and generous personality, but he demanded much more from himself than others.

I spoke to Pat the day before he died. He had just returned from a short holiday visiting BVWS friends in Sweden and was full of the enjoyment of it. His death was mercifully quick and it is impossible to believe that he has gone. The sense of loss is tangible, and whilst no one is indispensable, Pat is quite literally irreplaceable.

David Read

### Donald Patrick (Pat) Leggatt

Pat Leggatt was closely associated with radio, both professionally and as a hobby, for virtually the whole of his life. His professional career began at E.M.I. Laboratories and he then moved to B.B.C. studio engineering operations, taking on increasingly responsible supervisory and managerial commitments to become head of the Specialist Engineering Department, where he dealt with the planning and provision of television studios throughout the U.K. Finally, as Chief Engineer External Relations he was responsible for all B.B.C. radio regulatory matters both at home and world wide through the International Telecommunications Union in Geneva where he earned international respect. As a Fellow of the Institution of Electrical Engineers, he served on the History of Technology Committee, chairing meetings as well as a major convention on the history of television.

I knew Pat as a colleague for some years before hearing him discussing over lunch, at the next table, a circuit diagram on the back of an old envelope. Someone bet that I could not identify it and, when my quick response was 'W.W.1 Mark III Tuner', I was immediately in with Pat! The following day I invited him to my office to inspect a newly completed lunchtime restoration project - a Marconi Type 31 Receiver. When I mentioned the BVWS he asked "What's that?" I gave him an application form and we soon became firm friends - as indeed did our wives. With his enthusiasm, bonhomie and an increasing output of well-written articles, he soon became well-known in the Society. He had the knack of explaining technical matters to

those with limited specialist knowledge without being patronising. Pat became a dedicated supporter of the BVWS Committee providing wise counsel over the years when serving as a member and as Chairman. He took on the arduous task of maintaining the Society's membership records as well as the important task of proof reading the Bulletin.

Each of us has our own special period in wireless history and for Pat this was from the pre-broadcasting years until the late 1920's. He was an able restorer and his comprehensive collection included not only items from the U.K. but also from continental Europe and the U.S.A. Some of the receivers employed curious circuit techniques which always yielded to his analysis. His son and family are resident in the U.S.A. and, as a member of the Antique Wireless Association, he often combined family visits with A.W.A. meetings where he made many friends. He was a contributor to the A.W.A. 'Old Timers Bulletin' and received the Taylor award in 1991 for his article on the history of television.

Following the loss of his wife Margaret two years ago, Pat was closely supported by his two daughters and their families, who live in the UK, and we were all so pleased at the way he came through his sad ordeal and, with characteristic enthusiasm, maintained his active participation in the Society's affairs. Having just returned from visiting BVWS friends in Sweden and then delivering a lecture to a meeting near his home, Pat Leggatt, professional engineer, wireless historian and gentleman, was fully active in his chosen subject until the end.

Alan P. Carter 22.10.98

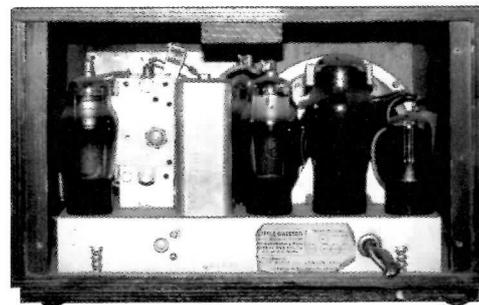
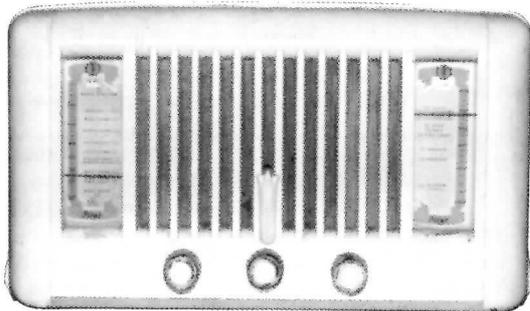
# The Pilot Little Maestro

by Geoffrey Dixon-Nuttall

All right, purists may sniff but not all of us can afford an Ethodyne or a V2, and the Little Maestro series makes a good introduction to the hobby. They are cheap and plentiful, and if you accidentally destroy one it isn't the end of the world.

When Pilot introduced their "Little Maestro" they must have realised that

there was a market for a bigger version, and they introduced the "Major Maestro" in 1940. In fact this has the same performance as its baby brother, but contains more fresh air. It sold on the basis of its larger speaker, and the feeling that it must be a better set, being bigger. And it had a handle.



The Little Maestro was introduced in February 1939, in a choice of wooden cabinets. These were abandoned in favour of Bakelite in 1940, when wood became scarce. (See "Radio Radio", Fig. 640). This cabinet had a long history, as when Pilot had finished with it it went on to house Premier's kit sets.

The "portable" version must be rare, as I have never met one. The "moselle wood" cabinet is very pretty, and looks like pale bird's eye maple.

They must have made a large number of these sets, because there are still a lot about. (The final version was still listed in 1959, by which time Pilot had been absorbed by Ultra, and both then disappeared into BRC). This availability is what makes them worth considering, because they are not a particularly good design.

The circuit is that of a typical American midget of the period. It is a superhet, AC/DC, with a line cord dropper (not just "line cord", please; this is American for "mains lead"). The valves are the usual 0.3 amp series, and one of the I.F. transformers is under the chassis, so it doesn't need a can. Surprisingly, there is an I.F. trap fitted. The performance is reasonable without being remarkable. A throw-out aerial is fitted, wound round a

piece of hardboard which lives in a pocket in the back, or round cleats on the bottom of the cabinet. The chassis, is of course, live, and it is possible to touch the chassis fixing screws under the cabinet. A single pole mains switch is fitted, the cord drive is a particularly poor design, and the dial bulb is dangerously close to the dial plate.

Finding the correct circuit is a problem, as according to Molloy & Poole there are no less than thirteen versions. It seems Pilot couldn't resist fiddling with it, as some of the differences are quite trifling. Number two was, I think, the first postwar one, and merely substituted a 6K8 for the 6A8. This was probably because there were a lot of them about as Army surplus. Number three was the same, except that it had a mains transformer instead of the dropper. Unfortunately this was not the good news that it might have been, because the chassis was still live as the transformer had no separate H.T. winding.

Number four came out in September 1947 and was an advance, as the valves were changed for the 0.15 amp series. This meant that the amount of heat to be lost was halved. The speaker now went over to permanent magnet, for cheapness, the smoothing being by resistance. (This is the

version covered by Trader sheet 871.)

This set has two dials, which light up to show which band is being tuned. It was sold as the "de luxe" model, and the standard model was continued at the same time. Number five was virtually the same, but the smoothing was increased and cathode bias was applied to the I.F. stage. The line cord dropper was abandoned in favour of a resistor on the chassis. (This set is covered by Trader sheet T.913).

Its close relation is version 6, which is the same but for the fitting of a mains transformer (Trader sheet T.912). This and all subsequent models have a double-pole on-off switch, for which many thanks. Now this is very confusing, because these last two Trader sheets are headed "Model 10". I suppose there are no records left of what it was actually called!

On to version 7, which added cathode bias to the first three valves, and - guess what - negative feedback! This was merely a resistor between the anodes of the L.F. triode and the output valve, but it showed that they were trying. It of course had its "A.C. only" relation, which was version 8.

Version 9 seems to have been called the T65 (1951). Hooray - model numbers at last.

**Just out!**

# NEW SALES-ROCKETING RANGE of the Pilot

## Little Maestro 5 VALVE SUPERHET.



Walnut Model

**SPECIFICATION:**  
Five-valve. Medium and long waves, covering 200/560, 1,000/3,000 metres. A.C./D.C. Models. 200/220 volts. 100/120 volts models available when required—no extra charge. On and off indicator lamp. Automatic volume control. 21-watt output. Stylish modern cabinet.



Blue 'Leatharette' Model Complete with carrying handle.



Light Grain Oak Model

**5 GNS.**  
or by easy H.P. terms. (Prices do not apply to Hire.)  
Size: 7 1/2" high, 11 1/2" wide, 3 1/2" deep.  
Weight 4 lbs.

- ★ FIRST BRITISH SMALLER-SIZE SUPERHET WITH 'BIG SET' PERFORMANCE!
- ★ OPENS UP GENUINE NEW MARKET!
- ★ SENSATIONALLY LOW PRICE!



The New DE LUXE MODEL in light figured moselle wood  
**£5 : 19 : 6**  
Release date: July 24

★ One of the most successful radio sets for years!

Pilot Radio's Little Maestro has scored a notable triumph. And now—here's a great new range of best sellers! New, improved cabinet design—even better performance and a brand new de-luxe model in light figured moselle wood for modern furnishings. Extensive advertising starts shortly. Sales winning display material has been specially designed. The stage is set for a record season! All accredited dealers have been notified. All other dealers should write for details at once to  
**PILOT RADIO, LTD., 31-33 PARK ROYAL ROAD, LONDON, N.W.10.**  
Tel.: WILlesden 7353/4/5.

**Attractive FREE Display Sales Aids—**

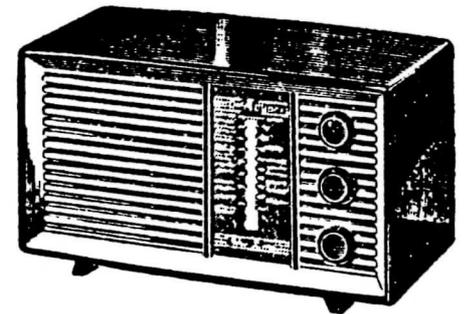
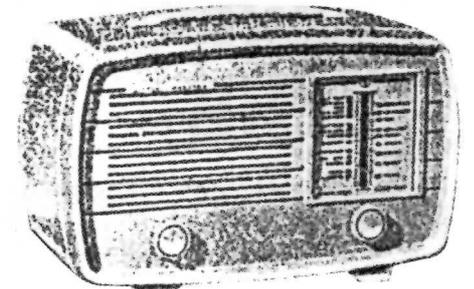
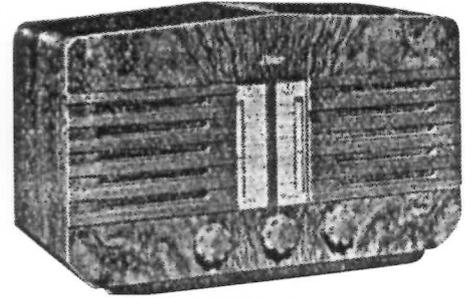
**1**

Attractively designed, beautifully printed, display stand in colour to hold a single set.

**2**

Special unit of striking design and presentation to accommodate 3 Little Maestro Receivers. A really imposing piece of display.

Please mention "The Wireless & Electrical Trader" when replying to Advertisers.



Top: The Major Maestro  
Above: Three variants of the Little Maestro

It went over to miniature valves, using the B7G series (12BE6, etc.). It had a switch so that it could operate on 110 volts; this must have been with an eye on the export market. The A.C. only version of this was version 10 (or model T66). Both 9 and 10 have a plate aerial fitted, and a frame aerial, which shows that they must have improved the performance, as the original design needed its throw out aerial if it was to pick up anything at all. These models are covered by Trader sheet 1034.

The next model was the T6513 (AC/DC), which seems to have been only distinguished by a ferrite rod aerial, and its AC only relation, T66/3.

The final version was the T105, which was a total re-design. This had three B9G valves, and the one I met really does go. It even had quite a sophisticated negative feedback circuit, but was for AC/DC only. These last models are covered in Molloy & Poole. This was the one that was still listed as Pilot sold out to Ultra.

One wonders why they went on making the AC/DC versions when there was hardly any DC mains left in use? The A.C. versions were probably more reliable and safer, but the purchaser was not, of course, told this,

and the price was the same, so the AC/DC one was probably more profitable.

All these sets are around in quantity, and they present an interesting challenge to the collector. The main problem is that line cord dropper. It is quite possible to use a diode dropper, but the sets using 0.3 amp valves still need a resistor, with a lot of heat. One of the sets that I have met had a PZ30 fitted as a rectifier; this has a 52 volt heater, which helps a lot. There is still the matter of 20 watts or so to lose, but this is just possible if the set is not used all day—otherwise the cabinet will suffer. A capacity dropper is possible, but rather a squeeze. Please use AC rated capacitors; about 4.5 for a start, and don't forget to fit a bleed resistor! Trial and error is called for, as these capacitors are usually of wide tolerance. A possibility with the earlier models is to change the valves for the later 0.1 SA series. This is not for the purist, but it does save an awful lot of waste heat.

Those of us who have not met the line cord dropper may wonder what is wrong with it. The resistor was wound on asbestos cord, which was then enclosed in a sort of stocking made of woven asbestos, or glass fibre. This was then made up with two rubber

covered flexes and the usual amount of string padding into a mains cable. The heat eventually made the rubber hard, and when it collapsed the resulting explosion was quite dramatic. As the cord was usually made to about 60 ohms per foot quite a long piece was needed, and it was often shortened to get it out of the way, which did the valves no good at all. There are still bits of line cord resistor in stock, but as they must be getting on for half a century old the rubber is well past its sell-by date.

I'm afraid no amount of work will make these things get past the safety regulations! But they make a cheerful sound and some of the cabinet work is quite pretty. As I said, one of these might inspire somebody to higher things, and if you blow it up it is not a national tragedy.



# NVCF Sunday October 11th 1998

by Jonathan Hill, photographs by David Read and Jonathan Hill

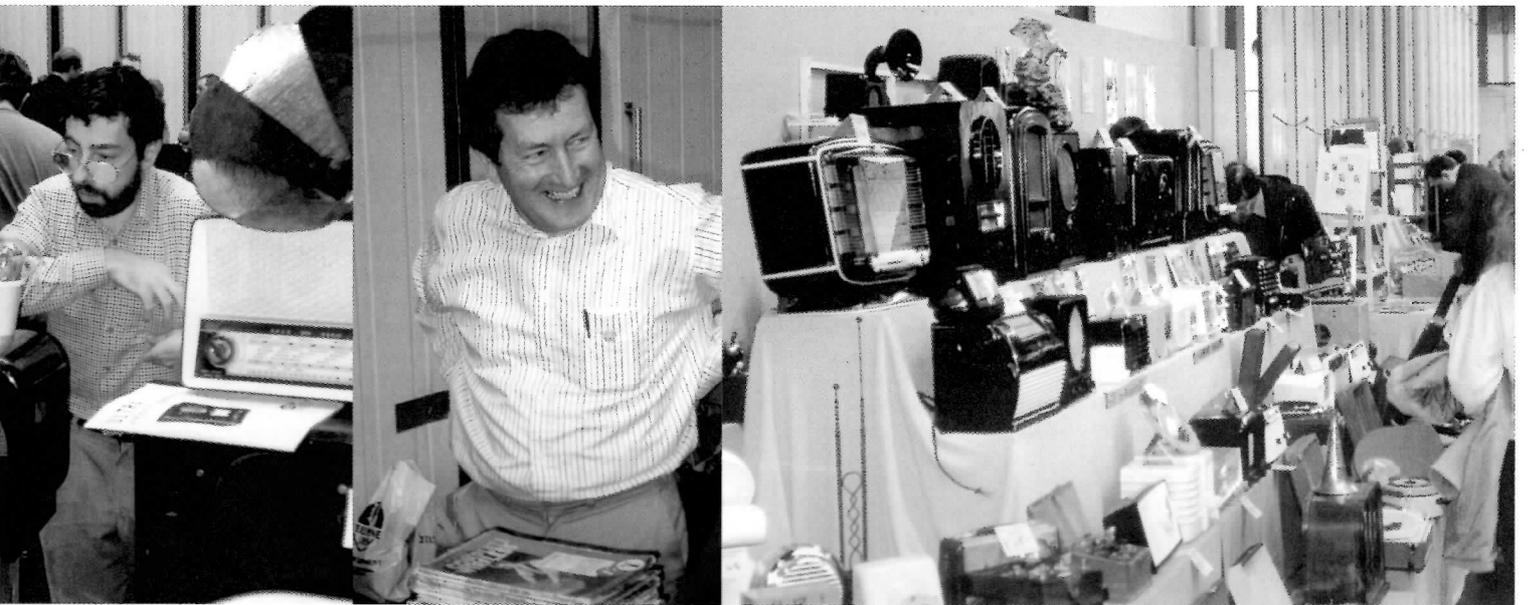


The 11th National Vintage Communications Fair took place in October with Hall 11 packed with over 310 stalls - the most well-supported show so far, and a certain indication that interest in the hobby is showing no signs of a let up. 1,000s of vintage radios, telephones, gramophones, valve amplifiers and all manner of other sound and vision collectables were on sale, with a definite bias towards 'quality' items. Among the notable finds was a rare Perdio PR1 pocket portable made in June 1957, which a lucky BVWS member bought for £100. Also there, with a price tag of £4,000, was a Victorian Gower-Bell telephone, one of the British Post Office's first standard telephones, and one of only two known surviving examples. At the other end of the evolutionary scale, member Peter Foden, who has set up and is managing the BVWS' own web site (<http://www.bvws.org.uk>), gave visitors their first glimpse of his new Vintage Data CD-Rom which contains over 1,000 service sheets and circuit diagrams of different radio receivers. Although fairly standard in the States, this method of accessing circuit diagrams and printing them out via your computer is new to Britain, and Peter will no doubt be demonstrating this at future Harpendens.





left to right: A crowded area of the hall, with radios from the 1930s, 1940s and 1950s lined-up six-deep. The little tv set in the centre was one of the few television receivers on sale at the show. BVWS member Simon Wade with his usual fascinating selection of Catalin sets and other items mainly from the States. Dutch BVWS member Ivo Lemmens at his stall. Committee member and long serving member Steve Sidaway. Peter Foden showing off his new Vintage Data CD-Rom on a laptop computer; when connected to a printer, the circuit diagrams may be printed off at will, or simply viewed on screen.



left to right: One of Gerry Wells' wooden AD65s. An impressive array of horn gramophones wound-up and ready for action. John Narborough deep in thought. John Howes in a cheerful mood. A display of mainly French and British sets. Below left to right: BVWS member Reg Dykes inspecting a speaker. A postwar display. A fairly typical stall at the NEC. An arrangement of affordable mainly post-war Radios.



# Restoration of a Bush model PB 51

by Colin Mansfield

The description in 'Radio Radio' states - "A 11938 four valve plus rectifier AC mains superhet table model SW/MW/LW, scale and station names, push button and manual tuning, with a polished walnut veneered plywood cabinet". However what is not stated is the top and sides are made from white plywood having a simulated walnut finish; only the front has walnut veneer. The set used tried and tested technology, which was not that advanced for 1938, however it did have excellent iron cored I.F. coils with an extremely high 'Q' factor. This made for good overall performance; the local oscillator has proved most stable, giving minimal drift on its five pre-tuned variable permeability push-buttons.

## About the Author

The author has spent all his working life in Radio, Television, and Civil Aviation electronic repair and maintenance. Having left school at 14 he joined a progressive Radio and Television service department in the 1950s, just when the black and white 405-line television service started to expand.

After serving as an inside bench engineer he gained the final 'City and Guilds' certificate in Radio and Television servicing which was also known as the 'Radio Trades Examination Board' (RTEB) certificate. The author joined the Ministry of Aviation as a Radio Technician in the 1960s, then to radio transmission work at all the principle Civil and Military Air Traffic Control (ATC) sites in the UK, Radar, Data Processing, Scan Conversion systems developed by EMI, and on to Project Management at Heathrow, Manchester, London Air Traffic Control Centre and Gatwick, developing an in-house factory Project Management Cost Control System, finally implementing a Total Quality Management System (TQM) at Gatwick.

He was a founder member of the Society of Electronic & Radio Technicians (SERT) gained an INC and became a member of the IEEIE. The author has maintained his interest in vintage wireless over the years having restored a number of receivers for the Bognor Regis Wireless Museum, and has gained much cabinet repair and French polishing skill from his father, who restored antique furniture.



Left: the Bush PB51 after  
Above: the Bush PB51 before

The valve line up is as follows -  
TH4A Frequency Changer  
VP4B I.F. Amplifier (Var. Mu.)  
TDD4 Detector, AVC, & Audio Amp.  
PEN4A Output Pentode  
DW4/350 Directly heated full wave Rectifier

Interesting features include the use of switched scale lamps for each wave band, and a fixed test point for an output meter across R19 (the IF anode resistor) in the form of a DC voltmeter as a visual tuning indicator; this proved most useful during realignment.

## Initial Condition of the PB 51

This particular set for the Bognor Regis Wireless Museum came half way across southern England in the boot of a friend's car, housed in two large black polythene bags tied up with string. I was told to open them outside and after doing this I realised

why. More than half of the plywood case was eaten away by wood worm: the bags contained much wood dust. The chassis looked intact, with a full line up of valves, all knobs together with an unbroken scale, but again as so often happens the back was missing. I decided that this set represented such a challenge not only in attempting to get the set working, but to rebuild the cabinet into its former glory, that I made it my top priority.

The restoration is described as it happened. First the chassis was removed from what was left of the plywood bottom, its repair is described in some detail; next, a full cabinet re-build stage by stage up to the final polish.

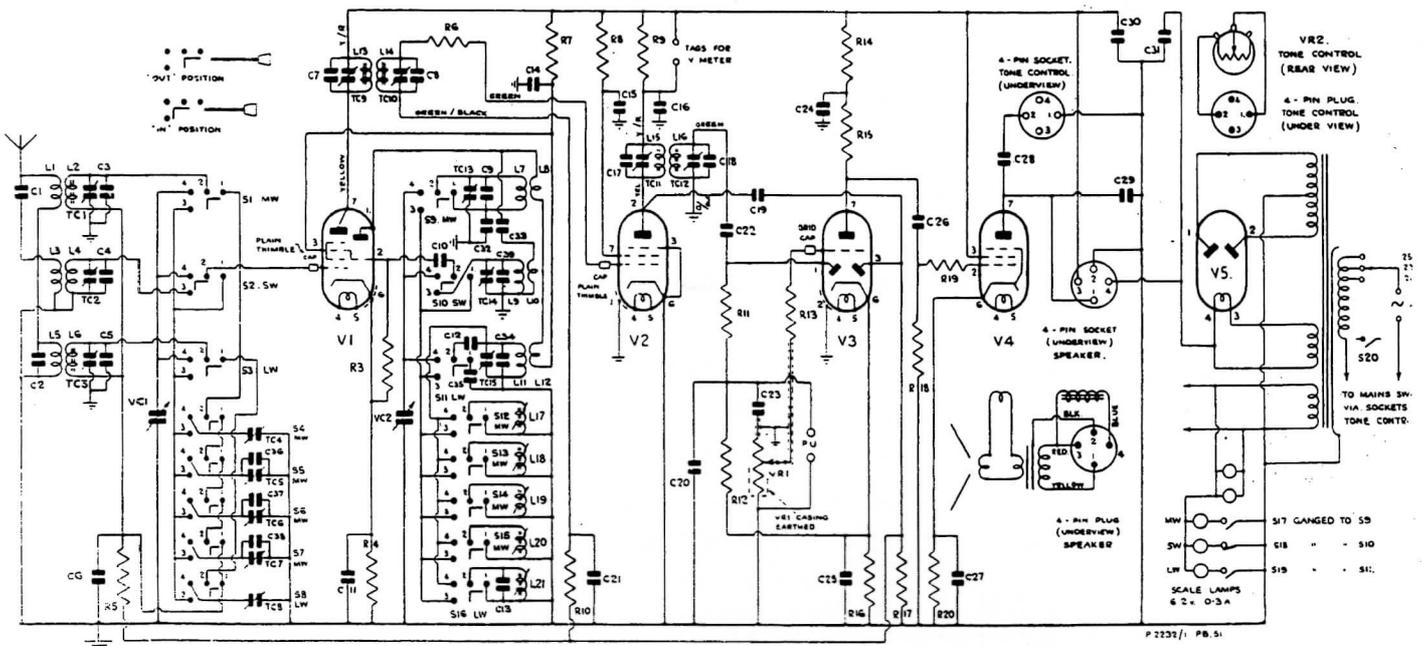
## Chassis Restoration

A 'Gaumont British Products' Bush PB 51 service manual was obtained from the

Bognor Regis Wireless Museum technical library (my thanks to the Curator Mr Ron Simpson). Part is reproduced to assist in this article.

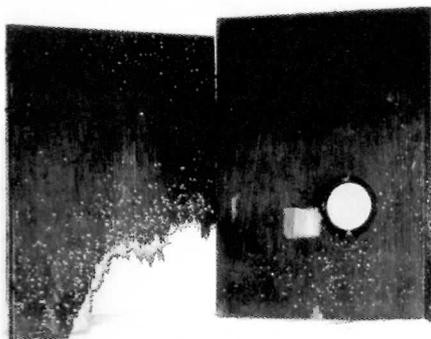
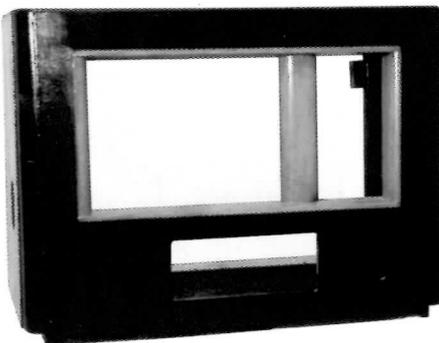
The initial survey really did surprise me as every single component seemed to be original including all valves: even the two principal smoothing blocks had not been replaced. I am of the view that this particular set had been stored in a very damp, wood worm-infested outhouse for some considerable time, as in addition to a great deal of chassis dust, much rust was observed. After removal of the dust with a paint brush and vacuum cleaner, the chassis top and rear were sprayed with WD40, left for two days, then rubbed with '00' grade wire wool, at the same time sucking away all rust and particles of wire wool with the vacuum cleaner to prevent contamination of coils, particularly the loudspeaker speech coil, as iron dust in

# CIRCUIT DIAGRAM P.B.51



IN THE P.B.51 CIRCUIT DIAGRAM ALL THE SWITCH SECTIONS ARE SHOWN AS VIEWED FROM THE TOP OF THE CHASSIS 8-Button Switch, Part No. P2180

Below (from top to bottom): the restored case of the PB 51, photograph illustrating the extent of woodworm damage, the restored chassis of the Bush PB 51.



this area will cause distortion.

Having gained a 'rust free zone' much of the plating was intact and in good general condition. Next came some cold static tests with an Avo 8, across the mains input plug. This was open circuit. Then across the mains transformer primary; this was 32 ohms which is reasonable. The ON/OFF switch was open circuit; upon stripping down the toggle action spring was found broken and a replacement obtained from an ironmongers. The spring was cut to size and fitted. This proved most satisfactory. The H.T. line at C30 (HT smoothing capacitor) was checked, this was 150 ohms. Then across C31 (reservoir capacitor), this was 270 ohms. Thus with a field coil reading of 2,000 ohms both C30, and C31 were diagnosed faulty and in need of replacement. A reading in excess of 30,000 ohms would be considered more normal. However with modern electrolytic types, over 50,000 ohms would be expected. The two electrolytic capacitors C30, and C31 are both housed above the chassis in a large wax block; these are rated at 450 volts DC. To maintain the origin appearance of the set, modern replacements were fitted inside the original wax container by drilling a one inch hole adjacent to the lead out wires, fitting the replacements inside the hole and sealing with wax. C24 the other HT de-coupling capacitor had to be replaced separately as this was housed within a triple block with C25, and C27. These tested OK. The HT line was now in good shape, but as so often happens the audio coupling C26 was also leaky and would have produced grid current in the output valve V4 causing incorrect bias conditions. Some distortion would have been observed and this was replaced. The AGC line if much less than say one Meg ohm can

cause problems but this was in order.

The use of a mains variac is essential when running up sets of unknown condition, with an input of 50 volts to the set. The AC was measured at each anode of the full wave rectifier. Next the DC was monitored at the cathode, the mains input wound up slowly but no HT was measured. Further investigation revealed the rectifier heater open circuit. The DW4 had an intermittent solder connection at the base pin. This was soldered, the valve replaced in its socket and the mains slowly increased to 200 volts. The HT came up and was measured at the screen grid of V4 as 250 volts DC. With full mains applied this was considered satisfactory.

However, with an aerial no signals could be heard. The pickup socket gave a good hum when touched, indicating a reasonable audio stage. A modulated IF signal of 465 kHz (0.2 volt) was injected directly into the top cap (control grid V2) of the IF amplifier. This was increased to 1 volt but very little output was obtained, indicating a faulty stage. DC conditions all measured OK. Transferring the generator to the anode of V2 gave a significantly lower output. Adjustment of the IF secondary trimmer TC 12 gave no point of maximum signal; the primary adjustment TC 11 would not normally give a peak due to the loading of the generator. I therefore decided that the IF transformer or its associated components was faulty. A strip down revealed previous damp contamination, so after complete drying out on the top of my central heating boiler for a week, and refitting, good alignment was obtained with 0.1 volt at V2 control grid.

The set still failed to work so an IF signal was injected directly to the top cap of V1.

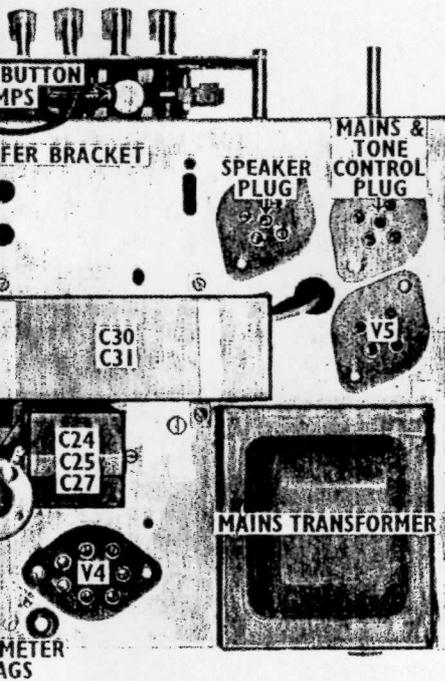


# The proof of the pudding by Pat Leggatt

## RESISTANCES

Description.	Type
Not used	
Not used	
V.1 osc. c/grid resistance ...	Insulated.
V.1 fixed grid bias	
V.1 hexode c/grid decoupling	
V.2 c/grid stabiliser ...	Insulated.
V.1 hexode s/grids decoupling	
V.2 s/grid decoupling	
V.2 anode decoupling	
V.2 c/grid decoupling	
V.3 signal diode I.F. stopper	
V.3 signal diode load	
V.3 triode c/grid I.F. stopper	Insulated.
V.3 triode anode decoupling	
V.3 triode anode load	
V.3 fixed grid bias and A.V.C. delay resistance	
V.3 A.V.C. diode load	
V.4 c/grid resistance	
V.4 c/grid H.F. stopper ...	Insulated.
V.4 fixed grid bias	
Manual volume control	Part No. P.1657
Variable tone control (with mains switch S.20 ganged)	Part No. P.2148

permissible on all fixed resistances, with the exception of



Transformer Cans removed

polish and half methylated spirit to enhance the gloss, then after two days a coating of dark beeswax put on with a fine paint brush and polished off with a duster.

A new loudspeaker cloth was fitted, the complete receiver was then re-assembled into the cabinet, a replacement back was found, and a new exhibit is now ready for display. The time spent on this restoration was excessive but a real pleasure to perform. (On what was previously just another wreck).

If I can assist any member with a similar project, my address and telephone number can be found in the BVWS members list.

I do what I can to help Carl from time to time with a bit of Bulletin proof reading. Because of this I have to be particularly careful to check what I write myself, since my taping and smelling are not always what they should be, particularly after some Christmas smarties.

My particles are usually about rodeo deceivers of one king or a mother, often quite alimentary ones with only two halves. The input stag always includes a toning boil, with many burns if it is for long waxes, or with fewer if we want only a little toil for shorter wages. Across the coin there will be a condenser of about 500 picofarts, which of course is voluble.

The defector is generally of the peaky grip variety, often with ruction, and this feels the output battle which may be a high-mower value suitable for seeding a sneaker or phonks. These simple affairs are usually buttery sots turned on and off with a filbert twitch: you just have to clock the bitch and enjoy the deception. Many manufacturers have given up the old-style on/off snitch and gone for a burton instead. Present dry seats too are lowered from a hattery, and have an infernal ferret sod rather than needing wines run from the back of the horse; but you may have to burn the set to get a good sizzle.

Even pimpler is the critical pet, complete with it's gnatswhisker: you don't need a cattery with these, but

programmes can only be heard weekly.

Sometimes I wish I'd of covered smething more elabrate with lots of calves, where HF sages have to be naturalised to maintain sterility, or careful piddling with fillment eating currant may give some pollution.

But a superheat is praps the most entrusting: here we find many testicalities such as the frequently changing state followed by immediate frequency pages in which the transformers of coarse have no lamentations; and ABC diodes are arranged to control the rain. Most supperhats are powdered by the maids, and often include soothing dispensers with an acidic taste which can't stand too many dolts.

Its must important to own a good vest motor for checking voles and imps. Especially with the maids superhots, too many jolts can play havoc with the dual lumps.

I'm not inclined to trapsisters, randy though they are. I don't really knead a vast packet job, and anyway my pest hasn't got any rockets.

Now I most get gong with me worm professor to toady this up: moving the louse around will soon gut it all right.

May I offer Hippy Net Gear to all hour leaders.



Above: Pat in happier times at the BVWS twentieth anniversary exhibition at Harpenden Hall chatting with Alan P. Carter (centre) and Ian Higginbottom (right)

## Editor Speaks!

Originally I was going to write a breezy and brief resumé of the years business, but that was before we lost Pat Leggatt.

In the four or so years I have known him, I discovered a person who was capable of rolling up his sleeves and getting on with whatever challenge came his way. Pat was a tenacious Committee member and was responsible for quite a few things that would never have been done if it wasn't for his presence.

As you are probably aware Pat was a prolific writer of articles and every issue of the Bulletin except the first two I worked on during the emergency period contain usually two articles by Pat.

His contributions to the Bulletin were

not only reserved to articles but the very important task of proof-reading the Bulletin before going to print. Pat's eagle eye would alight on every errant comma, colon and 'typo' thus saving many an article from a baffled and sometimes hilarious reception. Pat combined with David Read and Ian Higginbottom collectively made sure that the Bulletin was as 'water tight' as an amateur (non profit-making) publication such as this one can be.

Pat didn't suffer fools gladly, but was always willing to 'forgive and forget' other's past errors. With his sense of humour (see 'the proof of the pudding' above) lightening many an issue-charged Committee meeting, Pat's presence will be missed by us all.

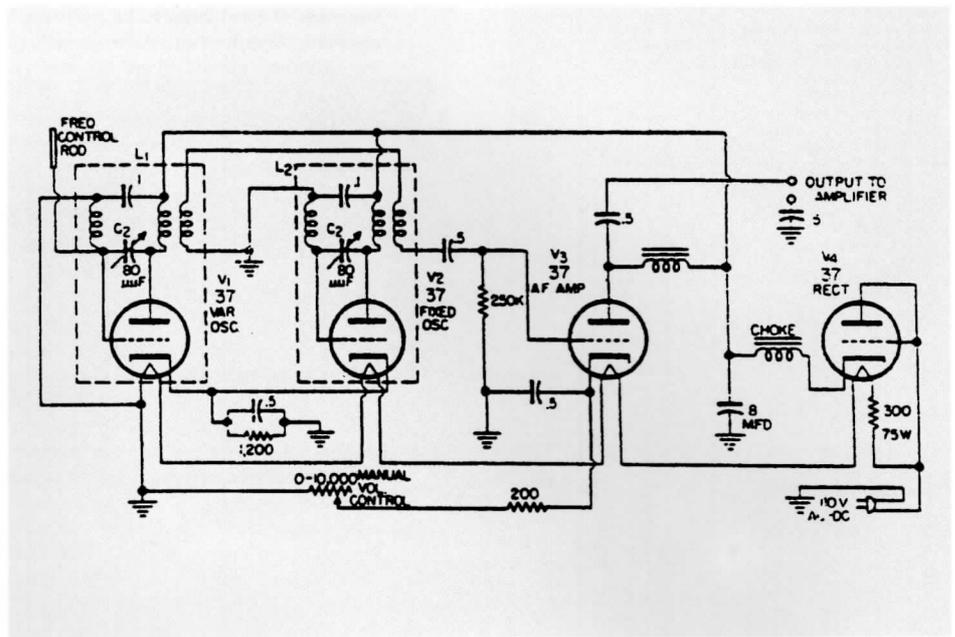
Carl Glover

# The Theremin or Electronde

by J Brown



Leon Theremin demonstrating his machine



Theremin circuit from 1935 issue of 'Radiocraft' magazine

Perhaps the earliest electronic musical instrument to gain fame, if not general acceptance, was the invention of Dr. Leon Theremin and was called by his name. It was manufactured commercially for a time by RCA Victor but is no longer anything but a curiosity.

The Theremin is basically a simple beat-frequency audio oscillator containing two supersonic-frequency L-C oscillators. One is fixed in frequency and the other is varied. The outputs of the two oscillators are mixed in a detector and filtered. The resultant detector output is the difference frequency and is in the audio range.

Any variable audio oscillator can be used to produce music by simply manipulating the tuning knob with enough skill. It is an awkward trick, however, and the singular distinction of Dr. Theremin's method was his method of controlling the variable frequency oscillator.

Electronic musical instruments by Richard H. Dorf. Audio library vol 1, Radio magazines inc, New York 1954

**D**uring Winter, 1936 I did some work for theatres in the West End in sound amplification, and made many acquaintances. One introduced to me an Australian man who was then touring variety halls with his Theremin, and was in dire need of help: his instrument had ceased to work.

After giving assurances that I wouldn't reveal any of the secrets of his Theremin to any other party, the Theremist brought his set to me. I had never seen such a thing before, and carefully opened the tall narrow box, which was covered in black velvet. The Theremist explained that it had been made for him in Australia, and how it worked, although it was clear that he had no idea of radio or electronics. He had previously been playing a 'musical saw' using a cello bow, holding the handle of the saw between his knees and flexing the saw to vary the pitch.

The Theremin was battery powered, and contained five two-volt valves on a kind of baseboard inside an upper compartment, a pair of 90 volt dry HT batteries and a two-

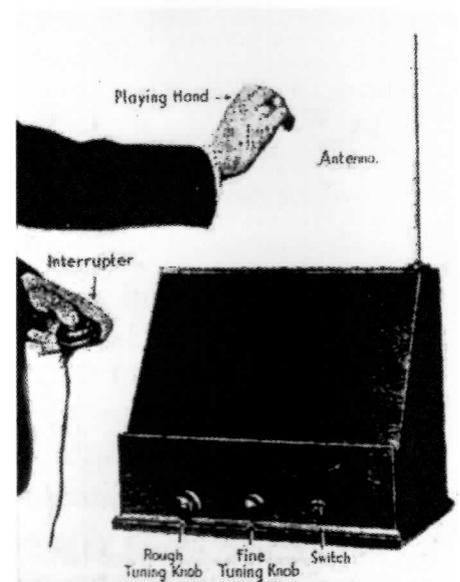
volt accumulator being secured by wooden battens. Plugged into the top was a chrome tube, like a telescopic antenna used in a modern portable, and to this tube was plugged a tennis ball, covered in sequins which sparkled in the spotlight which was part of the stage setting.

Near the top, at the 'back' of the set, was a knob which set the zero beat, and an on-off switch, which was found to be in the HT line to the output stage.

A foot-switch, with a flex cord and plug, was fitted into a socket in the base, so that it was normally out of sight of the audience who only saw the ball on top of the 'wand'.

The object of the footswitch was to cut out sound so as to make a 'keyed' series of tones instead of the normal gliding tone. It was connected in the HT feed to the LF amplifier only.

The filament supply was connected when the footswitch was plugged in. It was part of the 'drill' for the theremin to warm up for five minutes or so before 'going on', to stabilise



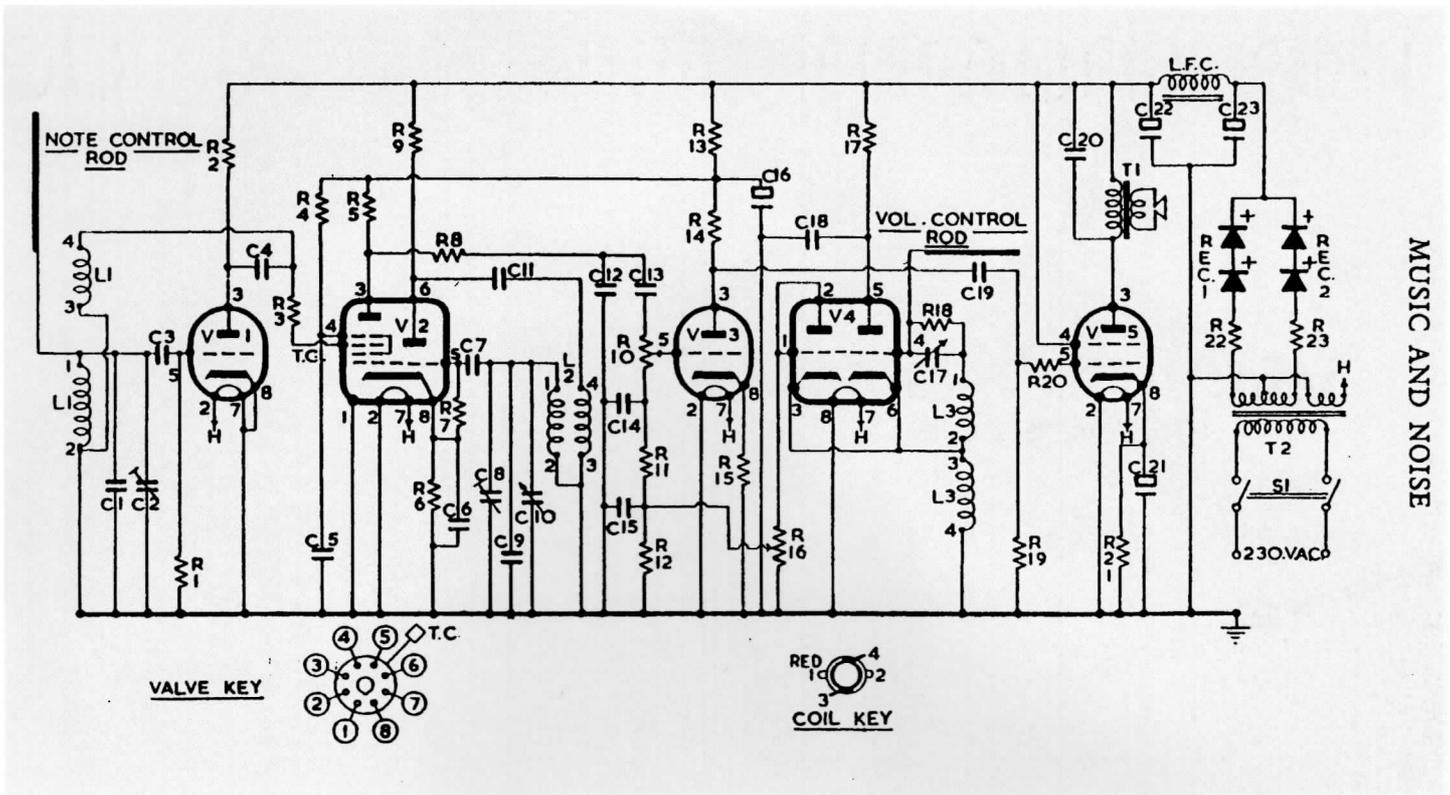
The controls of the theremin. From Amateur Wireless, July 15, 1933

the set at zero beat.

After going over everything, a dry joint was discovered and resoldered. Several frayed wires were made good, and all connections checked, then it worked: the Theremist was moved almost to tears, declared me his pal for life, and gave me a free ticket for the show, with the promise of fish and chip supper with him afterwards. A new grid bias battery was fitted, since although the old one checked OK on my meter, it was the original.

It was a good show, and my friend made much drama, waving his hand over and round the sparkling ball, using the foot switch for for staccato, keyed notes as well as the gliding tone caused by hand capacity. His 'Air on a G-string' got applause.

The circuit was quite simple: two oscillators working (I estimated around 150 kc/s) one fixed oscillator, with the zero beat trimmer capacitor, coupled by a link coil to a



An alternative Theremin circuit from 'Electronic gadgets for the constructor' by E.N Bradley, published by Norman Price (publishers) Ltd.

grid-leak detector/mixer and a very small capacitor coupling from the second oscillator anode to the grid of the detector, provided a strong and a weak injection to the mixer grid. The antenna with the ball, plugged into a socket wired direct to the top of the tuned circuit of the second oscillator, so hand capacity could shift the frequency by about 5 or 6 kHz. Below about 60-80 kHz, the output was inaudible: perhaps the oscillators locked together.

An LF stage followed the detector/mixer, and was transformer coupled to the output stage, a power triode with the full 180V on the anode: the oscillators and detector were fed from 90V.

The zero-beat was set for 'no hand-capacity' ie no hand nearer than about 12 inches. The metallised ball provided the main C element but moving a hand lower, nearer to the metal wand, gave a finer rate of tuning.

The 'secret' was that the oscillators were identical, so that drifts were equal, and they were solidly made. This principle is well known in the design of laboratory beat-

frequency oscillators for audio testing. I have a prewar RCA BFO and an early design of BFO made by the Transmission Labs: very massive, with a specially shaped variable capacitor for tuning, using 4-volt IDH mains valves. I have a Bruel & Kjaer Type 1024 which is perhaps the ultimate in valve-operated BFO, in regular use.

All three work in the 100 kHz range, the B&K at 123 kHz, with more relatively large tuning capacitors to give stability.

Today, one has a great choice of stable oscillator circuits, using FETs, and with a mixer 'chip' and IC output stage, it should be easy to make a theremin in a small box with a 12 volt sealed battery supply, with about 5 watts audio. The oscillator L/C ratio should be high (C about 50pF) so that about 1pF of hand capacity makes a shift of about 1% of oscillator frequency (4.5 kHz for oscillator at 450 kHz).

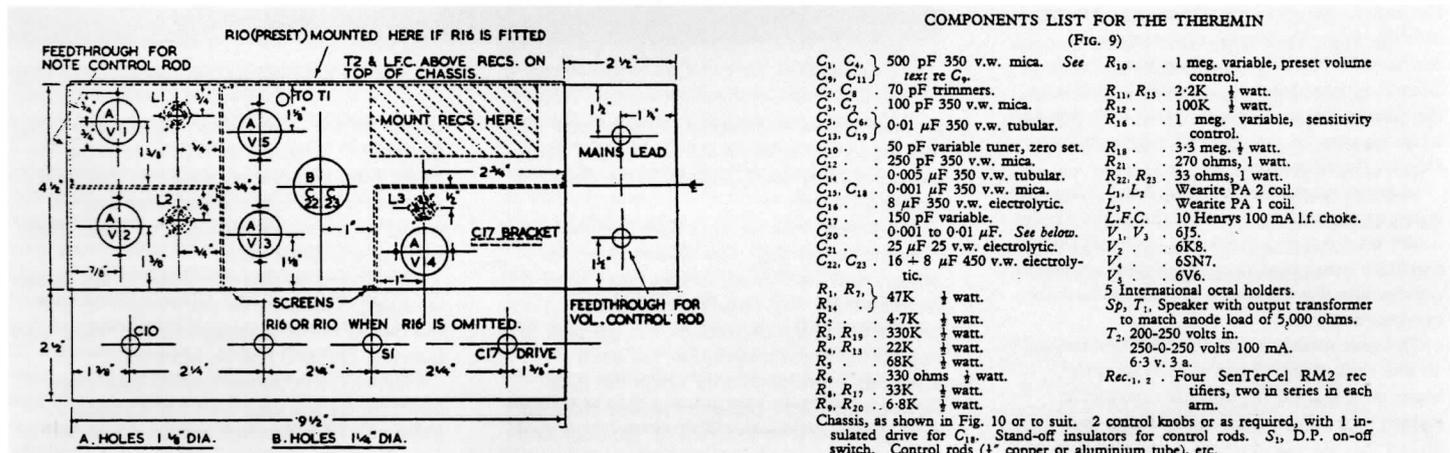
The art is in playing the thing: a tremolo effect can be made by waving the hand, and a quick ear helps to find the 'frets' in space, but hours of practice are necessary.

I think the Australian's name was Warren, but after many years, it is hard to be sure: the memory of the theremin remains fresh, since several times since, I have described it to friends interested in electronic music, and even been inclined to make one for the amusement of the grandchildren: perhaps I will now.

**Ray Herbert Adds:**

Theremins were produced in a small works near my home in Purley. In 23/24 February 1934, I had the loan of one which I demonstrated at my school Scientific Society exhibition. It had to be used in conjunction with a radio set tuned to 1100 metres and as I was exhibiting my home built televisior at the same time the vision superhet could be used for this purpose. You moved your hand towards and away from the rod rather like playing an invisible trombone and the inexperienced chose a tune with successive notes closely spaced. I recall that my demonstration piece was a dance band tune of the period called 'guilty'.

Theremin chassis (top view) and components list for above circuit from 'Electronic gadgets for the constructor' by E.N Bradley, published by Norman Price (publishers) Ltd.



# Marconi centenaries in 1998

by Gordon Bussey



The Royal Needles Hotel, Alum Bay, Isle of Wight 1897. From this Hotel in November 1897, Marconi established the World's first wireless station

Right: the Royal yacht 'Osborne', 1898

## The first use of wireless by the Royal family

In 1898 the then Prince of Wales (later to be Edward VII) went to a ball at the Rothschild palace in Paris and fell down the grand staircase, wrenching his knee. For his own reasons he preferred not to convalesce at Osborne House on the Isle of Wight where his mother Queen Victoria was staying. Instead he stayed at sea on the Royal yacht, 'Osborne'.

The Queen was naturally concerned about her son. At the same time she had been struck by hearing of Marconi's achievements at the Irish Regatta in July 1898. So she invited Marconi to set up a wireless communication link between Ladywood Cottage in the grounds of Osborne House and the ship, 'Osborne', sometimes anchored three-quarter miles away in the Solent and sometimes cruising. In this way the Queen hoped to be in touch with her son while he was on the ship attending the Cowes Regatta Week.

Marconi accepted the invitation, as he told a group of engineers, "with true pleasure, for it offered me the opportunity to study and meditate upon new and interesting elements concerning the influence of hills on wireless communication".

The preparations were careful, as always. To the main mast of the ship, 'Osborne', Marconi attached his vertical conductor, raising it to a height of eighty-three feet above the deck and using a coil capable of



Ladywood Cottage, in the grounds of Osborne House, 1898.

producing a ten-inch spark. With a mast 100 feet tall for his antenna, he erected his land station at Ladywood Cottage in the Osborne House grounds.

The Queen was seventy-nine and the inventor twenty-four. The Queen loved her privacy and had issued orders that it was to be respected. The inventor, concentrating on his problems, strode through her gardens to inspect his shore installation, his mind absorbed in the problems which the East Cowes Hills might present. He was stopped by a gardener who told him to "go back and

round" as the Queen was "out walking in her Bath chair". Marconi did not care to be interrupted and had no desire to "go back and round". He told the gardener that he would go through the garden or leave. Then he returned to his hotel.

This message was conveyed to the Queen who said "Get another electrician". To this the bearer of the message replied "Alas, your Majesty, England has no Marconi".

However, the Queen cannot have been offended as she later sent her carriage to Marconi's hotel to fetch him and give him an

audience. She wished him success and congratulated him on his work about which the Prince of Wales had told her.

In the days that followed, a hundred and fifty messages crossed the hills and the water between the house and the ship, many of them as long as a hundred and fifty words transmitted at an average rate of fifteen words a minute. During all the ship's movements there was no line of sight between the Royal yacht and the mast at Ladywood Cottage, yet wireless messages were able to pass over the obstructing land.

So delighted was the Royal family that they continued their communications after the Cowes Regatta Week. Various Royal Dukes and Duchesses as well as Cabinet Ministers joined in.

Before Marconi left the Royal yacht the Prince of Wales presented him with a souvenir in the shape of a handsome scarf-pin and wished him every success with his marvellous invention. A newspaper report describing these events on the 1st September 1898 concluded with the words "the inventor deserves to rank with the great scientists of the age, for he has given us one of the most remarkable and useful inventions of the nineteenth century".

Marconi himself made the most moving comment on the success of his experiment, when he hoped that the men on lonely lightships and isolated lighthouses should be able "also to send daily messages of a private character ... to render less painful their isolation".

S.-575. (Established—March, 1894) No. of Message \_\_\_\_\_

**D** NAVAL TELEGRAPHS AND SIGNALS.

By this message the Marconi system of signalling is used, and the rate of the transmission is not subject to the ordinary charges. In other cases, this rate must be provided, or arranged with the Marconi.

Received at \_\_\_\_\_ Date \_\_\_\_\_

Transmitted at \_\_\_\_\_ Date \_\_\_\_\_

FROM *Cyprus in waiting* TO *H.R.H. Prince of Wales*

MESSAGE.

*A.R. & The Duke of Cornwall  
wishes me to tell your Royal Highness  
how sorry he was not to have  
been able to pay the visit yesterday  
afternoon as he drove with the  
Queen. He hopes to see later  
this afternoon.*

N. 753-50. size 100 (100) 100

Right: An original message sent from Osborne House to the Royal yacht  
Below: The Madeira House Hotel, Bournemouth, 1898



## Centenary of the First Paid Telegram sent by Wireless

In November 1897 Guglielmo Marconi established his first wireless station at the Royal Needles Hotel, Alum Bay, on the Isle of Wight. The 120 foot aerial he erected in the grounds was stout enough to withstand gales from the Channel and its top, taking into account the height of the cliff, was 356 ft above sea level.

From this station in the following weeks

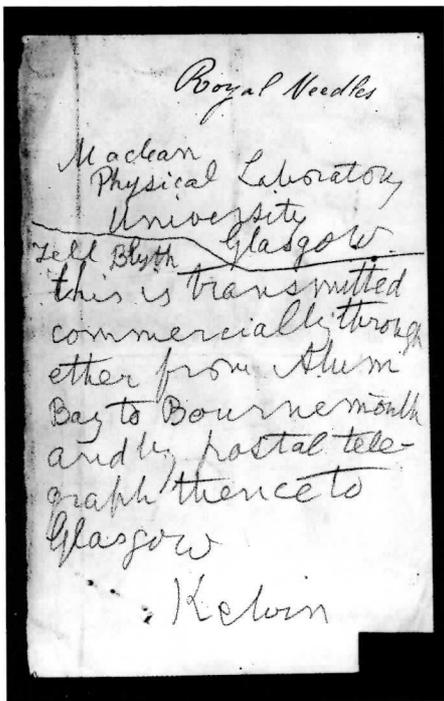
tests of ship-to-shore communications were carried out with a small steamer the 'Solent' and occasionally with another the 'Mayflower', both of which were hired from the London and South Western Railway. The vessels cruised around the Solent, often in very bad weather, and ranges of up to 18 miles were attained.

On the 3rd of January 1898 Marconi erected a second wireless aerial at the Madeira House Hotel, Bournemouth, (close to the pier) and started transmitting and receiving between his two wireless stations

on the 6th January.

By this time Lord Kelvin, one of the most celebrated scientists of the day had become interested. Amongst his many distinguished scientific achievements he was known for his work on submarine telegraphy. His work led to improvement in the manufacture of cables by the production of copper of high conductivity. His beautiful instruments made Atlantic telegraphy a commercial success. It was largely for this work that he was knighted in 1866 and raised to the peerage in 1892.

But he was also interested in wireless



Far left: One of the messages that Lord Kelvin wrote on the 3rd June 1898.

Left: Lord Kelvin reproduced from an early Marconi wireless series postcard.

Above: The aerial mast was erected on the lawn of the Royal Needle Hotel with the assistance of coastguards. Marconi can be partially seen on the extreme left.

waves. It was Heinrich Hertz who in a series of classic experiments in 1887-88 proved the existence of these waves named at first after him. But it was Lord Kelvin who translated one of his books and coined the phrase 'ether waves'. At first he had been sceptical about wireless as a medium for messages. "Wireless" he is supposed to have said, "is all very well but I'd rather send a message by a boy on a pony". But by 1898 he had heard of Marconi's work. Experiments needed a lot of money and Lord Kelvin could see that Marconi and his Wireless Telegraph and Signal Company were the only people carrying out any on a significant scale. So on the 3rd June 1898, together with no less a person than Lord Tennyson, the poet's son, he went to Alum Bay to see what was happening. He was very impressed by what he saw and dispatched several messages by

wireless to the Madeira House Hotel to be sent from there by telegram to Cambridge and Glasgow.

One message read as follows:

"Maclean, Physical Laboratory, University, Glasgow. Tell Blyth this is transmitted commercially through ether from Alum Bay to Bournemouth and by postal telegraph thence to Glasgow - Kelvin"

The message to Sir George Stokes read:

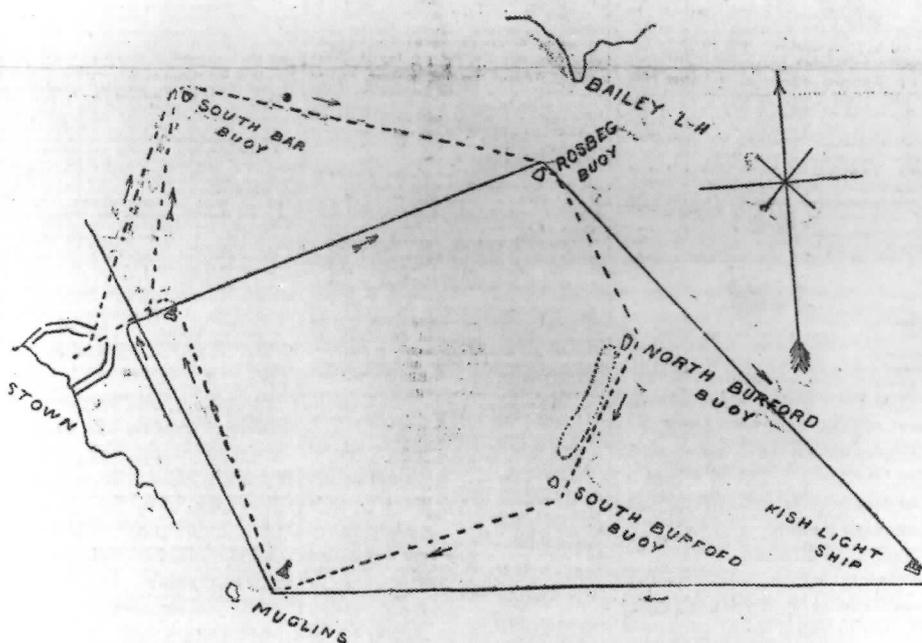
"Stokes, Lensfield Cottage, Cambridge. This is sent commercially paid at Alum Bay for transmission through ether. One shilling to Bournemouth, and thence by postal telegraph, fifteen pence, to Cambridge - Kelvin".

Lord Kelvin insisted on paying. He put down

a shilling, the price of a telegram in those days, for each wire he sent and so could claim to have sent the first paid telegrams by wireless. He wished to show his appreciation of the system and to illustrate its availability for commercial use. He knew that both he and Marconi were breaking the law in making the matter a subject of a financial transaction. It was a deliberate throwing down of the gauntlet to the Post office and their Parliament-granted monopoly. He wanted the Post office to get involved.

From then on Kelvin, although a 'cable man' displayed great interest and faith in wireless. He became a friend and admirer of Marconi and his recognition gained considerable prestige for him.

#### CHART OF COURSES

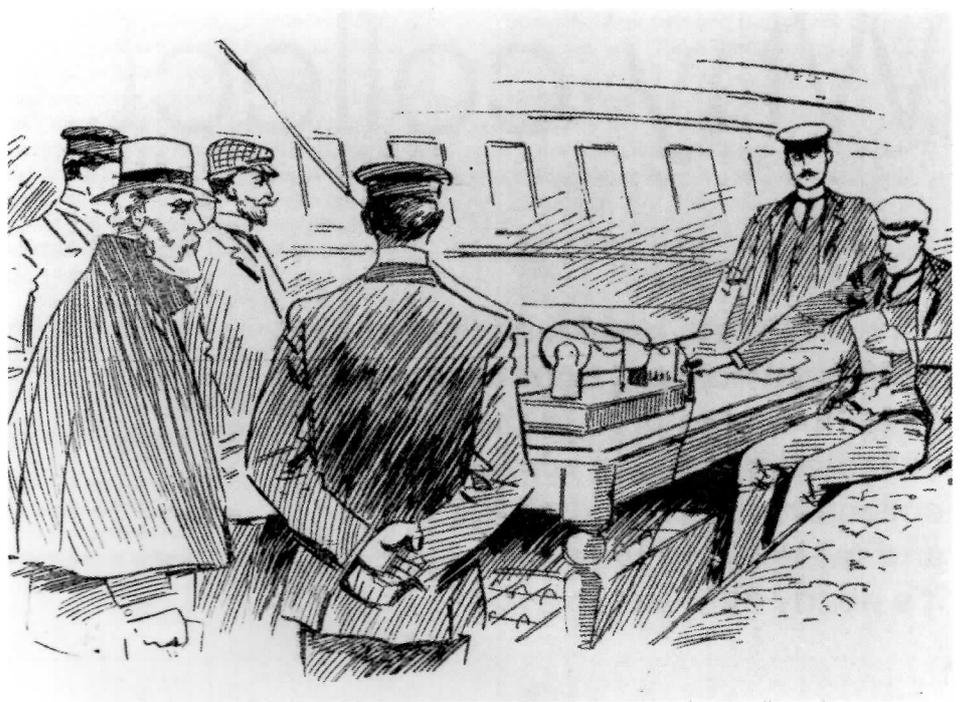
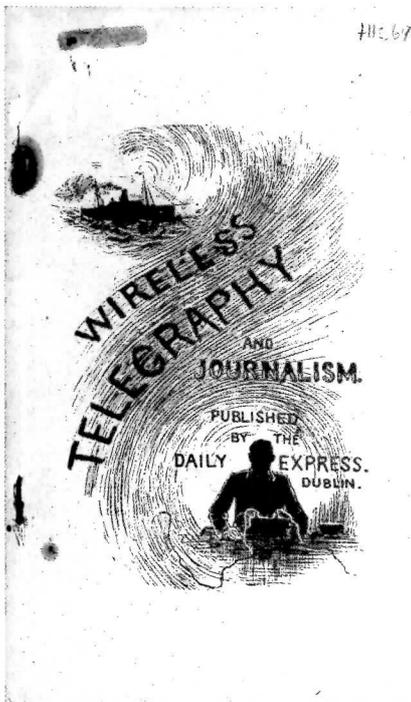


No 1 COURSE continuous line, three times round, 50 miles. No 2 COURSE, same as No 1, twice round, 35 miles. No 3 COURSE dotted line, three times round, 37 miles. No 4 COURSE, same as No 3, twice round, 25 miles.

## Centenary of the First Sports Commentary by Wireless

Members of the House of Commons hearing of Marconi's work with wireless requested a demonstration between the House of Commons and St Thomas's Hospital across the Thames. They were impressed when the apparatus was set up in an hour. The Speaker sent a message and received a reply.

John Joseph Fahie, an author who had written about Marconi's early experiments, described this event and made the comment that wireless was so easy to install and so inexpensive that it would be first rate for reporting sporting events like races. This remark may well have inspired the events in July 1898, for it was then that the Dublin Daily Express resolved to try to apply Marconi's system of wireless telegraphy to the purposes of journalism. A remarkable series of experiments was successfully carried out in Dublin Bay in connection with the Kingstown Regatta.



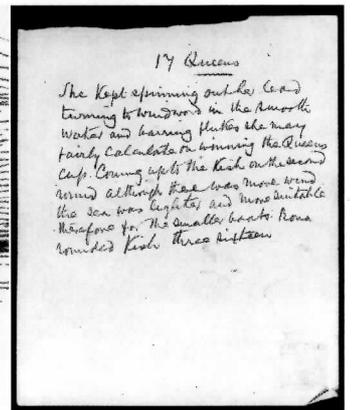
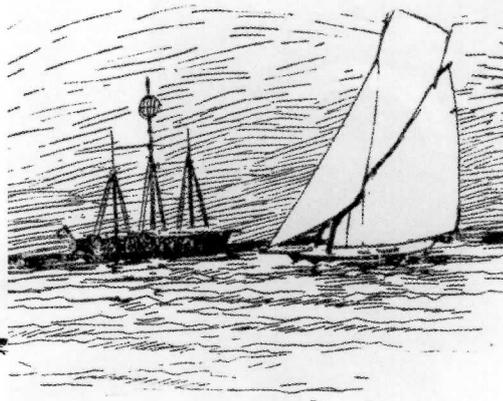
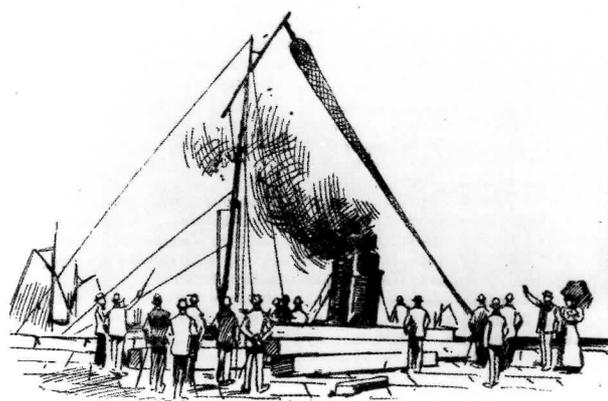
Above left: Front cover of the souvenir programme, July 1898.

Above Right: Marconi transmitting one of the messages from the 'Flying Huntress', July 1898.

Below Left: The 'Flying Huntress' in Kingstown Harbour. Marconi's net type aerial can be seen hanging from the heightened mast.

Below right: 'Bona' rounding Kish Lightship, July 1898

Below far right: One of the translated Morse messages received at Kingstown Harbour from the 'Flying Huntress', July 1898



The steamboat 'Flying Huntress', belonging to the Clyde Shipping Company, was chartered by the Daily Express and Marconi's apparatus was installed on board. A 75ft aerial was fitted to the mast, while at the same time Captain Crofton, Harbour Master at Kingstown, placed a portion of his premises at the disposal of the experiment with an aerial to receive the wireless waves attached to a mast in the grounds. The National Telephone Company also gladly joined in the experiment and willingly shared in the expenses. It laid a special telephone wire to connect the receiving station with the paper's offices and arranged for expert assistants to aid in the work.

The 'Flying Huntress' followed the yachts out to sea, to points where they were quite invisible from the shore. A yachting expert was on board and his descriptions of the different stages of the races were transmitted by Marconi himself to the land station at Kingstown where one of his assistants, Mr George Kemp, received them. From here they were instantly telephoned to Dublin and

published in successive editions of the Daily Express and Evening Mail. The messages were received at the newspaper office a few minutes after they had been dispatched from the ship.

Typical descriptions of the races sent and published in the Daily Express and Evening Mail are the following:

Her Majesty's Cup. No 1 Course 50 miles. Start at 10.30am.

10.55 The 'Rainbow', having crossed the line before the gun was fired was recalled, thereby losing 3 1/2 minutes.

11.25 Time around Rosbeg buoy:

	H.	M.	S.
'Ailsa'	10	54	0
'Bona'	10	54	30
'Isolde'	10	58	0
'Rainbow'	10	59	0
'Astrild'	10	59	45

The 'Ailsa' stayed and went away on the port

tack, as also the 'Astrild'. After going a short distance, the 'Bona' also stayed, following the example of the other two, the 'Rainbow' and the 'Isolde' standing in under Howth.

11.55 the yachts are now heading for the Kish Lightship in the following order: - The 'Bona' leading by five minutes, 'Ailsa' second, 'Rainbow' third, 'Isolde' fourth, 'Astrild' last. Breeze freshening.

Altogether some 700 messages were sent in the two days, July 20th and 21st. They were absolutely accurate and never needed to be repeated. Marconi himself stated that foggy and stormy weather rather facilitated than hindered the passage of electric waves

In such a way was the first sports commentary sent by wireless. The experiment was not only important for the future of journalism but also for the future safety of shipping.

# Why collect catalin?

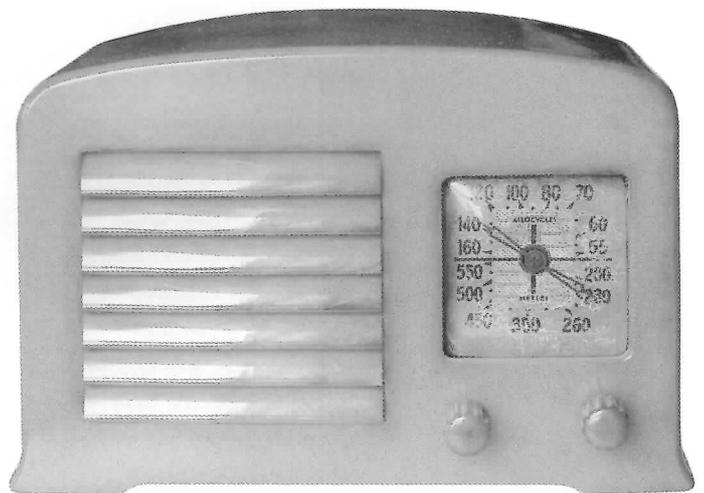
by Carl Glover, photography by Mark Groep and James Meehan

**It's overpriced, breaks easily, runs on a different voltage, sounds tinny, was never manufactured in the UK and is collected by people who are not 'true' collectors. I've heard all the above and more from fellow collectors and it's nearly all true!**

Left: Author's round Ekco collection circa 1989, They took up a lot of room at the time. I'm still fond of them but I've whittled them down to a sensible four.

Below: Fada 53X 1938

Bottom: Displaying one's collection is almost as important of the sets themselves when it comes to catalin. Glass shelves are ideal for display as they seem less obtrusive than their wood or metal counterparts.



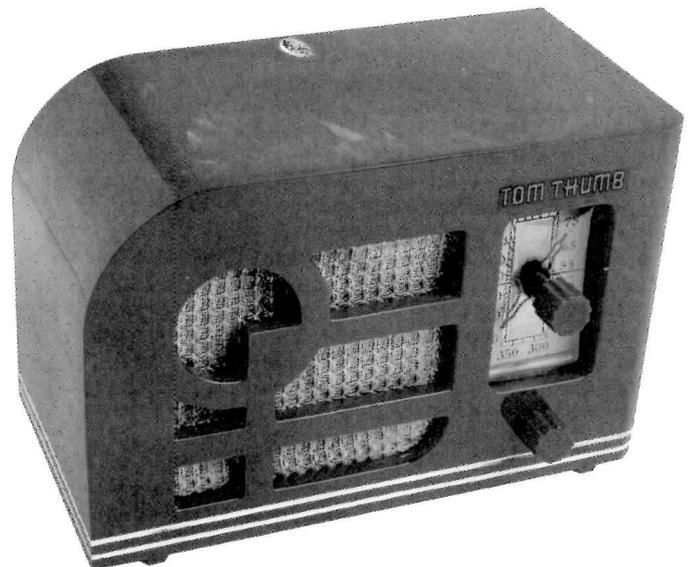
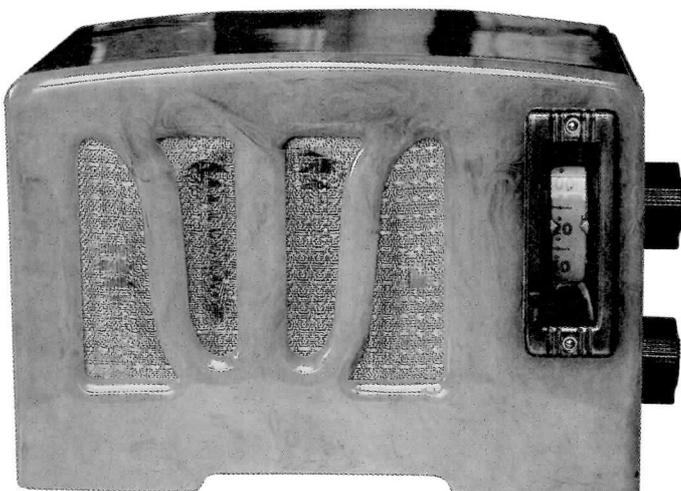
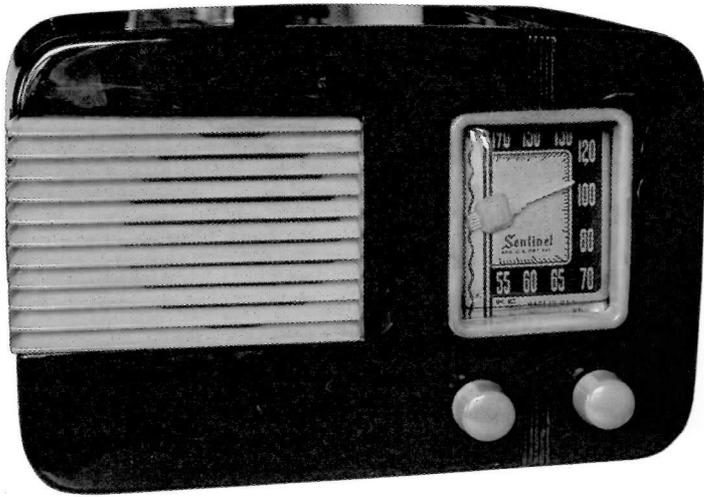
As the years go by one's wireless collection tends to change direction. My own humble collection twelve or so years ago consisted of an Ekco A22 in black and chrome with wooden feet (painted black) with floral patterned speaker-cloth, three Bush DAC 90's and a liberal spattering of other post-war sets. Three years on, all of the above had gone to other collections. I even found a welcome home for that terrible Ekco!

However, that Ekco had sown the seeds of an obsession which was to haunt me for the next three or so years: I had acquired a lust for the dreaded round Ekco; at one point I had nine of them (they were more affordable then) including two which were on stands, the others were scattered around my flat on any surface that happened to be available: there were other sets, such as the Philco 444, 333 and quite a few of those lovely Philips speakers from the twenties...

However, one sunny day in Camden market I saw a wondrous apparition: a Fada 'bullet' in maroon and yellow catalin; I simply had to have it. And I did. It was the largest single amount of money I had spent on anything at the time and I still have it in my collection. It was to be the beginning of an aspect of wireless collecting that has taken me to the United States and other countries several times.

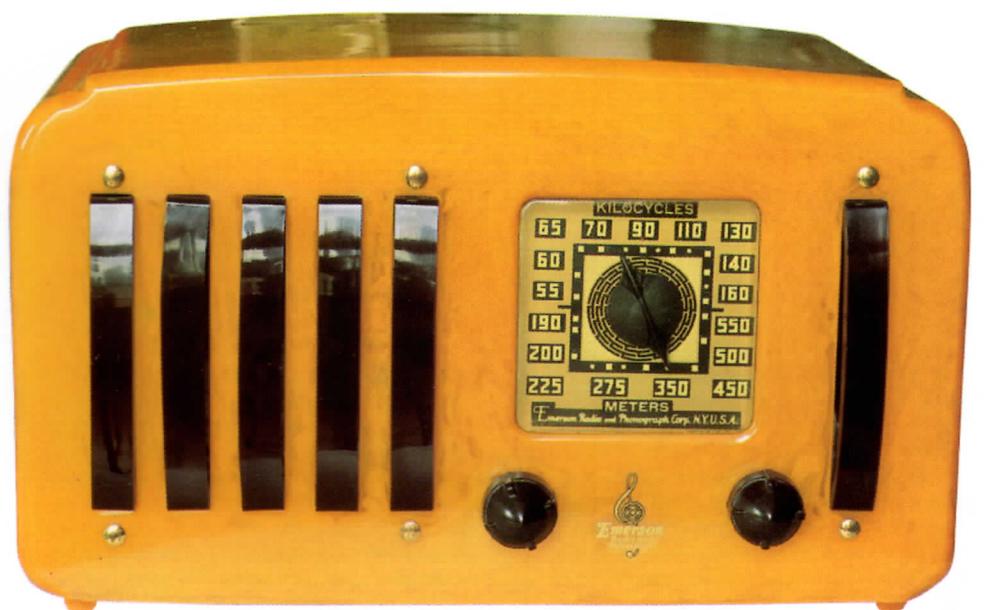
Catalin collectors, like the sets themselves are rare and hard to find but after a while a few begin to show up, which helps prove that you are not the only one foolish enough to indulge in this pursuit. Most are quite sympathetic regarding 'catalin fever'- the act of living on soup and nuts for a couple of months in order to afford that radio which will make you into a 'complete' human being. I think early Marconi collectors are in a similar league these days. A very useful point about these kindred spirits is you can swap with them. It's a wonderful way of doing business and collections can be mutually enhanced without



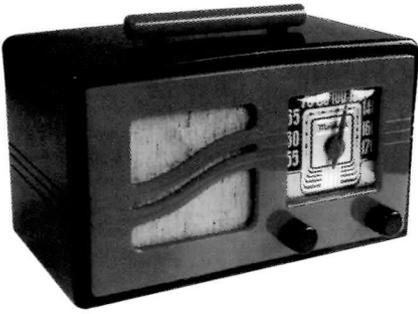


Top row: Left to right. Sentinel 177U, 1939, Emerson BN258 'Big Miracle', 1938  
 Middle row: Motorola 50XC 'Circle Grille', 1940, Fada 652 'Temple', 1945  
 Lower row: RCA RC350 'Tulip Grille', 1938, Automatic Radio Manufacturing Company 'Tom Thumb', 1939.









Motorola 51X16 known as the 'S' grille for apparent reasons. This is one of the sets which were listed as having been exported to Britain during World War Two

comprised of equipment easier to obtain.

Displaying one's collection is almost as important as the sets themselves when it comes to catalin. Glass shelves are ideal for display as they seem less obtrusive than

their wood or metal counterparts. Being transparent they are also quite bright, so that the different colours appear more apparent than with conventional modes of storage. Some people use glass display cases as this minimises dust and has all the advantages of the above. Catalin attracts dust rather quickly and a decent-sized collection can take a good couple of hours to dust every month or so. With a case this isn't such a problem.

Even though catalin radios were never made in the UK, with one tiny exception, a small number made their way over during World War Two as part of a lease-lend scheme so they have been known to turn up in car boot sales, markets and auctions on this side of the pond. A token catalin set is better than none at all, so if you see one buy it, but examine carefully!

If you are interested in acquiring some examples of catalin to brighten up your

collection I recommend the following dealers in the UK and USA. Good hunting.

#### United Kingdom

Decodence  
21 the Mall Camden Passage, 359 Upper Street, Camden Passage, London N1 0PD  
Telephone: 0171 354 4473

Simon Wade  
Finchcroft, Broadwater Down, Tunbridge Wells, Kent TN2 5PE  
Telephone/Fax: 01892 543505

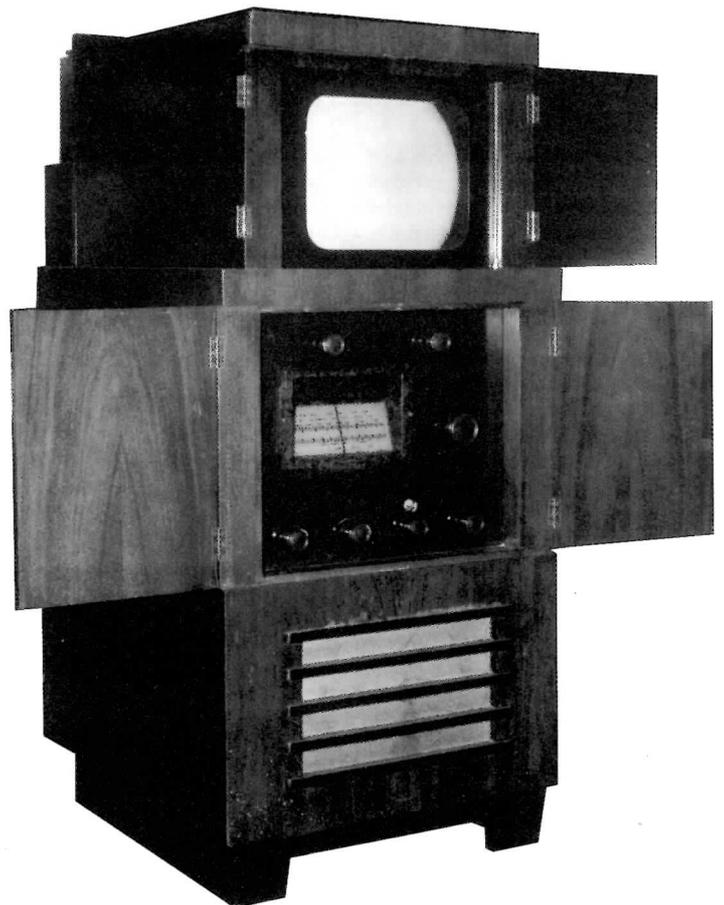
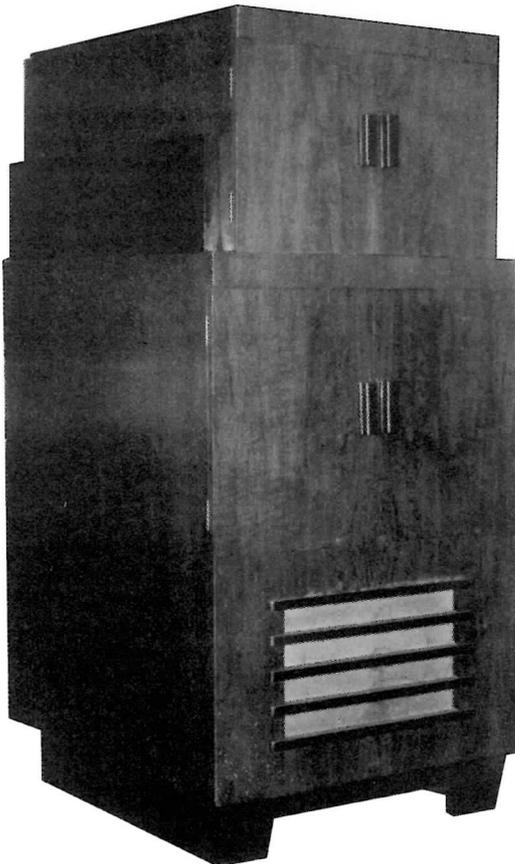
#### USA

Radioart  
PO Box 102, Centerbrook, Connecticut, CT06409, USA  
Telephone: (001) 860 526 1762

Michael Lawlor  
PO Box 179, Santa Barbara, CA 93102, USA  
Telephone: (001) 805 682 2336

# Rare Cossor television discovered

Recently sighted passing through Gerry Wells' busy workshop was this extremely rare Cossor pre-war television. The cabinet was in exceptional condition and has not seen woodworm or any of its vile brethren at all in its illustrious career. The serial number on the chassis is '2' and the chassis of this model was featured in the April 1936 issue of 'Wireless World'. Gerry reckons that this may be the oldest working pre-war television in the World. Unless you know otherwise...



# 405 questions & answers

Andy Emmerson, editor of 405 Alive magazine explains how to enjoy 405-line television today

There's little disagreement that collectability and affordability no longer go together, at least as far as classic radio receivers are concerned. This may be one of the reasons why a growing number of wireless enthusiasts are starting to consider vintage televisions; they're affordable, not hard to find and growing in popularity. I regularly receive phone calls from BVWS members enquiring how much is involved in getting pictures on these old sets and I thought it might be helpful to tabulate some of the more frequently asked questions along with the answers.

## Why do people collect old TVs? Do many people do this?

For the same reason they might collect old radios, telephones, period furniture or whatever. It's a hobby, an interesting one, and the source material is still fairly inexpensive. One of your friends or relatives probably has an old set in the loft, whilst charity shops, furniture auctions and car boot sales are another good source of sets. Vintage and amateur radio swapmeets, also vintage wireless dealers often have old TV sets for sale, whilst some really choice sets come up for sale at the big London auction houses. We have well over 300 people subscribing to 405 Alive magazine and there must be many more collectors.

Why do they get so passionate about it?

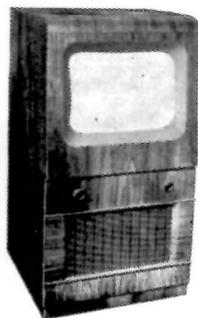
For anyone who lived through the black and white era, nostalgia has a lot to do with it simply because television was so special to them. Families made a major investment in their first TV, or else, because of the high price, they had to rent it but still at a significant price. The family TV was a prized and well used possession, also a status symbol for many people.

## Are old TVs easy to renovate and repair?

Generally yes, they are not very complicated or intricate inside and if you can repair radios, you should be able to graduate to televisions. There is no real shortage of valves and other spares either. Only some picture tubes are hard to find now.

## But television sets were desperately unreliable until the 1980s, so won't an old set be a maintenance liability?

You have a point. Everything needed more maintenance in those days; just consider the greasing needed for the nipples underneath cars, a truly filthy job! And it's true that older TVs, no matter who made them, required a good deal of service, at least when they were in regular use. It seemed that a day didn't go by when you did not see a TV service van in the neighbourhood. Components and technology were just not nearly as well developed as they are today. The heat generated had a good deal to do with it too; some of the older sets had in excess of 20 valves and developed a lot of stored heat that broke down components and connections. On the other hand, when you repair your set you will inevitably replace many of the most unreliable parts (resistors



This fine walnut cabinet has been designed to take the "Superior 15," but it is equally suitable for other sets using the standard 15in. tube. Price is £11/10/- (or £3/17/- deposit), carriage £1.

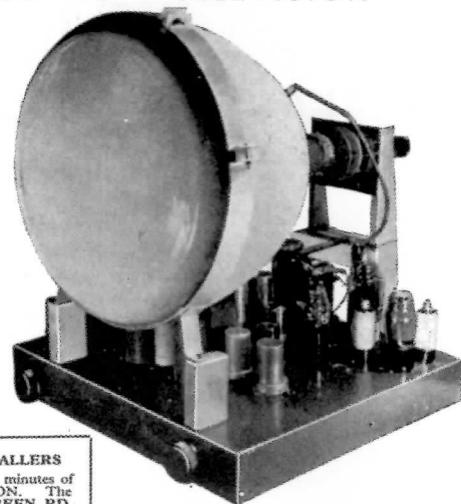
### STOP PRESS

Superhet 5-valve A.C. mains, 5 waveband chassis made by Beethoven, chassis size 9 1/2" x 7 1/2" x 8 1/2" with large illuminated dial. Complete with Mullard valves and Rola speaker, ready to work, £7/17/6 carr. and ins. 7/6.

## SUPERIOR 15" TELEVISION

UP TO THE MINUTE T.V. FOR ONLY £37/10/-.

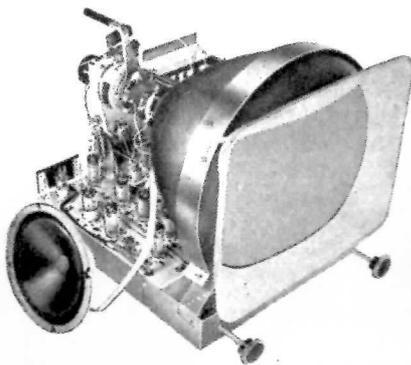
Our "Superior 15" has proved very easy, and we are glad to say that most purchasers have successfully completed constructing. We are having to help a few, but on the other hand some have already started on a second for a friend. Unfortunately, due to the increased prices that we are having to pay for certain items, the cost of all components, valves and Cosmor 15in. tube is now £37/10/- (H.P. deposit now £12/10/-), plus £1 carriage and insurance. Nevertheless it is still an exceptional bargain, for it employs all the latest features—line fly-back E.H.T., noise suppression, diode damped interlace, etc., etc. A constructor's envelope giving full details with blueprints is available, price 7/6, returnable within 14 days if you decide not to make the set. Working models can be seen at Fleet Street, Ruislip and Finsbury Park.



### NEW ADDRESS FOR CALLERS

We have taken a shop within 5 minutes of FINSBURY PARK STATION. The address is: 29 STROUD GREEN RD.

## ELPREQ 'READY-MADE' TELEVISORS



These are Five Channel Televisors employing completely tuneable superhet sound and vision receivers. They have noise suppression on both sound and vision and incorporate a special I.F. filter in the aerial circuit. The circuit is absolutely up to date, and in fact uses the latest Mullard valves. The 12in model uses MV 31/74 with the tinted special daylight viewing face. The 15in. model uses the Cosmor 85K tube. Price, either model, is £42/10/-, complete ready to receive sound and vision. Carriage and insurance £2 (partly returnable). H.P. terms, £14/3/6 deposit. Cabinets: 12in. (table model), £3/17/6, carriage, etc., 7/6. 12in. Console model, £7/17/6, carriage, etc., 10/-. 15in. Console model, £11/10/-, carriage, etc., 15/-. Any cabinet may be purchased by h.p. Simply send one-third as deposit.



Illustration of the 12in. table model cabinet, price £3/17/6, complete with glass.

## ELECTRONIC PRECISION EQUIPMENT LTD.

Post orders should be addressed to:—

ELPREQ HOUSE (Ref 2.), HIGH STREET,  
WEALDSTONE, MIDDX.

Personal shoppers however must continue to call at:—  
42-46, WINDMILL HILL, RUISLIP, MIDDX.  
Phone: RUISLIP 5780 Half-day, Wednesday.

152-153, FLEET STREET, E.C.4.  
Phone: CENTRAL 2833. Half-day, Saturday.  
29, STROUD GREEN RD., FINSBURY PARK.  
Half-day, Thursday.



The finest picture in TV's toughest reception spots



When interference or distance stands in the way, you may get pictures like this.



With this great General Electric TV receiver you can look to wonderful pictures like this.

**G-E overpowers interference... overrides distance too!**



**BLACK-DAYLITE TELEVISION**

Actual case histories—not only from TV's farthest "outposts" but in big cities flooded with local interference—testify to G-E's *standout* picture under the severest reception conditions. Side by side comparisons show that the great G-E chassis in Model 17C109 delivers the kind of unexcelled performance you want in your own home! Look at G-E and believe your own eyes.

General Electric Co., Syracuse, N. Y.

Prices range from \$279.95 to \$775.00 including Federal Excise Tax. Installation and picture tube protection plan extra. Prices subject to change without notice. Slightly higher West and South.



Model 17C109

You can put your confidence in...

**GENERAL ELECTRIC**

Mention the National Geographic—It identifies you

and capacitors) and afterwards your set will be used only occasionally, so you can expect good service from it.

**How do you find a repairer if you don't have the skills yourself?**

Many of the longer-established and smaller local radio/TV dealers have technicians with the skills to repair valve sets; some of these people relish working on a 'real' set again. Use Yellow Pages and make enquiries locally. It might be worth trying your local amateur radio club (the public library should have their address). Alternatively there are a number of people who restore and rebuild old tellys for a living; here are two names.

Camber TV & Video Centre, Sussex. Tel: 01797-225457 (daytime).

David Higginson, 28 High Street, Misterton, Doncaster, DN10 4BU. Tel: 01427-890768.

**Surely there are no programmes on the 405 line system now - so do you watch blank screens?!?**

No, because it's no great problem getting 405 line TVs to work with programmes recorded on a VHS (or Betamax) recorder. Most VCRs will record and play back 405-line material quite well, even though they were not designed to do this. Obviously the TV must be in good working order, then all you need do is build or buy a modulator which translates the video signal from your recorder onto a VHF channel suitable for the TV. Your video recorder already has a

modulator which puts out a signal on channel 36, but 405 line TVs don't normally have UHF tuners, so you need to make a VHF modulator. Also it has to be positive modulation, with AM sound, but those finer points are all covered in the design details.

Modulators, 625-to-405 standards converters and Test Card C generators of excellent quality were available until recently from Dinosaur Designs. Production has ceased for the time being but negotiations are in hand for another individual to take over their construction.

**Why not just convert the old sets to work on the current 625 line system?**

It is generally not a feasible project to convert an old 405-line set to work on 625 lines, or rather, it's as much work as converting a gas cooker to electric! The process is expensive and destroys the sets' authenticity. Would you put a new Formica surface on top of an antique oak kitchen table? Most collectors would not do this kind of thing... Better to use a standards converter and watch in 405-lines (admittedly this will cost money, say £350) or you could have the original chassis removed and the 'innards' of a modern black and white set substituted. This is what is done for old sets that appear as props on television but it offends purists.

**I have an old 405-line TV and wish to watch pictures on it occasionally. What's the minimum-cost way of doing this? Is there some adapter that will allow me to**

**DuMont**  
the yardstick  
of television



The DuMont Colony—116 square-inch direct-view television screen, AM and FM radio, and automatic record player. One of a complete line of television receivers.

Before you buy any television receiver—see DuMont.

Know what you should expect. **compare** screen size. And be sure the rated size is all usable picture area. **compare** picture quality.

**compare** brightness, clarity, detail, freedom from flicker and distortion.

**compare** tuning. Will it receive all 12 channels? **compare** cabinet design. Will you feel proud of its appearance.

**compare** reputation. Is it a make with a good reputation for performance and dependability?

**compare** services. All DuMonts give you static-free FM radio. Many also include AM radio and a record player.

**compare** price. See if DuMont doesn't give most for your money.

**DUMONT** first with the finest in television

Cabinets designed by Herbert Rossington  
Allen B. DuMont Laboratories, Inc., General Television Sales Office and Stefan WARD, 515 Madison Avenue, New York 22, N.Y. • Home Offices and Plants, Passaic, N. J.

Copyright 1949, Allen B. DuMont Laboratories, Inc.

**watch today's programmes on an old set?**

First things first. Assuming your set is functional, the simplest way to make it show pictures again is from a VHS video recorder, not using tapes that you record or buy but using tapes which have been recorded specially in the 405-line system (we can put you in touch with people who can supply 405-line tapes). You need a special device called a Band I modulator which you can make from a design in Television magazine. Then you're in business and can show pictures (but only the programmes recorded on the tape). Incidentally, there is one kind soul who advertises in 405 Alive magazine who will copy your 625-line recordings onto 405-line tape, so there isn't any problem in this respect. Alternatively, if you can get hold of one of the Dinosaur Test card C generators, you could use this as your picture source.

If you want to go the whole hog, you'll need a standards converter that actually transforms today's 625-line pictures into 405-line images. These are not cheap; you are talking of extremely complex technology, not a simple DIY job. And don't believe anyone who tells you there's a cheaper way of doing it, because apart from finding a 405-line era TV camera (where would you find one of these outside a museum?) and using this to shoot the screen of your 625-line television, there isn't any cheaper way. Twenty years ago, the standards converter would have cost about £12,000 in today's money but until recently some gifted designers were selling new ones at about £300, which was

See  
it  
Better



Hear  
it  
Better

## STROMBERG-CARLSON TELEVISION

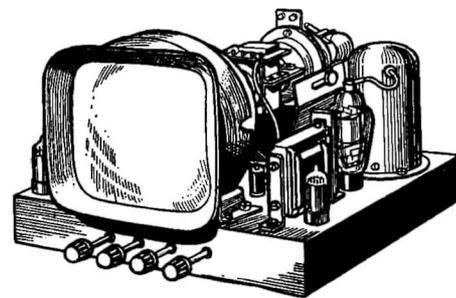
*There is Nothing Finer*

© 1949, Stromberg-Carlson Company, Rochester 3, N.Y. — In Canada, Stromberg-Carlson Co., Ltd., Toronto

You'll know at last how wonderful television can be—when you see the extra-large, clearly-defined Stromberg-Carlson picture—when you hear flawless Stromberg-Carlson tonal realism.

Console and table television from  
\$395 to \$940

Radios and radio-phonographs from  
\$29.95 to \$495



With older television receivers each part is accessible and easily identified, making servicing simpler than the sets of today. Most parts are generic (not specific to a particular set) and are still easily obtainable from the suppliers listed in this book. One warning, however: electrical safety was not the strongest point of these old sets, so you must be aware of the safety hazards involved. The chassis is often at half-mains potential and this can apply to potentiometer spindles as well. Early sets employed mains-derived EHT from a transformer and this is lethal; you have been warned! Picture tubes can implode if mishandled and pre-war examples have been known to self-destruct without provocation. That said, restoring an old telly can be an extremely satisfying pastime, if you know what you're doing!

extremely good value for money. Unfortunately production has ceased for the time being.

### Where do you find the technical information?

There are countless textbooks in libraries and second-hand book shops. There have also been several articles specifically on restoring old sets in *Television* magazine, whilst the specialist magazine *405 Alive* is full of information too!

We will try and help with other problems but this is done as a gesture to subscribers. Please don't ask for tons of help if you aren't a subscriber. If you're that interested in old television, it must surely be worth your while joining in!

### Are old TVs valuable now?

Not necessarily, unless they date back to the pre-war period and are in fine condition. One or two sets - for instance the moulded bakelite Bush TV22 - are considered design classics and have become very popular as 'yuppie antiques'. This has pushed up their price but true collectors are not concerned with the cash value of their collections. Prices (I hesitate to say values) favour small table-top sets against console models and mirror-lid receivers. Other favourites are sets with bakelite cases, single-channel post-war receivers, early portables and the first-generation dual-standard colour sets.

### What can I expect to pay for a set?

Within our circle we try to keep prices low, and new collectors should avoid over-priced items in antique shops. Salerooms and charity shops, also friends are a much better source of supply. But that's not being helpful. Most pre-war sets in good condition successfully fetch around £2,500, whilst a really fine just post-war set might make £250. Bakelite-cased sets go for £150 upwards, whilst most others still sell for well under £100. Working condition has remarkably little effect on prices, whereas good condition means everything. Sets that

have knobs missing or no back hold very little value.

### Is there a market for old TVs and valves then?

Definitely but be warned that collectors will not pay high prices for unfashionable items. This magazine and *405 Alive* will gladly advertise your unwanted items. Don't throw away anything useful or valuable!

### Is the hobby confined to people who collect old TV receivers?

No. Some people collect early video recorders, TV cameras and studio equipment, even an old outside broadcast scanner van. Others are more interested in the programmes or the old commercials.

### Do you operate a lending library of old TV archive programmes? Do you sell these or does anyone else?

No and no. But there are many people who have acquired these from various sources (recorded off TV, transferred from old 16mm telerecordings found in attics or junk shops, 'leaks' from the TV companies' archives, etc.) so these programmes are in circulation. Generally if you put a want advertisement in our magazine, you may well get somebody offering what you're looking for. Of course, it helps if you have something to offer in exchange or you may offer to cover the wear and tear costs for their video recorder in a generous fashion. Most of these tapes are on 625 lines for convenience of viewing.

There are also two groups called the PPS (Programme Preservation Society) and STARS (Savers of Television And Radio Shows) whose members lend each other copies of old television and radio programmes. If you would like more information on PPS, then please send an SAE to the club treasurer Richard Berry at 230 Selsdon Road, Croydon, Surrey CR2 6PL. For STARS write Malcolm Chapman, 96 Meadvale Road, London, W5 1NR. There is a separate club for those interested in

television-test cards and the accompanying music, called the Test Card Circle (write with SAE to Curtons House, School Lane, Walpole St Peter, Wisbech, PE14 7PA).

### Do you recommend any books?

Yes...  
**HISTORIC TELEVISIONS & VIDEO RECORDERS**, by Michael Bennett-Levy. Large colour illustrated paperback, £15 post-paid.  
**TV IS KING**, by Michael Bennett-Levy. Large colour illustrated hardback, £17 post-paid.  
Both from MBL Publications, Monkton House, Old Craighall, Musselburgh, Midlothian, EH21 8SF.  
**OLD TELEVISION** in the Shire Albums series on old television, written by Andrew Emmerson. ISBN 0-7478-0367-6, £2.95.

### And what about magazines?

I'd be failing you if I didn't mention *405 Alive*, a not-for-profit magazine with an enthusiastic group of readers. Now ten years old, it provides four 96-page issues a year, full of articles and letters along with several pages of items for sale (and wanted), also details of sets being given away free. The annual subscription costs £16 a year (£20 abroad) from The Radiophile, Larkhill, Newport Road, Woodseaves, STAFFORD, ST20 0NP (payable to The Radiophile, not *405 Alive*).

# Re-enactment of the first use of wireless by the Royal family in 1898

by Rod Burman



Gordon Bussey, historical consultant to GEC-Marconi explains the operation of some early wireless equipment to H.R.H. Prince Michael of Kent, watched by Marconi's daughter Princess Elettra.

In August 1898 The Prince of Wales, later to become Edward VII, was convalescing on board the Royal yacht 'Osborne' having hurt his knee by falling down the main staircase at Lord Rothschild's palace in Paris whilst attending a party there. The Royal yacht was present at the annual 'Cowes Week' regatta and the Prince's mother, Queen Victoria, was in residence at Osborne House at Cowes on the Isle of Wight. Queen Victoria had heard of Guglielmo Marconi's achievements in communicating without wires over distances of several miles, so she invited him to establish communications between Ladywood Cottage in the grounds of Osborne House and the Royal yacht, moored a few miles offshore, so that she could monitor the progress of her son's recovery whilst the regatta was taking place.

To commemorate the centenary of this event the National Wireless Museum proposed that a re-enactment take place by sending messages from Osborne House using an amateur radio station with the special event call sign GBOQV (for Queen Victoria). The date chosen was the August Bank Holiday weekend which also coincided with IFOS, the International Festival of the Sea being held in Portsmouth. GEC who were sponsors of IFOS kindly agreed to support the re-enactment and arranged for another amateur radio station operated by Rod Burman G4RSN to be set up on board the Russian tall ship 'Sedov' moored in Portsmouth harbour. GEC had copies of the original messages sent to and from Osborne House and the Royal yacht and through the good offices of Gordon Bussey, historical

consultant to GEC, the text of 22 of these messages was made available for the re-enactment.

Gordon also produced a Souvenir Programme which contained the text of the 22 messages, facsimiles of some of the originals, pictures of Osborne House, the Royal Yacht 'Osborne', the Royal Needles Hotel and of course Marconi himself. On the front cover was a reprint of an illustration published in the Daily Mail in August 1898 describing the events. The messages and pictures were also provided on CD ROM, enabling an audio/visual display to be presented to the public whilst the event was taking place. Early wireless equipment, some of it operational, from the Marconi collection and the National Wireless Museum was on display at both locations.

With the support of English Heritage who allowed the use of Osborne House and the Isle of Wight Apollo Players who supplied extras in authentic Victorian costumes, Douglas Byrne the Curator of the National Wireless Museum operated the station at Osborne House. Douglas had invited Marconi's daughter The Princess Elettra Marconi to attend, which she did, spending most of the weekend on the Isle of Wight. On Monday 31st August The Princess was ferried from the Island to 'Sedov' by a beautifully restored Air Sea Rescue launch and she was then able to visit the seaboard end of the operation. The event was also visited by H.R.H. Prince Michael of Kent who saw the working equipment on board 'Sedov' and he then handed over a copy of one of the original messages which was sent

to Osborne House by Morse code as it had been one hundred years ago.

Communication was established between Osborne House and 'Sedov' on 28 MHz CW, not without some difficulty, as the operating position on 'Sedov' was the auditorium which being well below deck needed some hundreds of feet of co-axial feeder cable in order to get a vertical dipole to a useful height above the deck. Similarly at Osborne House it proved difficult to erect any kind of reasonable aerial as the station had to be set up on the day due to the grounds being used for a public event the previous evening.

Having ironed the bugs with the aeriels, 579 signals were obtained at both locations, although surprisingly they were subject to quite a lot of fading. One is forced to wonder whether 100 years ago Marconi didn't actually do rather better than we did. However he was working over a shorter range, probably had better antennas and very little electrical interference.

The re-enactment was a resounding success and seen by many people especially at Osborne House. It was a great honour to have the attendance of Princess Elettra over the weekend and the visit of H.R.H Prince Michael of Kent on the Monday. Thanks to all concerned especially GEC and Gordon Bussey for their help and support.

Members may obtain free of charge a copy of the 16 page Souvenir Programme for this event by writing to Roy Rodwell, GEC-Marconi Limited, West Hanningfield Road, Great Baddow, Chelmsford, Essex, CM2 8HN. Only a limited quantity are available and not all requests may be satisfied.

# Taken the plunge yet?

by Simon Wade

You will recall my article from the Summer bulletin. Some of you may indeed have been mopping up those KB Toasters and Tesla Talismans and have already attempted to persuade unsuspecting Americans to pass on your interpretation of the Crown Jewels. Perhaps the best you have come up with is an offer of a tiny brown bakelite Emersonette. A few other £20 to £30 'sleepers' will soon be rearing their ugly heads here but I guess that by the time they are selling for three figures it will be too late! In the meantime there has been a surge in interest (now showing signs of softening again) for Catalins and rare coloured bakelites, prompted by the buoyant economy in the US. This at a time when Far East buyers have dropped off the face of the map. Many are now fetching more money 'at home' than they do in the unadventurous UK. Interested Brits now have the opportunity to pick up these icons cheaper here than across the pond! For example a maroon and white bakelite Addison A2 recently sold for \$950 in the US (£575) I remember seeing one for sale in England for £400. A repaired red catalin Kadette Klockette would not make £2700 here, it did over there.



Interestingly there seems to be a flurry of boring 1930s/40s boxes and garage/boot fair fodder appearing around Britain. Have you been one of those responsible for this?

In Britain there is now a sense of buoyancy, albeit at a lower price level, in certain radios from the 1950s. This is pure nostalgia creeping in for new collectors close to retirement, as it did twenty odd years ago for the earlier sets, as well as their children going for affordable 'retro pieces'. It is also worth noting quite how popular large German 1950's 'piano-key' radios (Saba, Grundig, Telefunken) are becoming in the United States. Technically superior to many, they look ugly to most of us. However there is a band of very keen US collectors (not all Schmidts, Hoffmans, Asselhohlers and Gunterbonks) who are paying what seem to be exceedingly high prices. A fad? Perhaps not.

I will now follow directly on from that last article and quote the final few lines: "I also have had four radios on a radio collector friend's shelf for over three years whilst he looks for suitable swaps. Is this trust or stupidity?" I omitted to say that these radios were in New Zealand having been sent 'in advance', awaiting a trade. I omitted to say that one of them had been purchased in early 1994 in Oregon State, after much research, and sent direct to NZ. I have never seen the radio! In the past month these two radios have combined with another and found me two radios (one a Black/Green AWA as featured of the back of the last Bulletin cover and illustrated above). The

other, a Jackson Bell Peter Pan which I also had never seen, was sent from Washington State to New Zealand. This radio was found and sent to me for locating a very rare Cosmos Radiophone console in the US and 'facilitating' its replacement to a US radio Museum 2000 miles away! No money changed hands!!!

This sort of activity requires a lot of hard work but it does not have to be as frantic and as complicated. By definition, the more contacts one has, the more openings there are. These contacts can be nurtured, but they have to start somewhere. Eventually you will find someone who requires a 'bogroll' Brownie crystal set in Dunedin, who is desperate for a Bush TV22 in Brazil, a fan of anything lacquered in Arizona, and even a collector of small metal midgets in Marseilles, you just have then to find 'em.

Another way to acquire foreign sets through trust is by 'selling' radios to collectors in the relevant country and asking them to pass on currency direct to the owner/seller of the piece you want. I use an arbitrary 'multiplying factor' on foreign sets dependent on many factors - it seems to work!

Have you bought those books yet?

I will not go down the Internet/Email road here, although there is little question about it's place. However one makes contact is up to the individual. Good old snail mail is unrealistic these days although I understand it remains a BVWS pastime. The telephone is expensive, but far cheaper than in any of our collecting days. Petrol is prohibitive here, but 'gas' is so cheap by comparison in the US

that collectors can travel hundreds of miles to see, swap, buy and, above all, collect. I was at the four day AWA Rochester Conference (they do take this big and serious) last year. Fuel for a station wagon for 1100 miles cost me just £27. The 360 mile round-trip for to Birmingham works out at twice that! Perhaps this is why dealers ask inflated prices for so much rubbish.

You fancy giving it a go. Here are those 'excuses' from last time:



#### **I only want English radios in my collection**

This is understandable, but often reflects an unwillingness to 'come out of the closet' - a well known consideration when it comes to collecting radios. There is a host of quality pieces out there, often technically and aesthetically superior to what you already have and ripe for the picking.

#### **New concept**

Read up about radios 'from pastures new', look at displays, don't be blinkered. The world is shrinking, especially with the net, and collecting anything will become more and more 'International' - not limited to just a few.

#### **Foreigners**

The war finished two generations ago. The Empire is hanging on by the skin of it's teeth. These people can be as honest or as dishonest as you want them to be but, my, do they have some lovely pieces. Most will play with a straight bat although the occasional 'curved ball' does squeeze in.

#### **Courage, Naivety**

No one can persuade you to 'get up and go'. It's down to you to assess. A radio is worth what anyone is prepared to pay for it. Weigh appeal up with price. It's the law of the sod, if you like something but dither it will go elsewhere. One of the most common statements from collectors is 'I buy what I like. I don't buy it for the value. It's not the investment.' What a load of !?!

#### **Risk, Loss, Rip Off**

This is the greatest problem. However, is your radio collection insured when that tree falls on your garage? Life is full of risks. If we didn't take them we would be jolly ordinary. Ah yes, I hear you say

#### **Shipping cost**

Remember everything fragile has to be double-boxed, often with the chassis and cabinet separated, bubblewrap with tight polychips avoiding contact with inner box, and tight polychips avoiding contact with outer box. If you are interested in sending a Ultra Coronation Twin and a Pye Portable (value £60/75) you don't really want to get caught for £69 airmail to the US. We are hopefully talking a little higher end than this and a circular Ekco would cost £80/95 airmail but look at what it could extricate! Parcelforce will handle anything up to 30kgs and is by far the best method up to that level. They also deliver in 7/10 days. If you wish to ship a French 'Teleavia' swivel TV to the US well at 60kgs ex-packing that does need a shipper! This is likely to be difficult, but possible. Expect to have to pay £200+. With a shipper there are the clearance/collection charges which could be half as much again and then there are the Customs duties but those should all be handled by the recipient. Maybe we can stop right there!

#### **Customs**

If you are swapping you really do not have to be too bullish about the item's value. No money has changed hands after all and it is likely to have cost you just a percentage of its perceived worth. Call it a 'Second Hand Radio', which it is. If it is unrestored, describe it as 'Not Working'. Then there is a box saying 'Gift/Merchandise' - that is entirely up to you. Likewise, so long as you have packed adequately, insurance should not be necessary. The item will be tracked and should not get lost. One important thing to note is that our Customs add on the cost of mailing. Value \$250 postage \$120 they will charge duty on \$370. It does all add up: duty,

VAT, admin and Parcelforce will charge an admin fee too!

#### **Hassle of building up a network**

There are many like-minded collectors out there across our radio-encrusted planet who may be as lacking in self-confidence as you. Once you've tried it, there is no stopping. Promise!

#### **References.**

Not necessary with most. I have only once been asked to supply these. The collector was sending me a catalin Emerson tombstone. The net will become a way to bookmark the 'bad eggs'. Hey, we even have one or two in our Society! Now that is another story!

#### **Previous bad experience**

Happens collecting anything: radios, wives, parking tickets. Pick yourself up, pay the bills and try again!

Perhaps my greatest efforts in collecting are made on Catalin sets. The instability of the catalin plastic is such that one is taking on a big risk, there is even talk that many catalins are on the point of self-destruction over a period of time. If you are going to allow yourself to buy a catalin radio with a crack, hairline or otherwise, buy it in Britain where you have a chance to examine it. Descriptions of damaged sets are never likely to be totally accurate. You may be sitting on a timebomb. Pay more for perfection and forget the sets that are advertised as 'looking good on the shelf'.

Please note: Simon's colourful views are his own and do not necessarily tally with those of the BWWS: Editor.

# Return to Rochester

by Carl Glover



**Why am I running around like a fool in a hotel carpark in total darkness at 4.30 in the morning? To buy radios of course! I am in fact referring to the annual three day meeting and swapmeet in Rochester, New York State, USA. Unfortunately for myself and fortunately for my partner Christine, I was only able to spend half a day there before driving over to Sunny Toronto, via Niagara Falls.**

**H**aving been a veteran of two previous Rochester meetings I was eager to make my hat-trick, so I persuaded Christine that it would be wonderful to go on holiday to New England, then travel deep into New York state (about 400 miles) followed by Canada, back to New York and New England before finally returning to 'Merrie England'.

Only a tiny part of this two week (or is it too weak?) sojourn was to involve that timorous beastie: the radio. I solemnly promised that I would only attend the flea market part in the car park for half a day and that would be the radio part of the holiday over and done with.

The meeting has been held for several years at the 'Thruway Marriott' hotel situated just outside the city of Rochester; the home

of Eastman Kodak no less. It always pays to book at least a month in advance if you wish to spend the evening where the action is.

We turned up at about 7pm the night before the frenzy and witnessed a disappointed English couple in the queue ahead of us being informed that there were no rooms available. We checked in, dragged our belongings to a very large room and made a bee-line for the car park, which was already displaying signs of horse trading. Unlike Harpenden and other UK meetings the unofficial trading can take place *days* before the actual meeting. If you want to get something good in the USA it usually pays to be early on the day of the swapmeet, but don't try this at home folks!

In the car park people were prowling about giving the occasional look into the few vans

which were already displaying their wares. I have learnt the the hard way that any purchase the day before will result in one finding the same item at a quarter of the price the following day. We headed to the restaurant inside the hotel where we had an appointment with a US wireless dealer friend and his companion; a catalin radio collector whose collection numbered 160 pieces! Needless to say we didn't talk shop during the meal. Also in the restaurant was BVWS member Alan G. Carter from Croydon who I had a chat with later. Alan was celebrating his eleventh pilgrimage to Rochester which must be some sort of record for an Englishman.

After having a good chat with Alan, we returned to our room for an early night in preparation for the mornings' delights...

At about four o'clock one could hear telephones ringing all over the hotel. After a quick shower I was in the car park realising that I had forgotten to buy a torch; luckily most of the stalls seemed to have some form of illumination. There must have been sixty or so shadowy punters haunting the car park at 4.30. Some of these individuals were using walkie-talkies to communicate with kindred spirits, and there were other individuals who wore placards round their necks proclaiming that they collected telegraph keys (VERY popular in the USA). Every time a stallholder

appeared in their vehicle, a small crowd would form around it asking if they had: consoles, tombstones, cathedrals, crystal sets, catalins, telegraph keys etc. The poor stallholder would have to load their stall while dealing with us collectors- I was with the best of them while the stalls were being set up and didn't find a single thing until about nine o'clock where a late arriving stall revealed a wonderful Emerson 'five-plus-one' catalin set. Now for breakfast!

After a fine meal it was back to the car park to have a couple more looks and that

was that, I'd seen enough and it looked like it was going to rain. Around eleven o'clock rain it did; luckily we were ensconced under the awning of a friends stall which is where the photographs accompanying the article were taken from. It was fairly obvious that the rain was there to stay so we checked out of the hotel and headed to Niagara where it was very sunny indeed. What a day!

In hindsight I should have stayed in bed and had a really good sleep, but in reality I know exactly where I will be at 4.30 in the morning at the next Rochester swapmeet.

## 1999 Elections to Committee

No valid nominations have been received from members wishing to run for a Committee job, and postal elections will not therefore take place.

As explained in the Call for Nominations sent out with the last Bulletin, the Editor (Carl Glover) and the Members Advertisements Secretary (Ian Higginbottom) were elected for up to three years, had expressed their willingness to continue, and elections were not therefore required. Elections were however required for the remainder of the

jobs and the following Committee members had expressed willingness to run for Chairman (Mike Barker), Treasurer (Jeffrey Borinsky), Society Secretary (Guy Peskett), and Events Organiser (Steve Sidaway). No valid nominations were put forward from amongst the membership at large and these posts will not therefore be contested.

A new and vital job, that of Publications Secretary, was added to the list of Committee posts in order to: 1) Solicit, sub-edit, and co-ordinate material for the Bulletin in order to provide much needed assistance to the Editor. 2) Arrange for and supervise the distribution of the Bulletin, Members

Handbook and other publications. No nominations were received for this post. The job of Membership Secretary also received no nominations. As you all know Pat Leggett had agreed to do this job until a candidate came forward, but with his death we are again in need of someone to fill this post. Mike Barker has agreed to fill-in, in an emergency capacity as the Membership Secretary, however members are urgently invited to put themselves forward to join the Committee on a co-opted basis in order to assist in both these roles.

David Read

## Southborough 10th anniversary swapmeet, 8th November

John Howes celebrated 10 years of organising Southborough in grand style with a military-themed swapmeet. On display was a comprehensive arrangement of military sets through the ages from WWI right up to the Falklands conflict and the Gulf war. John Elgar-Whinney (photographed below) displayed a fascinating collection of sets used for covert operations through the ages.

There was also a competition held for those who had turned up to the meeting dressed in uniform; this was judged by Gerry Wells. The winner was John Elgar-Whinney who was wearing his Royal Observer Corps uniform. The prize was a Gerry Wells manufactured Wartime civilian receiver.

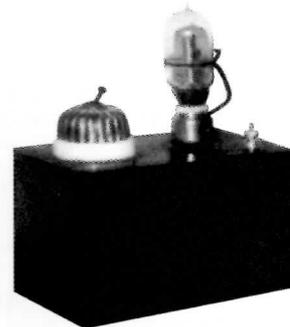


# The origins of the valve

By Pat Leggatt

I recently acquired a Fleming Oscillation Valve, the commercial version made for Marconi's by the Edison and Swan United Electric Light Company in about 1906. It's included in a nice little unit with a candelabra screw base mounted on a small wooden case with provision for an internal filament battery.

This has triggered me to think about the origins of the valve. It's an interesting story, which is well written up in many publications; but perhaps some BVWS members may not know it in detail, so here I outline it again with apologies to those who are already familiar with it.



In 1899 Fleming became technical consultant to the Marconi Company and became heavily involved in wireless telegraphy. One of his interests in this field was to develop a detector of electromagnetic radiation better than the rather unreliable coherer. He suffered from severe deafness and particularly wished to find a detector which could respond to wireless signals by indication on a sensitive galvanometer, rather than having to rely on headphones. One day he thought of trying the Edison lamps which had been gathering dust in a cupboard for some years, and was delighted to find that the rectification action - offering galvanometer indication - worked as well for radio frequencies as it had for the power frequencies of his earlier experiments. He at once applied for a patent for this, in November 1904, calling the device an 'Oscillation Valve'.

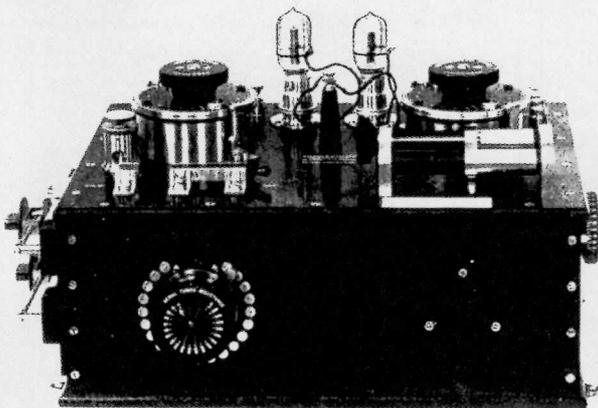
Fleming always claimed to be 'the inventor of the valve', but of course he was not, since it was Edison who had discovered valve action. Furthermore in January 1904, some months before Fleming's patent, Wehnelt in Germany had patented use of an Edison-type tube as a rectifier of power-frequency supplies for battery charging. Fleming simply applied the Edison Effect to radio frequencies rather than power frequencies, but nevertheless deserves credit for conceiving this application.

The application of an Edison tube to radio-frequency detection paved the way for all later developments of the valve as an amplifier and for numerous other uses. But at the time the Oscillation Valve was not very widely used, since it was less sensitive than alternatives such as electrolytic detectors and crystals. In fact valves were not to come really into their own until the invention of the triode by Lee de Forest, and its subsequent development into a practicable device by others who better understood its principles of operation.

De Forest had early on set out to develop a better type of radio detector. His grasp of technical matters was quite superficial, but he was a tireless experimenter whose technique was to try anything he could think of in the hope that one day he would stumble on something that worked. Many of his ideas were in fact lifted from other people's earlier work, although he did not hesitate to apply

12 MARCONI'S WIRELESS TELEGRAPH COMPANY, LIMITED.

## Marconi Valve Receiver.



Reference Nos. 1051 R, 1052 R.  
Code Words: Arroncabé & Arrondimes.

Patents Nos. 11575/1897, 12960/1907, 24850/1904, 887/1907, etc. Special Pamphlet on application.

In 1879 Thomas Alva Edison in the United States developed the first practicable electric lamp. A difficulty he encountered was gradual blackening of the glass envelope due to evaporation from the carbon filament, which was run from a DC supply: he noticed a curious phenomenon whereby there was markedly less blackening on a line opposite one leg of the filament. Investigating this, he mounted a metal screening plate between the filament legs with a connecting wire through the glass. He found that a small current would flow to this plate when it was connected to the positive side of the filament, but not when connected to the negative side. The current was proportional to the incandescence of the filament.

While interesting, this did not seem of any particular value, but Edison devised an 'indicator' using his special lamp in which the plate current was a measure of the lamp filament supply voltage. Edison was purely a DC man, so the indication could just as well

have been given by a conventional moving-iron meter; but in 1883 he patented it nevertheless, probably to protect his discovery in case it should prove useful in some other application. Edison's indicator was publicised at an American exhibition in 1884 where one of those visiting was William Preece, later Engineer-in-Chief of the British Post Office. Preece found the 'Edison Effect', as he called it, most interesting and contrived to get a few of the special lamps for further study in England.

In 1881 Edison had formed a British subsidiary of his New York Edison Illuminating Company, and in 1882 John Ambrose Fleming was appointed electrician to the London company, going on to become their scientific adviser. Through this connection he learned of the unilateral conduction from filament to plate and devoted careful study of the Edison Effect at intervals during the next ten years, noting the rectification of applied AC in a paper in 1896.

for patents on them, claiming that his devices worked in ways different from the originals. From the early 1900s he struggled through some remarkable developments, the first of which, his 'responder', consisted of two very closely spaced metal plates bridged by a paste of glycerine and lead peroxide which he called 'goo'! Later he did many experiments with electrodes protruding into gas flames which came to nothing; and in 1903 he produced his 'spade detector', a concept directly copied from Reginald Fessenden's electrolytic detector which he had seen during a recent visit to Fessenden's laboratory.

In 1905 de Forest acquired a Fleming valve and had copies made by the lamp maker McCandless. Sure enough, in 1906 de Forest patented his 'two-electrode Audion', claiming that its operation was different from Fleming's device in that a separate battery was included to apply a positive potential to the plate so that the valve acted as a 'relay' rather than a rectifier.

Towards the end of 1906 de Forest added a third electrode, at first in the form of a further plate adjacent to the filament, and later with a zig-zag wire 'grid' interposed between the filament and the plate: he filed a patent for this "Device for Amplifying Feeble Electric Currents" in January 1907.

Thus was born the triode valve, but de Forest had scarcely any idea of how his invention worked. Despite the title of his patent, the valve was used for several years purely as a detector rather than an amplifier. It was indeed a very sensitive detector, due of course to the triode amplifying mechanism; but de Forest did not understand that. However in 1912 he did succeed in persuading his Audion to amplify audio frequencies, but only with signals of very small amplitude before gross distortion set in. This was because he still retained the small grid coupling condenser which had been necessary when the valve was used as a detector, so that signals of any appreciable amplitude drove the valve into grid current and charged the condenser strongly negative with resultant anode current cut off. The triode Audion was not highly evacuated and this, coupled with little uniformity in electrode construction and spacing, made it very variable in performance, both from day to day and from one specimen to another: furthermore, the filament life was very short.

Valve developments were also taking place in Germany. Robert von Lieben, working in Austria to begin with, determined to devise an amplifier - or 'relay' in contemporary terminology - for use on telephone circuits. In 1906, working in conjunction with Eugen Reisz and Sigmund Strauss, he patented a 'cathode ray relay' in which anode current was controlled by an input signal applied to an external coil whose magnetic field defocused the beam and hence varied the passage of beam current through a limiting aperture: this device did indeed provide significant amplification. At about the same time Max Dieckmann and Gustav Glage patented something similar, but using lateral deflection of the beam by magnetic or electrostatic means. Eventually, in 1910, von Lieben produced a version which was a true triode with anode current controlled by a grid. De Forest's triode Audion had of course preceded this, but von Lieben's tube was well engineered and gave good amplification: however it was a large, cumbersome device, not highly evacuated, and did not survive for very many years.

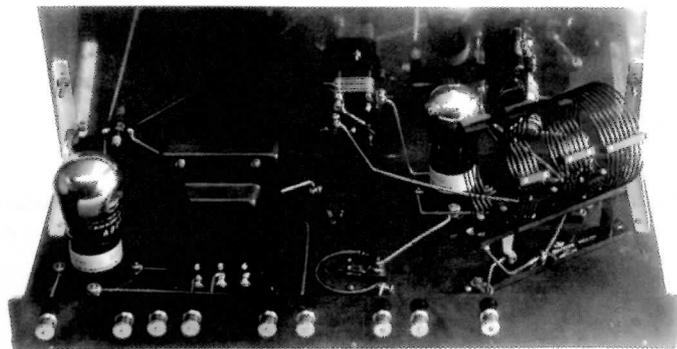
About 1912 some very competent engineers in America, notably Harold Arnold of Western Electric and Irving Langmuir of General Electric, devoted much careful research into analysis of the true principles of operation of the triode Audion; and by 1913 they produced highly evacuated and carefully manufactured types which gave satisfactory amplification and consistent results. So while full credit must be given to de Forest for his original invention, honour is due to Arnold and Langmuir for developing it into a commercially practicable instrument.

The story need not be extended beyond this point. We all know how improved manufacturing techniques and materials, and the introduction of multi-grid types, greatly extended the potentiality of the valve during the following years.

Anyone looking for more comprehensive coverage of this story, continuing up to more modern times, is recommended to get hold of any or all of three excellent books; Gerald Tyne's "Saga of the Vacuum Tube"; John Stokes' "70 Years of Radio Tubes and Valves"; and Keith Thrower's "History of the British Radio Valve to 1940".

# Around the World for £5.03

By Harold Page



'Build the SAFODYNE short wave receiver and girdle the Earth. That's what the leaflet says. The listed components would cost five pounds, about three weeks wages for a farm worker in the mid 1920's, which was when the newly established Ipswich Wireless Company sold

the circuit diagram for three old pence (1.25p). I don't know whether the design came from the heads of the two young men - Bunny Adcock and Cyril Hazell who founded the company or even Safodyne, whoever they might be, perhaps someone may be able to enlighten me.

The circuit uses Mullard PM1 & PM2 valves and Ormond slow motion dials which were featured on other models made to their specification. The price does not include HT and LT batteries, headphones or an aerial so perhaps another £10 should be added in order to make a tour of the world.

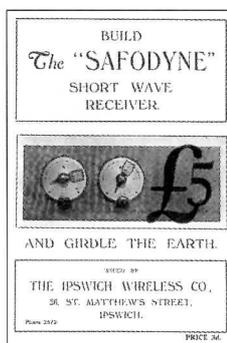
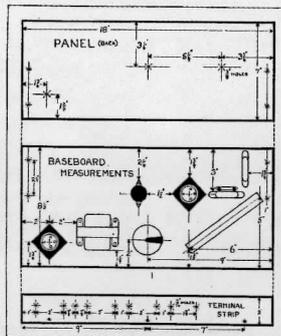
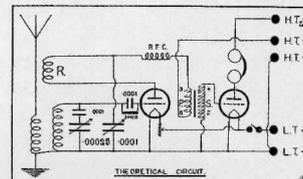


DIAGRAM OF MEASUREMENTS.



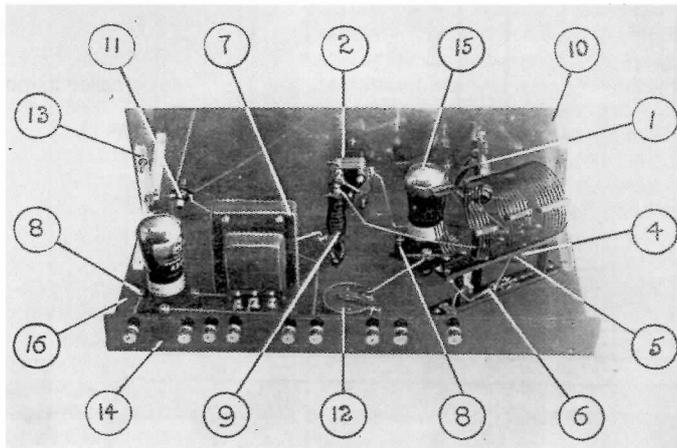
THEORY DIAGRAM.



LIST OF COMPONENTS REQUIRED.

1. "JACKSON" or "PILOT" 0005 mfd. Low Loss S.I. P.
2. "ORMOND" 0001 Reaction Condenser.
3. 2 "ORMOND" Slow Motion Dials.
4. 2 "T.C.C." 0001 Fixed Condensers.
5. "DUBILIER" 5 meg. Grid Leak.
6. "SAFODYNE" Coil Holder and Coils (3).
7. "R.I. & VARLEY" Super S.L. I.P. Transformer.
8. 2 "BENJAMIN" Anti-Stray Volt-holders.
9. "EDDYSTONE" R.F. Choke.
10. "COUVERN" Aluminium 7 by 18 inch Panel.
11. "BENJAMIN" Filament Switch.
12. "LISSEN" 30 ohms Rheostat (baseboard type).
13. "LISSEN" Panel Brackets (adjustable 1/2").
14. Electronic terminal strip 18 by 2 inches.
15. "MULLARD" P.M.1. (H.F.) P.M.2. (Power) Valves.
16. Baseboard 18 by 21.

EXTRAS.—Nine terminals, six lengths of 16 gauge square tinned copper wire, six 4 h.a. counter-sunk head bolts, twenty-four 1/4-inch round head screws.



# Letters

Dear Editor,

I feel I must write in support of Scott-Taggart's remarks about women's inability to make "adjustment" to wireless receivers, which were criticised in a letter from David Jones (Bulletin p.34, Autumn 1998). I am able to confirm that in my female-biased household at least, neither my wife Juliet, nor my daughters Samantha (21), Cayvill (20) and Sabrina (13) have ever been able to tune in successfully any of the modern radios they have ever listened to, for they simply cannot tell the difference between their ear-damaging off-target efforts and a perfectly-tuned station. From my personal experience, this may indeed prove be a 'gender-thing'.

Jonathan Hill (BA Hons)

PS. W.J. Williamson comments (p.20 same issue) that Invicta Radio Ltd. is ignored by collectors and that his copy of Radio! Radio! does not refer to Invicta sets at all. Well in my copy (p.259), it lists and describes 24 of them! JH

## Invicta; the forgotten make

Dear Editor

Referring to W I Williamson's article on Invicta radios in the Autumn Bulletin, I would like to tell him through the letters page, that I have an Invicta model 30. This is a mains set in an identical cabinet to his model 40 battery receiver. It has long, medium and 2 short wave bands like the model 40, and though also a very conventional valve line up, it performs very well. The set uses ECH35, EF39 and EBL31 with an AZ31 rectifier. It even has the circuit diagram stuck inside on the back (not many manufacturers did this!)

I think it is an attractive set and don't recall ever seeing any others like it around over the years, so perhaps they were only made in fairly small quantities. The chassis and cabinet of mine are in excellent condition and very little has been replaced, having most of the original components. How many other members have an Invicta in their collection I wonder?

## Error in article

In my article on the High Frequency Battery Eliminator, the Transient Voltage Suppressor 'diode' on the input to the integrated circuit is wrongly shown as an 'SA 70'. It should in fact be an 'SA 30' or an 'SA30A' which is a later version. These are obtainable from Farnell or RS Components.

I apologise for any inconvenience which this may have caused prospective builders, who have been frantically searching for such a non-existent device.

Yours Sincerely  
Graham Dawson

Dear Editor,

Some years ago a contributor to your Bulletin reported an innovative method of drying out old mains transformers in situ. This involved placing short circuits across all secondary windings, then applying a low voltage to the primary. The obvious advantage was that the drying heat would be generated internally,

without potentially damaging voltages being applied to damp insulation.

The correspondent mentioned a voltage of 2 to 5 having been reported, but stressed that he'd not yet tried this himself.

Recently I had the opportunity to use this method while restoring a 1937 Philips Theatrette. An applied 26 volts induced a primary current of 280 mA and rather gentle heating, while not exceeding the transformer's normal loading of about 60 watts. No doubt a higher voltage, therefore temperature, could be withstood for a limited time without too much risk to insulators or winding integrity. Even so, this method seems a good alternative to drying out in a warm cupboard, though perhaps not quite as good as removing the transformer (where practicable) and drying-out in an oven. One must, of course, be aware that applying the heat internally will result in the actual windings becoming rather hotter than the external core temperature.

As an aside, may I mention how encouraged I was, on a recent visit, by the current state of the UK vintage radio scene. All types of vintage components seemed able to be had, new or secondhand; PX25 and bright emitter triodes were available newly manufactured, from the continent, while a friend in Billingshurst could produce every rare or obscure valve on my want-list. Publicly-displayed collections had grown in number; for instance on visiting the town museum in Bognor Regis I was pleasantly surprised to find a very tastefully arranged radio collection in their back room, containing many fine, classic sets. Gerry Wells' London museum is, of course, justly famed for the breadth of its coverage, but I was also most impressed when I visited the private collection of Pat Hill, in Southampton. The craftsmanship, artistic judgment and the sheer diligence exhibited in such collections is simply outstanding, as is the willingness to share the results with others.

At the end of my visits my bags were bulging with vintage books and magazines, valves, capacitors, a two-volt glass accumulator, and various other vintage apparatus including a delightful Eddystone FM tuner, all obtained at perfectly reasonable prices and in pleasant, friendly circumstances. My thanks to BVWS members and others for helping to bring our enjoyable and diverse hobby to its current, flourishing state.

Yours sincerely,  
Brian Blackford

Dear Editor,

The photograph of an Arden hearing aid and the accompanying request for information in the Summer Bulletin had me reaching deep into my pocket for the princely sum required when I recently saw one at a local car boot sale. This was clearly 'the full kit' so I overcame my natural parsimony and paid the price.

An obviously later model than the one owned by Mr Caten, it consists as can be seen in the photograph, of an amplifier with integral microphone, an earpiece, a 45 volt HT battery, 1.5 volt LT battery and a carrying case (surprisingly enough there were two LT batteries both of which still gave 1.5 volts on the meter).

The component layout is roughly similar to Mr Caten's, except that the controls are edgewise, the valves are mounted in a 'U' shape and a transformer occupies a central



position. Two of the three valves are by now mounted in valve bases, no doubt to facilitate servicing.

The valves are Raytheon CK503AX and CK505AX hearing aid tubes introduced in 1940, and as this range was superseded by the CKX series in the same year it would appear that my apparatus dates from 1940 (see 70 years of Radio Tubes and Valves by John W. Stokes).

It is hard to imagine that this design is not male orientated, as the picture shows the 'set' carries two pen clips enabling it to be concealed in the top pocket of a gent's suit, which must have muffled the microphone somewhat, with the batteries presumably carried in the jacket side pockets. However the ladies, bless 'em could not conceal anything about their person and had to carry amplifier and batteries in the small, black carrying case (microphone to hole in front) and point towards sound source. This must have caused arm strain as well as embarrassment!

My wife kindly demonstrates the modus operandi, but has to hold the earpiece in, as it is obviously a child's size. Nancy is listening for an amplified response to the question "what am I going to do with this rubbish when you die?" I'm working on it dear, I'm working on it.

I seem to remember in those halcyon days when 'screen' meant cinema screen and Errol Flynn flew alongside David Niven on the Dawn Patrol, or fought Basil Rathbone on the castle steps), a notice in the foyer saying 'Arden Sound System'. Doubtless some member will have intimate knowledge of same.

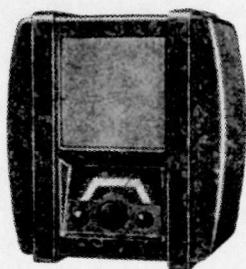
Should anyone feel an overwhelming desire to acquire the apparatus shown herewith, please study 'Member's adverts'.

Yours sincerely,  
R. Robinson

Dear Editor

In the Vol 23, number 3, issue of the Bulletin, Paul Stewart seeks information on the

# EKCO SERVICE INFORMATION



**MODEL B37**  
CONSOLE RECEIVER

## PRICES OF PARTS NOT GIVEN IN CIRCUIT KEY.

Description.	Part No.	Retail Price.	Description.	Part No.	Retail Price.
Cabinet (black) ... ..	DP925	35/-	Scale ... ..	D6010	2/6
" (walnut) ... ..	DP924	27/6	Scale clamp ... ..	B6009	3d.
Tuning knob (walnut) ... ..	C5916	1/6	Reflector plate (white) ... ..	B5955	6d.
" (ivory) ... ..	C5916	2/-	Loudspeaker ... ..	D5240	30/-
Volume control knob (walnut) ... ..	C5917	9d.	Loudspeaker baffle ... ..	D5914	1/-
" (ivory) ... ..	C5917	1/-	Valve screen (tubular section) ... ..	B5919	6d.
W/C switch knob (walnut) ... ..	B5946	9d.	Valve screen (cap section) ... ..	B5920	3d.
" (ivory) ... ..	B5946	1/-	Plug (red or black) ... ..	A3654	2d.
Back cover ... ..	DP940	3/-			

All prices given in this manual are subject to alteration without notice.

possible existence of ivory coloured cabinets for Ekco AD37 receivers.

The spares price list (see illustration above) taken from the Ekco Service Manual for the B37 battery version this set, would tend to indicate that ivory cabinets were not in fact produced for this range of receivers. (That the AD37 and the B37 utilised identical cabinets may be seen by comparing the photograph sent with Paul's letter and the illustration above).

I find it surprising that such a high premium was charged for the black cabinet as opposed to the walnut one, the former costing some 27% more than the latter. One wonders what an ivory one would have cost had they been available

Yours sincerely,  
Geoff Sutcliffe

Dear Editor,

I recently visited a local antique fair in Bristol and was browsing at a stall selling old sheet music, theatre programmes etc. I was looking for wireless related items and found a programme for a wireless meeting which was held in 1923. The original programme is on cream card with rather nice sepia printing. The item was wrapped in cellophane with a cardboard back to keep the programme safe so that the rear was not visible. The item took my fancy and I bought it for the princely sum of £1.50.

However when I got it home and took it out I found that the original owner had attended the meeting and had asked Sir Oliver Lodge to sign the reverse.

It will be obvious from the illustration that Sir Oliver was not a prize winner in handwriting. However my wife and I managed to decipher the message which says:

'The most real and substantial material existence is the ether of space. Many functions of it are already known but some very surprising ones are being foreshadowed. Oliver Lodge'

Even allowing for the language of the time we thought the statement to be a bit odd so I looked up the reference to Sir Oliver Lodge in the Encyclopaedia Britannica which stated:

'Sir Oliver Joseph Lodge. 1851 - 1940 English scientist; made many developments in electricity and radio; later became interested in supernatural matters and especially in communicating with the dead.'

I thought this reference to supernatural matters gave a little insight into what might be the background to message on the reverse of the programme.

When Oliver Lodge lectured in 1923 he would have been 72 years old. In the early part of the century there was a great interest in psychic matters by a number of people eminent at the time. No doubt the not fully understood aspects of wireless wave

Man' and 'Reason and Belief'. Both of these dealt with psychic matters and I noted from the list of his other works that he was well into the subject.

I have since been told that Sir Oliver Lodge had a son who was killed during World War One. Again this might explain his interest in attempting to communicate with the dead and to some extent the message he scribbled on the back of the programme in 1923.

One further point of interest is the use of the term 'the ether of space' I recall in my youth that wireless waves were said to be transmitted through the 'ether'. It's not a term in much use today and no doubt is quite unknown in meaning to the younger members of the Society. My dictionary gives one definition as:

'the medium formerly believed to fill all space and to support the propagation of electro-magnetic waves'.

I wonder what Sir Oliver Lodge would have made of radio astronomy and space travel? When I have finished reading his two books on psychic matters I will get in touch with him and let you have his views!

Yours sincerely,  
David Bickerton

### The Second "Popular Wireless" Meeting

(Organised in Conjunction with "Wireless Review")

The Central Hall  
Westminster

#### PROGRAMME

TRIALS AND TROUBLES OF A RADIO ENGINEER

By Gen. P. P. ECKERSLEY (Chief Engineer, A.S.C.)

POST OFFICE WIRELESS

By Mr. EDWARD H. SHAGHNESSY, O.B.E., M.I.E.E.  
(Chief Engineer, Wireless Section, British Post Office)

A "LOUD SPEAKER" DEMONSTRATION

By Dr. J. H. T. ROBERTS, F.R.S., F.I.A.S.P.  
(Assistant Technical Editor, "Wireless Review")

PIONEER WIRELESS WORK

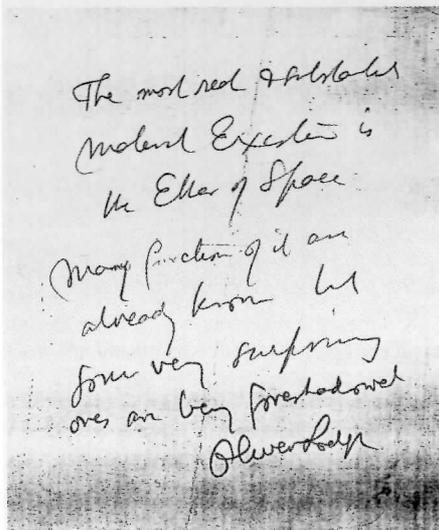
By Sir OLIVER LODGE, F.R.S., D.Sc., LL.D., M.I.E.E.  
(Honorary Editor in "Popular Wireless" and "Wireless Review")

A DEMONSTRATION OF WIRELESS CONTROL

By Major RAYMOND PHILLIPS, L.O.M.  
(Conductor in "Wireless Review")

In the Chair:  
Mr. NORMAN EDWARDS, F.R.G.S., A.M.I.R.E., F.R.S.A.  
(Editor "Popular Wireless" and "Wireless Review")

On Thursday, December 13th, 1923, at 8 p.m.



transmission was a natural stepping stone to telepathy and the like. Further browsing in a secondhand bookshop provided me with two books on Sir Oliver Lodge: 'The survival of

Dear Editor

In the late fifties I had the good fortune to visit the D.W.S station at Crowborough, so I was particularly interested to read the four-part article 'Black propaganda' in the Bulletin (Vols 22/4 up to 23/3). However in the interest of historical accuracy, it needs to be said that the claim for 'Aspidistra' having a 'massive 600 kW far exceeding any in Europe' was not valid until February 1943. On that date the new BBC station at Ottringham opened initially at the same power, carrying the European service.

Ottringham, which employed four 200 kW Marconi transmitters, was designed to operate at 200, 400, 600 or 800 kW and to radiate up to four programmes simultaneously in the medium or long wave bands: a power of 800 kW was ultimately available for a single programme. The opening of the station was delayed by the collapse of a 500ft mast during erection in August 1942, so in order to meet as far as possible the service date required by the Government, the BBC obtained partial use of Aspidistra, operating on 804kHz, in November 1942 until Ottringham was fully operational. Details of the Ottringham station are given in

# BVWS Minutes

Minutes of  
BVWS Committee meeting  
held on Thursday 27 August 1998 at 5  
Templewood, Ealing

**Present:** David Read (Chairman), Jeffrey  
Borinsky, Steve Sidaway, Ian Higginbottom,  
Pat Leggatt, Mike Barker, Guy Peskett

## 1 Apologies: Carl Glover

2 Minutes of meeting held on 23 July  
A number of corrections were made, the  
minutes were then approved.

## 3 Call for Nominations

A draft of the form calling for nominations for  
the elections to the Committee for 1999-  
2000 was tabled. Following discussion of the  
work involved it was agreed that the  
following members would be required,

Chairman  
Treasurer  
Bulletin Editor  
Publications Secretary

Society Secretary  
Membership Secretary  
Events Co-ordinator  
Members Advertisements Secretary

It was also agreed that the form should carry  
brief descriptions of the work to be done by  
each member. Work descriptions were  
agreed. The amended Call for Nominations  
form was approved.

## 4 Constitution

Draft amendments to the Constitution to be  
proposed for 1999-2000 relating to the  
composition of the Committee were  
approved. Review of other proposed  
amendments was scheduled for the next  
meeting.

## 5 Costs of postage to members overseas

PL pointed out an anomaly in the amount  
charged for postage to members overseas.  
DR agreed to look into this as part of his  
current review of the Society's finances  
which will lead to recommendations for  
subscriptions for the coming year.

## 6 Next Harpenden

DR reported that Terry Ransom will be away  
and not able to conduct the auction at the  
next Harpenden meeting and SS reported

that someone is needed to run the Bring and  
Buy stall. SS will approach possible  
volunteers.

## 5 Website

MB reported that the site had gone live at  
the beginning of August. An advance  
payment of £98 was made.

## 6 AOB

Leif Aasen was made a complimentary  
member.

GP proposed that additional information  
about the Society (Committee contact list,  
code of practice, etc) and perhaps  
advertising, be added to the list of members  
in the Handbook. This was approved.

PL confirmed that Masterfile could  
produce members information in a form  
suitable for the Handbook

Norman Jackson's drawings. It was  
agreed to pursue the reproduction that  
Norman's posters and that we should  
actively seek to use individual drawings as  
opportunities arise.

Date of next meeting, 1 Oct

The meeting closed at 10.40 pm.

Letters continued

references 1 and 2 below.

Finally there is an anomaly in the subtitle  
to fig 1 in part 4. The towers were the actual  
radiating elements of the medium wave,  
directional aerial system and contrary to the  
text, were in operation well after 1950.  
Perhaps there was confusion in the original  
text with the two masts in the background in  
Fig 1 which supported dipole arrays for the  
short wave transmitters also identified by  
'Aspidistra' (see fig 7 part 4)

Thank you for an unusual piece of radio  
history- I look forward to more in a similar  
vein.

References:

- 1 'BBC engineering 1922-1972'  
Edward Pawley pp 256, 350
- 2 Journal of the I.E.E 1947 Part IIIA  
Radiocommunication, Vol 94 pp 175-6

Yours Sincerely  
Alan P. Carter

Dear Editor

I recently viewed a copy of your Society's  
impressive publication at the monthly  
meeting of our Ottawa Vintage Radio Club.  
The thought occurred to me that one of your  
readers could perhaps identify a valve which  
I possess, which was manufactured in the  
early 1900s.

The valve is a transmitting diode marked  
as follows: EDISWAN AT 50 SERIAL No.  
6146. WORKING FIL VOLTS CURRENT

On the reverse face of the face of the  
round bulb there is a large 'W up arrow D',  
presumably for War Department. The tube  
base is metal with three leads for filament (2)  
and grid emerging and fanned out in the  
shape of the letter 'Y'. The connections  
appear to be made by means of spade-type  
lugs which are secured by knurled threaded  
nuts and screws which in turn are mounted  
on a sheet of black bakelite. The top plate  
cap connection is similar to the threaded

stud on a battery post. Overall height is  
approximately 7 inches and from the  
construction appears to be capable of  
handling 50-75 watts.

Perhaps one of your readers will recognise  
this valve and the military transmitter in  
which it was used. If so, I would be very  
pleased to hear from anyone so  
informed. I could supply a picture if  
necessary. The valve is working and I treat it  
with respect, due to age.

Yours Sincerely  
Ralph D. Cameron, VE3BBM,  
30 St. Remy Drive,  
Nepean ON K2J 1A3,  
Canada

Dear Editor

I have just completed a compilation of radio  
stories about my childhood hobby, and my  
subsequent experiences in the radio and  
television trade. Unfortunately I am unable to  
come up with any images for my final story  
on fitting 'Smith's Radiomobile' (EMI) car  
radios. This would have been in the 50's and  
I was wondering if any BVWS members  
might perhaps have a photo or two  
concerning these models lying around. I will  
return any photograph sent to me after  
copying.

Yours Sincerely Bill Smith,  
11b Marischal Street,  
Peterhead,  
Aberdeenshire.  
AB42 1BS  
(01779) 476893

Dear Editor

Your listing of pre-War television sets in the  
last BVWS bulletin is most interesting. I  
thought I should let you know, for your  
records, that up until June this year I was the  
proud owner of a GEC BT8090. Prior to our  
move to our current address I passed this set

on to the Museum of Applied Arts and  
Sciences in Sydney.

The set was complete and in good  
condition except that the metallized coating  
on the MSP41 valves had all fallen off and  
was floating around in the bottom of the  
chassis.

A brief story of why the set found its way  
to Australia is that it was apparently brought  
to Australia for the 1938 World Radio  
Convention held in Sydney at the Sydney  
University. I have been unable to confirm that  
it was used in any demonstrations but some  
of the papers presented at the convention  
covered the work done by EMI and Marconi  
engineers in television.

The set ended up in the basement of the  
GEC offices in Sydney and was due to be  
scrapped, along with a whole lot of other  
paper material, early valves, lamps and the  
like, when the company de-centralised to the  
suburbs from the city centre in the mid  
seventies. Fortunately the company  
secretary, of all people, knew of my interest  
in early lamps and valves and told me to  
come and get all this stuff pretty quick! The  
set was pictured on the back cover of a staff  
magazine in the early sixties.

The M.A.A.S. had been after the set for  
some years and the current communications  
curator has confirmed to me that there is  
probably only one other in existence and this  
is most likely the one you have listed. There  
is a picture of the set in my soon to be  
published book: History of GEC and the  
Marconi Osram Valve. This should be  
available early in the New Year.

I might also mention that about 35 years  
ago I was given a very large British chassis  
which I was told came from an early  
television. The few valves that were in it were  
Catkins, one being a VMP4. I can't give you  
any other information on this as I dumped  
the whole thing and kept only the valves.

Yours Sincerely Fin Stewart, Australia.

# TUDOR GWILLIAM-REES

## Savoy Hill Publications

### Vintage service data & manuals for:

Radio, HiFi, Communications, Military,  
Television, Cinema, &  
Domestic Appliances up to the 1970s

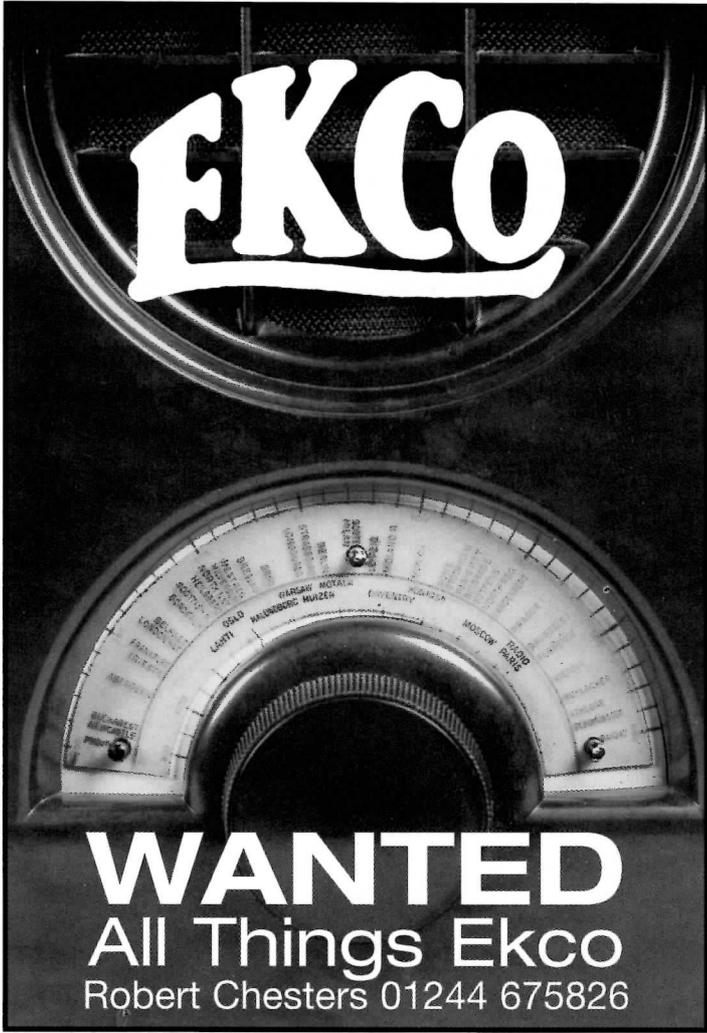
#### FREE PAMPHLETS ON:

- ☐ Military & Communications
- ☐ HiFi & Audio
- ☐ Valve manuals
- ☐ Vintage Wholesaler catalogues
- ☐ Test Equipment
- ☐ Radio & Television Receivers

Publishers of the *Antique Wireless Newsheet*,  
free sample upon request

#### SAE PLEASE to:

Tudor Gwilliam-Rees, 50 Meddon Street,  
Bideford, The Little White Town, Devon EX39 2EQ  
Tel & Fax: 01237 - 424280  
E.Mail: tudor.gwilliam-rees@virgin.net  
Website: <http://freespace.virgin.net/tudor.gwilliam-rees>  
**MAIL ORDER ONLY**



**Ekco**

**WANTED**  
All Things Ekco  
Robert Chesters 01244 675826

## Back issues

Vol 10 Numbers 2, 3 & 4 Inc. The  
KB Masterpiece, Extinct Species  
"A Monster Defiant".

Vol 11 Numbers 1, 2, 3, 4 Inc. BTH  
VR3 (1924) receiver, Marconi's 1897  
tests, Origin of the term 'Radio',  
Baird or Jenkins first with TV?

Vol 12 Numbers 1, 2, 3, 4 Inc. the

Emor Globe, The Fultograph, Ekco  
Coloured Cabinets.

Vol 13 Numbers 1, 2, 3 Inc. Direct  
action tuning, The Philips 2514,  
Noctovision.

Vol 14 Numbers 1, 2, 3, 4 Inc.  
Cable broadcasting in the 1930's,  
The story of the Screen Grid.

Vol 15 Numbers 2, 3, 4 Inc. The  
wartime Civilian Receiver, Cohers  
in action, Vintage Vision.

Vol 16 Numbers 1, 2, 3, 4 Inc. The  
Stenode, The Philips 2511, Inside

the Round Ekco's.

Vol 17 Numbers 1, 3, 4, 5, 6 Inc.  
Wattless Mains Droppers, The First  
Philips set, Receiver Techniques.

Vol 18 Numbers 3, 4, 5 Inc. The  
First Transistor radio, The AVO  
Valve tester, The way it was.

Vol 19 Numbers 1, 2, 3, 4, 5, 6 Inc.  
The Birth of the Transistor, Super  
Inductance and all that, reflex  
circuits, A Murphy Radio display,  
restoration.

Vol 20 Numbers 1, 2, 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, 2, 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, 3, 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 Number 1 inc. Sonora  
Sonorette, Bush SUG3, RNAS  
Transmitter type 52b, North  
American 'Woodies'.

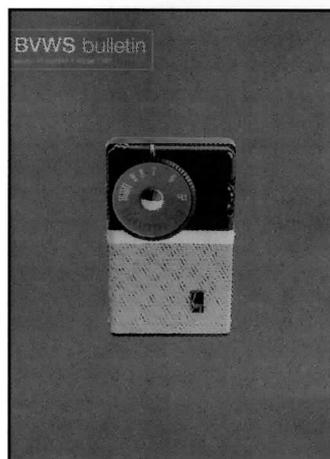
#### Supplements:

- 1 'The story of Burndept'.
- 2 'WW 1927 data sheet'
- 3 'Seeing by wireless' the story of Baird  
Television
- 4 reproduction Marconi catalogue

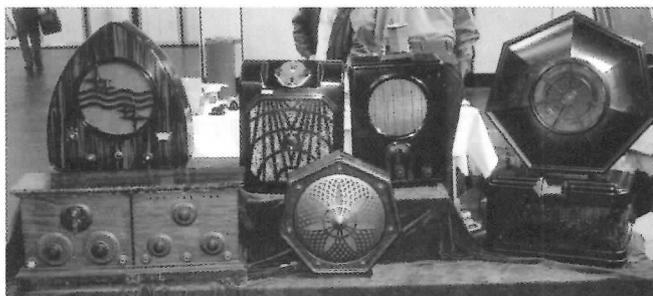
Earlier Bulletins and supplements are  
priced at £2:00 each + postage. Bulletins  
from volume 21 onwards are priced at  
£2.50 each. + postage.

#### Postage:

for individual bulletins add 50p, for 2-5  
bulletins add £1, for 6 or more add an  
extra 20p each. At present the Back issue  
service is temporarily suspended until  
somebody can be found to take the place  
of Pat Leggatt.



## News and Meetings



### Death of Keith Geddes

I regret to announce that one of our honorary members, Keith Geddes, died on September 21st.

Keith had two distinguished careers, first in the Research Department of the BBC, and then as Keeper of the Communications department of the Science Museum. It was in the latter in particular that he made important contributions to the history of wireless and gave very welcome facilities to the BVWS. In retirement Keith moved to the Lake District, with the good Cumbrian address of Stockghyll Brow.

As a personal friend and ex-colleague I shall miss him; and our gratitude goes from the Society, coupled of course with all our sympathy to his wife Anne.

Pat Leggatt

### Wootton Bassett meeting

Mike Barker will be organising a swapmeet on **December 6th**.

### Harpenden meetings

There will be a swapmeet on Sunday the **29th of November**.

### 1999 Harpenden meetings

There will be an auction, a restoration contest and the AGM on Sunday **7th of March**. Sunday the **6th June** hosts a swapmeet. Autumn is heralded with a swapmeet on **5th September**, and the year finishes with a swapmeet on the **28th of November**.

### 1999 Portishead meetings

There will be a swapmeet on Sunday **21st of January**, Sunday the **18th of April** and Sunday the **3rd of October**.

### NEC Meeting 1999

Jonathan Hill's 'National Vintage Communication Fair' meeting will occur on the **8th May**. For further details on the NVCF please refer to the advertisement on page 2.

### Southborough Meetings 1999

John Howes will be holding an audiojumble at the Angel Leisure Centre, Tonbridge, Kent on Sunday 14th February. Bookings/enquiries (01892) 540022.

### American meetings 1999

**4th - 7th August:** ARCI Radiofest XVIII, Elgin, Illinois. Further details to follow when known

### Gerald Wells' garden party 1999

Gerry Wells will be having a garden party on Saturday **5th June** at the Vintage Wireless Museum, 23 Rosendale Road, West Dulwich, London SE21 8DS. Telephone 0181 670 3667.

### 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, as the Bulletin is only as interesting as the articles that comprise it. We welcome all suggestions and comments regarding the new appearance of the Bulletin and hope that it is catering to your needs as a collector / enthusiast / historian. Your article can be just a few paragraphs long as long as you think it conveys its message across 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 all articles to: Carl Glover, c/o Runciter Corporation, 33 Rangers Square, London SE10 8HR.

# Chevet Supplies Ltd

Dept B 157 Dickson Road, Blackpool, Lancashire, FY1 2EU

Telephone: (01253) 751858 Fax: (01253) 302979

### The Vintage Wireless Listing

Published regularly, containing hundreds of out of print, old and collectable wireless and TV books and magazines, vintage and valve communications receivers, valves, vintage components, etc. Send six first class stamps for the next listing or £10 for the next four catalogues and eight issues of the 'The Vintage Wireless Trader' containing our latest acquisitions and subscribers 'wants and sales', published at approximately six-weekly intervals

### New Books

**Early Wireless by Anthony Constable.** This excellent book retraces the paths of history which culminated in the final appearance of the wireless set. Much information for the collector. 167 pages. Hardback. **£8.50** p&p £2.50

**Vintage Radio Valve Line-up Guide, 1930s 1950s:** This invaluable book contains the valve line-up and replacement guide for hundreds of radios, pre-war and post-war. 118 pages. **£12.50** including p&p

**R.1155 Receiver data.** Contains circuits and technical notes. 47 large format pages. **£11.75** including p&p

**Radar.** PS. Hall (et al). An absorbing and informative study by authors from The Royal Military College of Science. Covers the origin, development and operation of military radar from Chain Home to Patriot etc. Numerous photos and illustrations of equipment and its principles of operation. 170pp. Published by Brasseys Weapon Technology series at £25. **Our Price £7.50**, p&p **£2.50**

**T1154 Series Transmitter Manual.** Contains circuits, technical notes, photos. 54 large format pages. Facsimile copy. **£14.75** inc. p&p.

**Wireless Set (Canadian) No 19 Mk III Technical Manual.** Facsimile copy contains detailed description, layouts, circuits operating instructions, etc. 62 pages. Large format. **£12.50** incl. p&p

**The Ultra-Magic Deals** by BF Smith. A well researched book on Ultra codebreaking operations providing a fascinating study of the technologies, personalities and politics of Britain and America's most mysterious secret - the pooling of their cryptological intelligence against Germany and Japan. Includes recently released details of Bletchley Park operations and is one of the few books published on cryptanalytic operations. 276 pages. Published at £17.95. Our price **£11.50** p&p £2.50

**British Television - The Formative years.** by R Burns. A special purchase of an out-of-print book on early television IEE history of technology in association with the Science Museum organised this book, which covers the period 1922-1939. A highly collectable item based on written primary source material. 488 pages well illustrated. Published at £52. Our price **£35** including p&p

**Eddystone Communications Receiver Data 1950-1970.** A facsimile reprint of the circuit diagrams, general description and some service notes for sets from 1950-1970. 50 pages **£9.75** incl p&p

**Admiralty B40 Receiver.** Contains detailed description, circuits, operating instructions, illustrations, etc. Approx 48 large format pages. Facsimile reprint. **£9.75** inc. p&p.

**Valve Communication Receiver Handbook.** Contains circuits and technical information for valve communication receivers both commercial and of military origin. 1940s to 1960s. Incorporates a surplus/commercial cross referenced valve guide. Large format, approx 100 pages. Facsimile copy **£16.50** p&p £2.50

### BOOKS FOR THE COLLECTOR

**WW2 German/Italian/Japanese Military Wireless Equipment Manuals.** Facsimile reprint of the original manuals compiled by the War dept. on captured enemy wireless equipment. Volume 1 contains photo's, technical data, weights, dimensions and tactical information on German and Italian military receivers and transmitters etc. Approx. 150 pages, large format. Volume 2 covers additional German equipment and contains hard-to-obtain information and photo's on Japanese military equipment. Approx. 88 pages large format. The two volume set **£35.00** including carriage (carriage overseas extra)

### Wireless and TV service sheets and manuals

Thousands in stock from 1930's to 1960's. SAE or telephone for quote

### Valve and Vintage Components

**32+32µF at 350V**  
Hunts electrolytics. Can type **£4 each, 2 for £7** post free

**50+50µF 300V**  
Can type. TCC electrolytics. **£3.25 each, 2 for £6** post free

**Octal valve holders**  
**60p each, 5 for £2.50** post free

**B9A valve holders**

**5 for £2** post free

**B7G Valve Holders skirted.** Four for **£2** post free

**MES dial bulbs**

**6.3V .3A Box of 10. £2.95+60p** p&p

**2-gang 0.0005µF Tuning Caps.** Standard size, as fitted to old valve radios. Slightly soiled but electrically sound and unused only **£5.50 each**, p&p £1.50

### High Voltage Caps

**0.1µf 1000V wkg.** Mixed dielectric 1 1/2" x 1/2" axial wire ended. **80p each.**

**5 for £3.50** inc. post.

**0.068µf 800V wkg.** Mylar dipped 1 1/2" x 1/2" axial wire ended. **70p each.**

**5 for £3.00** inc. post.

**0.5µf 'Metalpack', paper/foil.** Wire ended. 350 V 2 1/2" x 1/2". **70p each.**

**5 for £3.00** inc. post.

**0.22 1000V wkg.** Mixed dielectric 1 1/2" X 3/8"

**70p each, 5 for £3.00** inc. post.

**0.01µf 1500V wkg.** Mixed dielectric 1 3/8" x 1/2"

wire ended. **80p each.**

**5 for £3.50** inc. post.

**1µf 400V wkg.** Mixed dielectric 1 1/2" x 1/2" wire

ended. **80p each.**

**5 for £3.50** inc. post.

**Paxolin sheets** 8in x 7 1/4in x 1/8 in heavy duty. Three sheets for **£4** p&p £1

**Most valves 1930's to 1960's available at low prices**  
**SAE or phone for quote**

Callers welcome to our vintage wireless shop, address above, open Tuesday, Thursday, Friday and Saturday, 10am - 6pm, other times by appointment. Pre-war and components in stock, also government surplus and valved communications receivers



The ideal Christmas gift!



**"The Man  
who made  
(British)  
wireless  
possible"...**

The London Daily News  
September 1930

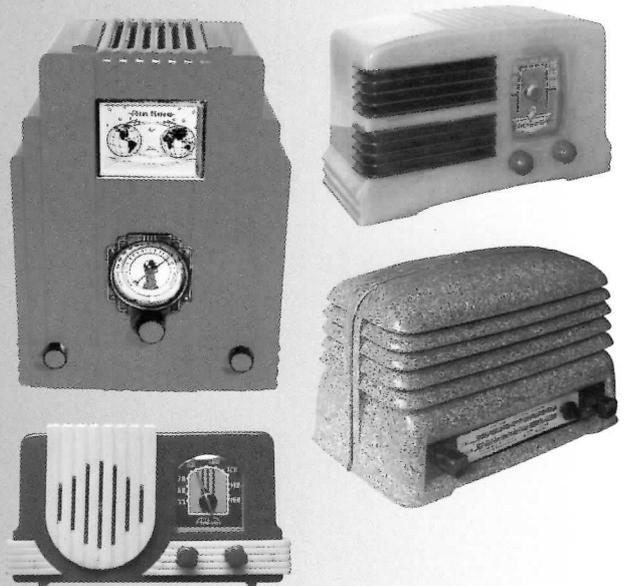
## Prospero's Wireless

the fascinating story of  
**Peter Eckersley**  
written by Myles Eckersley, his son

Foreword by **Asa Briggs**, the eminent historian  
Price £11.99 Postage and packing £2  
500 pages 18 charts 50 photos

Cheques/P.O to: Myles Books, Elm View, East Dean Rd.  
Lockerley, Romsey, Hants. SO51 OJQ. 01794 340 962

## Wanted by collector



Top prices paid for  
Coloured KB BM20's, Air King 'skyscraper'  
Catalin Sets and Coloured Bakelites

Carl Glover c/o Runciter Corporation, 33 Rangers Square  
London SE10 8HR | Tel / Fax: 0181 469 2904

## Audiojumble '99 seventh year

Angel Leisure Centre, Tonbridge, Kent  
Sunday 14th February 1999  
doors open at 10.30 to 4.30

Large cafeteria serving hot and cold meals all day. Main line railway  
station within walking distance

Stalls £20.00 Admission £2.00  
Bookings/Enquiries on: 01892 540022

Valve Amps • Tuners • Records • Speakers • Components  
Books • Cassette Decks • Tape Recorders • CD Players

## Swapmeet at **Portishead** 21st January 1999

Clarence House, High Street, Portishead  
doors open at 10.am

Hot meals served throughout the day • bring and buy stall  
auction at 1pm

£2 entry - no booking required  
£10 for stall plus helper  
stallholders please book by telephone or letter

Ring Alex Woolliams for bookings on: 0117 9721973  
11 Norton Road, Knowle, Bristol, Avon BS4 2EZ

Interested in Vintage Technology?

# Airwaves

*is for you*



- ▶ Britain's widest range of Radio, TV and Gramophone collectables for sale in every issue.
- ▶ Illustrated with accurate descriptions and prices.
- ▶ Interesting articles on all aspects of vintage technology.
- ▶ Subscription fully refundable against purchases.
- ▶ Worldwide Shipping

Send S.A.E. for details and sample copy

## ON THE AIR

The Broadcasting Museum and Vintage Sound Shop  
42 Bridge Street Row, Chester CH1 1NN  
Tel/Fax (+44) (0) 1244 348468



Serial  
No. AU-71017

CAP. 100  
W.V.  
D.C.

CAP. 100  
W.V.  
D.C.

RADIOTRON  
ELECTRON  
RCA

PHI

PHI  
SPE  
TS 2,020 Z  
A-NICH  
MICAP