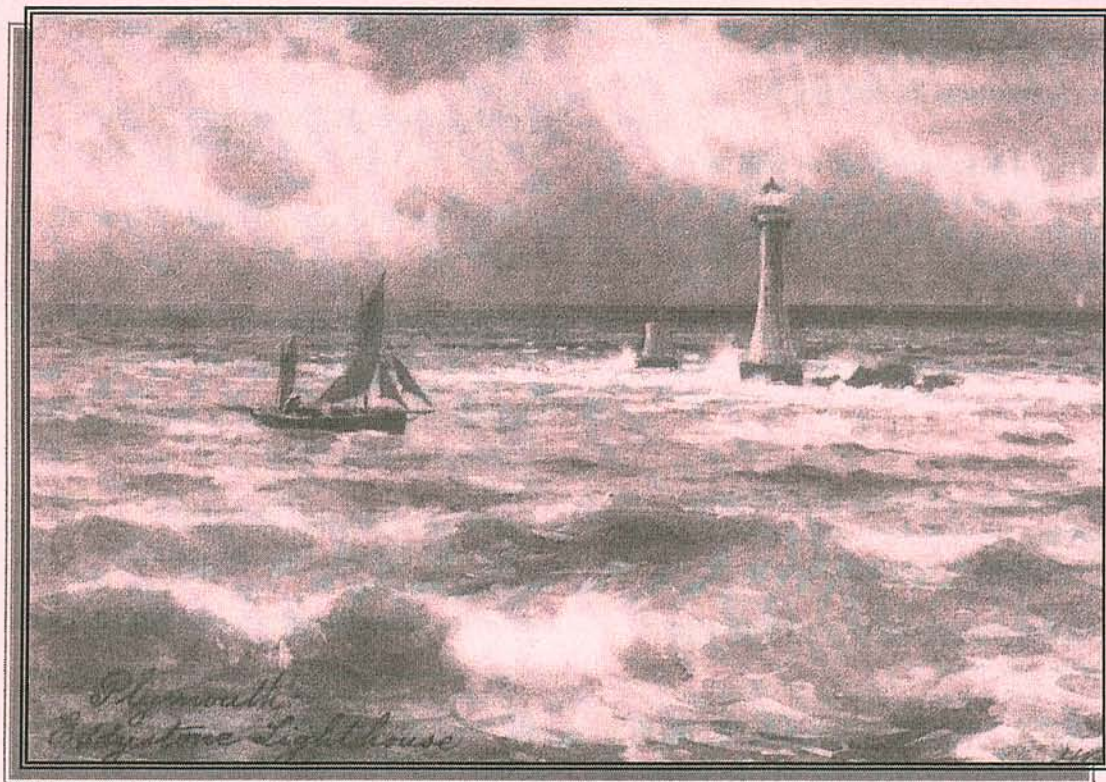


Lighthouse

Founded 1990

The Magazine of the
Eddystone User Group

Issue 96, April 2006



**THE EDDYSTONE LIGHT AND
SMEATON'S STUMP C. 1906**

EDDYSTONE USER GROUP

A non-profit-making Group for Eddystone
Radio Enthusiasts Founded in 1990 by
Ted Moore G7AIR. Final Issue 96

HANDBOOKS etc.

There will be an ongoing
availability to all Eddystone
enthusiasts of handbooks from
TED MOORE G7AIR,

**21 Prince Street
Wisbech
Cambs PY13 2AY
Tel: 01945 467 356
(No e-mail)**

ADVERTS

WANTED Edometer S.902 Mk II.

**FOR SALE Eddystone Model 689 semi-
automatic speed key, (Serial GZ0451)**
Fully restored and presented on teak base
with Perspex cover.

I would prefer to exchange the Keyer for
the Edometer (cash adjustment either
way). However the keyer is available as
an item.

**Also available is a Model 688 Round
Loudspeaker (black) also in perfect
condition. Prices to be discussed.**

**Contact Barry, ZS2H at 01206 543 665
(Colchester, Essex.)**

**Various Eddystone Receivers and other
amateur equipment for sale.**

Please call **Patrick Trembath** on 01736
333 649 .

**FOR SALE: 8 x Eddystone Coils (all world
radios)**

Eddystone 870A, offers.

**WANTED: Eddystone EA12 or exchange
for above. (continued top of next column**

**Rein de Vlieg, 't Rietje 3,
1645 SV Ursem,
The Netherlands.
Tel: 0031725021726**

**FOR SALE: accessories for Marconi
instruments.
For Marconi Type: TF 2606 AC Electronic
Voltmeter :**

TM8102/1. Low Capacitance Probe.

**TM 5269. Probe Lead. (Low capacitance
co-axial cable assembly 30 inches long
with test probe and earth clip at one end
and Type 83 plug at other.**

**Screened Adaptor: Type GE 51001 (TB
39867)**

**Similar Adaptor to above . Type
GE51002 TB 39868 with BNC socket.**

**For Marconi Type : TF2600 Electronic
voltmeter :**

**RF Grounding Sleeve TC 23533/3 to fit
on AC probe.**

Payment can be made in £ Sterling
Cheque Lloyds Bank U.K.

**Peter Le Quesne, ZL4TCC,
23, Oriel Place, Napier 4001,
New Zealand,
e-mail: pleq_tbc@clear.net.nz**

**FOR SALE: EDDYSTONE EA12. two
owners from new; present owner last 12
years. No mods or repairs, VGC except
for the usual crack in the "S" meter "glass".
Original manual. £250.**

**EDDYSTONE 940. Again, two owners
from new, no mods or repairs, original
manual, VGC. £175.**

**Round Eddystone Speaker S688A,
hammered silver – not black crackle, £70.**

All offered to EUG members for cash
before going on E-Bay. Inspect and

collect from Cottingham, East Yorks, (west of Hull) please.

Contact David (G4EBT) 01482 876702 or e-mail: cotters@cotters.karoo.co.uk

WANTED : Very new EUG member wanting to complete period station seeks **Eddystone round diecast speaker, S-meter, and speed key.**

Thanks, call Ken G3XSJ, Tel. 01453 845013, e-mail ken.brooks@iee.org

FOR SALE: Eddystone Receivers:

EC10 Mk I, GWO and immaculate condx, two-tone grey (like 940/830) with brushed silver disc/skirt knobs, the smartest. **With handbook also A.C. matching psu type 24**, fitted, ready to go, £85 the pair.

730/4, Royal Signals general coverage MF/HF, every refinement; the neatest you will see, GWO **with handbook and mains power connector £150.**

"The Jewel in the Crown" 830/7, GWO, untouched by the unwashed, Excellent inside and out, **with handbook and mains power connector, £220.**

ROUND 7" Diecast SPEAKER, dark grey smooth finish. Either of the above, perfect, £50.

Also **ICOM IC-718**, current model HF SSB-CW-AM **100 watt Tx/Rx.** (general coverage Rx), DSP noise reduction unit fitted (*works well*), complete with microphone, handbook & **Watson W-25AM A.C. psu.** Only ten hours on the air for 60 metre tests. **£350 the lot (cost £600).**

All the above, buyers to inspect and collect, or packing and carriage extra. Call Graeme G3GGL, 01299 403372, e-mail g3ggl@btinternet.com (located in Bewdley, 20 miles west of the City of Birmingham)

FOR SALE: Eddystone EC10 s/n 6674 £65 Tel Rosemarie Perkins 01923 264300 (Kings Langley, Herts). Buyer inspects & collects.

FOR SALE : Eddystone 1650/6. Fully converted to manual tuning etc. Comes with the full printed *manual* and conversion details. It works very well & only owned for a few months. Serial 601, the first off the line. Too modern for me I'm afraid. A bargain at £450. Collection or delivery by arrangement. I will deliver up to 160 miles radius (Merseyside) for the fuel costs both ways at 35 mpg. It weighs 18kg so it may be possible to send. **Call Dave 0151-252-0608 after 19.30 please.** shackmail@dsl.pipex.com

WANTED: a pair of spiral pulley/gears, with mounting screws to replace missing ones on an Eddystone 888 drive. I believe they were the same on all the bigger Slide Rule models. Even a pair with damaged gears would do. **Contact Dave** on 0151-252-0608 (after 19.30 please) e-mail to: shackmail@dsl.pipex.com

WANTED: Grey Eddystone plinth speaker unit or external rectangular speaker in good condx for EA12-940 type of receiver. Please contact **Gary Platts G8DJT** on **07703 124365** gplatts@cisco.com

WANTED: EUG Newsletters Issues 1-60. Contact **Logan Stuart, MØLOG**, on **01925 659946** (Cheshire)

WANTED: Replacement IFT1 and IFT3 for 940 receiver, which must have the tertiary windings undisturbed. Tel. **Peter** on **0131 332 3030.**

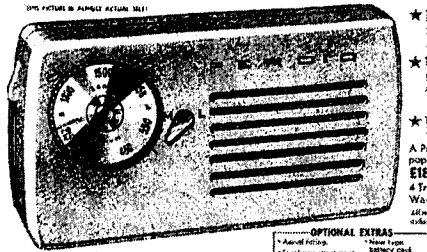
WANTED: Psion 3mx palmtop computer, preferably little used and GWO. Contact Glen GM3HNE on 0131 337 5425 (Edinburgh).

continued over

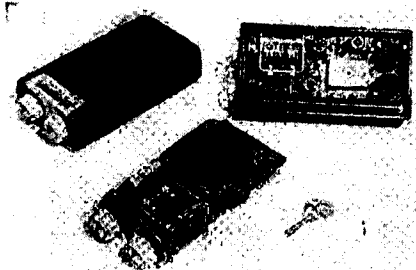
WANTED; The following transistor pocket radios: -

Perdio type PR1, PR2 & PR4 (below)

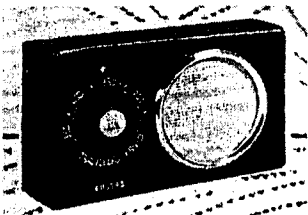
Size 5½" x 3¼" x 1½" . . .



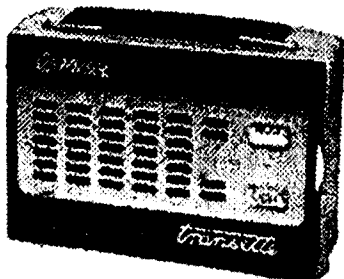
1957 Peto Scott measuring 6" x 3" x 1¾", it has two knobs at one end with tuning dial just below them (illustrated below)



1957/8 Cossor type 561 measuring 6" x 3¼" x 1½" (see picture below)



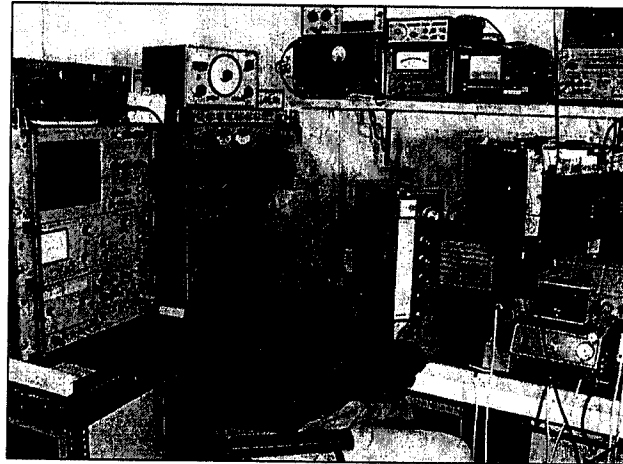
1958 Channel type "Transette" measuring 4½" x 3½" x 1½", The case is in two colours with a satin-gold escutcheon (see picture below)



ALSO ANY transistor pocket radio in kit or built-up form that were sold by Henry's (Radio) Ltd in the late 1950s. Also, for a new book, any transistor radio sales literature of the 1950s. **Call Gordon Bussey 0208 660 2240.**

SILENT KEY SALE on behalf of former EUG member's widow. **MODELS 680X** nice but no case; **730** a bit rough; **830/7** fair, **830/2** good, **880/2** good, **906** plinth speaker, good. All up to the buyer to test and sold as seen. Large amount of new reels of co-ax, mostly 75Ω network stuff. Valves and other spares. Some modern **RACAL Receivers** and accessories.

ALL OPEN TO SENSIBLE OFFERS. for more details and direct connection with seller, please contact Dave MØTDH (EUG member) on 0151-252-0608 after 19.30 ONLY, or Shackmail@dsl.pipex.com All to be collected from Lincolnshire, or carriage to be arranged.



Is Your Eddystone sick, deaf or just plain not working?

Well don't give up on it.
East Coast Wireless can repair, overhaul or fully restore
your Eddystone as required.

All models, valve or transistor, will receive the same loving care in our well-equipped workshop, ensuring that your Eddystone meets the original specification after repair.

East Coast Wireless currently repairs and restores vintage and classic radios, communications receivers and TVs from all over the British Isles.

Why not join our band of satisfied customers!

Please contact us for advice on requirements, costings etc. prior to any shipment to us.

Speak to **Graham Gosling** on
01945 780808
2, Holt Court, Walpole St Peter
WISBECH, CAMBS. PE14 7NY
or e.mail us at - **coastwire@aol.com**

Chris's Column

Welcome to the final issue of Lighthouse. Issue 96. I don't think anyone of us thought, way back in 1990 that the EUG would last this long. It has been a bit of a roller coaster ride but all the way through we have had the unremitting support of you the members and the active enthusiasm of Graeme and Ted to name but two. It may be the end of an era but it is not the end of EUG. This will be reborn into a web site-based information repository.

The assets of EUG which are essentially what is left in the bank and the archive information we have accrued over the past 16 years will be placed in a trust * to be called Eddystone User Group Trust. The trust will be responsible for the funding and management of the web site. By the time you read this the site should be set up and accessible via

www.eddystoneusergroup.org.uk

In addition, and with our support, member Chris Harmer, MØHMR, has set up a discussion forum for Eddystone Users on Yahoo Groups

<http://uk.groups.yahoo.com/group/eddy-stone-radio-users/>

Anyone joining will need to become a member of Yahoo: I suggest you use [\[callsign or unique name\]@yahoo.co.uk](mailto:[callsign_or_unique_name]@yahoo.co.uk) from the Yahoo UK site if you're not already a member. Chris Harmer is going to act as moderator.

The web site is still under construction so you won't be able to access everything from day one, but we do intend it to grow continuously and within one year we expect it to be substantially complete with some 2Gb of information available for users.

This is the current plan for web-site contents :-

Home page

History of EUG

The History of Eddystone Radio

Features

Index of EUG Newsletters (latterly known as the "Lighthouse")

QRG - The ultimate quick reference guide to Eddystone Sets

Short Wave Manuals

Technical information and assistance

A Duffer's Guide to Valve-Set Fault Finding by Graeme Wormald G3GGL

Radio Nets

Eddystone Collections

The Eddystone Museum

Eddystone Spares

Restorations Projects

For Sale/Swap/Wanted

A guide to Eddystone prices

People and Personalities

The Cooke Reports by Bill Cooke

Picture Library

Forum

Stratton and Laughton items

Archive materials

Data sheets

Handbooks

Links to other site of related vintage radio groups and magazines

Making a donation to support the web site

Guest book - please sign in

We realize that not all members will have (or even wish) for internet access. For those who wish to keep in touch there is usually free internet

access in public libraries. For those who are "wired" then please send me your e mail address so that we can generate an e mail distribution list for news alerts etc. To keep it as simple as possible just send "EUG Member (your name)" in the e mail title to g0eyo@blueyonder.co.uk

We have had several offers of help on the digitization of information to go on the web site and thanks for those. David Oakden has digitized all the newsletters and Anthony Richards is


preparing a super index for all issues of the newsletter. If anyone has information that they can send in electronic form which they think would be interesting to place on the net then please contact me on the above e mail address.

We will be still relying on donations and sponsorship to run the web site, so if any member wishes to make a donation please send any cheques made out to Eddystone User Group c/o me, Chris Pettitt at the address below.

You have reached the home page of the official

Eddystone User Group Web Site


a site dedicated to Eddystone Radio Receivers and products manufactured in Birmingham in the West Midlands of England from 1925 to 2002



Home page
Welcome
History of EUG
History of Eddystone Radio
The early days
Wartime experiences
Post war
The end
Index of EUG Newsletters (latterly known as the "Lighthouse")
ORG - The ultimate quick reference guide to Eddystone Sets
Other supplements
Technical information and assistance
Eddystone Collections

Welcome to the official Eddystone User Group Web Site.

This site is dedicated to all collectors of Eddystone Radio products, many of which were manufactured at the "Old Bath Tub" from 1940 until 1995. The Eddystone User Group was started by Ted Moore G7AIR in 1990 and was a membership organisation up until April 2006. During that time some 96 issues of the EUG newsletter were published.



With the retirement of the last organiser/editor, Graeme Wormald G3GGL, we decided that the mass of information that we had gathered over the years was important enough for us to make it accessible to all so we have built this web site. Right now it is under construction but as the months go by you will see lots of links and access to information (see links panel left).

The site is financed by donation and hopefully some sponsorship. If you are an Eddystone collector and possibly a previous member of the EUG then we would welcome your donations. Follow the link on the left panel

Well, it has been a pleasure writing these columns for the past few years and meeting up with you at the annual NVCF in May. I wish you all good fortune and hope you will continue to be Eddystone enthusiasts for many more years to come. I wish to give one final thanks on your behalf to Graeme for all his hard work and enthusiasm and hope he gets the time to enjoy his well earned retirement.

Very Best 73 de

Chris Pettitt GØEYO
23 Dark Lane
Hollywood
Birmingham
B47 5BS Tel 07710 412 819

* Trustees

Chris Pettitt
Graeme Wormald
Ted Moore
David Simmons
James de la Mare

Maritime Mobile

By Angus Vickery

A Brief History of the UK Short/Medium Range Maritime Mobile Radio Services

Previous articles concerning Eddystone radio receivers Model 958 and the excellent article on Anglesey coast radio station reminded me of the detailed and changing history of these services. Please note that this short article only briefly mentions the long range (HF) services provided by the Burnham and Portishead stations.

Following the successful demonstration of wireless communications during 1896/97 the Marconi Company commenced to build small stations along the UK channel coast and southern Ireland in competition with other organisations.

However, the British Government became uncertain about the future development of this service. During late 1909 the existing stations were nationalised with their control transferred to a new department of the Post Office titled the Wireless Telegraph Section (WTS). The means of communication at this time and for several years ahead between ship and shore relied on Morse Code.

After World War One the number of stations was increased e.g. Wick radio was transferred from the Royal Navy to the Post Office following the reduced strategic importance of Scapa Flow. Lands End radio was established replacing the Lizard station although the callsign, GLD, was retained at the new station. Much later in the early 1960's new stations were built at Anglesey, Ilfracombe and Stonehaven.

A radio telephone service was introduced about 1932. After World War Two a short range VHF radio telephone service was introduced at the existing staffed stations and via remotely controlled infill stations. Bacton, in Norfolk was one of the infill stations.

Also after WW2 direct printing (radio teleprinter) was introduced to support business customers. In order to moderate the 'busy' radio channels allocated to this service automatic request for repetition (ARQ) was incorporated over the radio path and became an essential feature.

During the early 1960's the exploration for oil/gas deposits in the southern North Sea introduced a step-change to the needs for maritime radio services, initially along the east coast but eventually up to the Shetland Islands.

Radio regulations required that the exploration rigs were classed as 'ships' and could use allocations within the maritime mobile frequency allocations.

The production platforms were classed as offshore islands and were allocated channel(s) within the tropospheric scatter systems provided by stations located near Aberdeen and Scousburgh

A few special services were also provided. A typical example involved a national newspaper who required a 'shipboard' copy of their paper to be presented to every passenger on board the QE2 each morning whilst the vessel was at sea. Niton coast radio station transmitted the data whilst the QE2 was sailing in the English Channel and Portishead for other sea areas. The data carried details of the text – news and up to date comments. Pictures associated with an item were obtained from the library held on board. Advertisements concerning ship activities etc. were also inserted locally.

The Eddystone 958 receiver was a

positive support accurately receiving the increasing number of SSB transmissions during the changeover from DSB. It exhibited similar characteristics during the evaluation of 'Lincompex'. Sadly the latter did not achieve its earlier promise and faded away

I found that the '958' receivers met all their specified performance require-



ments, not an easy task in a coastal station environment! However, my maintenance colleagues found that replacing failed bulbs illuminating the tuning scale was a difficult procedure.

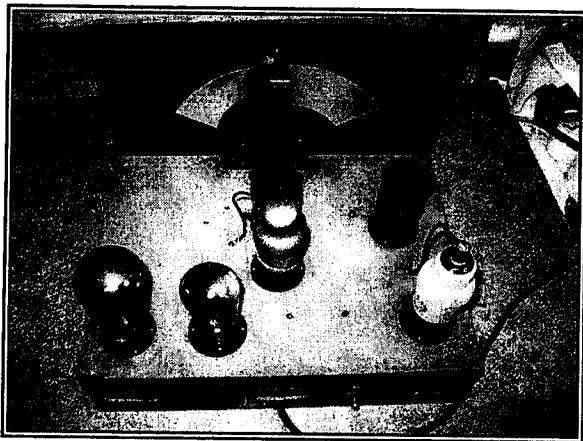
During the last quarter of the 20th Century, satellite communications were looking down on the terrestrial radio services. Today they rightly provide the interface between ship and shore for maritime radio users. The terrestrial services did not achieve their centenary. Only three sites remain in use transmitting the Navtex service data on 518 kHz and now operated by HM Coastguard. The remaining sites provide a ghostly reminder of earlier times.



The Kilodyne Four Lives Again

By Dave Hiorns MØTDH

I discovered this 1935 Eddystone Kilodyne Four in the ownership of a collector in the West Country. His speciality was 50's and 60's domestic sets and I think this 'odd man out' must have come to him in a 'job lot'. Its wooden cabinet had no woodworm, so I suspect it had 'come in' from some distance as woodworm is endemic in the south-west. He was very cagey about its origins but was prepared to part with it for a 'reasonable' sum and I started to gather information about it.



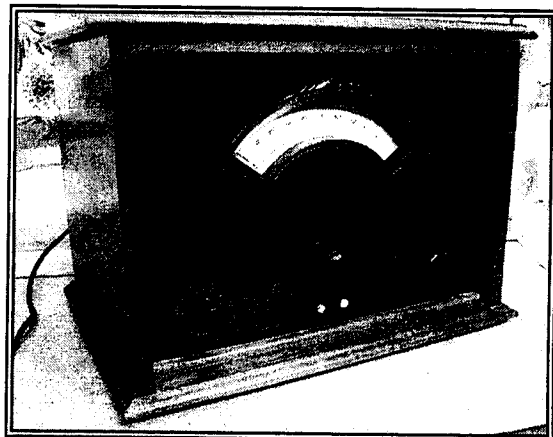
Preliminary examination showed it to be undoubtedly a kit-set, nicely built and well-soldered. But it had one flaw; the earth side of the RF valve filament was never soldered to the tag on the valve base. It was pushed through and made no contact.

The original constructor must have had no investigative capability because the simplest analysis would show that the RF stage was defunct. It took me quite a while to spot it as I was trying to get it to work with some very questionable old valves.

After replacing the detector and inserting the one coil supplied I managed to make it howl. Uncontrollably so; and no way to The output stage was a 4-pin PM2 with a

side screen-grid terminal. I just brought an insulated lead up through the unused hole to the side terminal.

Getting the knob off the reaction control was fun (as if!). I tried every method known, including penetrating fluid not available to the public. The grub screw was red rusty and chewed up.



In the end I jiggled the set up and drilled it out. Still a pain to get off, but I've re-tapped it to 4BA and it's fine now. The reaction shaft is only 1/8" and steel, it was well rusted; but it cleaned up well. I had to remove the front panel to tighten up the two screws holding the tuning mechanism, as it was wobbling about.

The panel was held on by 2 6BA



Coming Soon Wireless World

from
25th April 2006

'Wireless World: Marconi & the making of radio' is an exciting new exhibition opening at the Museum of History of Science, Oxford. The exhibition opens on 25th April, Marconi's birthday, and runs until 1st October, 2006. The location and opening hours of the museum, along with further information about the exhibition, can be found on the museum's website at <http://www.mhs.ox.ac.uk>

The exhibition has two main purposes: to celebrate the presentation of the Marconi Collection to the University of Oxford, and to demonstrate the development of wireless radio in relation to Marconi – from his early demonstrations on Salisbury Plain in 1896 through to the development of public broadcasting in the early 1920s.

The exhibition uses a number of unique objects and documents relating to the early history of radio, some of which are on public display for the first time. The overall narrative of this exhibition is divided into four chronological time periods sections.

The first section explores Marconi's early experiment and development. Objects displayed in this section include a Grasshopper Send-Receive Morse Key (c. 1899), and Marconi's Tuned Transmitter (1899) as used for the basis of his famous '7777' patent.

The latter part of this section delves into Marconi's 1901 transatlantic transmissions and includes the receiver, Billi condenser, self-restoring coherer, and signal kite used

in this historical event.

The second section investigates the applications and use of early Marconi radio technology. Objects include the first portable wireless transmitter used in the British Army (1907), and a Marconi Crystal Receiver Type 31C (1910).

A major subsection explores the dramatic involvement of wireless telegraphy in the Titanic disaster and includes a number of key wireless messages.

The third section deals with the use of Marconi radio in the First World War. Objects include a Marconi Crystal Receiver Type 16 (1916), and a Marconi Bellini-Tosi Direction Finder (c. 1916)

The fourth and concluding section explores the birth of public broadcasting and includes a number of unique and exciting radio sets relating to this dramatic development in the history of radio.

This exhibition is sure to excite, delight and entertain any individual with even a passing interest in the history of radio and is a must-see for any radio enthusiast. ♣

**Message from Bill Cooke, GWØION,
President of the Eddystone User Group.**

“As this may very well be my last contribution to the Lighthouse may I take the opportunity of complimenting Graeme Wormald, G3GGL, on his excellent work of compiling and editing our magazine over many years; Ted Moore, G7AIR, the founder; and Chris Pettitt, GØEYO, our Patron, who held the Group together during difficult times; not forgetting the many members who worked so hard together in making such a success of E.U.G. and so much in perpetuating the name of Eddystone Radio.”

From Peter Le Quesne, ZL4TCC. I have been involved with Eddystone receivers for 45 years and have had considerable enjoyment receiving “Lighthouse” every two months. This excellent publication will be sadly missed.

Living some 12,000 miles away and being able to get assistance in many ways from the United Kingdom and being able to get assistance in many ways from Graeme Wormald and Dave Simmons really made restoring Eddystones a delight.

My wife, Anne, and I were very touched when Graeme invited us to stay at his home when we were in the United Kingdom in October 2004.

Should any member be visiting New Zealand they will be most welcome if coming to Napier to be able to stay with us. At the same time if anyone requires information about New Zealand please let me know, only too happy to assist.

Thank you Graeme for your past assistance and here's wishing you a happy and long retirement.

**Peter Le Quesne, ZL4TCC, 23 Oriel Place, Napier 4001,
New Zealand. e-mail: pleq_tbc@clear.net.nz**

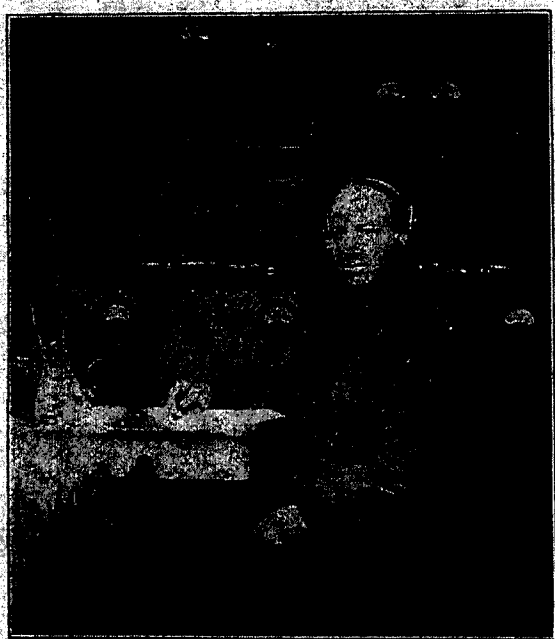
The Eddystone 'Short Wave' (This is Stratton's first short-wave receiver !)

By Tor Marthinsen

In the mid-twenties there were at least three different ways of introducing reaction to a receiver, the swinging coil method, the Reinartz method with capacitor feed, and the Hartley with a tapped inductor.

The Stratton people, who claimed to have been pioneers in marketing short wave components since 1924, must have been well acquainted with all these circuits, especially the swinging coil method which had been a feature of all their receivers. And they knew all about the method's shortcomings, like violent reaction, backlash and need for retuning

Choosing between the two other methods must have been easy since the Hartley circuit was not much used, whereas the Reinartz circuit was quite well known.

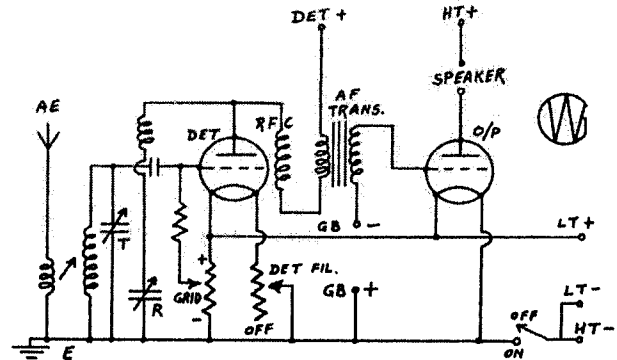


OPERATOR ON THE "BOWDOIN." Mr. John L. Reinartz, the well-known American amateur, who is in charge of the wireless apparatus on the MacMillan Expedition. The photograph shows the Zeuth-Reinartz short-wave transmitter with which the "Bowdoin" is equipped.

This circuit was invented by American radio amateur John L. Reinartz and published many times, the first time in 1921.

So for their new short-wave receiver the Stratton people decided to use the well-known Reinartz tuner, adding a second valve for amplification.

The circuit is probably like the one Graeme had figured out for the 'Atlantic Two' in Lighthouse #62 (August 2000) apart from having a rheostat for each valve and that the aerial coil coupling was not variable.



In the original Reinartz circuit the coils are fixed but with a number of tapings. In the Eddystone receiver plug-in coils were used. The tuning capacitor in the Eddystone is much smaller in value, probably around 150pF, the value of the reaction capacitor is around 350pF. With a fixed mutual inductance between the tuning and reaction coils, and a large value reaction capacitor, the detuning because of varying the amount of reaction becomes very small. The third difference is the presence of the potentiometer across the heater of the detector valve, the slider being connected to the grid leak. This all makes it easier to obtain smooth reaction.

The earliest reference that I have found is from a half-page description in the 'Wireless World' magazine for April 13th 1927, reproduced here.

The 'Wireless World' was a weekly magazine at that time so it is unlikely that the receiver is much older than this. This receiver, in common with all the Eddystone receivers from the twenties, had the name imprinted on the front plate, it was simply called the 'Short Wave'. Nearly a year later, after some reengineering, it got a new name, it was now called the 'Atlantic Two'

TM

APRIL 13th, 1927.

Wireless
World

409

tags near the surface of the board is a great convenience when connecting up.

The switch moves with a snap action, the spindle being supported by substantial brass bearing plates. The metal parts are nickel-plated, and the operating knob polished and engraved. This new component can be safely employed in practically any circuit system where it is desired to produce changes in the circuit arrangement by means of switching. It is supplied as a single or two-pole two-position switch, and can probably be extended to include any number of contacts according to requirements.

o o o o

A SHORT-WAVE RECEIVER.

There are comparatively few short-wave receiving sets on the market, and although amateurs interested in short-wave reception usually construct sets for themselves, there is a considerable demand for a made-up short-wave set.

A complete two-valve short-wave receiver is manufactured by Stratton & Co., Ltd., Balmoral Works, Bromsgrove Street, Birmingham. The circuit arrangement employed is that most universally adopted by amateurs and comprises an aerial coil, inductively coupled to a tuned circuit with a variable capacity reaction.

To cover a wide range of wavelengths interchangeable plug-in coils must be adopted, and the simple form of coil mount which is fitted is a feature of the set which will recommend it to the short-wave enthusiasts. It comprises a series of sockets arranged along an ebonite strip, some of which are connected across in order to accommodate the pin con-

nectors of coils differing in length. The coils are of No. 16 enamelled wire rigidly supported between ebonite strips, and although only a minimum of solid dielectric material is used in the construction the coils are perfectly durable and robust. Coils and coil holder are obtainable if required as separate components. The high-frequency choke coil connected in the plate circuit of the detector valve is also of special construction, and as well as being provided with a two-pin

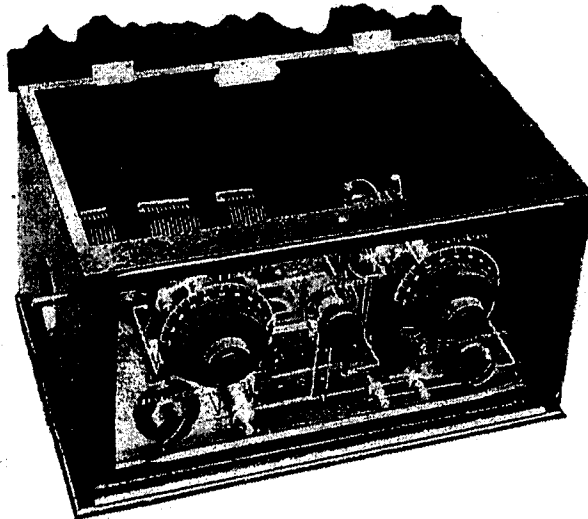
mount, is an air-spaced winding carried on ebonite rods.

An unusual and attractive feature is that of employing a glass panel for carrying the controls, which, as well as displaying a well-finished interior, permits of the tuning coils being viewed so that the tuning range can be estimated.

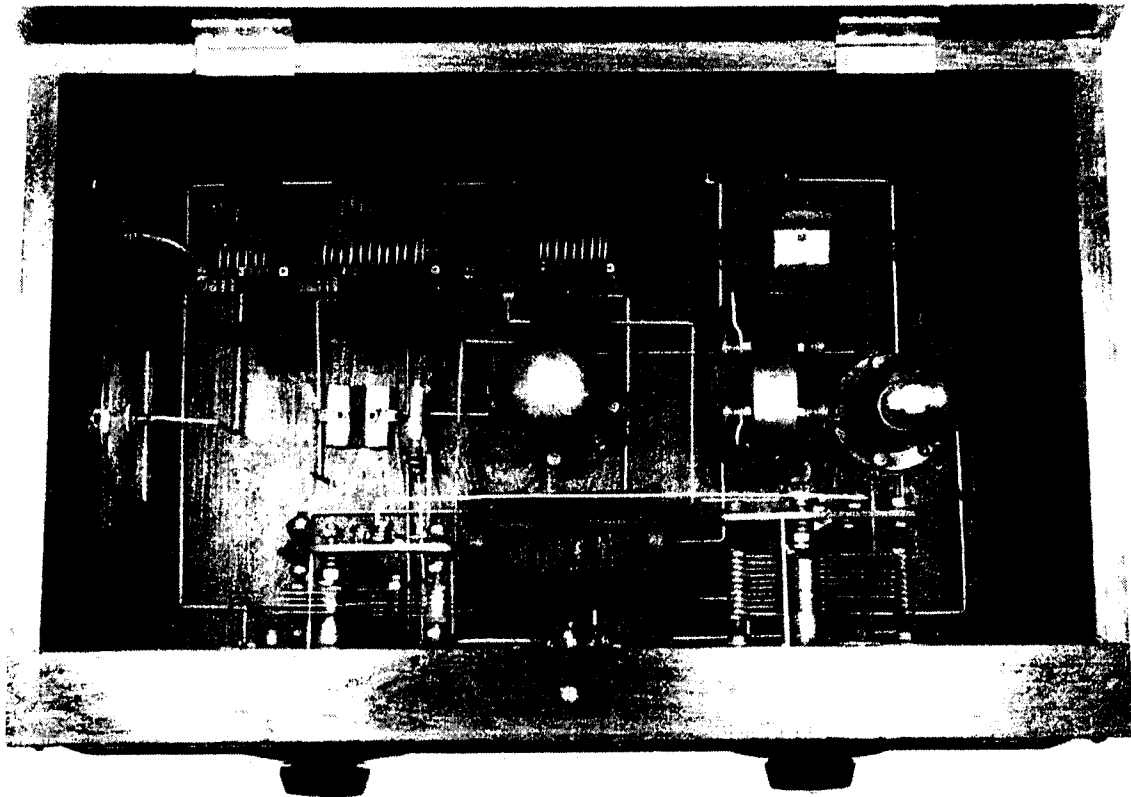
In addition to the reaction condenser a control of self-oscillation is provided by a potentiometer connected to the grid leak. If the size of the reaction coil is

not suitably chosen some degree of overlap may occur when adjusting the reaction condenser close to the oscillating point, and the potentiometer will be found useful for providing a critical adjustment under such circumstances, though a slight falling off in signal strength results when the valve becomes an anode band detector by being negatively biased.

This receiver is suitable for the reception of amateur transmissions, and on test both 2XAF and KDKA were readily tuned in at a satisfactory telephone strength, signals being easily separated from the heterodyned carrier wave.



Eddystone short-wave receiver. Plug-in coils provide a wide wave range. Reaction is controlled by potentiometer and variable condenser.



Inside of 'Short Wave', showing neat layout and wiring

E Bay Watching

A Finale, by Chris Pettitt, April 2006

This is my final E Bay Watching column and I must say it has been a pleasure to watch nearly 600 Eddystone items go under the E bay hammer over the past couple of years.

As a finale, I thought I would put together a pricing guide for Eddystone receivers based on the prices they achieved in the auctions. I analysed some 400 items going back about 20 months and for each model I took an average price and identified the lowest and the highest. The results are presented below. I must stress that I have taken little account of condition and an average price is just that. However by identifying the lowest and highest you have a range of prices to work with. Of course with things like Eddystone's who is to say what something is really worth. Given the exceptionally high prices that some

receivers went for then clearly more than one person desperately wanted to purchase it.

Some 60 model types are identified and the most popular sets to be sold on E bay are undoubtedly the EC10 receivers (42 sold) and the EC10 Mk2 (24 sold). Model 840C's were the next popular with 33 sold and then Model 870A with 24 and the 770R with 22 sold. The highest prices paid for Eddystone's were £1356 for a 1995 VHF/UHF set and £1220 for an Eddystone Twin of circa 1926. The most rare sets to come under the hammer were the 830/8 (£425) and the Model 710 (£87).

| Model | Average | Lowest | Highest | Sample size |
|--------------------------------------|---------|--------|---------|-------------|
| Eddystone S meter | £65 | £25 | £93 | 10 |
| Eddystone Round Speaker | £72 | £48 | £95 | 12 |
| Eddystone All World Two | £200 | £77 | £323 | 6 |
| Eddystone Bug Key S689 | £127 | £93 | £204 | 7 |
| Eddystone Edometer Mk2 | £171 | £129 | £213 | 2 |
| Eddystone Modulation Meter | £33 | | | 1 |
| Eddystone Orion 5000 Transceiver new | £122 | | | 1 |
| Eddystone PanAdaptor 33A EP14 | £124 | | | 1 |
| Eddystone S811 Loudspeaker | £53 | | | 1 |
| Eddystone Statesman | £41 | | | 1 |
| Eddystone Twin 1926/1927 | £1,220 | | | 1 |
| Marconi Marine Pacific (S1873?) | £362 | | | 1 |
| Model 1001 | £330 | £150 | £510 | 2 |
| Model 1002/1 | £119 | £88 | £176 | 4 |
| Model 1004 | £95 | £64 | £123 | 3 |
| Model 1061A Pan Adaptor | £262 | | | 1 |
| Model 1650 | £328 | £282 | £410 | 3 |
| Model 1650/6 (MOD set) | £229 | £107 | £361 | 5 |
| Model 1990R/3A | £425 | | | 1 |

| | | | | |
|--------------------------------|--------|------|------|----|
| Model 1995 | £1,356 | | | 1 |
| Model 2232A (MIMCO) | £31 | | | 1 |
| Model 2273A | £75 | | | 1 |
| Model 31A | £35 | £39 | £36 | 3 |
| Model 34A | £63 | £48 | £77 | 2 |
| Model 358 with PSU and speaker | £79 | £73 | £85 | 2 |
| Model 40A Test Receiver | £131 | £102 | £160 | 2 |
| Model 504 | £165 | £100 | £290 | 6 |
| Model 556 | £64 | £45 | £84 | 3 |
| Model 640 | £75 | £24 | £217 | 11 |
| Model 659 | £52 | £42 | £59 | 3 |
| Model 659/670 | £60 | £40 | £100 | 5 |
| Model 670A | £60 | £26 | £124 | 6 |
| Model 680X | £118 | £64 | £240 | 10 |
| Model 710 | £87 | | | 1 |
| Model 730/4 | £119 | £46 | £235 | 17 |
| Model 740 | £84 | £16 | £161 | 16 |
| Model 750 | £102 | £43 | £220 | 6 |
| Model 770R | £76 | £41 | £155 | 22 |
| Model 770U | £88 | £45 | £103 | 4 |
| Model 820 | £67 | £53 | £84 | 3 |
| Model 830 | £282 | | | 1 |
| Model 830/8 | £425 | | | 1 |
| Model 840A | £88 | £41 | £136 | 16 |
| Model 840C | £101 | £21 | £256 | 33 |
| Model 850/4 | £271 | | | 1 |
| Model 870A | £74 | £26 | £155 | 24 |
| Model 880/2 | £270 | £197 | £250 | 4 |
| Model 888 | £106 | £88 | £124 | 2 |
| Model 888A | £140 | £51 | £232 | 10 |
| Model 940 | £181 | £103 | £365 | 7 |
| Model 958 | £250 | £155 | £335 | 3 |
| Model 990R | £145 | £92 | £215 | 7 |
| Model 990S | £90 | | | 1 |
| Model EA12 | £262 | £137 | £396 | 12 |
| Model EB35 | £84 | £29 | £170 | 8 |
| Model EB35 MkII | £63 | £26 | £104 | 7 |
| Model EB37 | £30 | £28 | £31 | 2 |
| Model EC10 | £77 | £26 | £250 | 42 |
| Model EC10 Mk2 | £111 | £37 | £205 | 24 |

I trust you will find this table useful in your quest for that elusive Eddystone set. I shall keep watching E bay out of interest and who knows perhaps we will even see some of these record prices exceeded. Good Hunting!.

Chris Pettitt

GØEYO

The EDDYSTONE '888'

SOUTHERN RADIO
REDLINGH, SALISBURY,
WILTSHIRE.

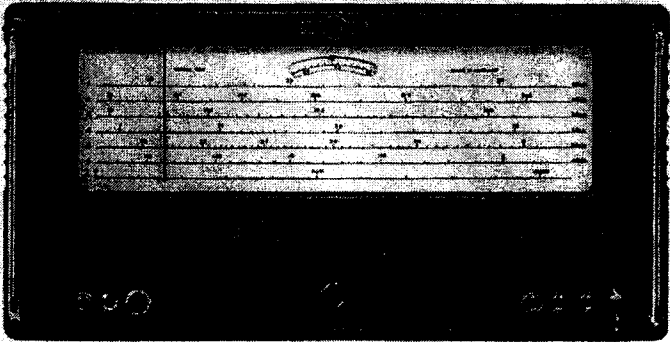
**Amateur Band
Communications
Receiver**



FULL BAND SPREAD ON THE SIX MAJOR AMATEUR BANDS

Introduced in 1956 the Eddystone 888 was actually the first set produced by Stratton which was a true 'hambander'. Earlier sets were either plug-in coil jobs (which would cover any bands you wanted) or 'general coverage' sets. The famous S.640 was hailed as the 'amateurs' set when it appeared in 1947, but in fact was a general SWL set. The 888 was the first set which could ONLY cover ham bands.

**The EDDYSTONE
MODEL "888"
COMMUNICATIONS RECEIVER
FOR AMATEUR BANDS ONLY**



The Eddystone "888" Receiver has been designed with one purpose in mind — to meet the highly specialised needs of the Amateur Radio operator. Accordingly, only the six commonly used Amateur bands are included in the coverage and several major benefits are immediately obtained. The most apparent, and also probably of most importance in the minds of many Amateurs, is the greatly expanded tuning scale, resulting in a remarkable degree of bandspread, enabling the frequency in use to be read to very fine limits. Another advantage is the fact that the L/C ratio for each of the tuned circuits can be chosen for optimum performance. The principal features of the "888" are discussed in detail in the following pages and it is sufficient to state that, in the general opinion of well qualified experts the "888" Amateur Communications Receiver is, on all counts, the

ideal set for the Amateur enthusiast wishing to ensure that, on the receiving side at least, he is well equipped.

A number of active Amateurs, well-known both as keen operators and technical specialists, were consulted during various stages in the development of the "888." We are confident there is no receiver in existence to approach this new model in general performance and in ease of handling, and the availability of a professionally designed "Amateur Bands only" communications receiver is a landmark in the history of Amateur Radio.

BANDSPREAD in the EDDYSTONE "888" RECEIVER

Bandspread—the operative word which is almost bound to crop-up when an Amateur enthusiast critically examines a communications receiver. Almost always, there is not enough of it and the demand is for more, and more again.

In a general purpose receiver, it is not possible to provide a very large amount of bandspread and, in any case, professional operators generally do not like too much. Provided a really good drive mechanism with a high reduction ratio is fitted, tuning can be carried out satisfactorily right up to the highest frequency. In any receiver, the actual bandspread, meaning kilocycles per division of scale, is bound to vary with frequency—for example, on the lower frequency bands (1.8 Mc/s. and 3.5 Mc/s.) tuning is relatively easy, but difficulty may be experienced on the 14 Mc/s. band, where only a small movement of the control knob results in the tuning changing by quite a number of kilocycles.

To give the finest possible control within the bands of frequencies allocated to Amateur communications, the only real answer is to leave out all frequencies outside these bands and spread each Amateur band right across the whole of the tuning scale. That is what has been done in the "888" receiver.

Bearing in mind each scale is twelve inches long, the reader will be able to appreciate the very high degree of bandspread thus obtained, whilst actual handling of the "888" will immediately

emphasise the ease of tuning which obtains on a highly congested band.

The drive mechanism is geared and has a reduction ratio of 40 to 1, twenty revolutions of the tuning knob being required for the pointer to traverse the scale. In addition, there is a vernier scale which in effect gives a total of 1,000 divisions, each of which represent quite a small change in frequency, the approximate figures being as shown below.

The main scale is marked off at close intervals and the frequency to which the receiver is tuned can be read off within acceptable limits.

| Range | Freq. limits (kc/s.) | | kc/s. per division |
|-------|----------------------|-------|--------------------|
| 1 | 28000 | 30000 | 2 |
| 2 | 21000 | 21500 | 0.7 |
| 3 | 14000 | 14350 | 0.5 |
| 4 | 7000 | 7300 | 0.33 |
| 5 | 3500 | 4000 | 0.7 |
| 6 | 1800 | 2000 | 0.25 |

The above are mean average figures.

Our President, Bill Cooke GWØION, was chief engineer when the 888 was developed and he will tell you that it gave him grey hairs! The work involved to obtain the best oscillator stability entailed long and complex negotiations with Erie, the manufacturer of the negative temperature co-efficient condensers for the correction circuitry. It ended up with every component specially produced and tested. It still seems to work 50 years on – at least, it does in mine.

OSCILLATOR STABILITY in the EDDYSTONE "888" RECEIVER

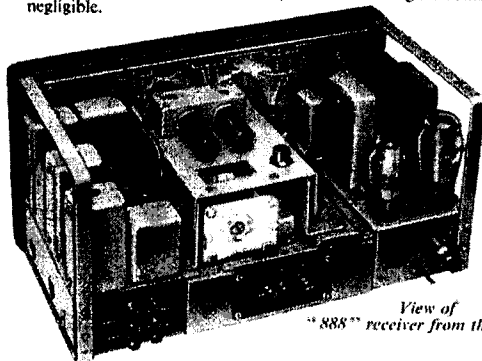
In the design of any receiver, oscillator stability is an important point which must be given careful consideration. It is necessary, however, to study the subject from more than one angle. To remove every trace of drift and produce a self running oscillator with absolute stability is an extremely difficult problem and entails expense out of all proportion, except perhaps in a few special isolated cases which may merit the inordinate cost. Experienced Amateurs will readily appreciate the amount of work and length of time involved in achieving a high degree of stability in a home constructed variable frequency oscillator as used in transmitting equipment, and even in the most expensive frequency measuring apparatus it is normal to incorporate a control for correction of the self-running oscillator frequency against a fixed crystal standard.

The design of the oscillator circuit in the "888" receiver is such that excellent overall frequency stability is an inherent feature. There is a brief short-term drift due to warming-up of the valve, and long-term drift is counteracted by the use of negative temperature coefficient condensers. Any remaining drift is very slight and of a random nature. In a receiver with wide coverage, the drift would not be noticed but, in the "888," it is of course magnified by the greatly expanded tuning scales, each of which covers only a very limited range of frequency. Therefore, to enable any slight variations to be corrected, and to ensure the pointer indicates the actual frequency with the minimum of error, two panel controls are provided. One is a knob, located in the centre of the control panel, which adjusts a small trimmer condenser in parallel with the oscillator tuned circuit. This by itself would be of little practical value and so a crystal-controlled calibration oscillator is fitted inside the receiver. It is brought into operation by a press switch on the panel and produces harmonic beats, 100 kc/s. apart, throughout the tuning range. Positive correction can thus be

made at those major scale markings which are exact multiples of 100 kc/s. To avoid confusion, the calibrator switch, when pressed, mutes incoming signals.

Once set up and provided the stable temperature has been reached, no further oscillator adjustment will be required for some considerable time unless the band in use is changed.

A separate valve, triode connected, is employed in the oscillator position and the injection voltage is optimum. Hence maximum gain is secured from the frequency changer and noise is kept to the lowest possible figure. Stabilised high tension voltage is supplied to the oscillator valve and changes of frequency due to mains voltage variations or to operation of the gain controls are negligible.



View of "888" receiver from the rear.

RF AND IF STAGES in the EDDYSTONE "888" RECEIVER

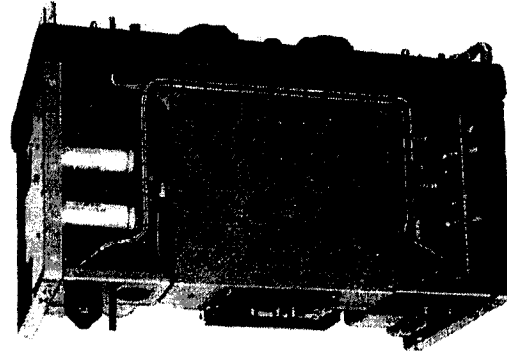
To overcome the poor noise factor which would otherwise result, a radio frequency amplifying stage before the frequency changer is essential and, provided high gain is contributed by this stage, most of the noise at the output will be derived from the aerial and not from the receiver. This is the case with the "888" receiver. All the components associated with the RF stages (meaning the signal and oscillator tuned circuits) are of the highest quality and as a consequence the "Q" values of the tuned circuits are maintained at particularly high values. The L to C ratios and inter-stage couplings on each range are set at optimum whilst the provision of air-dielectric trimmer condensers and moveable dust-iron cores in the coils allows very close alignment throughout.

An aerial trimmer, accessible when the lid is lifted, can be used to bring the first tuned stage to exact resonance, thus making allowance for possible variations of load reflected on the circuit by different aerials. In some cases this feature may make all the difference in bringing a very weak signal up out of the noise and making it readable. The nominal input impedance is 75 ohms.

To secure a high degree of selectivity, the "888" utilises a double superheterodyne circuit, a further advantage being that image interference is to all intents and purposes eliminated.

After amplification, the incoming signal is changed to 1620 kc/s., a useful degree of amplification at this frequency being derived from the mixer valve. The signal is passed on to a second frequency-changer via a double-tuned high "Q" IF transformer, and is here converted to 85 kc/s. At this comparatively low frequency, both high gain and sharp selectivity can be achieved without difficulty and the single 6BA6 valve is amply sufficient — in fact, more gain would confer no benefit, and usually the IF gain has to be reduced when receiving A1 signals.

To cater for both CW and telephony signals, the selectivity is made variable, the system adopted being to move the coils inside the IF transformer cases, through a system of mechanical links. The bandwidth (at 6 db points) can be varied smoothly over the range 0.9 kc/s. to 5 kc/s. In addition, an extremely narrow bandwidth, usable only on stable A1 signals, is available when the audio filter is brought into circuit.



Underside of the "888" receiver, showing the substantial coil-box casting.

Stratton's correspondence ledger contains some interesting testimonials for the 888, such as this: - *"I would like to pay a sincere tribute to the designers of the 888 because I have never operated a set which has seemingly got everything. It has got my new HRO completely beaten both on DX and on local congested bands."*

OTHER SPECIAL FEATURES in the EDDYSTONE "888" RECEIVER

Audio Filter. Mention has already been made of the audio filter, which is of very advanced design. It has a steep response curve and peaks at 1,000 cycles, with a bandwidth of only 100 cycles at 6 db points. Further, the insertion loss is extremely low — only 1 db at 1,000 cycles, which means that the filter can still be used even with a weak signal. With careful tuning, a signal can be made to stand out clearly with a considerable diminution of noise and interference, and the improvement in readability will delight the keen C.W. operator.

Monitoring. When the Standby Switch is in the "off" position, the receiver is de-sensitized but not completely muted. A signal from a local transmitter can therefore be monitored on either C.W. or telephony. As the degree of stray pick-up will vary in individual cases, a control is fitted whereby the standby sensitivity can be altered; the knob is readily accessible for adjustment when the lid is lifted.

Auxiliary Control. A pair of contacts on the Standby Switch are brought out to terminals at the rear and, by including externally a relay and energizing source, this switch can be used to control other equipment — for example, an associated transmitter.

Separate Controls. To obtain the best possible results under all conditions and with various types of signal, separate gain controls are fitted for the RF, IF and AF stages. These will be found of considerable value once skill in handling them has been acquired — for example, with a weak C.W. signal, it is often helpful to keep the RF gain fully advanced but to reduce IF gain when strong interference is present.

Battery Operation. Although primarily intended for operation from A.C. mains the "888" receiver also accepts independent L.T. and H.T. supplies. These are preferably obtained from an Eddy-

stone Cat. No. 687/1 Vibrator Unit which is specially designed for the purpose and operates from a six-volt accumulator, drawing a current of approximately 6 amperes. Connections are made by interchangeable plugs fitting into sockets at the rear of the receiver.

Noise Limiter. The noise limiter, of the series diode type, is designed to reduce interference of a pulse nature — e.g. car ignition. It can be brought into use by a panel switch and is a valuable asset on occasions. It should be borne in mind that the action of a noise limiter is dependent on bandwidth, hence the one in the "888" is more effective with the selectivity control at minimum, as it should be for receiving telephony.

Audio Output. A low impedance loudspeaker (2.5 ohms) can be connected to the spring loaded terminals at the rear of the receiver. The Eddystone Cat. No. 688 speaker is recommended, as it matches the receiver electrically and physically. A jack on the panel takes high resistance telephones and then the speaker is automatically muted.

Signal Strength Meter. A socket at the rear takes the Eddystone Cat. No. 669 "S" Meter, which can be placed either on top or alongside the receiver. This instrument is finished to match and is useful for taking comparative readings of carrier levels.

Mounting Feet. Specially designed blocks (Cat. No. 774) can be supplied for raising the front panel to a convenient operating angle. They are of cast aluminium, finished to match the receiver and easily attached.

Aerials. The receiver will give excellent results with aerials of widely differing patterns. It is desirable to use an aerial (or aerials) designed to resonate within the particular bands in which most interest exists, and to match as closely as possible into the input impedance of the receiver (75 ohms).

SPECIFICATION of the EDDYSTONE "888" RECEIVER

COVERAGE

Complete coverage of the six major amateur bands.

| | |
|------------|------------------------------|
| Range 1 .. | 28,000 kc/s. to 30,000 kc/s. |
| Range 2 .. | 21,000 kc/s. to 21,300 kc/s. |
| Range 3 .. | 14,000 kc/s. to 14,350 kc/s. |
| Range 4 .. | 7,000 kc/s. to 7,300 kc/s. |
| Range 5 .. | 3,500 kc/s. to 4,000 kc/s. |
| Range 6 .. | 1,800 kc/s. to 2,000 kc/s. |

VALVES

| Position | Valve Type | Function |
|----------|------------|---|
| V1 | 6BA6 | R.F. Amplifying Stage. |
| V2 | ECH42 | Mixer (Signal frequency changed to 1620 kc/s.). |
| V3 | 6AM6 | Oscillator. |
| V4 | ECH42 | Frequency Changer (1620 kc/s. to 85 |
| V5 | 6BA6 | L.F. (85 kc/s.) Amplifier. [kc/s.). |
| V6 | 6AT6/DH77 | Demodulator A.G.C. and A.F. |
| V7 | 6AL5/D77 | N.L. and "S" Meter diodes. |
| V8 | N7B | Output Amplifier. |
| V9 | 6BA6 | Beat Frequency Oscillator. |
| V10 | 5Z4G | Rectifier. |
| V11 | VR150/30 | Stabiliser. |
| V12 | 6AM6 | Crystal Calibrator. |

All the valves, with the exception of the rectifier and stabiliser are of the miniature all glass type, with either B7G or B8A bases.

TUNING MECHANISM AND SCALES

The gear-driven, flywheel-controlled mechanism has a reduction ratio of 40 to 1, is free from backlash and permits the most critical tuning on all ranges. The vernier scale is read against a seventh (lowest) line on the main dia. and opens up each scale length to

the equivalent of fourteen feet.

The scales proper are twelve inches long and directly calibrated.

CRYSTAL CALIBRATOR

The crystal calibrator provides marker points at 100 kc/s. intervals and is operated by a switch on the front panel. This switch, of the push-button type, mutes incoming signals whilst a calibration check is being made. A trimmer is provided on the crystal calibrator to permit accurate adjustment to an external sub-standard signal.

OSCILLATOR TRIMMER

A vernier control on the panel permits exact electrical adjustment of the oscillator frequency, to bring it into coincidence with the frequency indicated by the pointer and dial after checking against the crystal calibrator.

INTERMEDIATE FREQUENCY STAGES

The first I.F. is 1620 kc/s. and the second 85 kc/s. Transformers specially designed for the purpose are used and high gain with complete stability is achieved. A separate gain control is provided.

BEAT FREQUENCY OSCILLATOR

Built as a separate unit with the valve-holder forming an integral part of the assembly to ensure adequate screening and high stability. The pitch control varies the beat note by ± 3 kc/s.

AUTOMATIC GAIN CONTROL

The delayed AGC system maintains the output level within 10 db for an 80 db change of input above 2 microvolts (measured at 1.9 Mc/s.). The time constant is generally suitable for the type of fading experienced on the Amateur bands.

NOISE LIMITER

The series diode noise limiter is effective on noise of a pulsative nature and is readily brought into operation by a front panel

VQ4ERR (Kenya) "I am highly delighted with it and have nothing but praise. I wish the Eddystone people could be here in Africa to hear its exceptional performance."

After 2 years production Stratton then improved it by presenting the 888A !

switch. Special care has been taken to avoid hum being introduced in this part of the circuit.

ELECTRICAL PERFORMANCE

SENSITIVITY throughout is better than 3 microvolts for a 20 db signal to noise ratio (50 milliwatts output, 30% modulation). Absolute sensitivity on C.W. is better than 0.5 microvolts.

SELECTIVITY is variable from 30 db to 60 db down, 5 kilocycles off resonance. With the audio filter in circuit, a signal 250 cycles off resonance is attenuated 32 db.

OUTPUT POWER exceeds 2.5 watts into a 2.5 ohm load.

IMAGE RATIO better than 35 db at 30 Mc/s. and higher on other bands.

AERIAL INPUT

Input impedance is approximately 75 ohms balanced or unbalanced. An aerial trimmer, accessible when the lid is lifted, permits optimum results to be obtained.

OUTPUT CIRCUITS

Terminals at the rear accept a speaker with an impedance of 2.5 ohms. A panel jack is provided for high resistance telephones, the speaker being automatically disconnected when these are in use.

OTHER FEATURES

A socket at the rear of the receiver takes the plug of standard Eddystone Cat. No. 669 "S" Meter. Another plug permits the use of auxiliary sources of power. On the front panel is the "Stand-by" switch, which desensitises the receiver, but does not remove

HT from any of the valves. An internal adjustment is provided whereby the stand-by sensitivity can be altered.

CONTROLS

Large knobs for BAND SELECTOR and TUNING. Smaller knobs for independent control of RF, IF and AF gain; BFO Pitch; Oscillator Frequency. Butterfly knob for Variable Selectivity. Toggle switches for:— Mains on/off; BFO; Noise Limiter; Standby (long dolly); A.F. Filter. Press switch for Crystal Calibrator. Internal controls:— small knobs for Aerial Trimmer and Standby Sensitivity; screwdriver adjustment of Crystal Calibrator frequency.

FINISH

All steel parts are rust-proofed. All internal parts are finished for tropical service, the external surfaces being enamelled a fire wrinkle black. The controls are mounted on an anodised finger plate, and the protective handles are chromium plated.

POWER SUPPLY

Standard mains transformer with primary tapings for 110 volts or 200/240 volts 40/60 cycles. A transformer for 110/125 volts 25/60 cycle mains can be fitted to special order. Power consumption approximately 80 watts.

WEIGHT AND DIMENSIONS

The weight (unpacked) is 44 lbs. Dimensions are:— overall width 16 $\frac{1}{2}$ "; depth 10"; height 8 $\frac{1}{2}$ ".

LIST PRICE (in U.K.) £110 : 0 : 0



STRATTON & CO. LTD.
ALVECHURCH ROAD, BIRMINGHAM, 31
Telephone: PRIORY 2231/4 Cables: STRATNOID, BIRMINGHAM



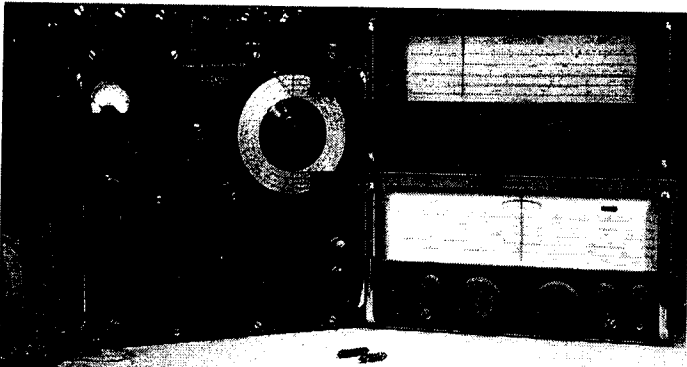
Printed in England

How to use a DM70 in a 670A-C or 840C without a thermistor, and to improve the magic eye action.

By Tor Marthinsen

In Lighthouse #90 (April 2005) I wrote an article about how to treat your Eddystone AC/DC receiver if you did not have a thermistor, recommending you to remove the DM70 in the 670A, 670C and 840C. I suggested a solution, and since the snow lies four feet deep outside and the temperature at times drops below minus twenty, I felt that now was the time to investigate this further.

So I pulled a 670A and an 840C out of their moth bags and got out the schematic diagrams. All these receivers use an UL41 for output, with a 150-220 ohms cathode resistor. From the voltage tables we can calculate that the current in the output valve is 40-60 milliamps, much more than the 25 milliamps needed for the DM70 heater.



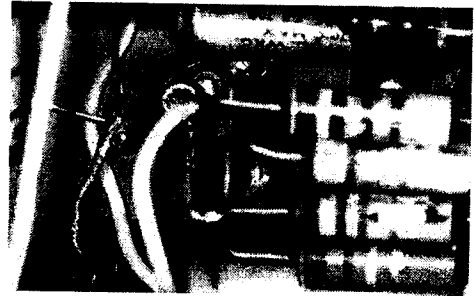
Airmec 701, S670A, S840C and DM70s

Today we can make use of a component not available in 1954, the silicon diode. The voltage drop in the forward biased diode is usually in the 0,7-0,8 volt region, so using two in series ought to be close to what we need. You must use a rectifier of the 1N400x class rather than a signal diode, as the forward voltage of the signal diode is too high.

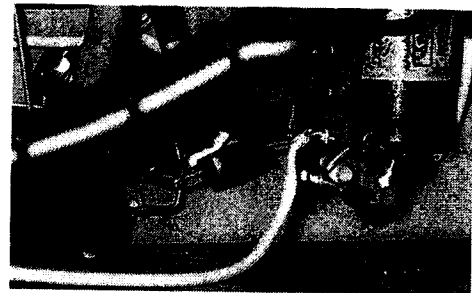
The practical job is as follows: find the cathode resistor for the UL41 and unsolder the earthy end. Connect the two diodes in series with this resistor, second diode cathode to earth. Switch the receiver on to check the voltage at the junction of the resistor and the first diode. If this is between 1.3 volts and 1.5 volts you are in business! Unsolder the yellow lead from the DM70 heater where it is soldered to the 8 (16) ohms resistor and connect it to your new 1.4 volt supply. Now is the time to refit the DM70!

Having the two diodes in series with the cathode resistor means that the total cathode resistance goes up, and as a consequence the anode current goes down.

Purists may want to compensate for this by using a lower resistance cathode resistor. Personally I'm not worried, to me less current means less stress on the output valve and the components connected to it. Also I need a milliamp or two for my next trick!



S670A and diodes



S840C and diodes

In a previous article in the 'Lighthouse' Ted complained about the lack of sensitivity of this miniature magic eye. He was right in pointing to the anode resistor for being responsible for this, however I was not completely happy with his solution. So let us have a look at the data for the DM70. Mullard suggest a limiting resistor in the anode circuit when using the valve in a mains operated receiver.

Looking at the values we see that Eddystone got it right, both for the S670A-C (1.5M Ω) and the 840C (470k Ω). Looking at the sensitivity figures for the DM70 in mains operated receivers, and doing a little interpolation, we find that the 670C with 230 volts AC input

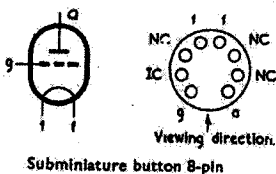
needs close to -30 volts on the grid for complete extinction of the glow. The condition for the 840C is better, as here -15 volts will do. Now compare this with the figures for a battery operated receiver, with a HT of 67.5 volts you only need -7 volts on the grid for complete extinction of glow.

DM70

SUBMINIATURE TUNING INDICATOR

FILAMENT

| | | |
|------------------|-----|----|
| Filament voltage | 1.4 | V |
| Filament current | 21 | mA |



LIMITING VALUES

| | | |
|--|-----|----|
| Maximum h.t. supply voltage | 300 | V |
| *Maximum anode voltage | 90 | V |
| Minimum anode voltage | 45 | V |
| †Maximum anode dissipation (anode voltage ≤ 90V) | 25 | mW |
| †Maximum anode dissipation (anode voltage = 200V) | 10 | mW |
| Maximum cathode current | 300 | µA |
| Maximum circuit resistance between grid and filament | 10 | MΩ |

*In circuits without anode series resistor.
 †Values of maximum anode dissipation for intermediate values of anode voltage may be determined by linear interpolation.

OPERATING CONDITIONS

Battery operated receivers

The filament may be fed from a 1.4V battery or it may be connected in series with the filaments of other valves in the receiver, provision being made for a suitable shunting resistor if necessary.

| | Pin 4 earthed | Pin 5 earthed | |
|--------------------------------------|---------------|---------------|----|
| H.T. line voltage | 90 | 67.5 | V |
| Anode voltage | 85 | 60 | V |
| Grid voltage | 0 | 0 | V |
| Anode current | 170 | 105 | µA |
| Length of fluorescent column | 11 | 10 | mm |
| Grid voltage for complete extinction | -10 | -7.0 | V |

Mains operated receivers (V_f = 1.3V)

The filament may be fed from a 6.3V heater transformer provided it is connected in series with a 220Ω, 1W, 5% resistor. If the heater transformer has a centre-tap giving 3.15V, a series resistor of 82Ω, 0.5W, 10% may be used.

If desired, the filament, shunted by a suitable resistor, may be included in a series heater chain provided it also includes a current limiting device.

With either form of connection in mains operated receivers, pin 5 must be connected to the earth side of the demodulation circuit for satisfactory operation.

| | 110 | 170 | 250 | V |
|--------------------------------------|------|-----|-----|----|
| H.T. line voltage | 110 | 170 | 250 | V |
| Anode series resistor | 0.47 | 1.0 | 1.8 | MΩ |
| Grid voltage | 0 | 0 | 0 | V |
| Anode current | 105 | 110 | 105 | µA |
| Length of fluorescent column | 10 | 10 | 10 | mm |
| Grid voltage for complete extinction | -15 | -23 | -34 | V |

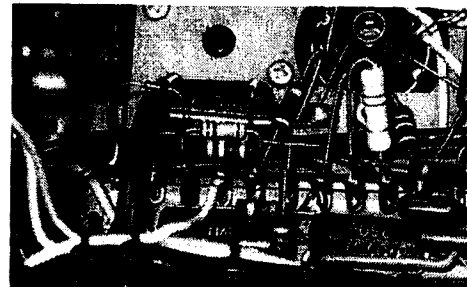
In order to get rid of the anode resistor we can make use of another device not available in 1954, the zener diode. The lowest permissible anode voltage for the DM70 is 45 volts, with a zener voltage tolerance of 5% and a small safety factor, the lowest zener voltage I recommend is 56 volts. And it ought to be a low-wattage zener, like 0.5-1 watt, because we are going to pass very little current through it.

The practical work now is as follows: connect a 56 volts zener diode from DM70 anode to earth, zener cathode to valve anode. Now you can connect a 100kΩ resistor in parallel with the anode load for the DM70, this will then in reality be a feed resistor for the zener, providing a steady 56 volts for the DM70 anode. In a 670C the maximum current in the zener will be

about 1.5 milliamps, in the 840C about half of this. And with such low anode voltage the DM70 does not need an anode series resistor!



5670A with zener and 100kΩ



840C with zener, 100k and 8.2MΩ

The last question to be answered is: where to pick up the signal? In the 5670A-C this is the AVC-circuit, in the 840C it is the detector circuit. When questions like this arise I always turn to Langford Smith, he says that you should pick up the signal from the AVC circuit! So I tried the 840C with 8.2MΩ in the grid connected as in the 670A, and it worked better!

So there you are, you can have that DM70 working even if you do not have a thermistor, and it is possible to improve the sensitivity of the circuit. I'm not saying that the sensitivity is high, but now the valve is acting more like a 'magic eye' and not just a 'glorified pilot light'. And there are no irreversible mods done to your precious receiver.

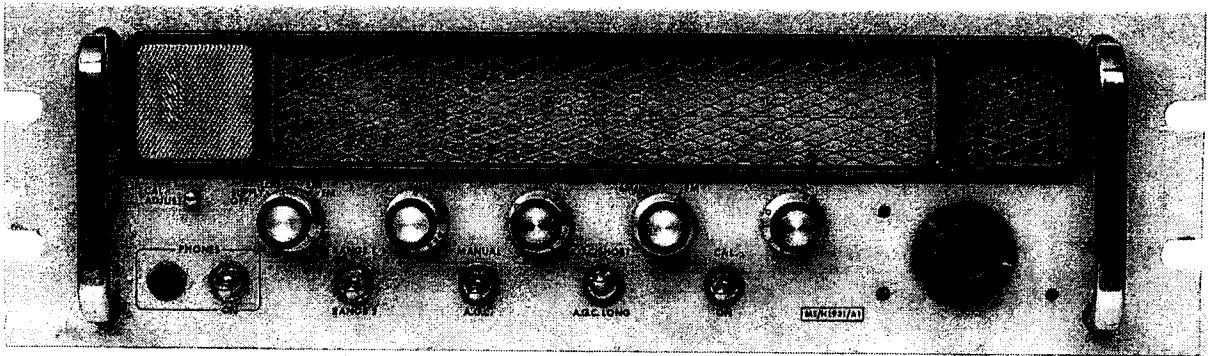
Yes, I know about the alien knob on the 840C..... T.M.



The Set in the Iron Mask

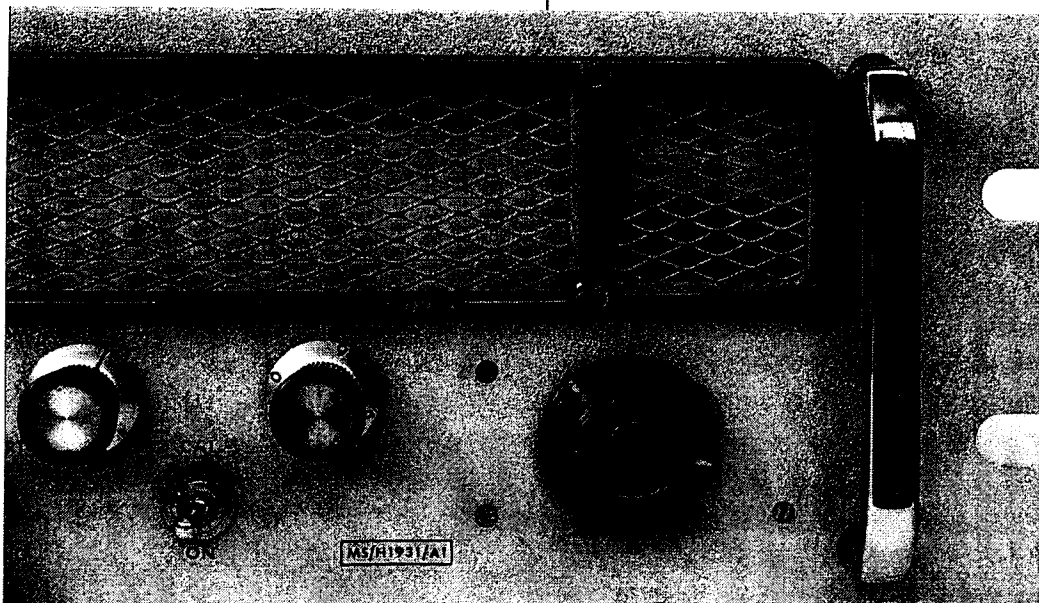
Graeme Wormald G3GGL

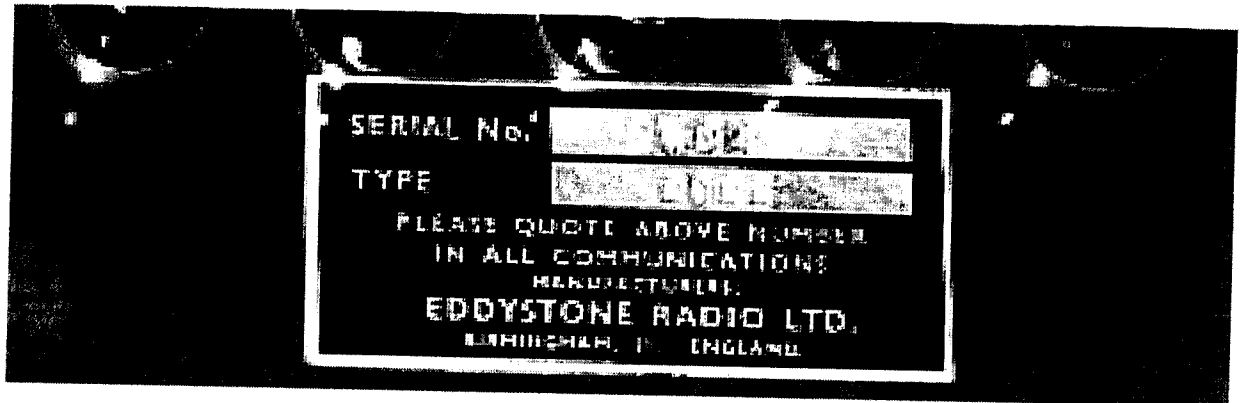
A few days ago I had an e-mail from Louis Meulstee, PAØPCR, (of “Wireless for the Warrior” fame,) enquiring about an Eddystone Model 990S that he had acquired for onward transmission to another European mainland member. It had a very strange characteristic and Louis was wondering if I’d come across this version before. The answer was NO.



The most obvious curiosity about this model was the presence of an expanded metal mask in front of the tuning dial. On further inspection it also has a mask over the tuning meter and, a lesser distinction, the lack of Eddystone nameplate which is replaced with some form of alien identification. This identification reads

“MS/H1931/A1” which is not anything we know out of the Bath Tub. The mesh covers the meter but is behind the scale ‘glass’. The tuning knob is spurious and has no calibrated skirt from which to read the logging scale. There are three countersunk 6BA screw heads visible round the tuning knob which are not original.





The full serial number is obscured in the last two digits but that's academic. What we like to see is the two-letter prefix which dates the set. In this case it is "GW" which signifies "July 1971", (according to QRG page 26).

The set was in production from 1968 to 1978 so it had been in production for four years by this time. It was used by the military and thus had a NATO Number, which was 5820/99/199/2528, which is nothing like the number on the mystery model.

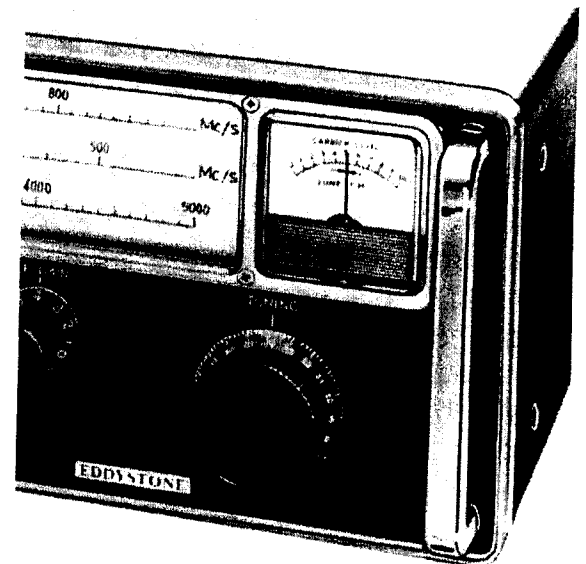
Bill Cooke, GWØION, was chief engineer at Eddystone during this period so I gave him a call and described the mystery set.

"It certainly wasn't modified by us at the Bath Tub" he said. "But I do recall discussions round about that time concerning extra screening. It was a little vague and was based upon both keeping spurious radiation out and keeping set radiation in."

"One debate was with SDRE (Signals Development & Research Executive). They bought some sets but never told us what they were trying to do with them. They never did! The other group was the Atomic Energy outfit at Harwell, Oxfordshire. They never told us what they did with their sets, either, but I suspect they were concerned about the electro-magnetic pulse radiation from an atomic explosion.

Quite frankly the expanded metal screens you describe sound more like loudspeaker grills than a serious engineering proposition, but you can be quite sure they were nothing to do with us at Eddystone."

So there we go; the mystery remains a mystery. In fact it's even more of a mystery; if it's anything to do with what Bill suggests the mind boggles at this set turning up at a scrap surplus dealer's in Holland several years ago. And nobody's ever going to find out because the dealer's dead and buried now!



Compare the picture opposite with this standard model (it's in a desktop cabinet but that's of no consequence.) ♠

Morse, Farnsworth, Koch, et al . . .

By Graeme Wormald G3GGL

Last month's dissertation *in re* the future of Amateur Radio produced more comment than usual. Whilst many readers agreed and reported that this was already their own outlook, several members enquired into the basis of Professor Koch's learning system. So much so that instead of replying to each one individually I thought it better for all to have the opportunity to read it. Here goes . . .

THE PROBLEMS

In the past (*and in the present*), most amateurs starting to learn Morse code have done so without any viable system. They have learned the code by rote and then proceeded to fill their brains with 'pegs' on which to hang these disjointed pieces of information.

Several "methods" told you to learn "opposites" such as A and N (- — and — -) or J and B (- — — — and — — — —).

I know; I learned it like that when I was about ten years old and I still have trouble telling D from U (and G from W, etc., etc.)

Other methods suggest learning mnemonics to remember the letters, "the (long) Queen (long) is (short) dead (long), ie da-da-di-da for the letter "Q".

The brain learns the alphabet as a series of dots and dashes instead of a series of sounds.

And all this is aggravated by sending Morse code at an excruciatingly slow pace so that we *COULD* separate the dots from the dashes. We couldn't devise a better way to stall at 8 wpm if we tried!

What we should have been doing is sending the actual characters at something like 18 wpm, which gives them a distinctive rhythm, and leaving a gap equal to about 7 wpm to allow that rhythm to be assimilated and

learnt by the brain.

That's called the *FARNSWORTH* system and is the way it's been taught in telegraphy schools for generations.

THE ANSWERS

Now we come to the *KOCH* system. This was devised by Ludwig Koch, a German professor of psychology in the 1930s. It works like this: you start off by 'learning' just two letters, sent between 15 and 20 wpm for 5 minutes.

They are drummed into your sub-conscious purely as a sound or rhythm, not dots and dashes. After achieving a success rate of 90% or better in copying them you add another letter (making three) and start again. And so on until you've learned the 43 numbers, letters and procedure signals of the (amateurs') Morse code.

This can only be achieved by a one-to-one teacher-pupil relationship. The teacher now is your PC loaded with the program of G4FOH, which allows you to combine the two systems. They are complementary, not opposing, as some authorities have suggested.

It is possible to run each letter at any selected speed from 15 to 50 wpm and to run the sequence at 2 to 20 wpm (selected by you, the pupil).

The other most important ingredient is entirely psychological. A bit like giving up smoking in reverse! You must

WANT to do it.

At this stage I think we can meditate a little and ask why we should want to start tinkering with Morse at our time of life!

The first and foremost reason is **SATISFACTION**. It's incredibly satisfying to contact a station, perhaps a thousand or more miles away, with a 2 or 10-watt Tx you made yourself, using your newly overhauled Eddystone Rx, be it a 888A, EA12 or 730/4, all with LC audio Morse filters

It's a fact that most wartime military operators in the field preferred an audio filter to a crystal filter. Much easier to cope with, hence that facility being built-in to the army R107 and the W.S.19 MkIII. Don't forget that the same device was put in the Eddystone 730/4 with an eye to military use.

Let's just consider the practicalities of working in Morse. The first thing to consider is writing; use a 2B pencil on soft paper (the stuff this Lighthouse is printed on). Always have a sharpened spare pencil at your side and use an A4 clip-board for taking copy. (This size.)

Next we have the question of your handwriting; lower case or upper. This always causes controversy because different authorities have had different outlooks. I was taught to use block capitals in the school cadets; I suspect the army in the field was the same.

TIMES PAST

Whilst doing my National Service in the Air Force I met a former school-mate from our signals platoon. We caught the same train out of Leeds for the north. He was wearing the black beret of the Royal Armoured Corps (tanks).

I asked him if he was a driver. "No" he replied, "I'm on a signaller-loaders' course." It seems that in the British army in those days the jobs were

combined. That's why the 19-set was mounted in the turret with the whip on top. You just look at the next WW2 action on the History Channel. You can always tell "ours from theirs" by the Germans' whip mounted on the hull.

Now by this time I'd held my ham ticket for about a year and a half and had passed an RAF Morse test at 18 wpm (standard speed for aircrew signallers), so you can imagine I was bursting to learn the standard 'tank' CW speed.

"Twelve words a minute" he replied. I don't quite know what I expected but I was quite elated by this. On later reflection I don't think I'd like to copy more than 'twelves' going cross-country at 40 mph in a Cromwell tank!

Block capitals are no problem at 12 wpm. They're not too bad at 18 wpm but it's difficult after that. Probably the greatest problem is the letter "E", which is the shortest in Morse and the longest on paper! One suggestion is to develop a "3" written backwards (ϵ) or perhaps a Greek upper case Sigma (Σ).

It is, of course, dead easy to write in "joined up" lower case, but I am one of those who has the greatest mental difficulty in copying Morse in lower case (and I was taught to write fully joined-up, Victorian style).

This brings us to another aspect of CW QSOs. Unless you've joined a net (mainly subscribed by ex-professionals) you're unlikely to be having true conversations; you'll be having "formula" QSOs.

That means an exchange of callsigns, handles, RST, Wx, QTH and not too much else. Do you need to take it all down? Of course not! All you write is the callsign, RST, name and QTH. Not the Q-codes and links. In fact you find that da-di/di-da/da-da/dit (NAME) is recognised as a pre-amble, one "letter", you don't write it down but it is

your cue to write down the other chaps name which follows. The same with "QTH" and "RST". It does come a lot easier very quickly.

And don't overlook the fact that "text messages" started with the telegraph and grew with the inter-war hams:

see you again = cuagn;
I'll be seeing you = bcnu;
many thanks for your report =
mni tnx fer rpt;
the location here is bewdley =
QTH hr bewdley;
the rig here is a trio TS530 = rig
hr TS530;
I think I've run out of things to
say = hr QRU;
I'm sorry, I missed your location
= pse ?? QTH;
You have a cracking good
signal = ur sigs fb;
my aerial is an end fed = ant hr
ef;
please slow down, you're
sending too fast for me = pse
QRS

You can fill a page with this shorthand and it will work anywhere in the world.

MORE TIMES PAST

Here's another little gem of useless information about Morse code. Back to 1950 and National Service. Aircrew selection was a complex affair, rather like an "Eleven-plus" exam that lasted all week. One of the many and varied tests was one for Morse code aptitude.

"Pardon?" I hear you saying. "How did you test a guy who knows no Morse?"

Quite easily, actually. They sat a group of volunteers round a table; gave each a sheet of paper with numbers on it and then they all donned

headsets. A record played pairs of "nonsense" signals and you had to note beside each number a tick, meaning both signals sounded alike, or a cross to mean they sounded different. Like this:- "da-di-di-di-da-di" pause, "da-di-di-di-da-di". A tick.

"di-di-da-da-di-di" pause, "di-di-da-da-di-da". A cross.

About half-way through this sequence most of the hopefuls were gazing into space with blank expressions. They'd completely lost it. Mmmm.

At this point you might ask why Morse was needed by all these would-be gunners, bomb-aimers, navigators, pilots and engineers. (You'll note I haven't mentioned signallers!)

All aircrew members were expected to use Morse to identify "flashing" beacons, ("occulting" was the proper name but nobody used it); to make signals on the aircraft's ident. lights, (a special Morse key was fitted); to read Aldis and so on.

And what speed was expected of them? Four words a minute was the test at the end of 3-month's square bashing, during which budding pilots and navigators were also expected to learn the trade of infantry officers (just in case they lost their aircraft), meteorology, navigation and aerodynamics. Everybody passed.

But back to ham radio.

CW is a very satisfying mode to use. In fact, under present "beginner" licensing conditions it's the only "skill" needed. It's the difference between CB and real radio. And with a plethora of micro-processor aids to learning, it's never been easier.

So all you guys who passed 12 wpm and promptly forgot it, and all you ex Class "B-ers" who never made it; give it some serious thought. You'll find it worth-while and good fun. ♠

Book Review

By Graeme Wormald G3GGL

Many moons ago (many, many) I avidly collected the A5-size Amateur Radio handbooks that the RSGB published in the late 1940's. Believe it or not I still have some of them and visiting old timers are always fascinated to see them.

Imagine my surprise on opening the March Issue of RadCom yesterday to find that the RSGB has re-published the six 1947-49 booklets in a boxed set collection.

A total of almost 450 pages of our post-war ham heritage. I should think these will fly out of the window at Lambda House and I can recommend them most heartily – after all, I've been reading them for the past 56 years and they never fail to interest.

They include:-

Simple Transmitters (68 pp)

Transmitter Interference (32 pp)

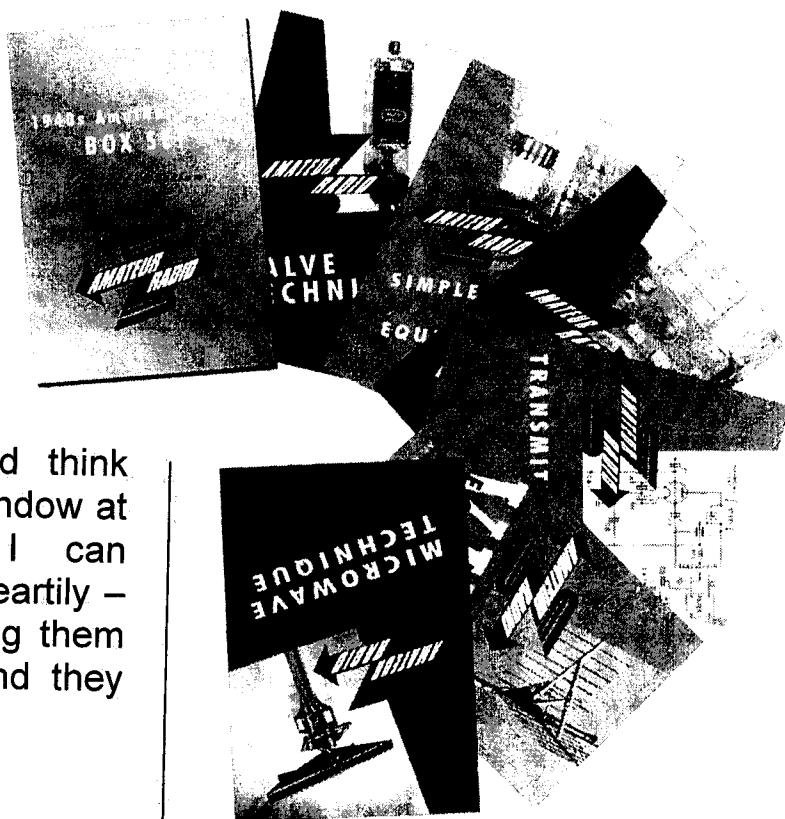
Receivers (96 pp)

Valve Technique (104 pp)

Microwave Technique (68 pp)

VHF Technique (96 pp)

This compendium should be compulsory reading for all members. It comes neatly packed in a matching box so you won't lose them.



Published by the RSGB

Set of Six books, soft covers 183mm x 120mm, in box.

RSGB Members' price £13.59 + p&p.

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E.U.G. Masters' Crossword News

By Colin G4HNH

As we come to the last crossword news column I would just like to say how much I have enjoyed compiling the EUG Masters' Crossword over the last five years and also to extend a big thank you to Graeme for perusing them first and wielding his blue pencil before publication. It seems like only yesterday when the first primitive effort made it into print and that one was not even symmetrical, as all professional crosswords are supposed to be. A lot of puzzling over grids and clue honing has gone on since then, it just goes to show how one can learn by experience.

Although this may be the last crossword news page to be published I am hoping that it may not be the last you see of the actual crosswords as I am hoping to continue with these on an occasional basis. I have been in touch with our esteemed patron Chris who thinks it could be arranged. So, if you feel that you may experience "withdrawal symptoms" at the the loss of your crossword fear not, crossword No. 32 should be on your screens in the near future.

We had eleven entries for crossword No. 30, of which seven were correct. Of those that were incorrect the main problem seemed to be with 13 down, a topical clue thus: "Heart condition on Valentine's day". We had various answers including "attria" and "attrib", new additions to the vocabulary perhaps. However, even the losing entries had most of the technical words correct.

Here are the answers to EUG Crossword No. 30:-

Across:

- 1) Milliampere
- 6) Screwed
- 8) Neuf
- 9) Periodic
- 11) Evens
- 13) Anode
- 14) Nanowatt
- 16) R.E.M.E.
- 17) Faraday
- 19) Delayed bias

Down:

- 1) Mac
- 2) Low IPS
- 3) Adders
- 4) Pongo
- 5) Efficiency
- 6) Screen Grid
- 7) Re-sewn
- 10) Doodad
- 12) Baffle
- 13) Athrob
- 15) Omega
- 18) Aus

Roll Of Honour for crossword No. 30

John St. Leger of Oakhampton

G. Oakes of Congleton

Graeme Wormald of Bewdley

Roger Roycroft of Macclesfield

Jack Read of Nantwich

David Skeate (location unknown)

Roger Bracey of Crewe

Many thanks to all of you who have diligently completed the crosswords and sent in your entries over the last five years.

I do hope that you will continue to enjoy them as and when they are published at:

www.eddystoneusergroup.org.uk

Vy 73, Colin G4HNH

EUG MASTERS CROSSWORD 31

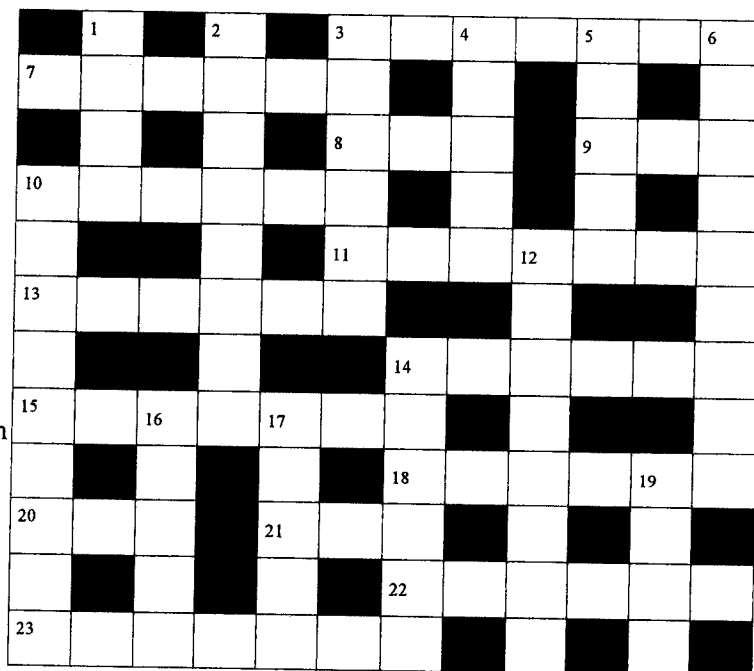
Compiled by Colin
G4HNH

Across

- 3) High flying Morse Key with EUG connections (nickname) (7)
- 7) RAF rank next above Senior Aircraftman and next below Corporal, ----- Technician (6)
- 8) The US "Inland Revenue" (3, abb.)
- 9) Latin for "thus" (3)
- 10) Tweaking the cat's whisker put the moggies back up (6)
- 11) Giant neon perhaps (3,4)
- 13) De Forest's "Audion" tube was really one of these (6)
- 14) Respected manufacturer of high quality hand tools such as pliers, sidecutters etc. (6)
- 15) Famous radio name found in Minorca perhaps (7)
- 18) Essential item found in the radio cabinet restorer's cupboard (6)
- 20) Abbreviated name once associated with the "speaking clock" (3)
- 21) Minimum valve complement for "All World" reception (3)
- 22) Pirate radio ship jingle of the 1960's "Wonderful Radio -----"
- 23) Phonetic identifier (7)

Down

- 1) Rough edge left on cut or punched metal (4)
- 2) Colour selective mirror used in tv cameras to break down light into its constituent components of red, blue and green (8)



- 3) Electrical network in which one branch connects two points of equal potential and so carrying no current when the circuit is suitably adjusted or "balanced" (6)
- 4) Exploratory electrical measurements (5)
- 5) Famous Croatian electrical engineer, at least perhaps in the field of magnetism (5)
- 6) In an analogue tv signal, the period of time immediately after a sync pulse, during which the signal is held at black level (4, 5)
- 10) Alternative term for cathode bias in a valve circuit, ----- bias (9)
- 12) A line drawn on the family of characteristic curves of a valve or transistor, showing the relationship between voltage and current for a given load (4,4)
- 14) Fed in the centre with an old pie possibly (6)
- 16) Cuban dance rhythm, sometimes played by radio dance bands of the 30's and 40's (5)
- 17) Eight pin valve base for a clot perhaps (5)
- 19) Common reference to the presence of white noise on a tv or radar screen. (4)

Send in entries as normal to g4hnh@smartemail.co.uk or by snail mail to 41 West Drive Edgbaston B'ham B5 7RR
The Roll of Honour will be on the web site asap.
Name.....(call sign).....

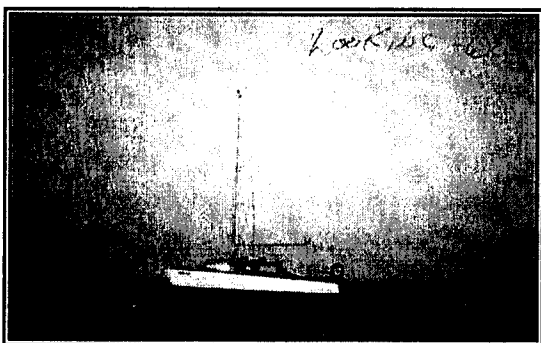
Ted's MailBox

A review of Mail and Happenings

By Ted Moore G7AIR/G3EUG, Founder of EUG

Tourism ?

SEE ! I Did It ! In the American style of 'been there, done that, got the photos to prove it'. Well the piccies were a necessity given that this was another of my exploits with Esselle and Eddystone gear.



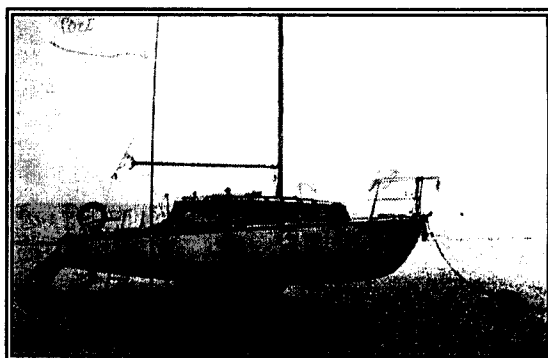
Those of you who know the Wash, especially the southerly bit at the mouth of the river Nene will know that it is quite shallow with numerous sandbanks and more importantly has a tidal range of more than SIX metres - King John would vouch for this.

At the South west corner of the Wash we also have the RAF Holbeach Bombing Range, very active it is too. Just about on the dividing line between the navigable shipping channel and the Bombing Range the Wisbech Harbour authorities have placed three big yellow 'Visitors Mooring Buoys' to enable visiting yachts to tie up and await a suitable state of tide before passing along the buoyed channel into the Nene. A very necessary procedure since the deep water shipping channel can have a mere 3 feet of water in it at low tide. One local yachtsman found this out recently when he attempted to bring his four foot draft yacht in at low tide.

It was a case of all hands on deck as the boat went over onto its side and took in water. Calls for the coastguard, life boat, harbour tug etc went out on channel 16.

Anyway, I digress, as usual. Just adjacent to these buoys, about a quarter of a mile west, is a large sandbank, several hundred yards long and a good hundred yards wide. It is well marked for the unwary by the wreck of a 1930s collier at the North end. In the centre of this sandbank is a small mooring buoy and by sailing up and mooring to this buoy at high tide one finds that at low tide the boat is high and dry, enabling one to do some 'bottom-scrubbing'.

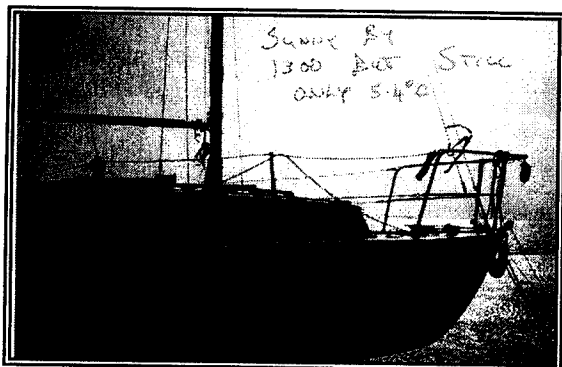
If the boat has bilge keels as has Esselle then one can go over the side do one's scrubbing and more, in the four to five hours when the boat is high and dry.



Time even to explore the wreck or to visit the resident seals at the South end. Time enough in MY case to set up G3EUG/P using a picnic table, chair and my usual inverted 'V' dipole and QSO 'GGL on 80. A remarkable lack of RF noise is the best feature of such locations. Now to all of us local

'yotties' this is simply the 'drying out bank', with no other name.

Checking my Oxford Dictionary I find that an Island is any piece of land entirely surrounded by water, no mention of it having to be above water at ALL states of the tide. So there I was gear set up calling 'GGL and others whilst having the Union Jack flying from my centre of dipole mast and a sign on the table naming the 'bank' as Eddystone Island.



What of the numerous Tornados, Eurofighters, F15s and Lynx helicopters etc; using the Bombing Range? Well having been told by the Marina Staff that I needed permission from the Brylcreem boys to dry out/operate from there I had previously contacted the Holbeach Range Control Officer.

He pointed out that today's RAF is a Five Days a Week organisation (what have we come to!) and that he didn't give a damn what I did between 1800 on Friday and 0600 on Monday. Well as I said at the start of this tale, I have been there (five hours twenty minutes ashore), done my thing, and have the piccies to prove my words. All good fun and one of those events which stop life from being too boring. More folk should get out and do things instead of sitting slumped in front of the Goggle-Box.

It is only when you get out into the country, or the sea, that you realise

how little ambient 'noise' there is on the HF bands. When the nearest computer systems, welding shops, or domestic appliances are miles away the stations really roll in. Having spent several hours the evening before listening for Beacons, both aero and marine, I was quite impressed by the performance of my Seaguide.

'GGL will have had photos to prove this operation. Hopefully one or two in this issue, a nice finale for Lighthouse. (A nice little selection here, Ted.)

Sad.

Yes, it is a sad time, no more Lighthouse. However nobody is immortal, nobody can continue forever doing such a task as publishing what is often referred to as the "Best Radio Hobby Magazine".

The request for somebody to carry on after 'GGL's retirement has brought forth not even ONE serious offer. I keep telling Graeme he did the job TOO well, and I am serious about that.

Callers who had the idea that editing & publishing Lighthouse is an afternoon or weekend job have had to be told the facts of life. Some have been quite disbelieving too!

I believe that our Patron, Chris has the right idea with his plans for a website, eventually an interactive website. This does seem the only viable way forward as a means of keeping the Eddystone User Group alive.

I shall continue to be here to provide information, advice and copy manuals, I intend also to visit some rallies to 'show the flag' by offering manuals, catalogues of Eddystone accessories and components, copies of QRG (whilst they last) and even to sell badges that we have left in stock.

All of these can of course be had by mail order by calling me at home, IN

THE EVENING, on 01945-467356. Call me too if there is a Rally which you intend visiting and if feasible I might turn up and have a table.

Many of you have been in touch to say how much you will miss Lighthouse, well JOIN THE CLUB, we all shall miss it. I never saw the magazine contents until it came through my letterbox; most of the contents will have been unknown to me until that moment, just like any other member.

Do please tell 'GGL how much you have appreciated his hard work over the years.

The First Sunday net will of course continue and I shall continue to air the EUG callsign whenever possible, usually from the Guy's Head Lighthouses at the mouth of the River Nene but when possible from other /P or /MM locations.

Not True !

So says Ian our EUGer in Ebbw Vale. Having bought a DAB Radio after reading the advertising blurbs for this media Ian was disappointed in that the claims of Digital One simply were not true.

Their brochure stated that there are many more stations available on DAB (courtesy of Eddystone Radio who built and installed so many of the Transmitters) than on analogue (AM/FM).

Well having found that in his locality DAB provided a mere NINE stations as against Ian's count of 98 'listenable' stations on analogue Ian decided to write to Digital One to complain about their advertising. As he says it was more in the way of a spirit of fun letter since NONE of Dig Ones output is audible in Ebbw Vale, nor is the vast output of the Beeb.

He did receive a grovelling letter of

apology stating that future editions of the 'glossy' will be amended. Good for you Ian.

Obit;

A sad occasion, Bill Gibson, GMØKMG, passed away just recently although he had been in hospital since last November following an accident at home.

I have known Bill for many years and he has been an EUGer almost from the start. His interests besides Eddystones, encompassed all aspects of Amateur Radio, my sympathies are with all his family.

Wythall Rally Surprises

Yes indeed, a bit of luck whilst nosing around and I spotted two unused scale plates wrapped in the original tissue paper, obviously for the 730 or 770 series as they have the indicator holes on the edge of the plate.

A few words with the stall holder and it appears that a large amount of Eddystone spares was recently acquired by his company. Not yet sorted but he will be getting back to me. It would appear that there are scale glasses with frequency bands marked on them, as with the 870 or EC10 types.

Also some finger plates ! I am following this up and if you give me a few weeks to gather any info I shall pass it on over the landline to anybody interested. (Who isn't interested in spares ?)

1529 RTTY Terminal Unit

One of these came into my possession recently. It is quite a versatile unit which can demodulate up to 200 Baud RTTY, up to 1 Kc/s shift.

Originally used with sets like the 958, 830 or 880 this is slim format and was fitted either as a plinth under the

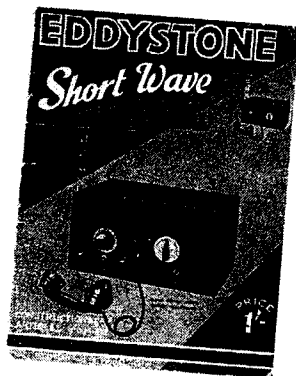
receiver or above the receiver in a table-top rack. Having had a whole load of manuals for this model and never having seen one I am now in the process of devouring the manual for info on actually using it.

Looks like a lot of fun ahead as I have a matching digital frequency meter which is programmable for ANY I.F. offset. Putting them in a rack with a suitable Receiver will be my aim.

One interesting feature is a degree of AFC which will help when used with my choice of an Eddystone analogue set.

Eddystone Short Wave Manuals

Having been selling copies of these either singly or in sets of six for a couple of years now it was a nice surprise to find that their worth is appreciated by some of our Transatlantic Cousins.



A recent order of TEN complete sets on behalf of the A.A.M.T.A. – “All Amplitude Modulation Transmitters Association”, has kept the photo-copier humming recently, they will have been despatched to Connecticut by the time that you read this, together with ten complimentary copies of QRG, courtesy of 'GGL.

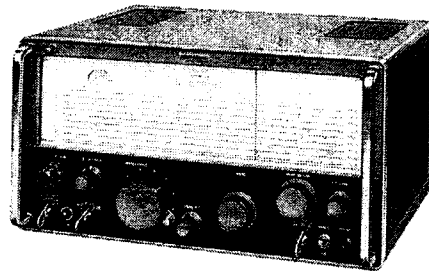
It is nice to know that they appreciate Eddystone DIY designs stateside. It

would seem that the A.M revival over there is a little different to here. Over there they run competitions for BBQ transmissions. No not what you are thinking, BBQ stands for Best Broadcast Quality and the transmissions are judged using commercially accepted standards as promulgated by the FCC for local radio stations.

Bernie, the writer runs 1.5 Kilowatts of A.M from a home-brew transmitter and studio, (definitely not a shack, he says).

Out of the Closet ???

Or wherever they have been hiding them. Within the last two weeks I have had THREE requests for copies of the 830/9 supplement manual which goes with the ordinary 830 manual.



Three lucky chaps have recently purchased a /9 and so this brings me to ask just where the heck are they coming from ? Just demobbed from some 'authority', or maybe just released from the store room of some collector, as surplus to requirements ?

Be nice to know, but nobody so far can help. This /9 version is almost exactly as per the /5 or /7 but has internal toggle switches on the chassis to switch off the local oscillator.

This then permits operation from an external frequency synthesiser unit, not made by Eddystone incidentally but by Marconi.

Some of them - like the /8 model had 'jazzed-up' front panels with fancy

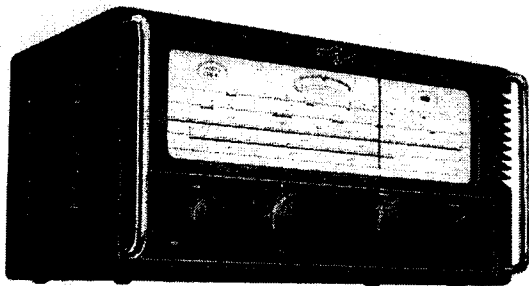
knobs for use by the Diplomatic Service, even had round chromed handles like much earlier Eddystones instead of the 'flattened' type used on all later models.

STOP PRESS !!! There were six receivers in the lot purchased and four were /9s with two /8s. Price for the six was £800. The /8s seem to be a clue as I am told they were used at Hanslope Park.

47 Varieties

Well almost so, like the famous beanz and soup. My collection of 'clones', badged Marconi or Mimco but actually very slightly modified versions of the ubiquitous 670 series has grown to nine now.

Some have slightly different range coverage, the 2273A for instance only goes up to 10.5 Mc/s, from a low of 150 Kc/s, and is finished in a nice brown polychrome.



Others may have different A.F outputs for driving multiple speakers. The 670, 670A and 670C all received this customising treatment even to the point where the MIMCO 3873A had a plug-in transistorised microphone amplifier unit to allow of its use for P.A purposes.

Some versions had the Eddystone 'brute-force' type of L/C mains input filters since shipboard supplies were notoriously noisy - dirty commutator rings, etc.

Just because they have a Marconi or MIMCO front badge is no reason to

neglect them, they always had the correct Eddystone model/serial label on the rear.

I have a Marconi *Elettra*, a MIMCO 2232B and both are simply the 670C/1 in disguise. As the rear chassis label tells you. No internal differences at all from my 'genuine' 670C.

Conditions

The propagation gods seem to be looking upon us with more favour just lately as my signals on eighty have been getting much better reports than those woeful S4-5 as received during the last summer. Both of the last two EUGnets have given me good signal reports.

The reception of Beacons, another of my fads, is greatly improved when listening on the boat. Even at low tide when little more than the top twelve inches of my mast is above dockside level I can regularly get loads of NDBs both in daylight and after dark.

Having fitted a Sailor Marine receiver in the *Esselle's* cabin and using no more than my aluminium mast and steel rigging as my aerial I have heard a Finnish Beacon and several Icelandic Beacons.

At most times some twenty or more beacons are audible in daylight, many more after dark. The use of a saltwater 'earth' and vertical aerial as opposed to my horizontal loop at home makes for a marked difference. Try Beacon Listening and get hooked !

The 770S

This must be one of the least known and least seen of Eddystone Post-War models. They only made about 100 so that accounts for the rarity but even so I have only ever had my one, and seen one more.

Mine is table mount the other owned

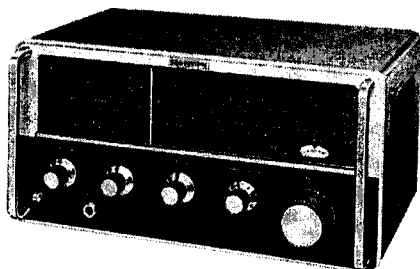
by an EUGer is rack-mount. It is nothing like the other 770 animals, looking more akin to an 880.



Covering from 500 to 1000 Mc/s in one range this set uses 30 valves and 18 diodes and tuning is by dual cavities, RF and local oscillator. A hefty bill if you intend replacing ALL the valves. In my case just the RF stages needed that treatment. I don't often use it as it was designed more for Laboratory use and I prefer my 990 or 1990 for casual listening. At over 100 lbs for the table model you need good muscles to cart one home from a rally.

EB35A

Having acquired what I was told was an EB35, and not an EB35 II, it was



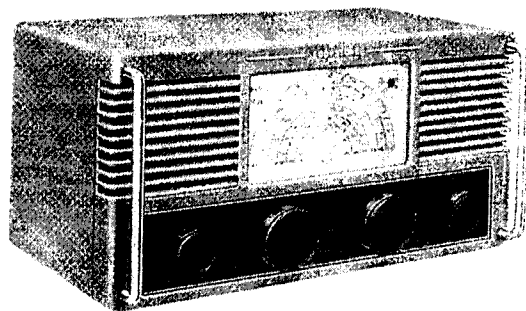
gratifying to discover upon receiving it courtesy of TNT that it was the 35A variant. This has the same AM coverage as all of the EB35 series but the FM band coverage is NOT for the Broadcast FM Band. It covers 155 to 175 Mc/s and is designed for shipboard (boatboard ?) usage with this coverage of the Marine VHF NBFM Band.

Mine is not oscillating on this VHF range and will need some TLC before

being put on board the ESSELLE. I am interested to note that the VHF IFs have ceramic 10.7 Mc/s filters. It is designed for either 9 volts internal batteries or a 12 volts external (boat) supply, very handy and a nice complement to my Seaguide.

The 556

A recent SK sale for the family of one of our long time members brought a 556 receiver, amongst 42 others. I was interested in this set as I have for some time felt that neither of my 556 sets conformed exactly to the original spec; as advertised in the 1940s.



This set came out just after WW II and was one of the famous "Tea-Planter" variety, an all-wave broadcast receiver of enhanced performance using TEN octal valves including the magic eye.

With two RF and two IF amplifier stages it really is a very potent performer. I enjoy using this receiver and have kept one here at Wisbech whilst the other is up at Deganwy.

Meaning I have one to play with at either QTH.

My query has been in re the actual factory Blueprint number BP569, dated the 06-06-1946, of which I have two copies, the later one dated just three weeks later on the 27-06-1946. Now the early Blueprint shows that both V6 (EBC33) and V9 (EB34) have their diode anodes strapped together, and in the case of the EB34 both cathodes are likewise strapped together. This

early BP569 also shows that V5 the second IF amplifier does not have a connection to the common AVC line which feeds only the V1, V2, and V4 grids, plus of course the magic eye. Both of my - admittedly early production versions - do NOT have the strap between the double diode anodes on either V6 or V9, the pins are left unconnected.

Again on my 556s the common AVC line DOES feed V5 grid via an additional R3. In this circuit all components with the same value have the same component number, i.e. there are FIVE R3s and SIX R10s.

My surprise when I checked out the new arrival 556 was to find that those diode anodes are strapped together and that V5 does not benefit from AVC.

One of mine did have a 6K8 in place of the specified ECH35 when acquired but I have replaced this with a Mullard Red ECH35.

One last point is that the new arrival has a completely different, more beefy looking transformer than is in either of mine. It is the same type as in my 504 receiver, the communications receiver version of the 556 with the obligatory BFO in lieu of the magic eye.

The Blueprints are 35 inches by 16 inches and so are very handy to use for bench work, no I do not use the originals I use photocopies.

Valve Type 4304 CA

What's one of those ? Well you might ask because I had to do exactly the same, although admittedly the number did ring distant alarum bells for me. I thought I had heard of this valve type somewhere in the dim distant past and when I was offered one FREE in a box together with an EIMAC 35T which rang NO bells I jumped at the offer. My grey cells are doing strange things

today, and some memories turn out to be either misdated or unconnected. In this case a fair bit of sleuthing was necessary. I ought to have remembered the 35T as well as the 4304 but did not. In the event I found that both types had been used in the S215A, as supplied to the Met; Police in 1939 and the S215B as supplied to the R.N. (a.k.a. Type 7AL AP.W7943A) around the same date.

I have a very good set of actual photographs of this transmitter plus some hand drawn pictorial BPs, a Factory information handbook and some in-situ photographs of the S214/215 installation in what was evidently an underground police control room of the WW II era, two transmitters, two receivers, two speakers and two Post Office type telephones on the desk which is manned by a very capable looking young lady.

Anyway, as usual I digress. The valves came to me from the SK sale of an EUGer who also worked at the Bath Tub for 22 years. Nuff Sed ! The valves must have been left overs from a bygone era and had been used as P.A. and Buffer/Driver stage amplifiers in push-pull mode. They are a nice souvenir to have and one day I may get to include them in a display at a Rally, so NO don't bother asking, they are not for sale at any price.

For the uninitiated here are some details from the Technical Specification Booklet put out in 1939 by Stratton & Co, NOT Eddystone Radio.

- Mains Input of 1.2 Kilowatt Hours from standard AC 200-240 volts 50c/s.
- Power Output of at least 100 watts RF over the Range of 40 to 150 Mc/s using interchangeable Coils and Crystals.

- Crystal frequency of Carrier Frequency divided by Eight.
- Output impedance to Aerial of 72 ohms
- Input Impedance to speech amplifier of standard 600 ohms with option for remote control over Post Office telephone lines using standard Post Office Desk Telephone Instrument.
- Option to use Modulated Carrier Wave Telegraphy if specified.
- Aerial Equipment can be designed and installed by the manufacturer. Duplex or Simplex Operation
- Installation by Factory Staff.
- Delivery date of 12 weeks from placement of order.
- Demonstrations can be arranged at 72 hours notice.
- Fully Tropicalised versions for Export.
- Approved by Home Office for Police use.
- Extensively used by Admiralty and War Office.

I wonder how many of them were made as the production went on into the late 1940s. Strangely enough the name "Eddystone" does appear in brackets on the folder for all of this promotional and technical bumf, just the one word and no 'Radio'. My blueprints cover the electronic circuitry and the mechanical construction of the six-foot high rack etc; very nostalgic and now I have some of the bits that went in the S.215.

440/450 Transmitter/Receivers

Apropos the above re the S214/215 I now have one of the mains base

station psus as used with the 440/450 base station equipment. Surprisingly the 5 volts LT supply uses a 1000 muffs condenser since the directly heated valves had to be run from DC via a metal rectifier unit. When first powered up, rather tentatively I must admit, the LT DC was 'hummy' and yet after several hours of operation with a dummy load resistor the hum did drop to a quite acceptable level. If this psu was to be used 'in anger', i.e. on equipment, then I would diss the original electrolytic and whilst leaving it in situ would substitute a modern condenser, for safety reasons.

EB35 III

I have recently acquired an EB35 III which was the last version of this range of quality Broadcast receivers. This one is the odd one out since it is the one with silicon chips and trannies in lieu of the 'geranium' types used in early versions.

This set I have is badged as a Marconi Marine Receiver and yet unlike most of their products it retains the Eddystone Model Name. No hint anywhere on the accompanying manual that it ever was given a Marconi type Number.

The set is in nice condition and obviously hardly ever used since the original Marconi Guarantee Card is included, still waiting to be sent off for Registration. I wonder what would happen if I did now send it off? And who would I send it to as Marconi is like the Dodo, extinct. Maybe to Ericssons, Chelmsford. It just doesn't sound the same does it? Anyway it is a nice set and will get plenty of use in my hands.

Ciao Everybody, will meet up with you at various Rallies. Ted. ♠

My Eddystone Experience

By Doug Bishop

My interest in Radio began 70 years ago when I was aged 15 and I visited the shack of G8DX, Ron Lavis, who was already a fully licensed operator. As one did in those days, Ron built all his own equipment and he encouraged me to enter the short-wave world.

I well remember this first visit as I somehow managed to knock over his precious PX4 valve for his transmitter, which, to my relief was undamaged.

I can see Ron now on another visit, sat with headphones on, polishing a crystal for hours using a home-made oscillator to check the frequency.

It was not until I had been at work for two years that I met a radio engineer, H.L.Jennings, who had a franchise for Eddystone products. I purchased these from him and paid by instalments out of my ten shillings (50 pence) weekly wage. And so, using the Eddystone instruction books, I built my first 0-V-1 Rx using, of course, plug-in coils on ceramic 4-pin bases.

Eventually I made a 5-metre receiver, again with Eddystone items and I recall long ebonite extensions to the controls.

Then I made a transmitter to have QSO's with a friend who worked as a radio engineer for Curry's. We made contact but QSO's were difficult due to the instability of my equipment, sometimes taking 15 minutes to tune in to each other.

By this time World War Two was imminent and my friend joined the Royal Engineers. I volunteered for aircrew in the RAF to travel the world for 4½ years and Ron Lavis, G8DX was called to serve at Station "X", Bletchley Park.

Due to the blitz on Bath a lot of my radio equipment was lost or damaged although I still have unused Eddystone components to this day.

As an early member of EUG I was surprised how long ago this was when I read Graeme's article and would like to compliment him on content and wealth of information he has produced over all the years, together with hours of enjoyable reading. When the EUG Magazine arrives I read it from cover to cover, even though I am not able to put so much technical expertise into practice these days.

I shall miss you Graeme and all that you represent. I do have a treasured memento however; an original "1935 EDDYSTONE LAPEL BADGE" to serve as a reminder of all my years with EUG. Thank you.

PATENT SPECIFICATION

403,947



Application Date: July 2, 1932. No 18,720 / 32

Complete Left: Aug. 2, 1934.

Complete Accepted: Jan. 2, 1934.

PROVISIONAL SPECIFICATION

Improvements in Electric Condensers.

We, **Jarrett, Rainsford & Laughton Limited**, a British Company, of Alexandra Works, Kent Street, Birmingham, and **George Abe Laughton**, British Subject, of the Company's address, do hereby declare the nature of this invention to be as follows: -

The invention relates to variable electric condensers of the movable and fixed vane or blade type and has for its object to improve the construction of these condensers so as to eliminate or reduce noise set up when the condensers are employed in short wave wireless receiving sets.

The usual construction of these condensers is to provide a frame consisting of two end plates separated by spacing bars, bolts or the like, and to arrange the moving vanes on a knob or handle spindle working through a ball or other bearing in one of the end plates end and having its end located in a plain bearing in the other plate. The moving blades or vanes are suitably spaced from, and electrically connected with, each other on this spindle, between the two end plates; and the fixed vanes or blades are secured on pins or rods arranged between but insulated from the end plates and interspaced with the movable vanes and they are suitably electrically connected with each other.

In accordance with the present invention we arrange the spacing or carrier bars for the fixed vanes to project from a

single plate or spider preferably of insulating substance, and provide a self locating, adjustable bearing in this plate or spider from which the movable vane spindle overhangs.

In a convenient embodiment we construct an end plate or spider of a suitably moulded product which is an insulator and form the central part thereof as a boss chambered on the one side. Around the boss are the spider arms, say, three, through two of which are secured pins or bolts on which the fixed vanes are suitably spaced and secured. Into the unchambered side of the boss we secure a metal sleeve which preferably projects from the boss on this side, and in the projecting end of this sleeve we machine an internally coned face. On the knob or operating spindle we form a collar with a coned face capable of entering and seating against the coned face on the sleeve. Beyond this collar is a plain portion of the spindle which passes through the sleeve in the boss and projects beyond the boss. The end of this spindle is screw-threaded externally. We suitable assemble and secure together the desired number of vanes, for use as the movable vanes, and we arrange a bore in the connected parts and tap a screw thread in one end thereof. This assembly of vanes is adapted to be passed over the end of the spindle and for the parts to be secured together by screwing the spindle into the internally

screw-threaded part of the bore of the vane assembly. For this purpose the spindle is inserted in the boss. A resilient washer is placed over the spindle in the chambered portion of the boss; a loose distance collar is passed onto the spindle behind the washer; next the vane assembly is placed in position and the spindle is screwed into it, and finally a lock nut is screwed onto the end of the spindle behind the assembly.

The combination of the coned seating joint on one face of the bearing and on the fixed collar on the spindle with the compressible washer within the chamber on the other side of the boss permits the vane assembly to be correctly located in relation to the fixed vanes supported from the spider arms.

A convenient form of compressible washer is a metal one provided with a number of equidistant slits running in from the edge of the washer and then for a short distance around the centre leaving a number of tongues which are then bent out at their ends away from the plane of the washer. This has an outer diameter enabling it to be received in the chambered part of the boss and it has an internal diameter which fits on a shouldered-down end on the insulating distance-collar which comes between the washer and the vane assembly.

A convenient construction of the fixed vanes is to provide each with two upturned and slotted ears at point on their outer peripheries which correspond with the carrier pins or bolts projecting from the spider arms. These ears are slightly longer than is the desired space between the vane

so that when assembled on the pins they overlap each other and can readily be secured together by solder. Adjacent the slot in each ear the vane is preferably gapped in its edge, so that the pin will enter its edge and fit the sides of the slot in the ear and facilitate the operation of soldering the vanes on the pin as well as to each other.

Earlier in this description we mentioned that the spider might be a three-armed one with two pins or bolts serving as attachment pillars for the fixed vanes, we preferably use the third arm for a pin which forms an electrical connection pillar for the lead to the moving vanes. An arm or wire may be carried from the end of this pillar on the top of the spider to the fixed sleeve in which the spindle has its bearing or to a nut thereon.

The pins or pillars may serve as means for attaching the condenser in an instrument panel and a lead can be arranged to one of the fixed vane pillars and to the third pillar at its point of attachment to the panel.

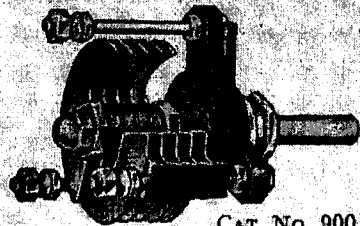
The arrangement eliminates or reduces noise caused by a difference of potential between the two metal plates at the bearings of the movable vane spindle in the usual construction when the condenser is operating with the high frequency oscillation appertaining to short wave installations.

Dated this 1st day of July 1932.

For the Applicants,
BARKER, BRETTELL & DUNCAN,
 Chartered Patent Agents,
 75 & 77, Colmore Row, Birmingham.

Microdenser

FOR ULTRA SHORT WAVE USE.



This condenser has been developed in particular for the ultra short waves from 5-10 metres. The insulating spider is made from D.L.-9, the low loss dielectric material. The vanes are of brass, soldered together to give a low series resistance at high frequencies. The motion is smooth and the condenser noiseless in operation.

CAT. No. 900.

| | | | | |
|------------|------------|---------|-------|-----|
| 15 m.mfd. | Code PICA | | PRICE | 3/9 |
| 25 m.mfd. | Code PICE | | PRICE | 4/- |
| 40 m.mfd. | Code PICUT | | PRICE | 4/3 |
| 100 m.mfd. | Code PICAT | | PRICE | 5/- |

403,947 COMPLETE SPECIFICATION

1 SHEET

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1

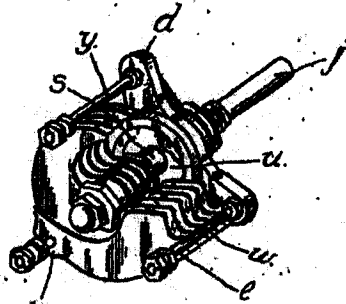


Fig. 5

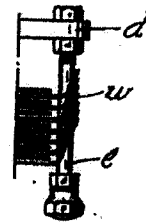


Fig. 2

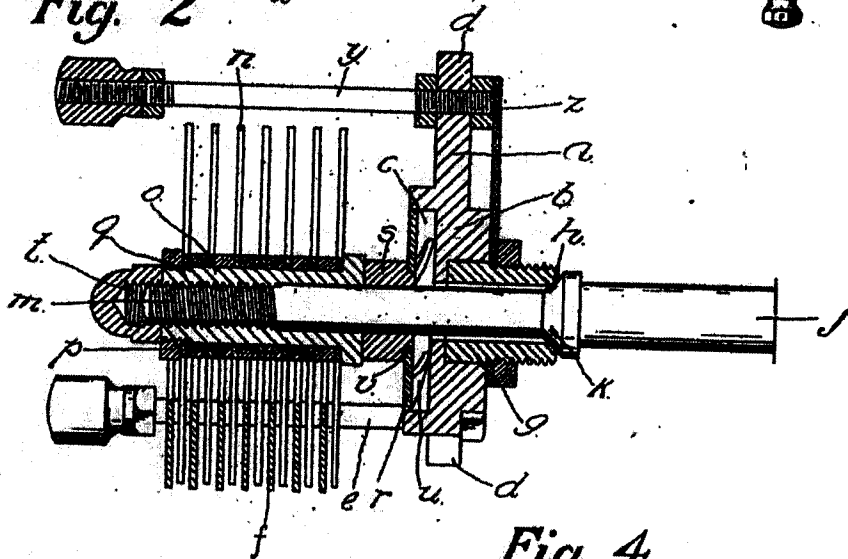


Fig. 4

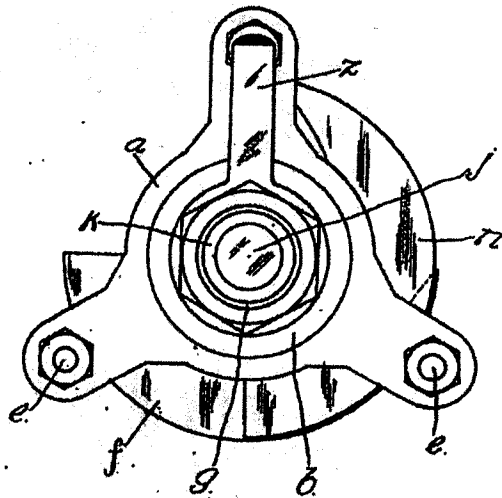
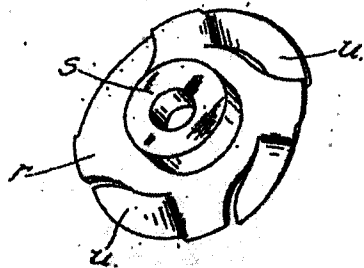


Fig. 3



Malby & Sons, Photo-Litho.

Last Letter from Tønsberg

Tønsberg 21.03.06

Hello Graeme,

It is with mixed feelings that I write to you today, sad because a good thing comes to an end, and glad on your behalf because in a few weeks time you will be free again.

I have been a member of the group nearly from the start and I am highly impressed as regards the vast amount of information which has been collected and made available to the members.

If I were to single out one item which caught my interest over the years it must be the QRG. I really hope that somebody will carry on with the work on this; I shall be there with my 'suggestions'!

The 'Super Six' never made it to the QRG; however you did mention that Bill Cooke admitted that perhaps a dozen were made. So not only does it exist, it must rank as one of the great Eddystone rarities! I stumbled across some fresh evidence about this receiver a few weeks ago.

In a 'Mullard' master valve guide for 1933-34 (probably printed in the end of 1933) there was a chapter of valve usage in various radio receivers, among them three from Eddystone. They were the All-Wave A.C. 4, the Kilodyne A.C. 4 and the 'Super Six'! The valves recommended for use in the 'Super Six' were: 354V, S4VB, VP4, VP4, SP4, PM24M and DW3. Count them, Graeme, seven valves! Maybe the printer had the hiccups and noted the VP4 two times instead of one!

I hope that I managed to surprise some of you with my discovery of the three valve portable from 1927 which I mentioned in 'Lighthouse' # 94. Here is the complete text from WW, no picture unfortunately:

Wireless
World

MAY 25th, 1927.

Stratton.

Three valves are used, the circuit arrangement consisting of a Reinartz tuned frame, detector valve, resistance-coupled L.F. stage followed by a transformer-coupled stage. The double-wound frame, which is rotatable apart from the set, tunes to wavelengths of 250 to 600 metres. A grid bias up to 10 volts is provided, with an H.T. battery of 90 volts. The loud-speaker horn has a flare measuring 7in. by 5½in. Tuning controls are on the end panel, so that the receiver can be operated when closed. The wooden cabinet is covered with Rexine cloth and measures 16½in. by 16½in. by 7½in.

Stratton and Co., Ltd., Balmoral Works, Bromsgrove Street, Birmingham.

That's it, Graeme, no unfinished business I believe. However I do have a few things on my mind, so perhaps this won't be the last letter after all.....

Best wishes from Tor

RELAXING IN CAIRO

Bill Cooke GWØION

In his memoirs of yesteryear our President has recalled not only life with Eddystone Radio but some of his experiences defending the Allied cause from Axis air attacks using the cutting edge technology of radar. This month he relaxes and describes the wartime holiday resort of Cairo . . .

"They used to say New York was the melting pot of the New World. I think you could say that Cairo was the melting pot of the Middle East.

"For many hundreds of years the city had been ruled first by one group, then another, until by the time WW2 started it was under British administration with a huge social influence from French, Turkish, Berber, Coptic, Arab, Nubian, Jewish and Abyssinian populations. It was the largest city in Africa and still had open links to the free world via the Rhodesias and South Africa. It also had its own industries of cotton, silk and leather.

"When war reached the Middle East in 1941 the British Commonwealth stood alone against the Axis powers. Forces from all parts of the Empire and Britain were rushed out, myself included. It soon became apparent that until the desert war was won there would be no question of home leave for hundreds of thousands of men. And there was no end in sight.

"It was considered essential for Allied moral that a 'substitute' for home be provided. A ready-made exotic holiday town was already to hand. Cairo.

"The closest that 99% of our forces had ever been to Egypt was through Agatha Christie's detective novels. It

proved to be a winner.

"The British Authorities established the Desert Purchasing Organisation; a chain of shops open to British Troops only. They stocked just the sort of goodies that had long since left the shelves of shops back home and which would boost the moral of the troops' YLs and XYLs back in Blighty.

"Silk stockings; shear silk frillies – I think I'd better stop there. Suffice to say that any lucky lass fortunate to get a parcel from North Africa would know she'd got a caring, sharing chap out there.

"That was just the top end of the market. Local shops and bazaars stocked a wealth of native craft goods; hand made all over the Nile Delta. Especially prized by our lads was the hand-worked marquetry. This came in all shape and sizes but especially the small caskets that would decorate many a coffee table back home in the post-war years.

"Our mobile radar station had been so active during the desert war that I didn't get time to savour the delights of Cairo until we were winning in 1943.

"Actually, it wasn't my first visit to the city; I'd been based there for a spell in 1941 whilst our unit was set up and

licked into shape. We had got ourselves organised with the locals for our laundry and, believe me, the Chinese had nothing on these chaps.

"I had an Egyptian servant, Abdul, who, for a few piastres, would make sure I had a freshly laundered and ironed shirt twice a day. It was in Cairo that the first steam irons were seen to be used . . .

"Abdul had a couple of ancient flat-irons, a picnic Primus stove and a glass of water. The procedure was simple. Take a mouthful of water; hold the shirt in the left hand, an iron in the right, purse the lips and direct a fine spray of water over the shirt and away you go. A true art form.

"We made a sad farewell as my unit moved way out west and I never expected to see him again.

"Until . . . over two years later, my leave train pulled into Cairo's Central Station and I scrambled down onto the heaving platform. A small figure in a red fez and a white nightshirt seized my arm and shrieked: "Effendi! You've returned from the dead! Allah be praised!" It was Abdul, still plying his trade.

"The authorities issued lists of approved apartments for troops on leave. They were regularly inspected and had to meet good standards of hygiene, no easy matter in that climate.

"I chose one operated by a certain "Miss Lucky", a charming lady of Anglo-French-Egyptian ancestry. She knew all the answers and kept a spotless establishment. When shown to my room I couldn't help noticing the little cups of Jeye's Fluid under each

bed leg. Those kept the creepy-crawlies at bay; the mosquito-netting kept the flying ants away.

"Those of you who know me will know that I have a thing about steam railways. I spent a lot of time passing Central Station and watching out for the mostly British-made locos. It made me feel quite at home in this very alien and bustling city.

"I described it earlier as a "melting pot"; a term which describes the architecture as well as the people. It had the very finest of public buildings, museums, universities, art galleries, and cinemas showing the latest offerings from Hollywood and Elstree.

"In a weak moment I went to an all-night open-air cinema to see Rita Hayworth in "You Were Never Lovelier", my first visit to a cinema for nearly three years. I fell asleep and saw it the second time round!



“After a few days’ sightseeing and studying the antiquities I chanced to pass a photographer’s studio. I felt that I should have a better keepsake of Cooke in the desert than the motley collection of snaps with which you’ve been regaled in these columns. Just look at this:



It’s not all sand and sunshine!

“In any case you couldn’t send home photographs taken in the field, the censor wouldn’t allow it!

“So into the studio I marched and met the most charming French proprietor. After declining the usual studio props I told him “Head and shoulders only, s’il vous plait”. Out came the camera from under the wraps; a most impressive early C20th glass plate job complete with tripod, ground-glass screen, mahogany frame, leather bellows and black velvet cover.

“After an interminable time getting the

focus (and the sitter) to his liking the photographer replaced the focussing screen with a plate carrier and action began.

“The plate was carried into the dark-room and developing started. I was sent to stroll about for an hour and then return to collect the results.



“I’m sure you’ll agree, the professional made a much better job!

“My very best regards to all members and best wishes for the future,”

Vy 73, Bill Cooke GWØION.

In Consideration of Amplitude Modulation

Graeme Wormald G3GGL

As we come to the end of our Group as a membership organisation I would remind our vintage AM Users that there is still plenty of AM activity on 80 metres most mornings round about 3615 or 3625 where the Boat Anchors and the VeeMARS congregate. The B.A., of course, isn't a membership group, merely a collection of like-minded AMers who meet over the air. VeeMARS (Vintage and Military Amateur Radio Society) is a democratically organised group; details from the Membership Secy., Richard Hankins, G7RVI, Cawdor House, Cawdor, Ross-on-Wye, Herefordshire HR9 7DN, tel 01205 769654, memsec@vmars.org.uk

Turning now to our own AM activities.

CODAR AT5

One of the most popular little AM rigs is the "CODAR AT5", dating from the 1960s. and cropping up regularly in SK sales. At least one can wrap it up and post it, which is more than you can do with a Panda Cub or a KW Vanguard.

It will run about a dozen watts input on Eighty and Top Band, with anode modulation, packed into an incredibly diminutive case of about 4" x 4" x 8". The PSU is outboard, of course; the same size, which is still a very compact little outfit.

The tank circuit is the classic Π (pi) arrangement which means it can cope with quite a wide load impedance variation without an extra ATU.

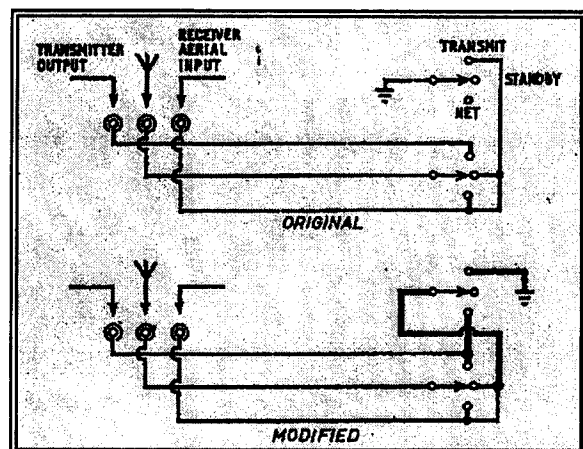
It uses the "Vackar" VFO circuit, extremely stable, and, of course, has a netting facility. Now on my Codar this facility is a bit deaf, to say the least. In fact it's so deaf I can't hear the VFO on my Eddystone 888A and I've put it on the top shelf until I retire from the hot seat at EUG and have a bit of time to catch up with life.

I had been netting by disabling the receiver "mute" and listening through the full carrier. Not a recommended

procedure!

Well; last week I had an e-mail from a member which mentioned, *inter alia*, that his Codar AT5 was very deaf on "NET". Mmmm. Suspicious. I can hardly believe that it's a "design fault"; it would have been one of the first "bugs" to be dealt with.

I mentioned the matter to a member who tells me this **IS** a common design fault! It is necessary to obtain more coupling from the VFO to the Rx and of several possible suggestions the following is recommended as giving the heartiest netting signal. It involves a minor change in the Yaxley switch in the PSU which controls Standby-Net-Send . . .



AM NET ACTIVITIES

Our February "First Sunday on Eighty" net, which is preceded by AM tests, was a bit of a problem for me. I was beset by a deep roaring noise, wideband, with a 50 cycle repetition somewhere in its makeup. Mmmmm.

There were actually five of us on AM; Ted had beached the Yacht ESSELLE (G3EUG/MM) on a sandbank near an RAF bombing range out in the Wash. He'd anchored the night before at high tide and erected his inverted "V" dipole when the tide ebbed. He tells me they don't use the range at the weekend.

We were joined by G8YKY, Peter in Kettering, Northants; Ron G8URU near Carlisle, and Ben, G4BXD in Kidderminster. The row at my end was so overpowering that I couldn't have a sensible QSO with anybody other than Ben, 3 miles away. Needless to say, the problem continued throughout the following SSB net. I had to leave the net in the hands of Ben; he was still the only one I could read.

Now experience has taught me that in this day of advanced domestic technology more nasty noises come from these incredibly sophisticated gas boilers than from computers and low-consumption light sources.

After the net had closed down I got out my trusty Sony SW7600, now well over fifteen years old, but having an SSB and hamband facility.

My first surprise was that I could hear stations coming through on the band and resolve them quite OK; this on a 2 ft whip aerial. Had the QRN vanished? Into the shack with it and hold it near my feeders, the ones that go to my 240 ft horizontal loop which goes round the plot at about 20 ft up. Woof! The roar returned with a vengeance.

So I was collecting noise which was very local to part of this giant halo.

I set off walking the "farm" and the noise started to come up by the northern corner of the aerial; the corner nearest my next-door neighbour.

My neighbours, an elderly couple who can give me ten years, are both in poor health and not fit to discuss such things. I tiptoed across our shared drive and up to their back door. The roar became a howl. I'd certainly located my problem, but what to do about it?

I recall them having a new boiler fitted in fairly recent years, so it wouldn't be worn out. The roar had been going continually for at least three hours, so it was unlikely to be associated with a thermostat. Answer: Do nothing and check the next day.

Wonder of wonders; it wasn't there the next day! That's what you call an intermittent fault with a vengeance. I can't imagine what it was, but I shall recognise it if it ever comes back.

FORTY METRES

Our next AM date on 40 was on 12th February. After the previous month's medium skip success with Ron in Carlisle (the first 40 metre success in ages) I was hoping for a repeat. No such luck. There was a modicum of SSB which, on inspection, turned out to be the New England seaboard of USA. Perfectly readable and all complaining about the overnight snow and continued blizzard. We read all about it in Monday's papers. Ah well. If we'd wanted DX we'd have been laughing!

The 12th March clashed with the Birmingham Wythall ARC Radio Rally. Ted and I were absent at the special "Old Wise Men" meeting summoned by our Patron, Chris Pettitt GØEYO, who also happens to be the organiser of that rally!

So we placed another "Wise Old Man", Ron G8URU in charge of the 40 metre AM net. Needless to say, he called solid for 10 minutes and heard nothing this side of the English Channel (even though he's about 400 miles north of it and better able to catch long skip than most. Nobody has reported hearing him! Ah, well. Thanks all the same, Ron. (He told me later that the snow was too dodgy to go out and collect his Sunday paper!)

EIGHTY

On the third Sunday net (19th February) conditions were nice and clean. Eight of us AMers joined in with visiting Old Timer Frank, G2QX (a confirmed valve and AM addict, licensed 1934, that's 15 years earlier than me!) who put in a very clean signal from sunny Weymouth.

FIRST SUNDAY in MARCH

09.00 on the 5th March brought forth a mixed bag of contacts. Conditions were distinctly upsy-downsy here in Bewdley. There were actually five of us operating AM but my reports were all over the place. QSB with a vengeance.

Even Ben G4BXD three miles away had selective fading as his ground wave was carved up by a varying sky wave. Ted was operating G3EUG/P from dry land at Gedney Drove End (*Where do they get these names from?*) and putting in a nice clean signal when it held.

Anthony GW4RYK put in a roaring signal from his 1944 WS19 (High Power) from Montgomery in central Wales, then proceeded to creep down the S-meter. But we had a good call from David G3TVM in Cambridgeshire.

Ted was getting good steady signals out on the edge of the Wash, but then, he usually does. Something to do with the salt I suppose. As a matter of

interest when we changed over to SSB at 10.00 I found signals still drifting down in strength. Ah well!

THIRD SUNDAY in MARCH

A very modest response on 3605 kc/s. I was joined by two EUGers who produced some first class armchair copy; just like it should be!

First of all up came Ben G4BXD with the best speech quality he's presented for months. Quite frankly his readability has been so rough (gruff) with his T1154 that I could scarcely follow him and he's only 3 miles away!

Then he acquired a New Zealand ZC1 WW2 vintage field radio. This is similar to my JunkBox Baby in the parts that matter; to wit a 6V6 PA in Class "C", anode modulated by another 6V6 in Class "A". I had very high hopes for that, but no; he was just as gruff and I decided that Ben had a voice that just wasn't suited to AM . . .

But on this occasion he came up as clear as a bell, using his 'new' rig, a Heath DX40U. Fine business. He was soon joined by Howarth GW3TMP, with beautiful copy using another Heath, this time a DX100. There's a lesson there!

FIRST SUNDAY in APRIL

This was one of the best AM nets we've held. And Ted wasn't on it! He was attending the rally over at Bottisham near Cambridge.

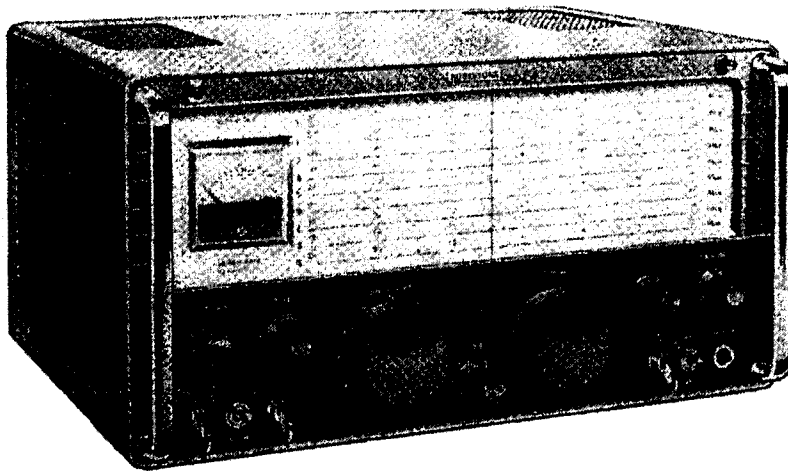
Ben G4BXD came in first, still using his 'HI-FI' DX40-U, closely followed by Ron G8URU from the far reach of Cumbria. New EUGer Ken G3XSJ in Glosters was closely followed by Steve G3TPW and then Geoff MØBGS called in from Leeds, getting ready to rush off to the Harrogate rally. Together with yours truly that made six of us, all peaking 5/9. See the back page!

I'll hear you all on the band, vy 73. ♠



Eddystone

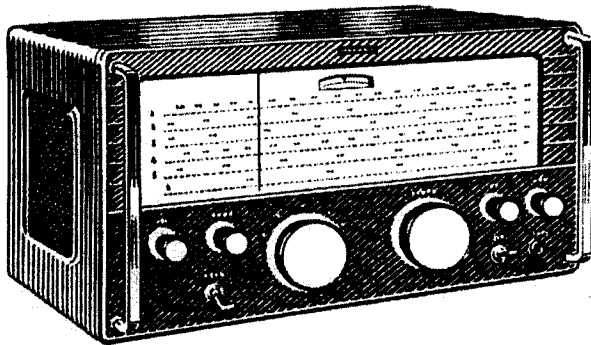
Amateur communications receivers



EA12

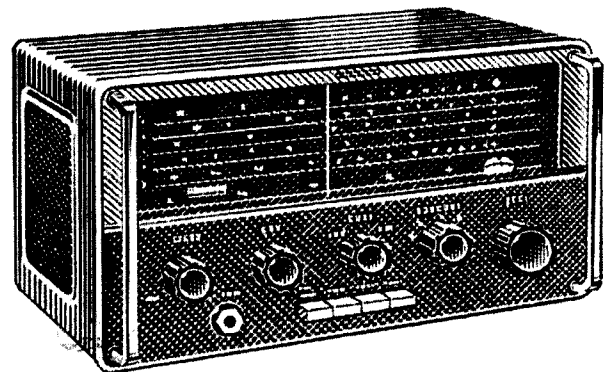
An amateur bands double-conversion superheterodyne receiver, for a.m., c.w., and s.s.b. reception. For all amateur channels between 1.8 MHz and 30 MHz in nine 600 kHz bands with 28 MHz to 30 MHz in four bands.

Primary features. Crystal-controlled 1st oscillator, 2nd oscillator with continuously variable selectivity to 50 Hz, muting switched or by external relay, twin noise limiters; for a.m./c.w., and s.s.b., short-term drift better than 20 Hz and less than 100 Hz in any one hour, 'S' meter calibrated in nine levels of 6 dB and dB levels beyond 'S9', two a.g.c. time constants, deep slot filter, independent r.f., i.f., and audio gain controls with outputs for f.s.k and panoramic adaptor. **£185.**



840C A.C or D.C communications receiver

An 8-valve receiver with gap-free coverage from 500 kHz to 30 MHz metres providing excellent reception of broadcast programmes and all major s.w. channels including marine and international distress frequencies. The famous Eddystone extended band spread and logging scale is an essential feature. Suitable for a wide range of a.c. and d.c. voltages. Fully tropicalized. **£66.**



EC10 communications receiver

The fully transistorized EC10 communications receiver supreme in its class, covers both medium-wave broadcasting and all shortwave service to 30 MHz. Incorporating the famous Eddystone tuning drive, with logging scale and auxiliary vernier, shortwave reception is particularly simple. Battery operated or from optional a.c. mains unit. **£53.**

Comprehensive information from your Eddystone distributor or: Eddystone Radio Limited, Eddystone Works, Alvechurch Road, Birmingham 31. Telephone: Priory 2231. Telex: 33708

A MARCONI COMPANY

LTD/ED55

The closing years of Eddystones "Golden Age" produced sets that are popular with members to this day and shows the great diversity of the products.

RADIO RAMBLINGS

Gotting from my Notebook

By
*Graeme
Wormald
G3GGL*

Bewdley, April 2006.

Here we are into "Summer Time" and your scribe's last edition of "Ramblings". My first report is sadly that of a silent key. Our long-time member Bill Gibson, GMØKMG, passed away at the end of February after a stroke following a fall down his stairs whilst carrying an R1155.

Bill's cheerful but challenging Glaswegian brogue heralded many a long 'phone conversation between us. I finally managed to cope by agreeing with all he said and culminating by asking him to write to me with the salient details as my memory was so bad (not far out there).

Our condolences go to his niece, Lindsay, who had the trauma of finding Bill. She is advertising his gear in our 'For Sale' column. Bill lived alone and had 79 turns on his coil.

GEN ON THE WWW

"Ken, G3XSJ points out a very valuable restoration reference at www.VK2BV.org/radio - "The restoration of valved high frequency communications receivers" by Chris Parry G8JFJ. This is a free on line book that contains much useful information."

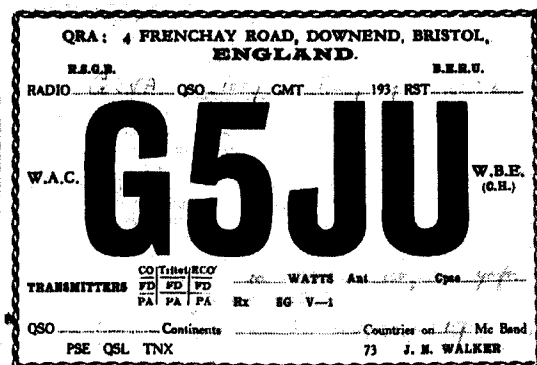
I've taken a peep at the rest of VK2BV's site and found lots of interesting items. If you've not found it before take a look; it will keep you distracted for an hour or two.

WRONG CALLSIGN!

Be sure your sins will find you out . . . well, not quite 'sins' actually, but it doesn't pay to guess an O.T.'s callsign like I did in "Stratton's Enigmatic S-Meter" in our last edition.

I made reference to the well-known "Radio & Television Servicing" which had an input from Jerry Walker G2JS and Pat Hawker, G3VA. At this point I have to admit that I made a calculated guess at Jerry's callsign; I knew it had a "J" in it! You don't have to guess Pat's callsign because you read it every month in RadCom's "Technical Topics".

But you can take nothing for granted and my rather hopeful "guess" was picked out by no less than Pat himself, who presents here a QSL card from Jerry dated 9th Jan 1939! It bears the callsign G5JU; of course, I should have known! (At least it proves that Pat reads his Lighthouse . . .)

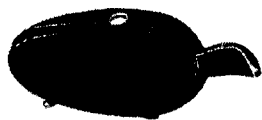


For those who like to read the small print it's addressed to G3VA for a CW contact on Top Band (160 mtrs) using 10 watts input to a CO-tritet (*crystal*)

oscillator) followed by a PA (power-amplifier) and using a 3-valve TRF Rx. The aerial was 150 ft long.

The report to Pat (in Minehead, about 45 miles from Bristol) was RST 556 (5=perfect readability; 5=fairly good signals; 6=musically modulated note). At this distance in time Pat is very puzzled about his crystal-controlled transmitter only getting a T6 note! The only simple cause of which I can think is a poorly smoothed power supply (!).

Thanks, Pat, for sharing that little piece of history. Pat goes on to say that he recently donated his Eddystone 1948 "bug" key to David White, G3ZPA, who runs the Diplomatic Wireless Museum at Bletchley Park. David was anxious to include it in the display of keys, cipher machines, radios etc., in the Park.



SOS SOS SOS HELP!

When Pat came to send it to him he found that he had lost the small brass post that deadens the action of the spring. He enquires if any member has a spare one of these angle posts to pass on to David – or even precise details of the 'post' so that a copy could be fabricated.

Any information or parts please send direct to Pat Hawker, G3VA at 37, Dovercourt Road, Dulwich, London SE22 8SS. Many thanks.

STILL AT IT!

I see from recent reports that veteran DXer John Thompson (W1BIH), on reaching the age of 90, disposed of his aerials, tower and linear and moved into a retirement community in Massachusetts.

John couldn't resist trying for the big

Norwegian Dxpedition operating on Peter Island (3YØX - Antarctica) in February. He succeeded in working this rare station on 20-meter CW from his retirement home with 100 watts to a G5RV strung from his window at 20 feet! It gives him 390 countries in the DXCC all-time listings. There's hope for us all yet!

SURPRISE FIND

I attended the Wythall rally in March to meet up with the "Five Wise Old Men" (see Chris's Column for details) and, of course, to take a stroll round the stands.

I must admit that few rallies these days hold much for me, other than to replace the contents of my odds & ends boxes and sign in at club stands for a yarn. On this occasion I spotted the G-QRP club stand and went to give my support.

They had one of the latest QRP kit sets assembled and, to my delight, coupled up to a Kent paddle key. As most readers will know, QRP is essentially a CW pastime. Now I've had a Kent pump key since they were first introduced 20-odd years ago, but my wrist action isn't what it was.

So I had a go with this paddle and it ran like a dream. Within 30 seconds I had "mastered" it and the guy standing next to me was reading my Morse! The electronic keyer was built into the rig, as it is with most modern transceivers. But my favourite rigs by far are the 20-odd year old Kenwood TS-530 and TS-830 and I shan't be changing them.

I asked about this and they referred me to the RAFARS stand (which was my next port of call anyway). "Yes", said the custodian, "I run a paddle with my TS-530." I signed in and said: "Where d'you get the keyer?" "Made it myself 20 years ago."

I was slightly perplexed to find the latest RSGB Handbook merely referred to an article in RadCom of about 20 years ago. It then dawned on me that rigs have had built-in keyers for ages (but not my beloved Kenwoods!).

BRAND NEW KEY

I discovered that even Kent's, the manufacturers of the best keys in Britain, no longer made keyers to go with their paddles. But a little hunting round revealed that one of the Big Four radio emporia still had them in stock.

So here I am practicing perfect Morse at a speed that I could never read! But never mind; it's high on my priority for my post EUG life. And the big deal is that the keyer operates via a (reed?) relay and is thus happy with my homebrew valve TXs. I still have the Eddystone KT66 (alias 6L6) rig designed for the RAF-CWR and the Royal Navy equivalent in 1938.

It was originally published in the second printing of ESWM No.4, a very short run. It isn't in 99% of the copies you find but a member dug one out and sent it on. I re-published it in the EUG Newsletter No 47 for February 1998.

I reported back in the following issue and listed its performance with valves from a 6C5 to an EL34 (quite a wide spread of efficiency.). It is an unusual circuit inasmuch as it can be switched from a Pierce to a tuned anode oscillator with a single-pole toggle.

This means that it may be used on even harmonics as well as odd (which latter facility in 1938 was quite irrelevant as 21 mc/s had not been thought of!). Actually, it operated with a very slight chirp on key down. I was rather miffed about this at the time but I've since realised that such a chirp (minimal) can be a help to the operator

at the receiving end, who can then sort you out from the QRM. Maybe that was the idea. Mmmm.

It is believed that Webb's Radio, the retail outlet of Stratton's, built these little sets and sold them over the counter. Although they would cover the ham bands from Top Band to Twenty, they were originally intended for RAF & RN reservist radio operators who didn't need a ham license and probably had very little technical experience. You'll find it in our EUG DVD No 1. (£20 for the first 60 Issues – that's ten years of Newsletters!).

THE END OF THE LINE

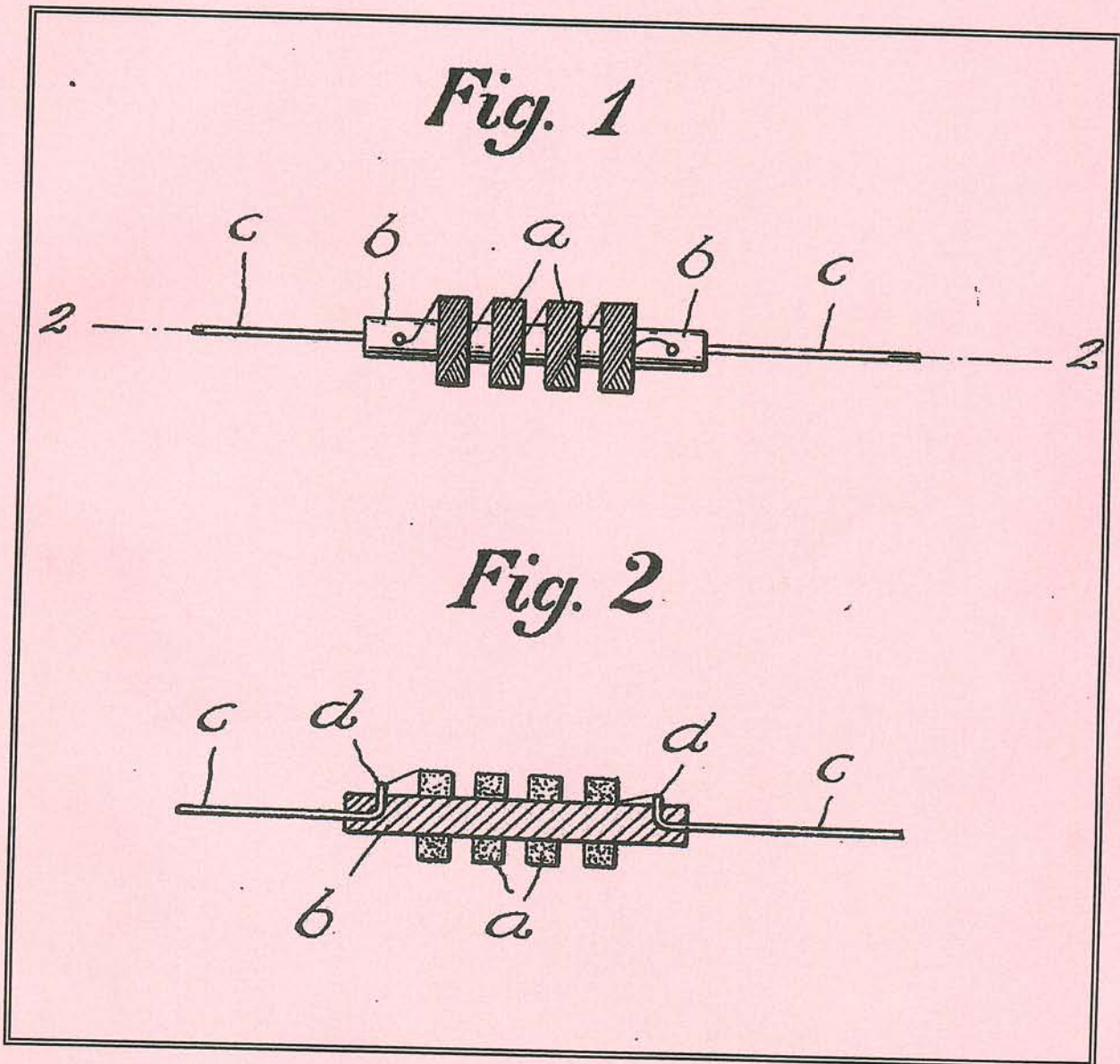
As I write this final column of "Ramblings" I'm very mindful that this is our last ever issue of what has been described by one member as "the best vintage radio magazine in North America".

I have been incredibly cheered by the kind things members have said of me and the fact is that I'm the only winner in this big change. You wouldn't believe how much I'm looking forward to relinquishing my post as the Eddystone Factotum. I have so many potential projects in mind!

Don't forget, though, that I'm still here on the end of G3GGL@btinternet.com and 01299 403 372, and along with Ted (who repeats his number in "MailBox") we are both here to answer questions that may arise. Ted will still supply handbooks and our new site www.eddystoneusergroup.org.uk is now under construction under the calm hands of our Patron, Chris GØEYO and his volunteer Chris Harmer MØHMR. Take a look for yourself. Don't ask me any questions about it because I don't understand a word about websites; other more knowledgeable minds will look after that!

Vy 73 es BCNU G3GGL

Eddystone's Patent High Frequency Choke



What's so special about these?, you may ask. They look like any other RF Choke, you may say. Actually they only look like any other Eddystone RF Choke and the reason is this: - Rival manufacturers had Lead alloy ends (at points 'b' and 'd' on these drawings) rather like some 1920s and -30s carbon resistors. This was so they would fit in a standard resistor clip of the period.

But the boffins at Eddystone (*sounds like one of technical director Harold Cox's bright ideas*) realised that a solid block of metal at either end would have exactly the same effect as a shorted turn on the choke and thus reduce that magic property, the "Q" or quality of the inductor.

And sure enough, the British Patent Office agreed with them. This means that if you use an Eddystone RFC you will get optimum performance from your circuit due to the very high "Z" or radio frequency impedance of the choke.



E.U.G. First Sunday Nets

*As from the next First Sunday (May)
Ted Moore will be operating G3EUG either
Portable or Maritime Mobile on 3695 +/- QRM.*

*From 09.00 (local) he will call on AM;
from 10.00 he will call on SSB.*

*Put these dates on your calendar:-
7th May, 4th June, 2nd July, 6th August.*

*For last minute location details call Ted on
01945 467 356*

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