

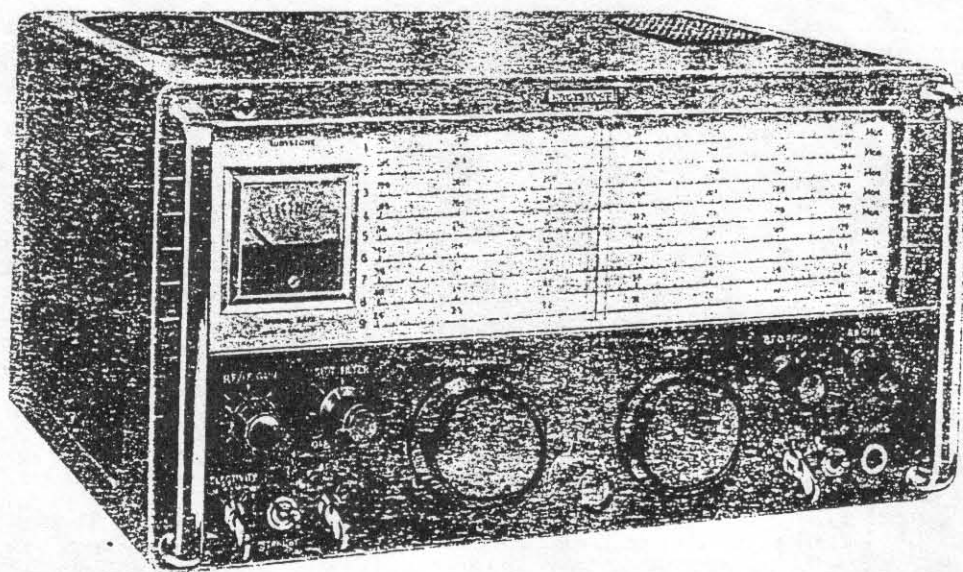
Eddystone User Group Newsletter



Issue No: 44

August 1997

Featured Model: Model EA12 Amateur Band Receiver



*A non profit newsletter for Eddystone Users

*Information quoted from Eddystone Literature by kind permission of
Chris Pettitt, G0EYO, Managing Director of Eddystone Radio Limited

*Please address all mail to:

Eddystone User Group
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15 Sabrina Drive,
Bewdley,
Worcs, DY12 2RJ
Tel:01299 403372

This is issue 44 of the newsletter and is the second of six issues for the year 1997/98. If you join after this issue you will get back issues for the year 1997/98.

Subscriptions

Subscriptions are £10 per year UK and £11 per year overseas. Metals EUG badges are available at £2 each. Any remittances for subscriptions, badges or manuals must be by cheque or money order and in sterling. We cannot cope with foreign currency as the bank charges for conversion are more than the value of the subscription. Make your cheques payable to **Eddystone User Group**. You will see from page 14 that an increase is being considered for next year.

Manuals and Circuits

Copies of manuals and circuits are available for most Eddystone receivers through the EUG with discounts for EUG members. Manuals cost between £3 and £10 depending on size, and whether original or a copy. Most manuals are now copies. Back copies of all newsletters are available at £2 each post paid. Contact Graeme Wormald G3GGL whose address is on the front cover.

This issue sees the final episode of Bob King's specially commissioned autobiographical article on Eddystone and its contribution in WW2. We owe Bob a special debt of gratitude for his efforts in writing these fascinating articles for us. Many thanks Bob.

We are now well into summer and things are still busy at the factory. I was able to work a few members on the EUG 80m net on the first Thursday in July and this was a real treat as I was able to fire up G6SL for the first time in a few years.

Chris Pettitt -GOEYO
Managing Director.
(home e mail GOEYO@compuserve.com)

LATE ADDITIONS of FOR SALE ITEMS

FOR SALE: Eddystone 870 Receiver, working OK £60. Call Anthony, 01686 630255 (Montgomery)

FOR SALE: GEC BRT 402-KN. Ser. No. 1254. Rack1 mounting; in cabinet; works OK; good physical condition; with original service manual, brochure. Seeks caring home + TLC. £50 ono. Buyer collects Southampton area. Call Roger on 01703 676681 for information.

- Issue 44.-

Time for another good read, all about Eddystones. The featured model this time around being the All Amateur Band Model, the EA12. Not quite the last valve type off the production lines but almost so. The retail price was far and away out of my range in those days, £185 was more than I had paid for my 1938, 2 litre MG SA Coupe, £5 more to be precise ! When this set came out I was happy to be using a second hand 680 with a new 840A as spare Rx.

Tor writes from Norway and as usual his letter is so full of info, this time I find it easier to print it verbatim since it is practically all of interest to other EUGers, thanks Tor.

The same goes for the letter received from ex Eddystone employee G4 NXN, it contains some new snippets of info that we did not know previously, as such the whole letter deserves a place in EUG archives. It is good to know that such folk are willing to put pen to paper and provide us with their memories which in many cases put us right over some misconceptions. I was going to include some further letters from my correspondence with the late Geoff Woodburn, however they are now held over for a future issue.

Another 'new' one for the files, how we have never heard of this one previously I know not. See the EB35 II/S item.

The inclusion of EUG info on the InterNet by some EUGers has begun to bear fruit with new members around the world, and with a lot of mail being sent to various other addresses than those currently in use. PLEASE do not send EUG mail to the FACTORY, ever ! You cause unnecessary work for the volunteers there, you inflate the mailing costs, your letter is delayed getting to me, or Graeme. And finally your letter just might disappear into a convenient Black-Hole during its re-addressed journey. Black Holes do exist and Royal Mail appear to have plenty of tame ones. I will cite but two examples of wrongly addressed mail recently. A letter from Devon sent to Moore Cottage in mid-April, this was forwarded to Eddystone at the old address, thence to the new address, thence to ME. I got it last week. The second left Newcastle on Tyne in May and via both old and new factory addresses it has just come to me.

I have an aerial treatise written by Eddystone engineers which details suitable types of aeriels for use with the 770R and 770U models. It is of course fully usable with the 990R and 990S models or any of the later 1990 sets.

Both Graeme and I get many communications from EUGers and others who have given up on their VHF receivers because they are categorised as 'deaf' - yet when we ask what kind of aerial is being used we usually find out that it is of the 'bit of wet string' variety, I actually have here a letter from a guy trying to operate a 770R from a 50 foot long random wire folded around the loft, no ATU, just straight into the coax socket at the back of the set ! HELP ! Anyway I shall be editing slightly the Aerial treatise and publishing it in a future issue, at 9 sides of A4 it deserves your attention, so look out for it. Ted.

- - - - -
- Original Prices.-

A letter from Stewart commenting on the original price for the new EA12. He asks what the £185 new price would be today given the amount of inflation, and reduction in the value of todays pound ? Sorry pal, I guess that is a question for Graeme so maybe he can come up with an answer by next issue. Ted.

- - - - -

THE EDDYSTONE ALL-WORLD TWO KIT

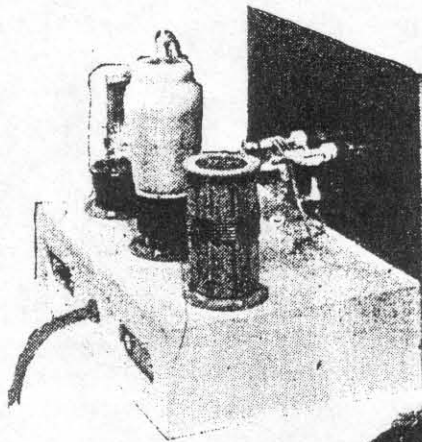
THE new short-wave, two-valve receiver which has just been issued by Messrs. Stratton and Co. for home assembly is shown in the two illustrations on this page in completed form. This is a novel kit in several directions, the most important of which is the form of chassis which is employed. This is a die casting 8½ ins. by 6 ins. and 2½ ins. deep, and this includes on the under side a short pillar which is used as an anchoring point for one of the condensers employed in the circuit. Holes for the valveholders and slots for the terminal connecting strips are provided in the casting, and these components are attached to the chassis by means of nuts and bolts. The complete kit includes the necessary connecting wire and screws in addition to the

(it can only be adjusted from beneath the chassis). The usual grid-leak and condenser connections are adopted, but the screening grid of the detector valve is connected to the arm of a potentiometer joined across the H.T. circuit so that the best value may be found on test. The reaction circuit is completed through a pre-set condenser, the adjusting screw of which is immediately beneath a hole in the upper surface of the chassis, and thus it may be adjusted to such a value that the control of the screening-grid potential will provide the reaction control and this gives a very smooth arrangement which is even better than the normal capacity controlled reaction circuit of a triode valve. Added to this, there is an increased amplification which is very useful in a small receiver of this type.

***** DON'T
JUST READ THIS
ITEM !!!

***** BUILD IT
yourself !!!

***** EUG will
supply you with a
circuit diagram.



In the above illustration the receiver is seen ready for use, and on the right the completely wired kit is seen from the underside to show the neat arrangement of the component parts.

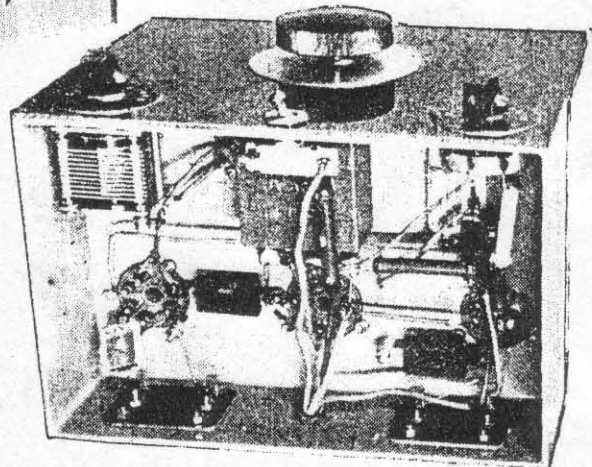
components, which are very few indeed for this particular receiver. The circuit employed is a simple detector and L.F. arrangement, the detector valve being of the H.F. pentode type, and the coupling between detector and L.F. valve being of the resistance-capacity type. A six-pin coil is employed for the aerial circuit, and this is tuned by a microdenser fitted with a slow-motion gear. To operate this condenser one of the well-known Eddystone two-inch knobs is employed with a travelling cursor which passes over an engraved aluminium dial, and a band-spread condenser is mounted beneath the chassis and provided with a ten-section divider plate. It will thus be seen that this combination takes the form of the band-spread tuning unit which was reviewed in our issue dated April 18th last, and which provides, in effect, a reduction gear of 90 to 1.

Circuit Details

The aerial is connected to the primary winding of the coil through a small "pre-set" condenser which may be adjusted when setting up the circuit to the best value

Test Results

The receiver was tested on our normal aerial and gave very good results. The principal feature which was noticed was the effectiveness of the reaction control, which functioned noiselessly and smoothly, giving a gradual build-up from the weakest signal to smooth oscillation when the pre-set condenser was correctly adjusted. The receiver was very free from hand-capacity effects. The effectiveness of the band-spread tuning combination enabled stations to be located as easily as on a standard broadcast receiver, and the All-World Two will provide the listener with hours of



interesting entertainment at all hours of the day. The price of the kit is £3 7s. 6d., and two valves for the receiver will cost 20s. 6d.

SPECIFICATION

KIT : All-World Two Assembly.

DETAILS : Detector and L.F. circuit with single 6-pin plug-in coil which may, of course, be changed for any desired wavelength. All metal die-cast chassis, with paxolin panel and modern low-loss components. Band-spread tuning adopted in the aerial circuit.

CIRCUIT : Pen. grid-leak detector with resistance-capacity coupled L.F. stage. Reaction controlled by varying the screening grid voltage, with pre-set reaction condenser in usual circuit. Interchangeable plug-in coils.

PRICE : £3 7s. 6d. (plus 20s. 6d. for valves).
MAKERS : Stratton and Co., Ltd., Eddystone Works, Bromsgrove St., Birmingham, 5.

13, Stubby Lane,
Draycott in the Clay,
Ashbourne,
Derbys. DE6 5HA

6th July 1997.

Dear Sir,

I read with interest the article by Ron Brown regarding comparisons of equipment, design differences etc. I have to agree with Ron that to try to draw such comparisons with meaningful results is very difficult, particularly with equipment produced in different time periods. Also, apart from the obvious movement, and improvement in technology, it is unlikely, with the passage of time, that we would be fully aware of the design constraints, and limitations (not the least of which is the proposed selling price of the equipment) imposed on the design authority.

With due regard to the obvious attractions of the HRO, and other receivers mentioned; I have to say that I yearned to own an HRO in my youth, and am very respectful of its sound mechanical design. It is interesting to note that James Millen (of National Corporation fame) graduated as a mechanical engineer in 1926 from the Stevens Institute, and certainly the sound mechanical principles that were the hallmark of many National designs, were considered to be equally important to successful Eddystone designs.

Sadly, I have no real "in depth" knowledge of other equipment discussed by Ron, and would, therefore feel unqualified (and unwilling as explained above) to consider further comment, except to say that I am aware of the many devotees to Racal equipment, and the esteem in which they are held.

However, I feel, I can comment on the statement made of "lack of design sophistication", and "no originality" of Eddystone designs, (and it should be noted that Ron did not qualify this particular statement within any specified time period of company manufacture) although it must be said that it is not possible to comprehensively "cite" all instances due to lack of space, I have taken a small representative sample of cases that I have some personal interest, spanning the years prior to, and during my employ at Eddystone Radio.

I joined Eddystone Radio in 1964, and served the company for approximately 10 yrs., I am reasonably conversant with the Company's history, its equipment, its successes, and its failings.

During its early years Eddystone manufactured, and sold components (in quite high volumes) to world wide markets, many of these items were covered by Registered Designs, they were incorporated in many successful designs of other manufacture, and of course had obvious appeal to the home constructor.

Slow motion drives, for example were used by Collins (as referenced by Ron), and they made particular use of the 898 drive with the specified modification of having the "Made in England" marking removed from the prominent position on the drive front, and instead mounted on the drive rear plate.

Variable capacitors, coils, chokes (yes even the humble choke came under special consideration) with innovative principles that were covered by design protection.

Certainly one item that I personally remember well was the linearising arm, that converted an "E" type variable capacitor to a "straight line law", with virtually undetectable backlash even when used in conjunction with high ratio drives. An excellent innovative piece of design that certainly merits recognition if nothing else because the end result was a simple solution to overcome the problem.

In 1935 the type 339 differential capacitor was designed for the National Physical Laboratory later used by the RAF (fitted in aircraft) for IFF (Friend/foe identification) use during war time.

More recently, the use of a ferrite component whose permeability was designed to change with an influencing magnetic field was used within Panoramic display units for swept oscillator control. I believe the first time this principle had been used in this manner.

Moving away from components, I well remember (as a very junior employee of the company) being invited to see photographs with Harold Cox (then Managing Director) of Eddystone VHF two way equipment for Police, and Military vehicles. In the late 30's they outstripped the competition to gain substantial orders to equip the Police, in the event of hostilities, and potential failure of the "land-line" system. This equipment was innovative in its design and the work I understand was undertaken by George Brown (G5BJ), later to take up a prominent position within the Police communications authority.

The one receiver that should truly deserve more recognition is the 880 (or Marconi badged H2301), this was a true high stability receiver of the sixties (covering 0.5-30 Mc/s), with a tuneable resolution of 100c/s; why do I consider this design of special note? Well, apart from its excellent low noise performance, all front end tuning was accomplished by inductive tuning of coils by a rise and fall platform. The coils, themselves being wound "variable pitch" to maintain front-end tracking. Also, its radiation characteristics were of such low order that it was almost undetectable in operation. Significantly the majority of these receivers were supplied to GCHQ. Certainly this receiver fits the definition of a "sophisticated design"

There are other probably lesser obvious features of design that are possibly not widely known for example some variants of the 730/4 were designed so that they could be easily dismantled, transported to embassies in inconspicuous suitcases, for later assembly and operation under clandestine conditions. Significantly this receiver was awarded large orders from the British Army (something in excess of 1000 units) against strong opposition which included the BTR400 (see Ron's reference to this receiver)

In the late sixties work was undertaken on the design of the 958 receiver, (Don Ford, and a young Ken Selby under the auspices of Bill Cooke, then chief engineer), this design utilised an optical display system for frequency readout, the principle (although now very much enhanced) was taken from a Ferranti Nova receiver of many years previous. This was a Hi-Stability receiver, the "drift cancelling", or "lock" system being of unusual design, and whilst early versions were still reliant on the stability of one low frequency free running oscillator (550-650Kc/s) it was not unusual to handle production samples that exhibited long term frequency stability of 0.5 to 1.0 c/s per degree Celsius change. This receiver was unique in many respects, not the least being that it was the first receiver to meet the British C.E.P.T specification, despite strong competition from IMRC (STC in those days), the American company McKay, Plessey, and Redifon; and during its production life was adopted, and sold, by a number of companies, under their "badge", including Hagenuk, Debeg, and Siemens. It had exceptional narrowband low frequency performance, and was used extensively for submarine communication, and monitoring around 17Kc/s, particularly by the Canadian Govt. (The dept. of National Defence), who purchased large quantities.

Design originality in this instance was supported by patent claims by the parent company (Marconi). But what of the design, and its success? Well there was some 12 mark variants (to meet customer demands, and utilise rapidly changing technology), the customer base was world wide and I am sure this unique design was a commercial platform that supported the company's activities through the coming years.

Sadly, Don Ford who played no insignificant part in its development "passed away" without seeing the success of the design.

And finally the 1837 Hi-Stability receiver produced in mid seventies to replace the 958 series, was also unique in its design, and covered by appropriate patent protection, with quantities being sold to Bletchley Park.

Certainly it is possible to discuss this subject, at length, quoting many many instances, "ad nauseum"; but my general feeling is that design sophistication is subjective, and originality claims are usually fiercely contested, but there can be no doubt in my mind that the company did have (and probably still does have) original design concepts, produced some very creditable equipment, and thoroughly deserved its position in the market place, where it successfully competed internationally to market to a very discerning customer base.

Just to put this success in perspective at my time of service within the company, there were approximately 200 employees (probably the largest number ever employed), it was largely "self-sufficient", in that it had its own paint spray dept., toolroom, pressshop (which included other production operations e.g. die-cast box drilling, and tapping), drive shop, three main production lines with test teams, finished goods, and component stores. A pilot production area, service area, coil production, drawing office, design and development, appropriate inspection departments at most sub-assembly stages; sales and office admin staff, and

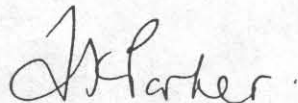
maintenance dept. (including its own "chippy"), canteen and social club, and a large "bath-tub", (my apologies for any omissions).

This letter would not be complete if I did not say that Eddystone (along with many of its competitors) both designed, and manufactured equipment that did not "enjoy" "reasonable" commercial success (i.e. some designs were clearly better than others).

I well remember one piece of equipment (that shall remain nameless, and significantly does not receive too much mention within the EUG magazine) that undoubtedly fell within the category above, and can vividly recall my efforts (with a prominent member of Eddystone engineering staff) to satisfy a much valued, and long-standing customer in Televerket, that all was well with both production standards, and performance; in reality neither could be deemed true.

In short NO company can claim to be perfect, but there are times when I read EUG that some owners seem so besotted with a particular piece of Eddystone equipment, often compounding the issue by making extravagant claims, that I can fully understand the frustration maybe felt by the anonymous author that preceded Ron Brown's letter. Equally it must be said there are times when obvious technical errors are noted, and authoritative statements made by people who are not necessarily fully acquainted with the facts.

Yours faithfully



T.K.Parker (G4NXN), Ex Chief of Test, Eddystone Radio Co.

- Suffix 'M' for the Original 770.-

Alan writes in to ask just what the 'M' suffix on the first ever 770M stood for, for that matter he asks also what do the 'R' and 'U' in the later versions stand for ?

This has been turning up in mail for some years now and nobody seems to know, although there have been plenty of suggestions, i.e. 'M' for Marine, or for Marconi/MIMCO. Sorry but this just does not sound correct for me.

It is at times like this that I miss the expertise of Geoff Woodburn, if he did not know he would always come back later with the gen.

Maybe some other ex Bath Tubber can help Alan out ???

I know that Alan's interest is very much paper oriented, he has an 830/9 for listening but he collects Eddystone paperwork of any kind and has Filing cabinets full of it.

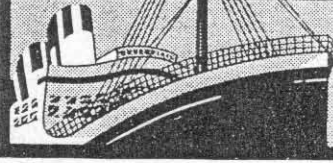
How about it G4 NXN ? Any faint stirrings in your memory re this suffix query ?

- - - -

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The British Graham Land Expedition will be completely cut off from civilisation for 2½ years. They chose an Eddystone Kilodyne 4 to keep in touch with the World. The cable reproduced shows that their choice is being completely justified. Another letter just received from a Whaling Expedition in the Antarctic, also using a Kilodyne, sends us a complete log showing loud speaker reception of the following stations—

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POST OFFICE TELEGRAPHS. Posted from _____

Total Received	From	To	Office of Origin	No.	Words	Date	Time
	EDW	QWV	AS PENOLA	1	20	27	1934

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1

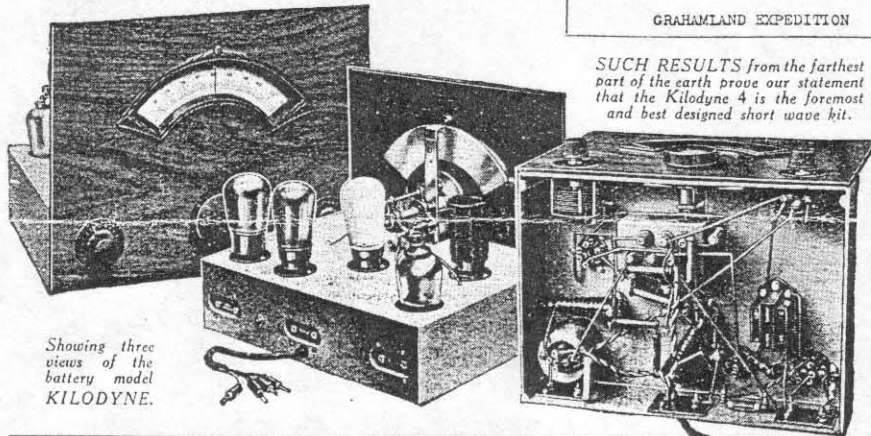
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- Eddystone Television Receivers.-

A letter from an ex MN Chief Steward who was with P & O tells me that he can recall an Eddystone Projection Tv being installed on several of the ships being operated on this Line.

His only recollections of them are that they were very difficult to set up by the installing engineer, that ambient light was always a problem, and that the Philips/Mullard projection unit was very temperamental. Rough seas as experienced Rounding the Cape would always knock the unit out of focus.

Now to one who serviced domestic projection Tvs made by Decca in the mid -50s all of this sounds very familiar. The Decca sets used the self-same projection unit with a 2½" tube and focussing this unit was never easy. The viewing in even a darkened room was never on a par with the 'normal' direct view sets. The life expectancy of these models seemed quite short in domestic use, maybe this was true of those used in a marine environment also. Reason enough for there to be no survivors !

- - - - -
- Those 4 and 6 pin Coils.-

From Harry I hear that his need for a set of four pin coils became so desperate that he decided to 'roll his own', quite literally so. He had just the one coil and began by carefully removing the complete winding in such a way that it could be replaced easily when needed. This gave him a former with which to work.

Stage two was to gut several old and o/c heater valves which had been lurking in the junk box for many years. The remaining base with pins was cut down to leave just a ¼" rim around the circumference, in several cases he found it necessary to completely remove the side walls as the diameter of this base was too great for the use to which it was to be put.

A Plaster of Paris mould was taken from the dewired former, this was done in such a way that the mould came apart in two longitudinal halves. The former was well covered in Vaseline before moulding and a tallish Yoghourt pot was employed to hold the whole thing whilst the plaster set.

The inside of the hollow former was easily reproduced by making up a wooden mandrel of the same diameter.

Next stage was the mixing up of a supply of epoxy resin, not the grey car body filler as this is 'loaded' with substances which appear to affect inductance !

The epoxy used came out with a greenish tinge to it, not entirely unpleasing if you are not worried about original colour.

The mould needs to be greased before the resin is poured in, the centre mandrel needs to be held in position by a pencil laid across the top of the pot.

In each case the resin was left to set overnight and removal the next day was comparatively easy - provided there is plenty of vaseline on the inside of the plaster mould and the outside of the mandrel.

Next step is to match up the cut down base to the moulded former, much patience is needed to get it exactly right but by measuring up the dimensions of the original, putting together the recuperated base and the new former it should be possible to see how much of the bottom of this new former needs to be cut off so that when the base is epoxied into place the new and old match up dimension-wise. Harry says that putting it into words makes the

job sound very difficult but that in practice he made 6 perfect coil formers with 4 pin bases in a week of evenings only work. To finish off the job the pins were covered using masking tape and the formers were sprayed by aerosol to a dark brown which replicated the original quite well.

The coils ! This was a different matter as Harry is not too good at inductance formulae and it was a matter of trial and error over several weeks. The only part that Harry did not make himself was the wooden base to hold his coils in line, this was done by a mate who takes woodwork classes, in exchange for a pint.

- - - -
 - Valve Equivalents.-

This surfaces regularly when new members encounter the 6K8 or the ECH35. Here we go again,- NO THEY ARE NOT EQUIVALENTS, not by any means. Get a hold of the correct valve data manuals and check the two of them out. Different inter-electrode capacities, different impedances, different mA/V ratings !

That one will often work in the place of the other is purely a matter of serendipity and goes to prove how tolerant those old 'bottles' were/are.

It has to be emphasised that if you want your Eddystone to co-operate with you by working well, then you must use the valve specified. this of course goes for other makes of receiver also. Both types are available from most valve stockists with little difference in price, don't be put off by the comment that the 6K8 and the ECH35 are equivalents ask for the correct one.

- - - -
 - EC10 and EB35 Transistors.-

Versions of these models used a variety of different transistors by different manufacturers and so far as can be ascertained from the circuit diagrams the different types needed no change in passive circuit components. Tolerances in manufacturing of these first generation trannies were pretty wide anyway and the reason for using different types was a combination of supply problems and the need to choose those which gave the required stage gain. So far there is little problem with obtaining replacements for these early trannies, a few phone calls will usually get you what you need. My suggestion though is that you try and get spares for your treasured set as supplies will eventually dwindle. From an EUGer in Scotland I hear that he needed three different stockists before he came up with a full spare set for his EC10, postage in the event was almost as expensive as the cost of the trannies.

The dreaded 'whisker' syndrome seems to hit them all sooner or later so, go on, buy yourself some spares whilst you can.

A good start can be made with Birketts of Lincoln as they seem very helpful when EUG is mentioned.

- - - -
 - Different Values, the 504.-

The 504 is one of the rare breeds that do not often come on the market, worse luck. That two so very different in condition and value should appear

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- Featured Model, The EA12.-

This all Amateur Band receiver was designed to give full coverage of all the of the 'pre-WARC' HF bands from Top Band to Ten Metres, 1.8 to 30 Mc/s.

In a total of nine ranges the EA12 gave the following,

Range 1, -	29.4 to 30.0 Mc/s
" 2, -	28.9 to 29.5 "
" 3, -	28.4 to 29.0 "
" 4, -	27.9 to 28.5 "
" 5, -	20.9 to 21.5 "
" 6, -	13.9 to 14.5 "
" 7, -	6.9 to 7.5 "
" 8, -	3.4 to 4.0 "
" 9, -	1.8 to 2.4 "

The circuit is that of a double superhet with a 1st IF tunable over the range of 1.1 to 1.7 Mc/s. The local oscillator tracks on the low side covering a range of from 1.0 to 1.6 Mc/s.

The 2nd IF is fixed at 100 Kc/s with a crystal filter, slot filter, and with continuously variable selectivity. The BFO provides for a swing of +/- 3.5 Kc/s in the CW mode and +/- 100 c/s in the USB/LSB mode.

The 1st local oscillator is provided by a series of switched crystal oscillators to match the band in use.

The low second IF of 100 Kc/s is a suitable value to allow of sufficient selectivity and an adequate sensitivity.

Separate AM and CW/SSB detectors are used and both have the requisite filtering to provide the most effective bandwidth for the mode in use.

Starting with a 75 ohm input there are input band-pass filters followed by a cascode Rf amplifier with 3 stages of RF tuning. The signal goes then to the 1st mixer where LO signal is mixed to provide the tunable 1st IF. After the 100 Kc/s amplifier stages and the chosen detector the audio goes, optionally, via an AF filter thence to the AF stages.

AF outputs for phones and speaker are available and in addition an IF feed is provided for operation of a panadaptor.

As with other late model valve receivers this model utilises silicon diodes in the power supply, in this case in a full wave rectifier circuit to provide an unstabilised HT of some 250 volts which by use of a regulator valve also gives a stabilised HT of 150 volts for the oscillators.

There are three separate LT windings but only one is in use, one is surplus for the unused HT rectifier valve and the other is provided for use with ancillary equipment.

The crystal calibrator uses a high stability 100 Kc/s crystal and provides pips right through to 30 Mc/s.

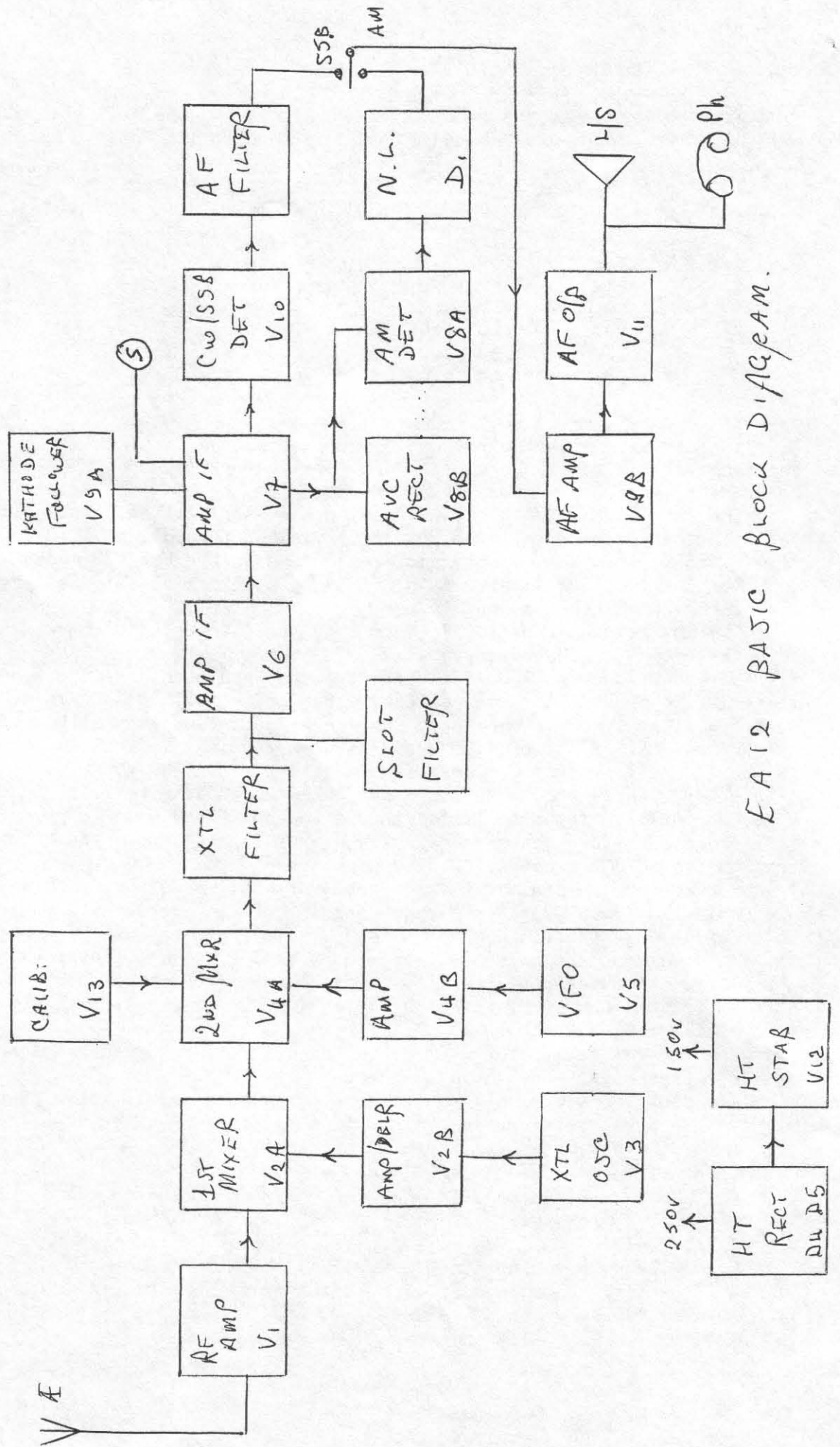
The double conversion circuitry employs a total of 13 valves, however several are dual types and so the complete receiver is a 19 valve receiver.

A basic Block Schematic is shown overleaf, -

Valve types used are as follows;-

V1 - ECC189/6ES8 - RF Amp	V7 - EF93/6BA6 - 2nd IF Amp
V2 - ECH81/6AJ8 - Mxr/Osc amp	V8 - EB91/6AL5 - Det/AVC
V3 - EC90/6C4 - 1st Osc	V9 - ECC83/12AX7 - Kath; foll;
V4 - ECH81/6AJ8 - 2nd Mx/Os amp	V10 - EK90/6BE6 - CW/SSB det;
V5 - EC90/6C4 - 2nd Osc;	V11 - EL90/6AQ5 - AF output
V6 - EF93/6BA6 - 1st IF amp	V12 - 150C2/OA2 - HT stab;
V13 - EF94/6AU6 - Calibrator	

- - - -



E A 12 BASIC BLOCK DIAGRAM.

- Earths, Earthing, and That earthlink ! -

I hope that nobody reading this would expect a light bulb to illuminate with just the live wire connected, and no neutral/return path. And yet that is precisely what many listeners do seem to expect from the input system of their receiver.

Replace 'live' with 'aerial' and 'neutral' with 'earth' and you can see the analogy !

Tell me you have the the mains earth connected and I will say okay, it isn't much good at RF, except as a conduit for all of the mains noise from your neighbours appliances, but it IS a return path.

It is a return path for the RF input of your receiver if, being an Eddystone you have that **EARTH LINK** in place at the rear of the set. If you don't then the only coupling you have between your aerial system and the receiver input is capacitive between the RF coil windings. The use of the Earth Link will give you a return path and the correct inductive coupling.

If you have an Eddystone then surely you must have the requisite manual and schematic diagram, have a look at it and see what I am getting at, see where I get my comparison with the bulb and no neutral.

Earths again, I have said it before but I need to say it again really if your mail is anything to go by. The present day system of mains earthing is pretty useless for radio reception purposes and if you DO disconnect it you will find assuredly that your received noise level drops dramatically. However you MUST have your receiver earthed properly for safety purposes so what to do ?

With the widespread use of plastic piping these days the old and much used method of attaching your set earth to a rising main water pipe is not of much use. Copper, or cheaper copperplated steel rods for earthing purposes are available. try your local ironmonger or hardware store. If this doesn't work then try one of the advertisers in the hobby mags; but you may have something suitable in the garage.

The rod must be buried several feet into the earth in the garden, in such a lieu that the lead from it to the receiver may be as short as possible. You may then connect it to the set with a good heavy gauge length of wire.

Hey Presto ! a good RF earth to complete your Aerial/Earth System.

The improvement should be very noticeable in that signals will be up in strength and the ambient noise level will be reduced. Amusez-vous bien !

- - - - -

- Problems with an EA12.-

A letter from EUGer G4 AFE comments upon the fact that he has problems with the Product Detector circuit of his EA12. Distortion on SSB is his description of the fault, I assume it is inability to tune in the SSB signal as the carrier insertion oscillator(s) is/are off frequency.

The EA12 was one of the last of the valve sets to come out of the BathTub yet even IT is beginning to suffer from component ageing, both resistors and condensers are starting to 'go down'. In the case of resistors this 'going down' really means 'going up' in value, this seems to happen more with those carrying current and especially those of a higher value such as 50K and up. With condensers 'going down' means just that, they either go down in capacity or down in insulation resistance.

What G4 AFE has here could be attributed to either a resistance or a condenser problem but I would go for a duff condenser.

In this circuit there are a number of possible culprits and there is

nothing for it but to check them all out, by substitution or by out of circuit checks for both capacity and insulation resistance. Failing the use of a Capacity test-meter then you are reduced to buying replacements for the suspect components and swopping them one at a time, laborious I know but worth while if you want to get the set back on the air.

- - - - -
 - EUG Subscriptions.-

When we began EUG both Kathy and I thought that £6.50 was a fair annual sub; for the then rather miniscule Newsletter, some 8 pages according to Graeme. The subs have gone up since then, first to £8 and latterly to £10 but then both postage and papercosts have gone up several times. The actual Newsletter SIZE has gone up to, recently, some 35 - 40 or more pages and this has only been possible due to the help we get from Chris and Eddystone. This years subs; have been kept the same as last but it looks as though we shall have to push them up for NEXT year !

Graeme and I discussed this matter on a recent visit and the tentative figures proposed are £12 for the UK and £15 for O/seas members.

Members will be advised later on in the subs; year but i thought it only fair to let you all know that an increase is in the pipeline.

Ted.

- - - - -
 - Better Reception Booklets.-

This publication by Strattons/Eddystone has gone through several different editions over the decades and whilst no longer in print, we can, thanks to Chris, print photocopies. It is a very helpful booklet running to some 20 odd pages and gives much info on the various aerial types and systems and Earth Systems too. It also goes into basic interference reduction techniques.

I have never given this matter a thought until Graeme brought it up in our conversation. IS THIS BOOKLET TOO TECHNICAL FOR SOME OF OUR MEMBERS It could be I guess, years ago many listeners had some basic technical knowledge as they either built their own installations, receiver and aerial and earth systems. These days folk expect to buy a receiver, plug it in and switch on with no thought to external aerials or earths.

If you have an Eddystone, and Use it, then I would have expected that you would have read up a bit on the necessary ancillaries phones, aerial and earth. There are books in the library, if not on the lending shelves then they will be in the reference section. If this fails then either splash out on your own copy or else write to me and I shall try to help with your query.

- - - - -
 - Across The Channel.-

EUGer F6 EFM writing from Bras tells us that his 880/3 with a lighthouse logo is now in very good working condition, since he has completed the restoration work. From his photo I would agree that it looks good, and must

accept that the work he has done must have brought it up to peak performance.

His first concerns were to replace any resistors and condensers which wherever they appeared to be out of spec; - SOP whenever doing a restoration job. Where he introduces a new note is in his comments on the RF and IF gain pots; which in practice very rarely go down to **zero** ohms when set to maximum gain. Maybe they did when new but with age they tend to have always some residual resistance when set to apparent zero. Now these are low value pots; already and any residual resistance will mean you do not get to full gain.

The suggestion is then to get new wirewound pots; and to check them out for as close to zero resistance when turned to the full gain, i.e. full clockwise, position.

Another suggestion from F6 EFM is that when swopping the hard to get and costly EL91/6AM5 for a 6AQ5/EL90/6005 then do use a minimum of 250 ohms for R121. You also need to modify the wiring to the base connections for G1 and G2. More in another issue.

- - - - -
 - S.358 and S.358X.-

This 'oldie' is still popular and from James comes the following;-
 "Having an example of both the 358 and the 'X-Ray' version side by side on the bench I am able to do instant comparisons between the two. Not a lot of difference under normal conditions, except when the 358X has its crystal filter switched in. What does happen is that even the slightest of faults shows up immediately in performance loss.

Recently the 358 began to drift, not from first warm up but after several hours of listening. First thoughts went to possible causes in the oscillator stages but when the built in diagnostic testing was utilised - YES this sort of self-diagnostic testing did exist in the late -30s and early -40s ! Well the problem was soon discovered and the idea of opening up the set, or the coil packs was abandoned. What the switched panel meter showed was that after some 1 - 2 hours of use in hot weather the psu supplied HT was dropping down to some 125 volts, no smell, no smoke, but it was going somewhere and that somewhere was not into the receiver.

After further tests inside of the psu it was found that all the 3 sections of e'lytic condenser were considerably leaky.

The psu in use was the S.390B which was supplied with later versions of this model. In the event, since the original type of e'lytic was no longer obtainable, it was decided to fit 3 separate RS condensers in the undechassis space. These were held in place by suitable clips. When powered up the voltage as measured on the panel meter was just over 170, but 172 on an AVO. Close enough for even a finicky Scot like me.

Whilst the psu for the 358X appears not to be in need of replacement e'lytics as yet, spares were bought at the same time. James."

- - - - -
 - CRT for the EP17 and EP20 -

A plea from an EUGer for a list of equivalents for the CR tubes as used in the above Panadaptors. The manual mentions the Mullard Type DP7-91 but I have seen some ex MoD CV types fitted myself in working panadaptors so there MUST BE some equivalent types, lets here from somebody so that Bert can go looking for the needed CRTs (he has two duff EP units).

- Component Values In The 850.-

Having cause recently to replace the rectifier valve in my 850/4 due to a heater failure, the opportunity was taken to clean up several decades of dust from above and below chassis.

Never having had the set open previously I was being just naturally curious and was scanning the various components under chassis when what appeared to be an unusual value of resistor drew my attention.

This set has a kathode follower stage using a 6AU6, triode strapped and fed from the last IFT, T5.

What had drawn my attention was that the kathode resistor was marked with triple red rings. A 2.2Kohm no less, yet the stage has a stated output impedance of @ 75 ohms, **IMPOSSIBLE !!**

A look at the circuit in my handbook showed that the correct value should have been 220 ohm. A resistance check showed that the markings were essentially correct as the component read out at a little over 2240 ohms.

The stage could never have worked effectively if at all, maybe the 850 had never been used with a panadaptor or other accessory requiring an IF feed. Since this feed is not used at my QTH I have left the original component in situ but have attached an explanatory label to the chassis sidewall for any future owner. Ron.

- - - - -
- Eddystone Plug-in Coils.-

No less than 7 letters re the 'time-warp' advert in issue 43 which showed the Strattons range of miniature plug-in coils. One from an EUGer wanting a members ad for any original examples, another for any extra info I have re windings etc; the rest of the mail asking if anybody makes replicas !

Heck it looks like the home-build bug is catching on, maybe they saw the replica built by Graeme, G3 GGL, at the NEC or at the Radiophile Shifnal show.

Whatever the reason I have to say that I have little more data than is provided in the ad on page 3 of issue 43, sorry. one member suggests use of Denco type coils as substitutes. Sorry not to be more helpful but have fun with your projects.

- - - - -
- S.358 Coilpack Offer.-

Cliff Hartles is an EUGer now resident in Germany but who will be visiting the UK later this year. Cliff was formerly employed at Eddystone and so he does know what he is talking about !

He says that he has an apparently good working coilpack for Range B, 9,000 to 22,000 Kc/s for use with the 358 receiver. Whilst he cannot test it on air, no 358, he has DC tested all windings and they are okay on his meter. Definitely not a 'pig in a poke' offer Cliff says. If you have a 358 and lack the Range B coil then contact Cliff pronto, address as follows.

Cliff Hartles, DJ0 OS.
Waldstr. 57.
32105 Bad Salzflen.
Germany.

1/July/97

Hello Ted

Congratulations - do you realize that the Eddystone User Group's Newsletters (hereafter called EUGNL) now consist of more (not Moore) than one thousand pages! Quite impressive. Of course some of the pages have been rather easy, like the second entry of my list of WW-notes, but this does not detract from the fact that this is a great achievement.

I have to work through the stuff backwards this time, starting with the latest events. The last of course being your tip about the Braille-840 and the Sci.Port.3. I got on the phone to mr. Turner, asking the price for the Sci.3 and if it still was available. Next I phoned Graeme to have his opinion about the set, then back to mr. Turner to arrange the payment, and yesterday it was delivered at my door! And it was a MAGNIFICIENT receiver - not in original condition - but well worth the trouble. I guess it is a joke to call it a portable - according to WW the weight is 34 lbs!

There are some slight differences to the picture in WW, there is but one lock on the lid, and the wavechange switch is different. The wiring is quite bad, and there is a non-original LF-transformer inside. I've not decided on what to do with it yet, perhaps it deserves to have a careful facelift? It is not possible to figure out the diagram, as most of the components are within a screened box. I can not open this box without disturbing the wiring, however the wiring does not seem to be all original also the grid bias for the first valve (screen-grid type PM12) is given as -15 Volts, probably out by a factor of ten. I have not found a single component with the name Eddystone, or the lighthouse. However the set is named on the frontplate and the lighthouse logo is to be seen beside the loudspeaker cutouts.

I'm really grateful for the tip on this receiver, Ted, I will write a report on it later, and also probably ask for advice regarding what I ought to do with it.

Next item, the handbook for the Homeland 4. Very interesting receiver, thanks for sending it. Remember the list I sent you of my WW-cuttings (the double entry!), in sept. 24th 1930 there is mentioned a four valve kit - I wrote that this could be the Kilodyne four. Isn't it more likely that this kit is the Homeland 4, and that the Kilodyne really was new when mentioned in WW in sept. 23 1931. Now the Homeland 4 uses two 'Indigraph' dials! These dials WERE used in the All Wave Four as well, and a friend has told me that they were used on the early Kilodynes as well. The valveholders are marked 'Eddystone', but they do not look like the type 501 as used in some of the early kit models. The under-chassis wiring is done using the same technique as used on the Sci.Port.3.

The Short Wave Manuals - most important reading for the Eddystone enthusiast! This has been my favourite reading matter for the last six months, I read and reread them, if I must complain it would be that there should have been more of them, and thicker. If you want to build a receiver yourself there are so many to choose from, must be something for all tastes. The problem today is really that you just cannot get all the original components, and as far as coils are concerned very little info is given. Take for instance the 'Amateur Communication Receiver' from £4, and the Four Band Transmitter as featured in the latest EUGNL. You have to be quite good at calculations to get all the coils right here.

For the 6-pin coilset as used in most of the kits from the last half of the thirties perhaps a member could make a proper constructional drawing of them for home-making?

Also the best of the two-valve designs, the 'Amateurs Short Wave Two' lack a proper drawing of the wiring, like the drawing for the 'All World Two'. I've been collecting components for the AW2, I only lack one small knob and two of the dials.

There was a very important set of articles dealing with reaction in WW in 1940, a copy is provided. It is a pity that these articles were not accompanied by practical designs, as WW had some very elegant designs earlier. After the war I guess the enormous mountain of surplus equipment made home-construction loose appeal.

From adverts I date the '2 from 1934, the USW-guide from -35 and the '4 from -38. The -38 version must be a proof-reading copy because of all the corrections, in WW for March 23rd. 1939 one is told that there is a second edition too, wonder what the changes were.

I notice with interest that you plan an article on the Kilodyne - much has been said about this, and not all worth repeating. There was a joke in a previous EUGNL where the fifth valve (the rectifier) played a role. Now, this five valve receiver was NOT called the 'Kilodyne Four' but the '1935 All Electric Kilodyne'! So here is a riddle :

When is a Kilodyne not a Kilodyne!

- 1: When it is on a metal baseboard it is called the 'Homeland Four'.
- 2: When it has switched coils and wood cabinet it is a 'Sphinx'.
- 3: When it has a metal case it is a 'Homelander'.
- 4: When it is a baseboard model it is either an 'Everyman Short Waver'
- 5: or an 'Improved Everyman SW'.

Ted, I feel that I have not done a proper job on the pre-war models, so I have spent some time brooding over my files. Now most of the questions raised by the spots in Wireless World are answered by carefully reading the ESWM's, but it is a pity that WW were not better at using proper model names in their notes. In the earliest WW note I have seen, the one from 20/11-29, there are mentioned two three-valve sets, one probably the Scientific Three (for which I beg you for a copy!).

The four-valve receiver mentioned is the Sci.4, however I could not understand why this was mentioned as new when a Sci.4 was advertised as early as January 1928. Now, by reading the small print I noticed that the -29 receiver was in fact called the Scientific Four S/W, and the coverage 550-16 metres shows that this was indeed a short wave receiver. The Scientific Four of 1928 was a receiver more or less like the famous Wireless World design called the 'Everyman Four', and covered the long and medium waves.

Another receiver causing pain was the 'Super Six', which was mentioned in WW 24/8-34, a blueprint you sent me was dated 10/4-35, and then you had the Six Valve Superhet. from ESWM2 (which I date to 1934!). The 'Super Six' of -34 and the 'Six Valve...' both had a Westector and could be similar circuitwise. However where the 'Six Valve...' had an ordinary 0-100 dial, the 'Super Six' was wavelength calibrated. Now the 'Super Six' was a ready-made receiver and the 'Six Valve...' was a kit, this may account for this difference.

The 1935 version of the 'Super Six' shows the progress with using a multi-function valve for detection and amplification.

I have rewritten my list of Eddystone receivers, trying to use the correct names to the sets as given in my files. There is a reason for this: Graeme in a conversation used the name 'All World Two A/C' when he really meant the 'Amateur's Short Wave Two'. Bob King uses the term 'Short Wave 2', I'm not sure whether he means the 'Amateur's Short Wave Two' or an A/C version of the 'All World Two'. This last one does exist, look at the ESWM4 where it is the receiver part of the 'Miniature Amateur Station'. I have studied your lists, Ted, and I believe that you have included quite a few kit-sets which are really WW-designs. These I have left out, but I'm prepared to include them if it is certain that these kits were produced by Eddystone also.

Don't get me wrong here, Ted, I'm all for keeping track of useful for home construction using both Eddystone and alien components, so included you will find a copy of a set of articles from WW describing a four band transmitter. This is using so many Eddystone/Webbs components you could believe it came out of an ESWM.

I'm not sure whether I have said this earlier, but repeat after me one hundred times:

- 1: The ERA was out before the ECR, so the ECR is a communications version of the ERA!
- 2: The 556 was out before the 504, so the 504 is a comms. version of the 556!

A repeat from a former letter: there were two versions of the ERA, the ERA7/A and the ERA7/E, consult my list!

One member queried the various colours used on the Eddystone badges in the fifties, I have studied my receivers, and they all conform to the following rules:

- 1: Black is used for an amateur comms. receiver (740, 840A)
2. Red is used for a broadcast receiver (670, 670A, 710)
- 3: White is used for a professional receiver (680X, 730/1A)
- 4: Grey is used on the 909-series of receivers (909A, 909A1)

The earliest receiver with this badge is a 710 dated June-51, the latest being a 909A dated December-60.

I notice that people are still interested in the GEX-diodes, but somebody has got his knickers twisted here, Ted! It is the GEX66 which has the very low forward resistance, and the accompanying low maximum reverse voltage of only 3 Volts. Shortly after I sent you the dope on these diodes the Mullard data for GEX66 surfaced from the deep of the files. A copy is provided. The GEX54/3 is a high back-voltage diode suitable for use as a FM discriminator, so it is probably a good substitute for the GEX34.

For the GEX66 I have found some substitutes: the CV2290, and the two Sylvania diodes 1N72 and 1N82. All of them probably collector's items and more scarce than the GEX66!

I may have an entry for your list of 'badged' Eddystone equipment, as I was given a M.I.M.C.O. 'Herald' the other day. Right in the middle of the front plate was mounted an EB35 mk.III. Perhaps it does not count as a genuine badged type, as the receiver proper did not have any special markings. If you are interested I could write a little about it.

I've also got hold of another 659/670, and it is really a 670, Ted, as I can not see any differences to my old 670. It was in rather poor condition, but almost complete. I'll put it at the rear of the collection!

Well, Ted, the summer is here with holidays and all that. I just heard that June was the wettest in Britain since 1879, I hope better weather is on it's way as my youngest daughter is going to Cambridge this monday for a language course. Take care!

Best wishes

Tor Marthinsen
P.O. Box 2061
3103 Tønsberg
Norway

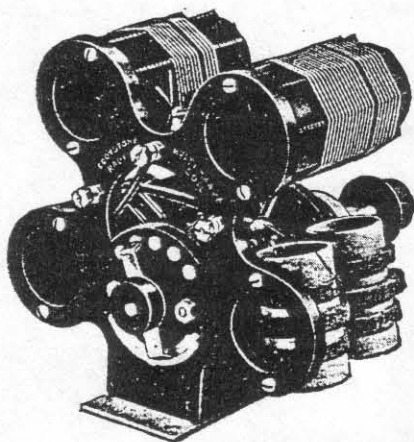
Tor

DAYZITE, - 1935 CATALOGUE.

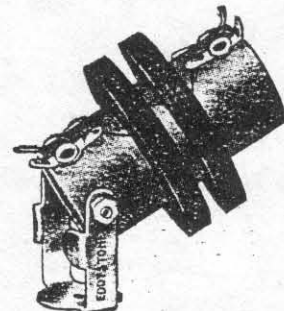
COILS

EDDYSTONE FOR SHORT WAVES

EDDYSTONE MULTI WAVE SWITCHED COIL UNITS.



These units are intended for use in the design of all wave Receivers. They are supplied with two or three separate windings which are independently switched over five wave-ranges. The switch is two or three way, according to the number of windings, and has five stud positions. The coils are mounted around the switch so that the leads from each coil to the switch contacts are very short. The short wave coils are the conventional "Eddy-stone" pattern and the higher wave coils are honeycomb wound, mounted on paxolin formers. The switch gives a positive connection with wiping contact, the control knob comes out to the front of the panel and an engraved wave-range dial is supplied.

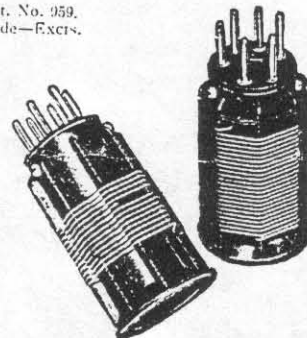


EDDYSTONE QUENCH COIL UNIT.

The use of a super-regenerative type of set for 5 metre reception is exceedingly popular, due to advantages which this type of circuit has for such work. The quench unit for this purpose is catered for by the "Eddy-stone" component shown here, which comprises two honeycomb self-supporting coils wound $\frac{1}{4}$ in. apart on a paxolin former, the whole being mounted on a metal stand which permits of vertical or horizontal mounting. The component is of attractive design and adds considerably to the appearance of the set.

Cat. No. 958. Code: ENCHA.
PRICE 4/6 s

Cat. No. 959.
Code=EXCIS.



EDDYSTONE SIX PIN INTER-CHANGEABLE COILS.

Three Windings. 12-2,000 metres.

These coils are similar in general design to the 4-pin coils but they carry an additional separate winding which greatly increases the scope of their application. The ratio of the windings, however, allows in general for one aperiodic coil, one tuned coil and reaction winding. They have the great advantage that they are small and compact in size, giving a coil of high efficiency with a small external field. The arrangement of the pins necessitates the use of a six-pin base (see below). They are designed so that one 4-pin and one 6-pin coil can be used together with ganged tuning if desired. All wave-ranges given are with a .00015 mfd. condenser and allow for circuit lead.

Type.	Wave-range	Price.
6LB.	12-26 metres	4/6
6Y.	22-47 metres	4/6
6R.	41-94 metres	5/-
6W.	76-170 metres	5/-
6P.	150-325 metres	5/6
6G.	250-500 metres	5/6
6GY.	1,100-2,000 metres	6/-

EDDYSTONE SIX-PIN BASE.

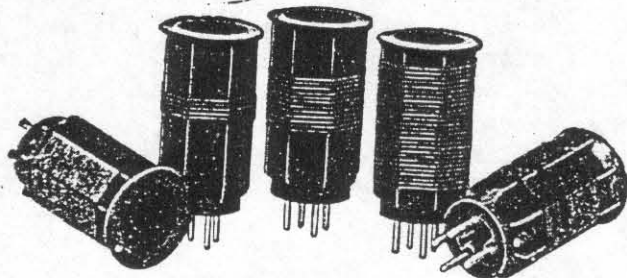
This is a special base for the 6-pin coils and is adapted for under baseboard wiring. It is available with contacts for soldering or with special screw sockets.

Cat. No. 963. Code: ESAS.
PRICE (with terminals) 2/-
Cat. No. 964. Code: ESAT.
PRICE (with soldering contacts) 1/6s

FOUR PIN INTERCHANGEABLE COILS.

Two Windings. 12-2,000 metres.

Cat. No. 932. Code: ACRO.



These coils plug into the standard 4-pin valve-holder and carry two separate windings so that they can be employed for a multiplicity of purposes. The short wave coils are space wound with 22 gauge enamelled copper wire, the formers being threaded to prevent the turns moving. The higher wavelength coils are single layer wound with enamelled wire, except the long wave coil, which comprises a number of bank windings in a slotted former. The form shape is such that they are highly efficient, yet they have only a small external field. The form shape is such that they can be used as the aerial coil in conjunction with the 6-pin coil as the later tuned stage. All wave-ranges given are with a .00015 mfd. condenser and allow for circuit load, the natural minimum wave-length of each coil is therefore below the figure shown.

Type.	Wave-range	Price.	Type.	Wave-range	Price.
LB.	12-26 metres	3/6	P.	150-325 metres	4/3
Y.	22-47 metres	3/6	G.	250-500 metres	4/6
R.	41-94 metres	3/6	GY.	1,100-2,000 metres	5/-
W.	76-170 metres	4/-			

EDDYSTONE LOW LOSS COIL FORMERS.

No. 508. Six-pin former, standard six-pin base fitting. Eight ribs, outside diameter 2 1/2 ins., winding space 2 1/2 ins., threaded 10 turns to 1 in.

PRICE 3/-
No. 507. Ditto, with plain ribs. 2/6

PRICE 3/-
No. 509. Ditto, with eight slots in ribs equally spaced for pile winding, width and depth of slot 1/4 in. x 1/4 in. 3/-

FOR SALE,- 730/1A receiver okay but BFO needs attention, £65 or nearest offer, also

WANTED,- 830/7 or 940 in perfect working condition with NO MODS, please telephone Mervyn on 01695-726529 (Lancs), Thanks.

WANTED,- still seeking 890, 930, 960, and any other rare models, plus a good Marconi CR100 or CR300 with psu if possible. May collect if not too far ! Please phone Peter on 01372-454381 or 0374-128170 anytime.(Surrey).

WANTED,- Model 850 LF receiver in good working condition. Please phone Andrew Marshall on 01438-814295 (answerphone) or on 0802-732141 (mobile), or write to 33 Brookbridge Lane, Datchworth, Knebworth, Herts; SG3 6SU, Thanks.

WANTED,- Model 680X and EC10 II. For cash or could swop for Zenith valve Transoceanic Royal 1000 or Grundig Satellite 2100. Phone James Duckworth on 0181-449-3921 (evenings) or 01628-58-5201 (daytime), Barnet area. Thanks.

WANTED,- Model 830 receiver, I have the handbook and would like to have the set to go with it. Good home promised. Phone Chris, G3 ZJK, (QTHR) on 01788-810535.

WANTED,- ECH41, ECH42, and EAF41 valves or equivalents. Please contact Ben Nock G4 BXD on 01562-743253.

HELP ! ! ! - Ignoramus (regarding electronics) is the proud owner of an Eddystone 990S (250 - 850 Mc/s) which is giving problems and is in need of complete check out and repair. If familiar with this model and willing to do the job please contact David on 01788-574099. The owner has been forcibly retired on health grounds and so is not overly wealthy but some funds are available, Thanks.

FOR SALE,- my faithful 730/1A must go due to personal circumstances, it is in good working order and a fair price would be @ £90. Prefer that it go to an EUGer so comes with speaker and manual. Phone Iain Stevens on 01794-525474 (Hampshire area).

WANTED,- any old FT243 crystals, frequency not important as wish to utilise the case and base only. Please contact Bill Gibson, G44 KMG, 180 Castlemilk Rd, Glasgow, G44 4NS.

- That Picture ! -

The picture used recently where a 770R is shown rack mounted and in use by a GE engineer has produced more mail, some still expressing doubt as to its authenticity, others wondering why the American GE company should have used a British receiver when American companies must have had similar products.

I omitted to give our source for the photo when it was printed and must say now that it was sent by EUGer Ray Devereux from New Zealand. Ray says that the photo was published in an old issue of the Aviation Week & Space Technology Magazine, now we know. Thanks Ray.

- - - - -

- The Megatron S.770CE Receive Unit.-

No, it isn't April 1st - yet ! And YES the above did exist. From Cliff Hartles ex Strattons/Eddystone we have the following snippet of info.

In the early -60s the firm of Megatron, G. Hullick and Co, took delivery of a number of models of then current Eddystone models. The line up was the 850/2, the 880/2, the 770R and the 770U. These four were combined into a standard 19" rack mount unit and gave coverage from VLF of the 850/2 up to the UHF of the 770U, all in one unit.

This is new info to me as re **Megatron** but I have heard rumours of several similar rack mount jobs using various models to give extended coverage. Several such units were supposedly supplied to UK Gov't departments by Eddystone themselves yet I have never found any reliable, factual info on them. Can anybody out there help me here with REAL gen ??? Ted.

- - - - -

* cont; from p.9 - Different Values, the 504.
on the market in the same month gives me cause for concern.

Okay so I often say that any Eddystone is worth what YOU want to pay for it. There must be limits though to this advice.

Graeme mentioned to me several weeks back that he had seen a 'tatty' 504 with bits missing, and that it was being offered for £125. I thought that over the top even without my seeing the set.

Along comes this missive from John in Durham telling me of his lucky purchase of a 504 at the local Radio Club swop sale. He sends a good photo which shows that John's description of the set as being in very good condition, is quite correct. This 504 really does look to be in fantastic state considering its age. The asking, and paid, price of £50 must now make John realise how lucky he is. The set came with a non-matching diecast speaker, it is black compared with the 504's grey. A pair of period phones was thrown in free.

John tells me that the set had been in use up until the day he bought it and has since then not failed to burst into life upon demand. All of the valves are of the CV or VR type and look to be either original or of the period.

So far John has found no need for any maintenance work but he does intend fitting new dial bulbs as those in situ are badly silvered over. John asks for an explanation of this phenomenon which he considers to be possible when bulbs are running from DC but less likely on AC, any help there for John ?

The point of this article ? well really it is that the currently asked prices for Eddystones can be very variable, as can the condition of the sets offered. To be tempted by the first 'tatty' receiver one would have to be on the look out for a source of spares, or maybe a bit of a masochist !

Inexpensive sets are still available, if you know where to look and you have a bit of patience but it is certain that the existence of EUG has pushed prices up, sad to say.

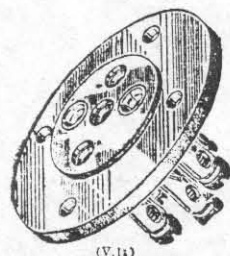
- - - - -
- Solder Your Wireless Set.- (see last issue).-

Yes Patrick, I agree, I too was taught to make a good mechanical/physical joint first, before soldering it. But we were professionals and the advice in that period article was for DIYers. And often THEY needed to unsolder and resolder their joints so a 'touch and solder' method was okay for them.

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CLIX

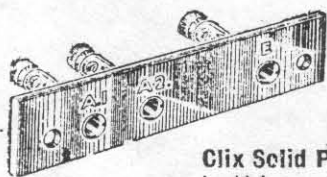
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The turned helically slotted resilient sockets of Clix Valveholders guarantee perfect full surface contact.

- 4-pin .. 8d.
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- (with terminals)

CLIX Chassis Mounting Strip
with Terminals and Engraved A.1, A.2, E.



Price 7d.

Clix Solid Plugs should be used with these strips.

Price 2d. each.

Latest Lists "N"
Free on Request.

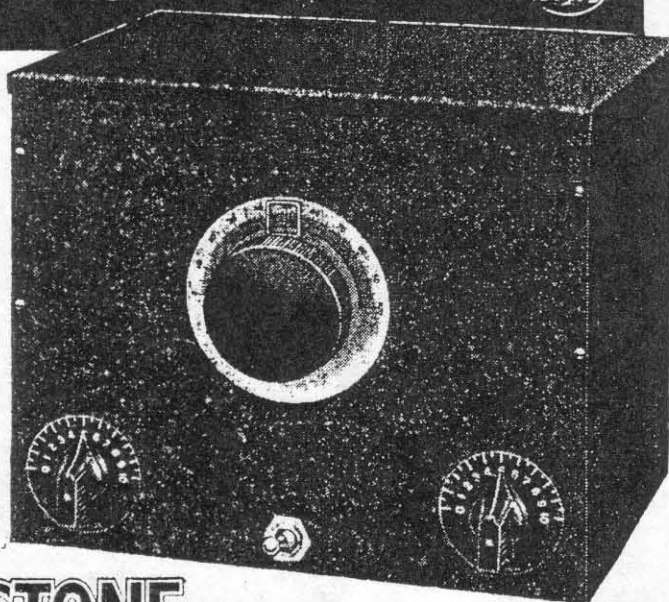
BRITISH MECHANICAL PRODUCTIONS LTD.

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FOR EVERYONE INTERESTED in SHORTWAVES



You can get first-class headphones reception of World-wide shortwave broadcast and experimental amateur transmissions with this Eddystone battery operated "All-World Two." It will consistently receive many American, European, Australian and other long distance shortwave stations at good volume and quality. It is fitted with a special "Eddystone" handspread tuning. Wave range 15.5 to 52 metres. Price, with valves and coils, guaranteed aerial tested and ready for immediate use.



£3.17.6

Send for full details

EDDYSTONE ALL-WORLD TWO

STRATTON & CO., LTD., Eddystone Works, Bromsgrove St., Birmingham.
LONDON SERVICE: WEBB'S RADIO STORES, 14, SOHO ST., OXFORD ST., W.1

THE SUM TOTAL OF A GOOD CIGARETTE

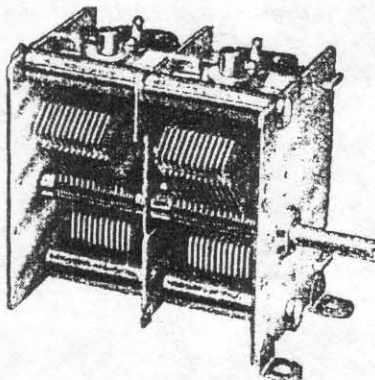


RECALL PLAYERS NAVY CUT CIGARETTES 'MEDIUM' OR 'MILD' IN FOR 10 FOR 115*

POLAR

Specified in the

"TRIBAND THREE"



POLAR BAR TYPE 2-GANG CONDENSER
Steel frame. Low minimum capacity.

PRICE 12/-

Available with ceramic insulation - 2/- extra.

Send for fully illustrated Catalogue of Polar and Polar N.S.F. Components

WINGROVE & ROGERS, LTD.

188-189, STRAND - LONDON - W.C.2

Telephone: Temple Bar 2244

- New ? Discones ? -

Well I always get challenged about statements I make in the N/L so this month is no different, is it Tim ?

The Discone is NOT either a NEW nor a RECENT discovery, not at all. This despite what some folk read into the many adverts in the magazines.

One example is the use of the Double- Discone type of aerial by the armed forces back in WW II. Simple Discones, as opposed to Double, were sold by Eddystone more than 30 years ago.

The Bi-Conical Dipole type of aerial was used back in the start of the Wireless Era as may be seen in many illustrations of the time. Sorry Tim, there really is nothing new under the sun, if those adverts imply there is put it down to Hyperbole on the part of the Ad-men. Ted.

- - - -
- EB35 II/S versus EB35 IIS.-

Yeah, well I never have pretended to be perfect ! All of these 'new' to us sets that keep turning up from the -20s or -30s are one thing. To be confronted myself by a 'new' model, read for 'new' 'UNKNOWN, well it is a bit disconcerting.

I had advertised for an EB35 II to replace the one I lost last year and got an answer with the offer of a nice condition EB35 IIS, I took it NATCH ! Who could refuse what is a pretty rare beast in the range of Baby Eddystones.

Only after delivery and examination did I smell the proverbial rat. I have seen the EB35 II/S in the past and thought this was what I would be getting for my money. It did not turn out that way as the model I now own is not a /S but an S without the oblique stroke. An altogether different beastie as I now know. I also know now that there appears to be no info on this model in Factory archives.

This is a bit like the Yachtsman, 720, scene revisited. I spent years tracking down info on that and Graeme finally found both info and the set for me. So far this time though he has come up with ZILCH on my S model. As he says after a fruitless search amongst Christine's archives, just one oblique stroke yet two very different sets.

The documented EB35 II/S is a standard Ge trannie type of EB35 with provision for stereo output at the rear but just the one internal speaker for VHF mono. The EB35 IIS that I have bought is an all Si Chip set with two internal speakers, one at each end of the set case. And provision for external line or speaker outputs at rear. To be frank the chips used are much as in the 1000 series and this appears to be a precursor to the 1002, with the difference that the 1002 only has line out on FM stereo and no speaker output.

I am pleased with the set, would have been happy if it had been what I expected but more so that it is so very different. Here it comes, my usual MAYDAY message to you all, PLEASE if you can help with a circuit or manual then let Graeme or I know - we can do the copying, and who knows but another may turn up and we can then pass the info on to the lucky buyer.

These rogue sets that appear are really the most interesting part of my hobby. I suppose the first that I came across was way back in the early -80s when I bought a very nice, clean 670A at a rally, Norbeck I think it was or the earlier Belleview one.

Getting the set home and plugging it in I was very happy with my purchase, nothing to fix on it so I did not open the case up for some months.

That was when I discovered that what I had was a hybrid set, part 670 and part 670A. Case etc; was all 'A' type and the valves in the RF/IF were the UCH and UAF types but then I found that the AF chassis had dual AF output valves type UL41 as per the older 670. I was already in touch with Geoff by then and he still worked part-time at the Bath Tub. A quick phone call and some brain-stirring on his part and he told me that he had recollections of some early, very early, 670A sets being fitted with off the shelf 670 AF chassis. He even came up with a design and development drawing for the modified psu circuitry. Just hope this happens someday for my IIS.

- - - -

- Those Historic Adverts.-

I get very many requests for more of these and whilst I have a vast stock of them, and like other EUGers I enjoy them. I could easily fill a Newsletter with nothing but nostalgic Eddystone Ads but that would no doubt upset some.

What I do is to choose a few each issue, if possible ones which have either reference to articles in the N/L or others from which I can produce a small item.

This issue we have an interesting ad which refers to the choice of the then current Kilodyne 4 for use by an Antarctic Expedition in 1934. The statement that this model was chosen to, quote, "keep in touch with the world" shows just how much reliance was placed on Strattons/Eddystone products of the era.

The list of stations received that is given in this ad must assuredly be just a minute sample from the 2½ year log of the expedition.

Remember the difficulties under which operators had to work in those days. No power supplies apart those dry batteries and accumulators, and both of these items would function very poorly at the temperatures encountered so far South. I would expect that the receiver itself would hardly benefit from a regime of constant cold and humidity, yet this model did survive and continue to work well. None of this tropicalising for the hot latitudes or protection for the cold latitudes in 1934. Yet, they announce themselves very happy with the performance of the basic battery Kilodyne 4.

This advert has excited my interest and I am attempting to locate further info on this particular expedition, the library have my check requests already but if any EUGer out there can help with further info then please share it with us. I promise that if received in time it will be in the next issue.

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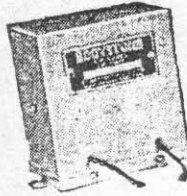
- S.358 Valves.-

James has this model and he recently bought a full set of new valves, correct types or - as he was told - equivalents.

At first turn on the set did not seem as lively on the HF bands as it had with the old valves. No valve tester was available and so the old valves were substituted one by one, going forward from V1. As soon as the old but newish looking ECH35 was refitted the set returned to as before, good HF performance. The 6K8 as supplied IS NOT AN EQUIVALENT for an ECH35, just check out the characteristics and pin out !

IT PAYS TO USE EDDYSTONE

Get your copy of the
**1937 EDDYSTONE
 SHORT WAVE MANUAL**
*From your RADIO DEALER,
 W.H. SMITH, or in difficulty
 POST FREE 1/-*



AIR TUNED I.F. TRANSFORMER
 Compact unit with high efficiency air trimmer and genuine Litz wound coils. Total tuning coverage 400 to 500 Kc/s. Gives high stage gain with approximately 9 Kc/s band-width. No. 1014. 450 Kc/s. Price 13/6.



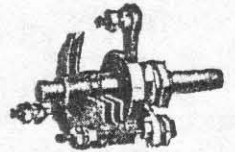
ULTRA SHORT-WAVE H.F. CHOKES
 These chokes are single layer space wound on DL-9 formers, and have an exceedingly low self-capacity. 24-10 metres. No. 1011. D.C. Resistance 1.3 ohms. Price 1/3. No. 1021. D.C. Resistance 0.4 ohms. Price 1/3.



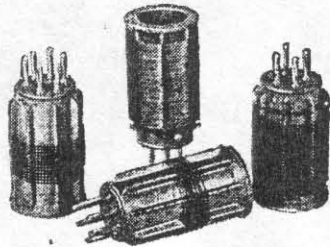
MIDGET INSULATOR
 Made from Frequentite for high frequency work, with N.P. metal parts. 1" overall height. No. 1019. Price 4 1/2d. each.



UNIVERSAL S.W. VALVEHOLDER
 A low loss holder for above or below baseboard use. The valve enters the contacts from either side. There is no measurable increase of self-capacity to that already in the valve base. DL9. H.F. dielectric, one-piece noiseless contacts. No. 1015. 4-pin, 1/3. No. 1016. 5-pin, 1/5. No. 1024. 7-pin, 1/8.



IMPROVED MICRODENSER
 No. 900.
 For ultra H.F. and general S.W. use CALIT insulation, low series resistance, noiseless movement, extended 1/2" spindle for ganging. 20 m.m.f.d., 3/9; 40 m.m.f.d. 4/3; 100 m.m.f.d., 5/-.




INTERCHANGEABLE COILS
 New low loss formers of DL-9 high-frequency insulation. Rigidly made and each coil matched. First-class results assured. 4-pin coils have two windings, 6-pin three windings. No. 959 6-pin Set of 4 12-170 metres Price 16/- No. 932 4-pin Price 14/-

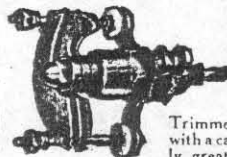


FLEXIBLE COUPLER
 Free from back-lash but very flexible, this coupler banishes alignment troubles. DL9. H.F. insulation. For 1" spindles. No. 1009. Price 1/6.

BANDSPREAD TUNING OUTFIT.
 Devised to simplify station selection.



The Tank condenser unit has a capacity range of 10 x 14 m.m.f.d. Achieved by a patented step by step device. Complete with scale and knob.
Tank Unit:
 Cat. No. 1042. Price 6/-



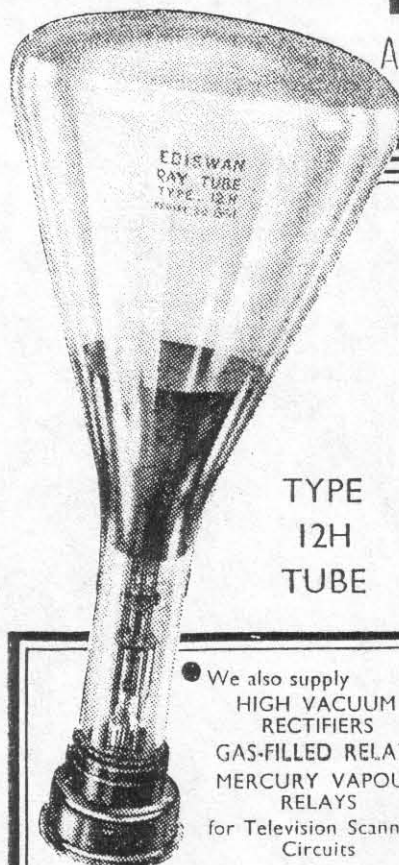
In parallel with the Tank capacity is the slow motion Bandspread Trimmer condenser, with a capacity slightly greater than each step by step of the Tank condenser. Complete with dial.
Trimmer Unit:
 Cat. No. 1043. Price 6/6

EDDYSTONE SHORT WAVE COMPONENTS

STRATTON & CO., LTD., Bromsgrove St., BIRMINGHAM. LONDON Service Depot: Webb's Radio Stores, 14 Soho St., Oxford St., W.

TELEVISION DEVELOPMENTS

A NEW LARGE DIAMETER TUBE FOR TELEVISION REPRODUCTION



TYPE 12H TUBE

The Ediswan Type 12H tube has a screen diameter of 12" giving a television picture 10" x 7 1/2" without distortion.

The screen is of special material giving a close approximation to a black-and-white picture.

Specification :

Indirectly heated high vacuum tube. 2nd Anode Volts - - 1200
 Heater Volts - - - - 2.0 1st Anode Volts - 150-400
 3rd Anode Volts (Max.) - 6000 Sensitivity (mm. per volt) 950/V*

*V = final anode volts

List Price £15. 15. 0

ENTIRELY BRITISH MADE

EDISWAN RADIO VALVES

THE EDISON SWAN ELECTRIC CO. LTD. 155 CHARING CROSS RD. LONDON, W.C. 2

• We also supply
 HIGH VACUUM RECTIFIERS
 GAS-FILLED RELAYS
 MERCURY VAPOUR RELAYS
 for Television Scanning Circuits

USED BY ALL GOVERNMENT DEPARTMENTS

- SFERICS -

Rod Fryatt tells us that an S.700 in MIMCO disguise was on sale at the recent Dunstable Downs Rally, when he went back for a second look it had gone. HELP !! Did an EUGer get it ??
Do please let us know if you did, they are a very rare breed be they Eddystone, Mimco or IMC badged.

From Ray Devereux, an EUGer of long standing who now lives in NZ. He comments that HE was responsible for sending us the photo of the 770R in an Aviation mag; photo ! Sorry Ray, due recognition even an apology, and belated thanks. He also comments upon having seen somewhere, perhaps an old SWM, a photo of the 770s used at Jodrell Bank. Okay but I can go one further ray, I have seen them with my own eyes and TOUCHED them, way back that was. rack mounted and in diversity configuration they had a set of the 'R' and the 'U' versions.

From Jean-Louis Beroud, F6 EFM, in France the news that he has an 880/3 that he has restored to fine condition and unlike most of its ilk this 880/3 is badged EDDYSTONE, not MIMCO. Mes remerciements Jean-Louis pour l'information. See letter from T.K. Parker in this issue.

Letter from Ken O'Brien where he advises us of the passing of Phil Savage. Phil's collection of some 2311 sets (not all Eddystones of course) was well known. Ken's friendship with Phil meant that he was not able to get to the NEC this year, but he will try next year.

In Ken's letter he mentions that he has been able to supply Ben Nock with a photocopy of the scale plate for the 504. Ken will do the same for any EUGer needing a photocopy of this 504 scale if you send a large 7½x5½ envelope and postage. Better send him enough stamps to cover cost of copying and postage too as he isn't a millionaire.(says Ted).

Graeme has unearthed an advert by Eddystone, sorry Strattons in those days. It is for the AW2 receiver and the interesting thing is that the same page has an advert for Players fags, at 10 for 6d and 20 for 11½d. This was from the Practical and Amateur Wireless Magazine of January 22nd, 1938. Oh yes, the important bit is that the AW2 cost £3/17/6d. Graeme says "a very interesting juxtaposition is the Players ad, now a premium cigarette today costs £3.20 for 20 - i.e. 64 times the 1938 price. Which makes a twin gang condenser equal £44.80, a seven pin valve holder £3.20 and an AW2 equal no less than £247.68 plus the cost of headset and batteries !!!"

Another item sourced from Christine's "goody boxes" at the Factory is a treatise on VHF and UHF aeriels as suitable for the 770 and 990 series. Now I get so much mail from folk who are disappointed with the performance of their 770 when all they are using is a bit of random wire that I think this is a must for anybody with a 770R or U, a 990 R or S. I have seen this somewhere before, I think it was sent out with the sets at one time and included in with the manual. reading it you see that there is nothing new under the sun. Those new-fangled Discones were current items in the 40s and 50s. As was the Bi-conical dipole. Well to be honest this latter dates from the start of Wireless.

Kilodyne 4 sets used in the Antarctic ? See the ad in this N/L, Eddystone got everywhere, Arctic, Antarctic, Everest - wonder if any were used undersea ? How about 358s in Submarine service ?

How about this for mods to an Eddystone. Davy bought an 870 for £15.50 and it looked okay, even worked a bit ! Further examination revealed that due to physical damage to the local oscillator switch wafer the whole set had been made into a TRF with the IF becoming an RF stage feeding a diode detector into the AF amp. Not surprising that he found his local radio station spread out over the full MW band.

The Sci-3 Portable and the Braille version of the 840 have been photographed for EUG archives, may well have been sold by Howard at Centre Electronics by now. Let EUG know if you are the new owners.

Ian who is up on Tyneside has been given a 1004 rack mount model FREE. It isn't working and Ian says he will not attempt restoration as it has been immersed in the North Sea for several years, was only salvaged by a diving friend as a curiosity.

DIY QRM, listening to Radio Kuwait last week and reading my just arrived copy of PW. Each time I turned a page the static was audible easily on my 1002. Tried my EB35IIS and it was not present on the same frequency, tried a cheap and nasty digital broadcast set and it was there. The latter used a whip but the other two used my external random wire vertical. Why not on the EB35IIS though ??? Beats me.

A service tip from Peter Lepino, old octal valves may sometimes be hard to remove from their sockets. Try pushing them out from below with a suitable tool, whilst pulling slightly from above - pull the base not the bulb !!!

A note from Steve to the effect that when his EC10 AF output packed up he was unable to locate suitable output trannies but with a bit of trial and error he used two BC212 PNP types and he swears the result is indistinguishable from before.

If you write to me, or Graeme, or anybody else for that matter do remember to put YOUR ADDRESS and SURNAME. I have two recent letters one minus surname and one minus address and with quite illegible signature. The former asks about UL41 valve problems the latter mentions purchase of a 770U/3 with add-on aerial amp. If you want a reply write again with full info. ESP is not my forte, sorry.

- - - - -
- E N D I T -

This is the 44th Newsletter and according to Tor Marthinsen the last issue took us over the 1000 pps mark !! And more to come !!

Letters which I print, and comments from members letters, may not always please everybody but then THIS is YOUR Newsletter so if you are not happy, then SAY SO !! I print anything that comes from you if it is of interest to others, even when I do not agree !! An example of this is some of those 'odd mods' which come in by the post, I do not agree with some of them but then YOU may, so into the N/L they go. OKAY ? so write in and say what you think about any controversial stuff. Ted.

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Memories of Another Age - Continued

In the last three EUG Newsletters Bob King, G3ASE, described how, early in World War II, he became a teenage spy-chaser using an Eddystone 'All World Two' receiver. Then he went on to 'join up' at seventeen and in the last episode he described the workings of Enigma, the 'foolproof' German enciphering machine which was cracked at Bletchley Park. In this issue Bob describes how he made a date with nostalgia and built an Eddystone 'Short Wave Two', a very similar (but mains-operated) set to the one he used in 1940

EDDYSTONE, its contribution in WWII (part 4)

By Bob King G3ASE

Before the First World War about 400 radio enthusiasts were granted licences to carry out experimental transmissions with spark transmitters. they used three letter call signs (which always included an 'X', presumably for 'experimental') and used crystal detectors. The general call CQ was not permitted but instead "Test de ###". One well-known 'amateur' and experimenter was W.K.Alford who had the call TXK and after 1918 G2DX. He was a Voluntary Interceptor during World War Two and I have passed one of his Radio Security Service logs to the Imperial War Museum for their archives.

When valves became available, the amateurs, by then using G2## callsigns, quickly made use of them and in 1922 G2OD described a home-built superhet of his design. All equipment was home-constructed but most accounts say far more about the transmitters than the receivers. Although home-built superhets were known it may have been their complexity that led to the two or three valve receivers being more popular and these latter were commonly used up to the outbreak of war in 1939. Commercial receivers became available in the '30s from Eddystone, Hallicrafters, National and others. A survey I have made of the receivers in use by "Old Timers" indicates the 0-V-1 as being the most popular, followed by the 1-V-1 or 1-V-2 for speaker work. Much has been made of the National HRO which was adopted by the various intercept authorities as a standard receiver. The performance was good, especially the crystal filter, but it suffered the inconvenience of plug-in coils for band changing, the need of a graph for calibration and above all the high cost. Few radio amateurs could afford (in 1940) \$329.50 for the receiver with 4 Ham Band coils, plus \$18 for extra coils and \$29.50 for the power supply. The rate of exchange in 1942 was 4 shillings and 1.32 pence to the dollar which meant about £72 for the basic Ham Band set (considerably more if today's exorbitant prices here compared with America applied then). This in 1997 would be at least 16 to 18 weeks average pay. (Note by Graeme: in 1939 a BBC junior technician earned 30 shillings a week (£1.50) and a new Ford Eight car cost £99.) Other makes came cheaper but there was still a great incentive to produce one's own equipment. This was general with transmitters anyway.

In my case, being a schoolboy on 3d a week pocket money, purchasing components was out of the question. However a kindly neighbour gave me a 'Kolster Brandes' Pup, a two-valve broadcast receiver. From this, with the aid of a booklet entitled "101 Tested Circuits", I proceeded to test the validity of this title and made something short of 101 two-valve short-wave receivers. The main difference between models was the value of the grid leak, the

method of obtaining reaction and the design of the coils. However when I was loaned the Eddystone All World Two I really did discover the World. It shared one of the HRO shortcomings, having no frequency calibrated dial, but didn't have quite the stability and selectivity of the HRO! However, I knew nothing about HROs in those days and only had a nodding acquaintance with Hallicrafters.

In 1996, remembering with affection the All World Two (I wonder what became of it?) and having kept an Eddystone Short Wave Manual No 4 of 1938, I noticed that the similar mains version was fully described therein and set forth to copy it. Here I had a great advantage, being one of those who is most reluctant to throw any components away, in that in my museum box (junk box to you) I had an original Eddystone bandset condenser, bandspread ditto, knobs, dials and coils. The article in ESWM does not explain that the band set condenser has a disc with 10 holes in it which rotates with the vanes. A ball-bearing locates in each hole in turn to hold the vanes locked in position whilst the slow motion bandspread permits tuning over that portion of the bandset. When the bandset vanes are towards the open end, of course, the bandspread covers more than when the vanes are in mesh. This isn't important as it is sensible to make out frequency tables or to draw graphs.

I made up a chassis from cast aluminium sheet and a front panel from a piece of Raymart crackle finish sheet. This last required respraying and here I met my first, and only, enormous expense. To get the required finish I had to purchase a tin of 'Sperex Black Wrinkle Finish' from the Car Bar. This set me back about £6 and thus prevented me from claiming the set had cost me nothing. Apparently I am indebted to the MG Car restoring fraternity who use this spray to produce a crackle finish on the old MG instrument panel. Used with care, following the instructions to spray two coats fairly quickly, one can get a very good crackle finish. I was surprised to find, after a close study, that crackle finishes vary in appearance and I have no Eddystone finish of 1938 for comparison, but it looks good.

Of course the Short Wave Two can be made without the original components and two or three items may prove difficult. Firstly the valves: I decided not to use the EF6 and EL3 Mullard valves as these are 'continental' side-contact (Ct8) bases and not very common. The EF37A is an octal equivalent for the EF6 (the 6K7 also worked) but I found the 6J7 gave better results as it appeared more sensitive and certainly the signals were louder. For the audio stage I used a 6J5 (triode) because I already had one. The mains transformer, which again I happened to have, need not be a problem as Maplin, amongst others, sell them for £12.99 (Page 1079, code XP27E). However, I do recommend a smoothing choke (Maplin Page 1073, code ST28F, £6.49), rather than just a resistor. If the mains transformer secondary is not centre-tapped a bridge silicon rectifier is advisable (4 x 1N4007). Taking these measures and using the still-obtainable high-voltage electrolytics with a capacity of 16 to 32 mfd will give hum-free reception.

Having got the power supply sorted out the rest is sheer fun. Wiring up is much simpler than with transistor circuits and first time working is almost guaranteed. The screen voltage reaction control is smooth and without backlash. Some experimenting may be necessary with the cathode tap on the coil and I found rather more feedback was needed than the manual gives. For instance on Range 4 I used between 1 and 2 turns tap instead of the specified 7/8 turn. Dead spots, (where the detector does not oscillate) are rare and are corrected with the

aerial trimmer. Generally the reaction control requires only small adjustments whilst tuning over the band.

Some criticise the lack of a radio frequency amplifying stage because of radiation from the oscillating detector. Although I had no reports of this I made up a preselector (also described in ESWM No 4). Strangely a 6J7 is suggested here but not having two I used an EF37A, making it regenerative as in the manual. The coupling was made from the anode of the preselector via 200 pf to the aerial trimmer of the SW2. The improvement in gain and selectivity was noticeable, as was the desirability of having four hands. If reaction is increased to the point where selectivity is greatly improved the distortion also increases and I decided to dispense with this stage. However, after further thought I removed the cathode tap on the coil and instead took the cathode to ground via a 330 ohm resistor, by-passed with a 0.01 mfd condenser. This improved the gain and selectivity without distortion. The screen voltage control was left in place and at full screen voltage oscillation may occur but the stage is much easier to control without the intentional feedback and is well worth using. However I do remember constructing and using a preselector in my VI days which presumably I found worthwhile. It may have been a different circuit from the manual, which anyway I didn't possess then.

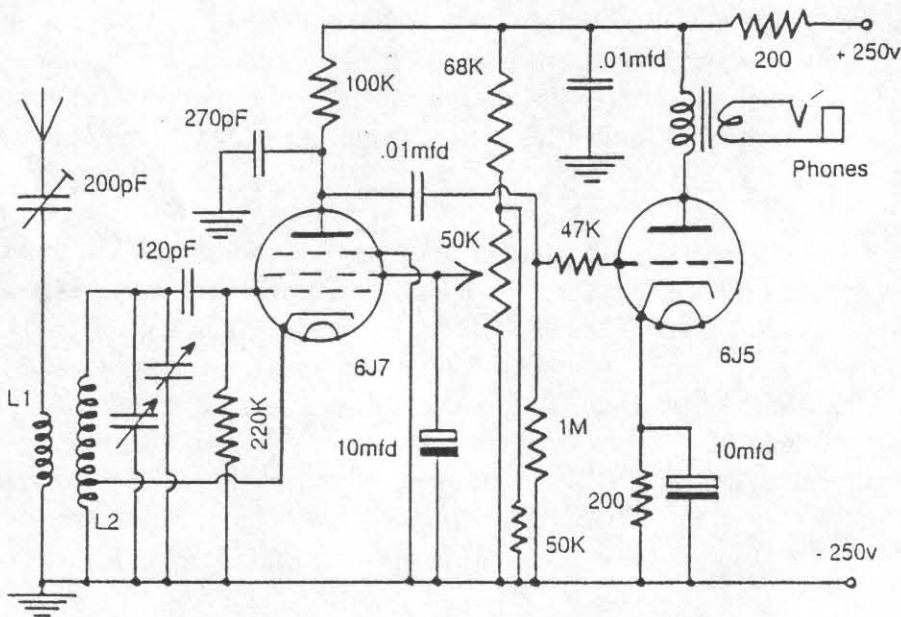
So how did the receiver perform? Using a 100 foot length of aerial my first impression was of a clarity of signal not experienced for many years both on CW and AM. SSB needed care with tuning but produced a perfectly readable signal. Comparing many amateur CW signals on 80m and 40m with my Trio (Kenwood) 430S I did not find any which the Trio could receive and not the Short Wave Two. But, and it is a big but, if there is a strong adjacent signal to the wanted one the Eddystone failed badly. If a local amateur, who operates from 500 yards away, came up on SSB I could hear nothing else but him on any band. Nevertheless by choosing times when I knew he would not be operating I have had many QRP CW contacts on 80m. I have given up explaining that the Rx is an 0-V-1 as it is obviously meaningless to most amateurs today and I just say "Home Brew".

Phone contacts have only been made using the SW2 after establishing a regular net. Explanations are necessary, and patience from the Black Box user, because it is difficult to hold an SSB signal in tune especially when switching from transmit to receive and back again. I have incorporated an HT switch to mute the receiver but have not tried break-in working. Whilst juggling with switches one does tend to lose the opening remarks from the other end!

With the aid of a calibrated receiver, preferably with digital readout, it is easy to calibrate the SW2 because of course it radiates at the received frequency. This is a snag with spot frequency working as the transmitter VFO has to be disabled during reception. My three-transistor transmitter drifts if the ceramic controlled oscillator is switched off so I detune it using an ordinary toggle switch and 3pF capacitor when receiving. This was no problem in my early days because with xtal controlled transmitters spot frequency working was rare. When calling CQ it was usual to specify where the caller was going to search for a reply. For instance he might say "I am searching from the bottom (or L.F. end) of the band". Because of this calls were made for much longer periods and delays in replying were expected.

The real joy with the SW2 comes with tuning around the bands. I think the attraction comes from knowing how simple the set is, knowing how it was made, the ease of tuning, the clarity of signals (especially CW and AM broadcast stations) and, in not being quite sure of the frequency, what unexpected delight will come in next.

The All World Two and the SW2 were used extensively pre-war and for intercept work during WW2 until superhet communication receivers were obtainable. It is still worth making and I can promise hours of fun just tuning around and making changes to the coils and aerial in the optimistic hope of getting something better and usually finding the first attempt was the best.



EDDYSTONE SW2 Original dated 3/11/1938.

Modified 1996 by Bob King to use 'current valves'.

MORE MEMBERS FREE ADVERTS

WANTED: Power plugs for Eddystone 840A. Belling Lee 'type L1116'. This type has a gap between sockets of plug. Would like these plugs to try and keep set up as original as possible. Please contact Chris Wood, GD6TWF, 2, Lyndale Ave., Peel, Isle of Man, IM5 1JY. Telephone 01624-842786.

FOR SALE: Eddystone 770R £40; 770U Admiralty Pattern £70; 898 dial, no calibration marks, unused £20. G73 Admiralty Pattern wavemeter £25. AP100386 FSK adapter with PSU £30. CT432 Crystal calibrator/heterodyne detector £25. Phone Charles on 01737-762624 Redhill, Surrey.

E.U.G. PUBLICATIONS UPDATE 1997

A Few Notes From Graeme - G3GGL

With the advent of the two important historic publications (announced on the next page) I think the time is ripe to review the current situation regarding E.U.G. Publications, made available to us by the generosity and co-operation of Eddystone Radio Limited, especially Chris Pettitt, G0EYO, Managing Director; Pat Hawkins, his secretary; and Christine Surman, who looks after Tech Pubs at the Factory and produces all our handbooks and newsletters.

The first thing to remember is that the Company has made a tremendous effort to save old documents for our benefit; the second is that the time factor may vary considerably due to pressure of work at the Factory and the incidence of holidays. Please make your orders in writing to me, Graeme, at the address below. Never write to the factory, it only causes delay. Don't worry about prepayment; an invoice will be included with the order.

NEW INDEX

A new Index, covering Newsletters 1 - 42 (June 1990 - April 1997) is now available by courtesy of Anthony Richards GW4RYK. It comprises a dual entry Index of 45 pages and is fully bound with plastic front cover. It is intended that future indices will start at Newsletter 43 and be issued in increments. PRICE £5 (£6 OVERSEAS) including p & p.

BACK-ISSUE NEWSLETTERS

These are available back to number one, but a little advice may be in order here. The very first one has 8 pages, compared with a current average of 36. It had reached 12 pages by issue 6 and 30 pages by issue 12. As time has progressed and membership increased, many of the earlier features have been repeated for their benefit. So don't hold out too many expectations for the first year or so (it has always been six a year). Get a new index and study it first. Featured models: in general these give an outline of the set concerned. If you really want to know the details about a set get the handbook. Most valve set manuals are under a fiver (the exceptions being the later double supers, etc). ALL BACK-NUMBERS PRICE £2 incl p & p.

"BETTER RADIO RECEPTION" A guide originally supplied with all valve sets . . . 23 pages, stapled, £2 incl p & p.

"AN UPDATED MODEL LIST OF KNOWN EDDYSTONE RECEIVERS, 1923-1983" 13 pages, stapled £2 incl p & p.

"A COMPILATION OF FAULTS ON OLDER VALVE MODELS" 18 pages, stapled, £2 incl p & p.

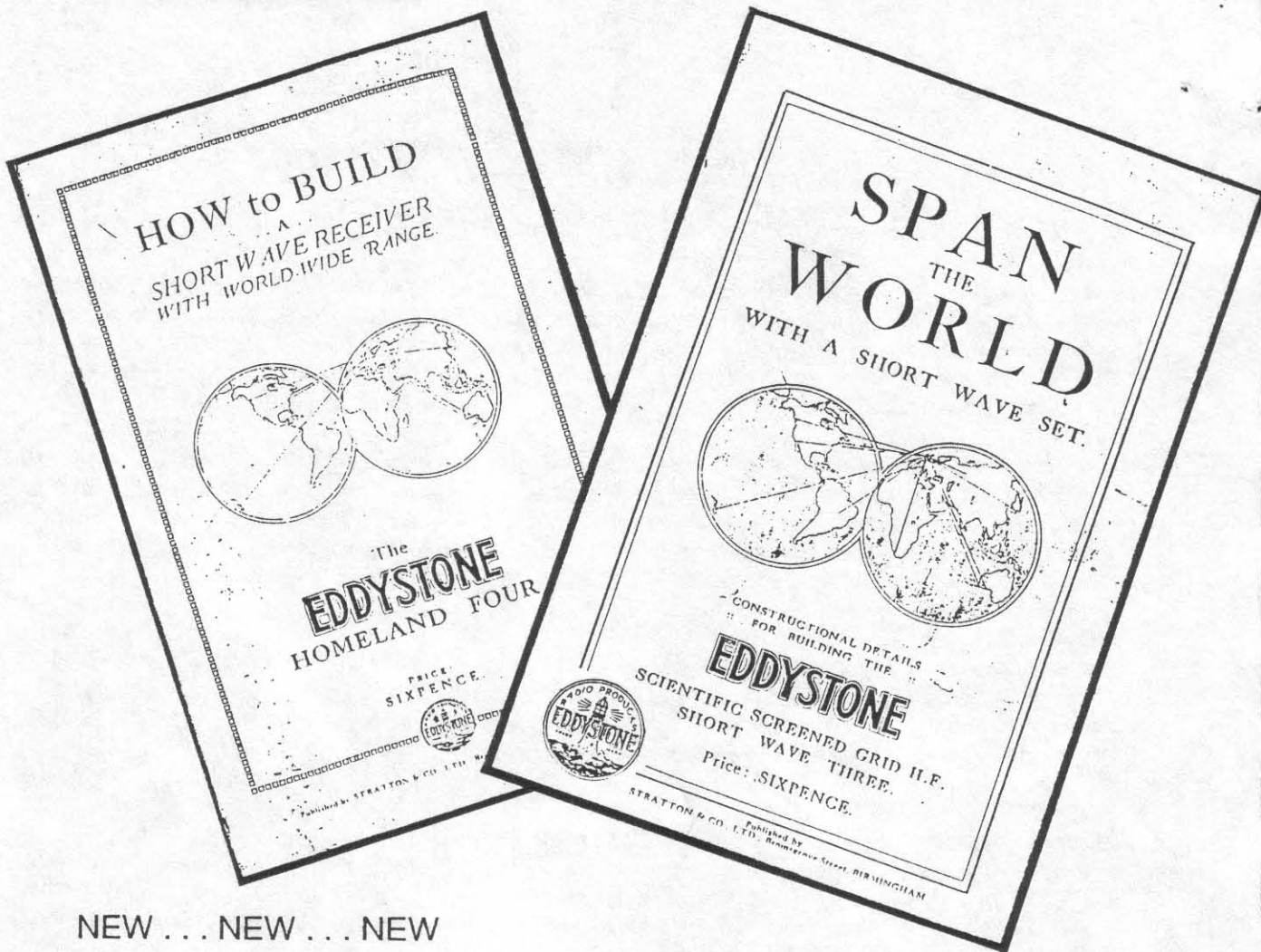
"EDDYSTONE SHORT WAVE MANUALS", Nos 1 to 6 covering the period 1932-39 (1-4) and 1946-7 (5-6). These are first-class source material for the historical constructor and student. Pages average 40 (pre-war), 25 (post-war). Fully bound with plastic front cover. Price £5 including p & p. (£6 overseas).

HANDBOOKS FOR OPERATING AND SERVICING EDDYSTONE RECEIVERS . . . These are held in great quantities, two or three hundred variations. In 99% of cases there will only be one copy of each available and this will be Xeroxed and usually bound in plastic to order. Prices vary from £3 to around £10 upwards, with an increase for overseas orders to cover the extra post. There is no tariff published, it would take weeks to work out! But in general terms sets of 5 to 15 valves or transistors cost £3-£5, gradually increasing to £10 for 100 pages, £20 for 200 pages (modern stuff!). Just order the handbook (in writing, please) and it will be sent to you when prepared, along with an invoice. Rest assured that it will be cheaper than a commercial user would pay (or anyone else would charge).

For all publications use this address only please:-

Graeme Wormald, G3GGL, 15 Sabrina Drive, Bewdley, Worcestershire DY12 2RJ.

ORDER NOW; PAY LATER



NEW . . . NEW . . . NEW

Members will have heard that two historic booklets have recently come to light. The oldest was found at the bottom of a storage box at the Eddystone Factory and is probably the earliest Eddystone Short Wave Construction Manual in existence. This is the "Scientific Screened Grid H.F. Short Wave Three" and is dated September 1928. The book, which is well illustrated, contains 18 pages and is a MUST for wireless historians and vintage radio constructors.

Quote from the book:- "The set used on an ordinary type 90 feet long aerial, 30 feet high and not badly screened, gave loud speaker results regularly from the American Stations KDKA on 43 and 27 metres, and 2XG, 2XAF and 2NAD; the Australian Station 2FC; the Dutch Stations PCJJ and PCLL; and numerous French, German and amateur transmissions."

The second book, "The Eddystone Homeland Four", was found in the loft of a house in New Zealand. Although undated, it makes reference to ". . . the erection of a new and powerful short wave station in England, using two wavelengths, is in progress . . . for the whole British Empire and the world at large . . ." This obviously refers to the Empire Service transmitters at Daventry which opened in December 1932. This book is also well illustrated and contains 24 pages.

These Two Books are now available, copied and bound, with plastic front cover. Price £4 each (£5 overseas) post & packing included, from Graeme Wormald, G3GGL, 15 Sabrina Drive, Bewdley, Worcestershire DY12 2RJ.

