

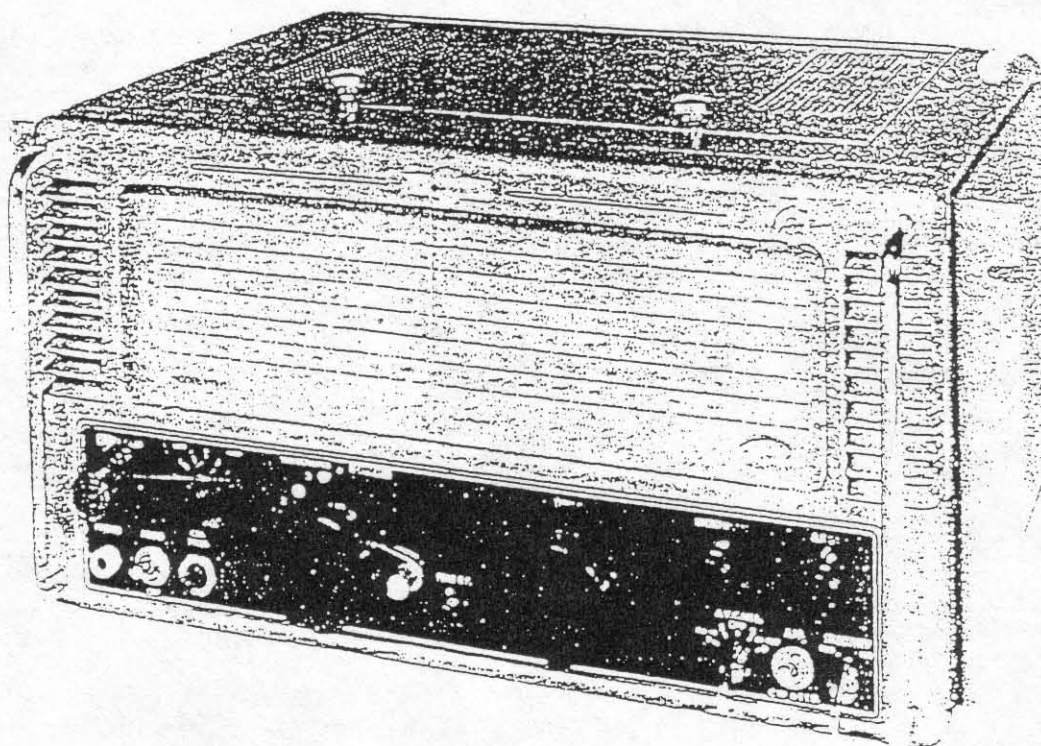
Eddystone User Group Newsletter

Issue No: 37

June 1996



Featured Model: Model 910 Communications Receiver



*A non profit newsletter for Eddystone Users

*Information quoted from Eddystone Literature by kind permission of
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This is issue 37 of the newsletter and is the first of six issues for the year 1996/97. If you join after this issue you will get the next issue No 37 up to issue No 42. 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.

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.

The administration of the User Group has now been taken over completely by Graeme Wormald, with the company printing the newsletters, backcopies and manuals as required. We also post the newsletter. Pat continues to administer the finances.

Graeme and I, plus Graeme's pal and his son, together with EUG member Alan Ainslie, set up the EUG stand at the NEC in early May. Graeme has written a short piece on it. Needless to say, a good day was had by all and it was great to see so many members rejoin and a number of new members sign up.

Eddystone Radio finally moved from its West Heath site of some 56 years to a more modern, purpose built factory and office unit in Selly Oak. For the future our address will be Eddystone Radio, Unit 8/9, Birkdale Avenue, Heeley Road, Selly Oak, Birmingham, B29 6UB. Remember though that all EUG correspondence should be addressed to Graeme (address on the front cover). The move took place over Whit week commencing on May 24th. At the time of writing this (June 9th) we are almost back to normal production. We had a little celebration of leaving the site on the last Friday and I was called upon to say a few words. Knowing that for many, leaving West Heath would be an emotional issue, I was happy to point out those present that a Managing Director not only has a duty to leave a company in good financial order to his successors but to also give them an environment in which they can build and develop the company. West Heath for all its history was just an outdoor swimming pool. I also felt that just by moving we would not be leaving our memories behind, these were with the people who were the company. They were also being kept alive by the EUG which is growing from strength to strength. There were some of course who are not alive to see the move happen and we have a special place in our heart for those. But it was also very nice to see so many past employees turn out for the last day. I am sure they enjoyed themselves. Eddystone Radio are very proud of their past and excited about its future.

Best wishes

Chris Pettitt. GOEYO
Managing Director, Eddystone Radio Limited
General Manager, Marconi Broadcast.

- Issue 37. -

- And Year 7, a nice milestone for EUG and those who have been with us since issue 1. It only seems yesterday that I went around asking people whether they would be interested in such a Group.

- The subs are staying the same, thanks to the generosity of Chris & Eddystone Radio. I hope that they can stay in their new premises for another 50 Years, the move must have been quite traumatic for everybody in the Company.

- The new mail system does seem to be bearing fruit, so please do stick to our guidelines if you want a quick response, be it for a manual (Graeme's address) or for Tech Queries/Newsletter items (Jim's address). There is one point that is forgotten by so many - the cost of our replies to your mail. I decided to do a bit of a statistical review over the month of March - only 47% of my incoming mail contained an SAE or stamp ! There are many members who do regularly send return postage and my thanks to all of you, but others ? Well I hope that in future you will think to include a stamp if you want a reply.

- This issue is featuring the model 910/1, it was sold mostly as a badged set for Marconi customers and called the HR101 but I have heard of several with the Eddystone model number and logo. Strangely enough 2 of these latter in Germany, so is there a story there ?

- Subs; for the coming year, get your money in to Graeme or you will not be on next month's mailing list - You could pay at the EUG stand at the NEC, sort of kill 2 birds with 1 stone. There has already been some mail from those members who did go, and many others expressed their appreciation at the show, one member asks why we could not have asked for volunteers to help out, via the N/letter. I shall take it up with Graeme for next time.

- One member queries the stocks of the ZOO-2530 version of the EC10 that have come onto the market recently, sorry I have been unable to find out who sold them off as surplus but am still trying. There seems a possibility that they came from a Gov't source but I remain unconvinced. No we cannot find a specific manual for the 'ZOO' set but the standard EC10 will apply to all except the DF unit. Dave in Glasgow asks whether this could have been the much sought EY11 - something I have never considered before, I wonder ??? There are real precedents for such a double model name, as with the 720 'Yachtsman', or the 710 'All World Six' so I shall have to do a bit of 'file-crawling' to see what dates and figures I can tie together. The thing is that we do have a publicity brochure with some data for the 720 Yachtsman but for the EY11 Yachtsman we have nothing more than a mention in a computer print-out supplied by Richard Baker, where it is quoted as being 'a marine version of the EC10'. There appears to be nothing at all in the factory archives on this set. Peculiar that !

- Okay who was the April 1st Joker ??? I got a letter from John, but no return address, just the date 1-4-96 at the top of the letter, and of course in such a case the postmark was simply an ad for BT, no postmark. If you want me to help with your 750 problem then please, John, write again with your surname and address.

- Guess that is it so now enjoy the N/letter - - -

- Drive Cord Replacement. -

- The very thought of the drive cord, or wire, breaking can cause some users to go into a frenzy, become quasi-suicidal. I know of one 670C owner who sold the set as was, after several unsuccessful attempts to replace the drive cord.

- It is NOT so difficult though if you plan the job. If you are the pessimistic type who wears both belt and braces then you will have sketched out the path of the cord on your set long before the inevitable happened. With this to go by your task should become a 'doddle', if you approach the task with everything to hand.

- If you do not have the aforesaid sketch then it is still easy enough, maybe the illustration in this issue will explain a few things. Incidentally if you have done one Eddystone then you can do any other, they are all remarkable similar as regards the drive line.

- The sample shown is for the 770U but it is a guide to all the 'slide-rule' dial sets. You need to have the necessary length of replacement drive cord/wire

- Most of the 830 series that did have the special bandwidth filter fitted for this high speed telegraphy system will have had it removed before sale. The practice was to chop out the 'offending' crystals prior to disposal, and a careful visual check of the underside of the 830 chassis will show where this has been done, close to the microswitch on the Selectivity switching mechanism. This will usually have been left so that the narrow crystal position, marked as CW2 on the fascia plate, does nothing at all. I suppose it would be possible to obtain a suitable crystal to be fitted here so if any EUGer has the necessary info please let us know, there are several members waiting for the info.

- On the same subject, those 830s that went to civvy users, or even some MoD sets will already have a suitable crystal fitted here, so don't go around thinking you have a 'P' filter fitted.

- - - - -
- Car Boot Sales, Eddystones. -

- At most indoor Rallies you will somehow find a means of doing a visual check on the 'innards' of any set you are considering buying. Maybe you will be lucky enough to find a power point and risk powering the set up. At outdoor car boot type sales there is little opportunity for doing this, but you could always take a screwdriver along in your pocket, in case.

- It is very worth while being suspicious because there have been a number of EUGers who have bought sets at such sales and been very upset when they got home with their 'bargain' set. I had a letter just recently from Stan where he laments the fact that he is now the owner of a very much cannibalised 840A. Looks perfect on the outside bar one or two scratches on the case. Inside ? well all sorts of alien Tv valves plugged in the sockets, all IF and RF cores are wrecked, with damage to the formers in some cases so that he has doubts about the coil windings. To crown it all the cogs on the slo-mo drive are minus a number of teeth.

- Okay he took a chance when he handed over his £18, knocked down from £20. But with hindsight he says that he would have debated whether to take the set for a fiver, for spares.

- - - - -
- And the Angels Sing. -

- Do any of you EUGers out there know this one ? played by Benny Goodman in the 50s, and I like best the version where Ziggy Elman plays the solo half way through the 78 rev recording. It is not often heard these days on the radio but a recent 'oldies' programme on a local station featured this, my favourite.

- Guess what ? Just as the record started my EB35 II failed, no warning at all it went dead quiet, even with the volume full up it was barely audible. My thoughts, if not my language, were BLUE !

- I immediately got the set open and tipped upside down, my first thought was the correct one, snip the leads on the 'tincan' trannies. Second one I did brought the volume back up to normal but of course by that time my record had long since finished.

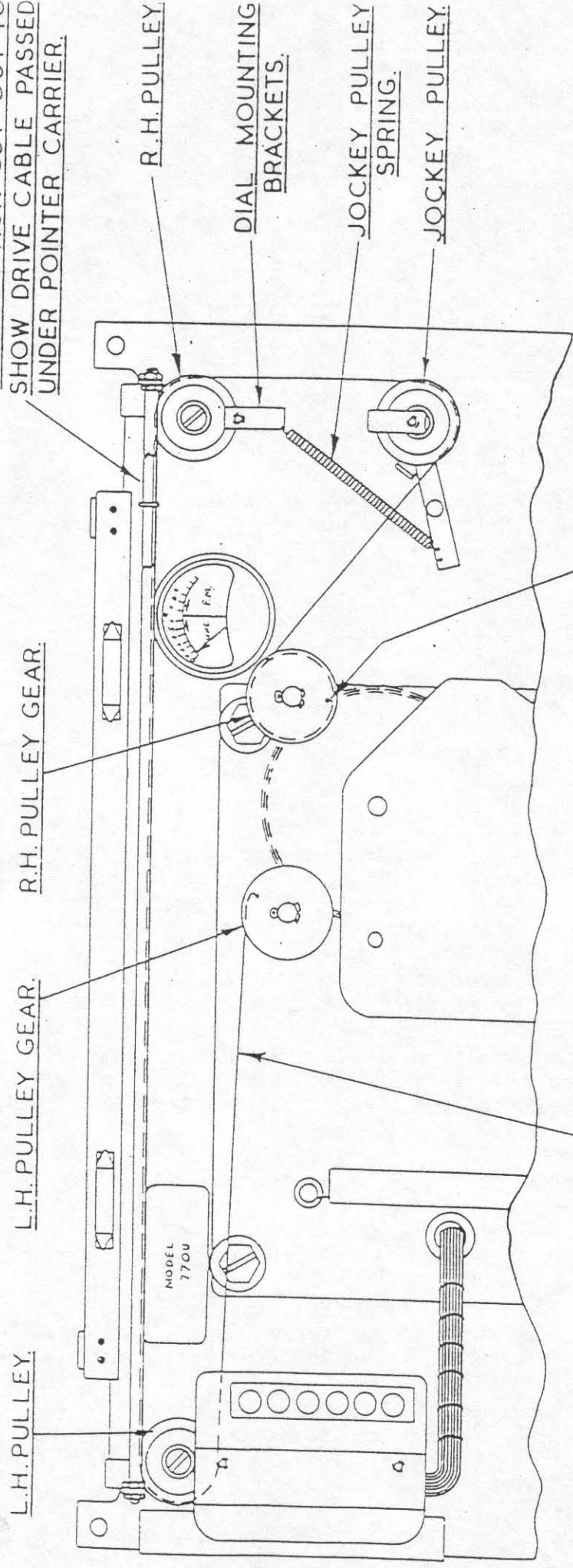
- Sometimes these 'whiskers' seem to take effect slowly so that gain just drops off over a period of hours, or days. In other cases, as with mine the effect is immediate. Luckily the slight surgical chop works in most cases, if not and you do need new OC171s then try Birketts of Lincoln. They do still have some in stock, or have an equivalent type.

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- FREE MEMBERS ADS. -

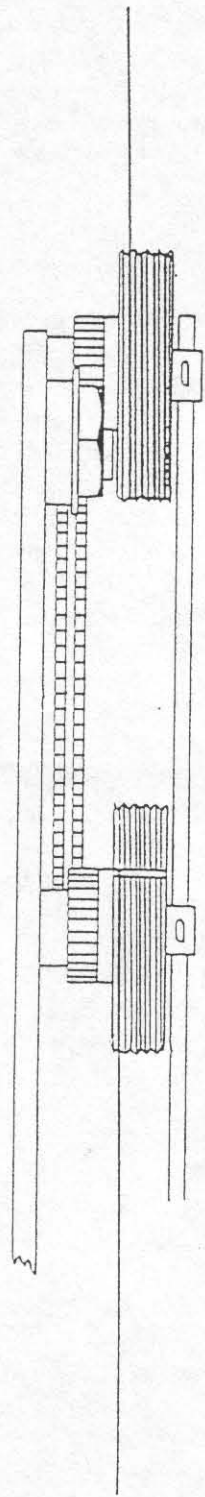
WANTED, models number 1570, EC10, EB35, EM34, 960, 890, 930, 870, 870A, and any others considered. Also any scrap sets for spares to help out other collectors. Some doubles for sale, please phone Peter Lepino, 0374-126170 anytime, (Surrey).

Eddystone Radio 770U

THIS PORTION CUT-OUT TO SHOW DRIVE CABLE PASSED UNDER POINTER CARRIER.



ANCHOR PIN TO BE IN POSITION SHOWN.



PLAN VIEW SHOWING CABLE FITTING ON PULLEY GEARS.

Drive Cable Fitting

cont; from p.1 -

to hand, even an extra long length in case of errors. A vital tool is also a long hook that I make up at the time from a large-ish paper clip. if you can get one that will stretch out to make a handle of 4-5 inches with a $\frac{1}{4}$ inch hook on one end it will do fine.

I have found by experience that it is best to sit at a table with the front of the receiver close to you so that you can 'overlook' the drive system. Others tell me that they find it easier to work with the set turned away from one so the view is of the rear of the panel with all the 'bits' visible, as with the diagram on the previous page. The full details have been published already in previous newsletters so it is not necessary to repeat them. Just take it one step at a time and be patient !

- - - - -
- Faults on an EP20 Panadaptor. -

- At a first glance the EP20 looked to be okay, clean enough looking from the outside, no visible burns on the tube face - ought not to be as the tube is well under run.

- When the case was removed and the chassis inspected it was found that every-part of the upper chassis was layered in a thick hard crust of dust. The fan filter was blocked so that the fan whilst running was doing little or nothing to ventilate the tightly packed chassis.

- Much use of paraffin and a $\frac{1}{2}$ " paint brush loosened most of the dust layer, as it was loosened it was sucked up into the vacuum cleaner. The filter system was demounted and all parts cleaned separately, the fan was re-lubed with silicone grease, this was also applied to the mechanical parts of all pots and switches.

- Once the cleaning was complete the unit was powered up, open on the bench and right way up.

- Operation of the spot centring controls with no signal input showed that the deflection circuitry was way off, the spot could not be centred, the base line was all to one side. These faults are to be expected and the faulty condensers were located and replaced, in this instance both C80 and C81 were definitely leaky. They were replaced with conservatively rated polyester types. To get the deflection properly set up it was found necessary to change V9A/B, an ECF80.

- All voltages from the complicated psu had checked out within tolerances as per the manual, yet as tests proceeded it was found that several valve electrode voltages were out of tolerance, first found was the anode volts on V1. This should have been @ 145 volts but it was down to 100, eventually found to be caused by a leaky C4. Now in the manual this is stated as being a 0.047 muf polyester type. It was certainly the original factory item but it was a paper insulated type, it was rated at 450v DC but it was very leaky. Fitting a 440 volt rated polyester was a cure for this problem.

- Next was V10, the kathode follower. It should have had 360 volts on the anode but it turned out to be much lower, @ 320 volts. This was caused by the anode decoupling resistance which was marked correctly as a 470 ohms but measured in at almost 10 Kilohms (R88). A replacement brought the volts on pins 5 & 7 up to normal.

- One last problem was found and cured, the coax lead from the output of the detector stage, V6/L2-3, was found to be green and gooey at each end. Removing it and doing a check on the insulation showed it was acting as a variable resistor of from $\frac{1}{4}$ meg down to about 70 Kohm - when squeezed ! A new length of coax was cut and fitted into the circuit.

- All controls now produced the required response when an IF signal was fed in and after some small adjustments to various presets the panadaptor was put into service with my EA12. The set with the panadaptor is now kept on the 10 metre beacon band and used as an indicator of current propagation conditions. My next plan is to get an 830/7, fit crystals to the switched channel facility so that the various beacons can simply be switched in, much easier than having to manually retune the EA12 every time ! Yes I am lazy ! Brian.

- - - - -

- Featured Model, The S.910.-

- The model 910 was also made and badged for Marconi as the HR.101, it is a double conversion superhet comms receiver covering the HF range of from 1.5 to 30 Mc/s plus the Marine band of 375 to 525 Kc/s. Incremental tuning of \pm 50 Kc/s is provided by using the tunable IF principle, the first LO may be crystal controlled on four channels if required.

- Provision is made for reception of AM and CW signals and the receiver has a built in psu for operation from 100-125 and 200-250 volts AC only at 50/60 c/s.

- The slide rule type dial allows of clear calibration points and the built in crystal calibrator permits a high degree of re-settability.

- Audio outputs are for a speaker of 2.5-3 ohms plus a phones jack and at the rear is a 600 ohm line output at low level. This line output is not affected by change over from speaker to phones or vice-versa. The receiver has a standby facility whereby it may be de-sensitised during transmission periods, connections for this are at the rear.

- Actual Ranges are,-

Range 1,	18 - 30 Mc/s.	Range 5,	2.5 - 4 Mc/s.
" 2,	11 - 18 "	" 6,	1.5 - 2.5 Mc/s.
" 3,	6.7 - 11 "	" 7,	375 - 525 Kc/s.
" 4,	4 - 6.7 "		

- IF frequencies are,-

1st IF,	Nominally 1400 Kc/s but variable over the range 1350 - 1450 Kc/s to provide incremental tuning.
2nd IF,	Fixed at 85 Kc/s but with variable selectivity.

- Aerial impedances are nominally 75 ohms, throughout the range, and may be either balanced or unbalanced.

- Audio output impedances are,-

Speaker,	2.5-3 ohms.
Lines,	600 ohms.
Phones,	Nominally 2000 ohms but a wide range of impedances are suitable.

- Mains supply, 100-125 & 200-250 VAC at approximately 75 VA.

- Battery operation, External Vibrator psu with consumption of 10 amps at 6 volts DC.

- Sensitivity is less than 5 microvolt for 10db signal to noise.

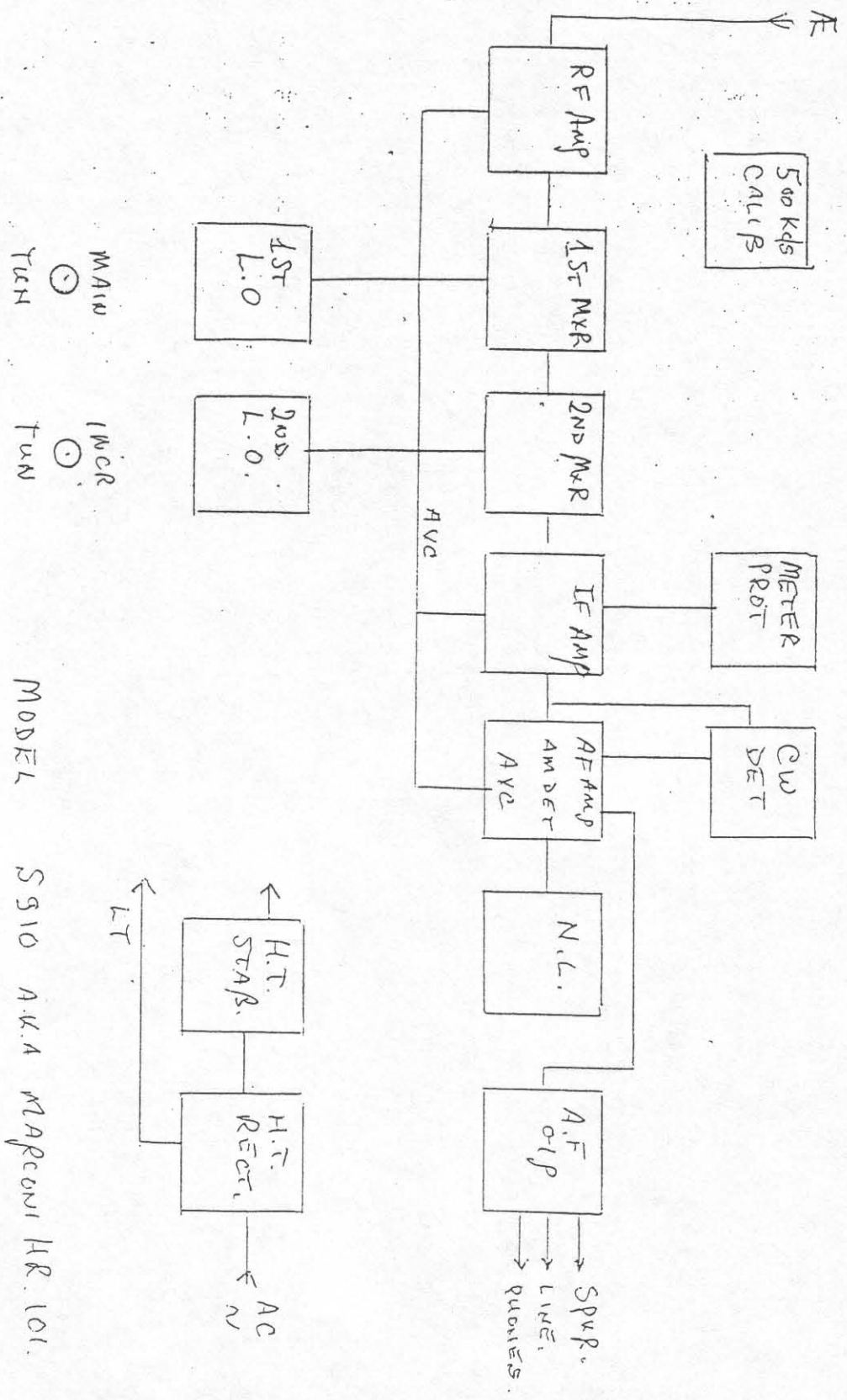
- Selectivity may be varied from not less than 5 Kc/s to not greater than 1.5 Kc/s for a 6db level.

- Valve types are as below,-

V1, 6AK5, RF amp;	V8, 5763, AF output.
V2, 6BE6, 1st mixer.	V9, 6BA6, Calibrator.
V3, 6C4, 2nd local osc;	V10, 6C4, Local osc;
V4, 6AK5, 2nd mixer.	V11, 6BE6, CW detector.
V5, 6BA6, 85 Kc/s IF amp;	V12, 0A2, Voltage stabiliser.
V6, 6AL5, NL & Meter prot;	V13, 5Z4G, HT rect;
V7, 6AT6, AM det;/AVC/AF amp;	

- Front Panel controls are the usual 2 large knobs for Tuning and range/xtal selection, with to the left, a dual RF/IF gain pot, phone jack, standby switch, calibrator switch, and EFO tune. To the right are the incremental tune, AF gain, AVC/NL switching, AM/CW switch and the variable selectivity control. A rear mounted socket is available for use with the optional S meter, Another octal socket is there for use with the external vib; supply.

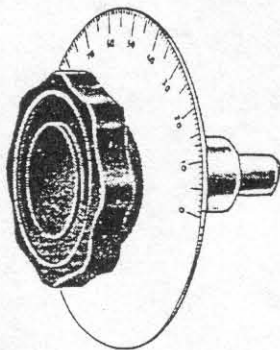
- A block schematic is supplied over the page.



MODEL S510 A.K.A MARCONI HR. 101.

EDDYSTONE

PRECISION DRIVES AND DIALS



Instrument type drive with slow motion 6-1 and vernier indicator. White metal scale 4" diameter, 5/64th" thick, machine cut markings with black filling. 2 1/4" fluted control knob available in 1/2" male or female fitting.

Cat. No. 1085 Price 15/-

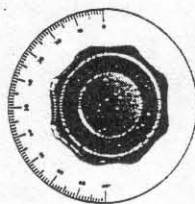
Popular Dial with slow motion 6-1, similar to Cat. No. 1085.

Cat. No. 1115 Price 10/-

POPULAR FINISH DIRECT DRIVE DIAL.

4" scale is satin finish aluminium, clearly marked. Fitted with 2 1/4" fluted control knob for 1/2" spindles. Single line indicator provided.

Cat. No. 1098 Price 4/6



MINIATURE POPULAR FINISH DIRECT DRIVE DIAL.

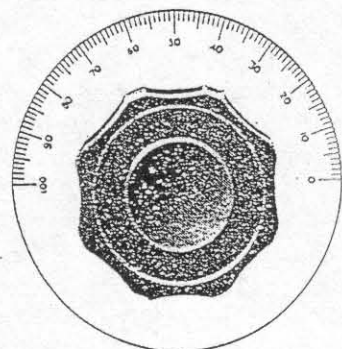
A popular type of dial which will appeal to the Amateur experimenter. 2 1/4" scale is satin finished aluminium with clearly marked divisions. Fitted with a 1 1/4" control knob for 1/2" spindles. A single line indicator is provided.

Cat. No. 1099 Price 2/-

MINIATURE DIRECT DRIVE.

A small precision dial, 2 1/4" white metal scale, machine cut markings with black filling. Fitted with a 1 1/4" diameter fluted control knob and a single line indicator.

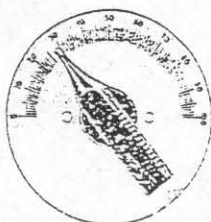
Cat. No. 1097 Price 4/-



DIRECT DRIVE.

A high grade instrument finish precision dial, fitted with black indicator. White metal scale 4" diameter, 5/64th" thick, machine cut markings with black filling. A 2 1/4" fluted control knob for 1/2" spindles and reads 0-100 divisions with clockwise movement.

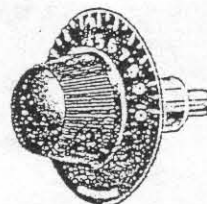
Cat. No. 1077 Price 6/9



POINTER KNOB AND DIAL.

A straight through control with 3" satin finish aluminium dial, engraved 0-100 deg. in black. The pointer knob is of elegant shape in black bakelite, has fluted grip and tapering pointer with engraved white line. For 1/2" spindles only.

Cat. No. 1027 Price 1/3

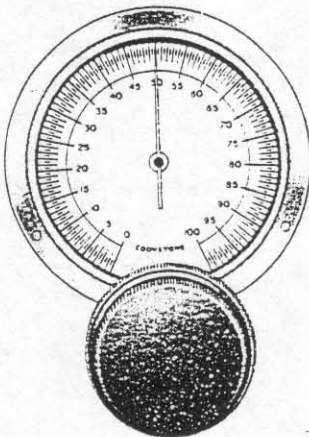


SLOW MOTION DRIVING HEAD.

Has a 9:1 reduction ratio with the pointer moving through 180 deg. Useful for slow motion control of components mounted from an extension spindle and in the design of ultra short wave receivers, enables the component in question to be mounted in the best position for short wiring. In transmitter design, it affords a very small and compact slow motion tuning drive.

Cat. No. 1012 Price 3/-

Cat. No. 1036. Fitted with knob dial cursor No. 1026 Price 4/6



FULL VISION DUAL SPEED DIAL.

Full vision dual speed dial. The movement is superbly silky in action without backlash on both the 20-1 and the 100-1 speeds. Specially designed to eliminate noise. The open vision scale is clearly readable and divided into 100 graduations. Half division marking ensures accurate settings of indicator pointer. Movement can be mounted from panel or baseboard. Dial face fits on front of panel so that no large panel gap has to be cut unless it is desired to illuminate from the back. Finished in oxidised silver metal.

Cat. No. 1070 Price 8/9



INSTRUMENT KNOBS.

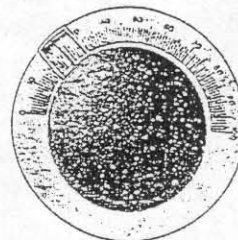
A high grade instrument knob of polished black bakelite moulding with brass insert for 1/2" spindles. The design ensures positive finger grip and steady control. Two set screws are provided 90 deg. apart to give the knob a permanent setting on the instrument spindle.

Cat. No. 1076 Price 2/-

Cat. No. 1029 Price 1/3

Cat. No. 1026. A popular type 1 1/4" diameter control knob for 1/2" spindles. Fitted with one grip screw but without brass insert.

Code KNO-1M Price 9d.



KNOB, DIAL AND CURSOR.

A handsome direct drive control outfit which can be used with extension spindles and any components employing 1/2" spindles. A 2" black bakelite knob and 3" 100 deg. dial complete the outfit.

Cat. No. 1026 Price 2/-



HANDLE INDICATORS (JOHNSON).

Johnson's type controls with moulded bakelite handles. Window design makes possible use of 3 separate scales, etched in black and silver. Fit 1/2" shafts. Calculator of each dial is zero to 100 with 100 on the left. Each unit is supplied with mounting hardware.

Cat. No. 412 Price 4" 3/6

Cat. No. 413 Price 6" 5/-

SMALL POINTER, KNOB AND DIAL.

A 1 1/4" aluminium dial plate finished back and marked 0-10 in white letters. 1/2" or 1" hole as desired. Black bakelite pointer knob for 1/2" spindles, fluted grip and tapering pointer with engraved white line.

Cat. No. 1044 Price 1/6



- Paper Condensers and the S.358. -

- The 358 in question was an ex RN set that came off a mine sweeper in the early 50s. Don't ask me to divulge how it came ashore, suffice to say it was by devious means. I had used it for many years until the new and unused HFD -MX came along. I thought at the time that the HRO was an improvement, it was in some ways but I like a dial in front of me ! I went on to own several more Eddystones, one at a time. Only recently have I become a collector. When there were 3 sets in the shack, a 640, a 680X and a 940, I thought it was time to rescue the 358 from its obscurity in the loft.

- It did work at first, when I powered up. But gain dropped off within a few minutes so that with gain at full signals were almost inaudible. A case for the workbench indeed, so this was done. An open set turned upside down & some tests showed that several of the moulded paper condensers were very low in insulation resistance.

- First to be swapped was C18 tucked away at the rear of the chassis, then came C30 just adjacent to the V4 valve base. Then came C10 close to the V1 base on the other side of the chassis. All were swapped for new stock polyester condensers of the correct value.

- The turn of resistors, and a surprise here, it was not necessary to swap any of the high value types, i.e. the 100K and 1 Megs. The only 2 that I had to swap were R26 and R34, both 1 K types and reading high at several kilohms.

- The voltages all came within the stated levels on page 28 of the manual, and the current meter indications all showed up okay. The set was connected to the aerial once more and reception was back to normal, no valves needed to be swapped despite their having been fitted in the fifties - I now have 4 sets in my collection, all workers ! Ian.

- Manual for the 850/4. -

- When using this manual there are some slight errors that need to be noted if your re-alignment is to be fully successful.

- Turn to page 16 and note the table at the bottom of the page. This gives the scale markings and frequencies at which the trimmers and the cores need to be adjusted. The words and componets are okay BUT the frequency lists are transposed. The left hand list is 300 down to 10 Kc/s and it should be in column five. The right hand list of frequencies from 550 down to 19 Kc/s should go in column two, okay ? Used as the table is actually printed the alignment would be way off. You always adjust the trimmers at the HF end of a range and the cores at the LF end of the range !

- Next is page 7 and half way down the page where it gives the connections for various types and impedances of aerial, the paragraph headed Aerial.

- The changes are for '75 ohm unbalanced' and it should read as follows,-
75 ohm unbalanced . . inner feeder conductor to term; 4, outer braid to term; 3, and link between 2 & 3.

- Next is for 300 ohm unbalanced and it should read,-
300 ohm unbalanced . . feeder to term; 1 & 2, with link between 2 & 3.

Lastly is,-

Random wire lengths should be connected to term; 1 with a link between terms; 2 & 3.

- There was an amendment sheet issued for the above but it is not in all the manuals - it came out 18 months after the sets first left the production line.

- 990R crystal units. -

- The 990R has an 8 channel switched crystal unit fitted internally and when bought by EUGers there may be crystals already fitted. Since the previous user may not be known, and hence the channels used may also be unknown, it may be possible to find out something about the history of the set by finding just what frequency these crystals provide.

- The manual states that the crystal may be of either 3rd or 5th overtone type and so some maths will be needed to find the actual channel in use.

- The crystals must have a fundamental within the range 37.7 to 88 Mc/s, to permit the crystal oscillator to function correctly, this should be checked first off, making certain to replace each in the same socket from which it came.

- Note the frequencies of each crystal fitted, best to make up a table with three columns. Column 1 being the crystal fundamental as marked on the case. Second column you must multiply the column 1 figure by 2 and subtract 10.7 Mc/s. This will give the 3rd overtone, one of the possible channels for this crystal. Now multiply that fundamental by 3 and subtract 10.7 Mc/s, this gives the other possible channel and goes in column 3. Do this for all the crystals fitted so you will end up with a table of all crystal fundamentals and both possible channels upon which it will possibly operate.

- A look at the table may now show some similarities, i.e. - all may be turned out to be within the civil airband, or the Band 1 or Band 2 or Band 3 broadcast bands, maybe they all come into Band 2, so you know it could have been used as a monitor for BBC VHF/FM broadcasts. If in the Airband check the channels against a frequency list and you may even be able to locate what part of the country the 990R was used in, a bit of detective work will even locate the home airport/airfield where it was used. The channel one would normally have been set up for either the 121.5 emergency channel or for the airfield Tower channel.

- I did checks on mine and found that of the 4 fitted crystals, 3 were for use on Band 3 ITA channels in the South West of the UK, the fourth was a mystery one as it was just below the lower Band 3 edge, but then when did anybody ever stay within the published Bands ?

- A second 990R that I bought for spares contained just 3 crystals and all were for civil airband channels, a look at my airband listings showed that they were for 121.5 and then 2 channels as used by British Aerospace at Wharton in Lancs; Unfortunately this set had been cannibalised for spares and so was lacking some vital IF parts. from Steve Tibbs.

- The Bath Tub Curve. -

- No nothing whatever to do with the old Factory but a graphical illustration of the Failure Rate Variations with Time for components in electronic equipment.

- A study of reliability of components is necessary to predict component life, no good having a receiver designed to last for 20 years when the toggle switches are predicted to fail within 6 months is it ?

- There are 2 terms used in this context, MTTF (mean time to failure) and MTBF (mean time between failure). The former is used to refer to components that cannot be repaired and must be replaced, i.e. valves or transistors, the latter term is applied to those components which may/can be repaired, instruments or meters are an example.

- Contrary to what EUGers may find valves and dial bulbs feature at the top of the failure lists, with soldered connections least likely to fail. (Wrapped wire joints are even less likely to fail than soldered joints !!!)

- Pots; variable resistors are high on the failure list, as are oxide type fixed resistors BUT, surprise, surprise, paper type condensers are most likely to go, 50-100 times more likely than resistors.

- Toggle switches which are often rated at a half-million operations before failure seem to come out really well with operation/life figures of maybe 10 times that guaranteed.

cont:-

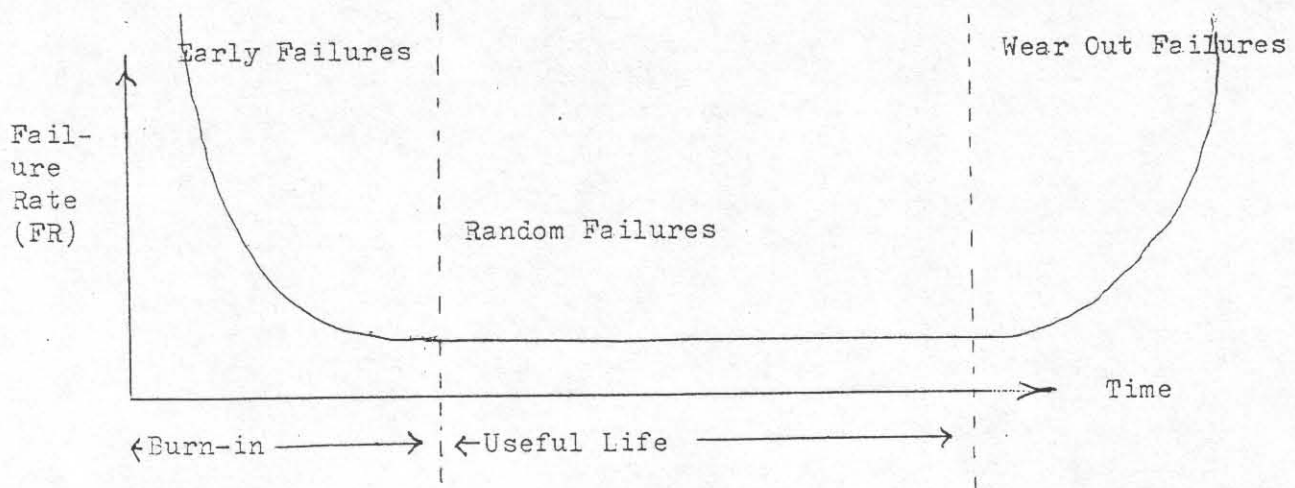
cont; from p.9

- Many manufacturers use a process called 'derating' to improve upon the statistical failure rate, this could involve use of 1 watt resistors in a situation calling for but a $\frac{1}{4}$ watt of dissipation, or maybe a condenser rated at 350 volts DC where the HT is but 250 volts.

- Transformers can be overrated by using thicker wire for the windings and better insulation between windings, as can be coils for IF/RF use.

- Wirewound pots; should be used in all circuits that carry a DC component whilst carbon track types may be used where there is only a low value signal carried through the track.

- The Bath Tub curve gives a visual representation of the total failure rate of components in a circuit, or piece of equipment. See below,-



Failure Rate Variations with Time.

- Those Dud Carbon Rod resistors.-

- Going from the info supplied in a recent book that deals with such problems it would seem that the failure of these older 'rod' type resistors is of two kinds.

- First is the possibility that with heating up in use, even a slight increase of temperature, the wire fastenings at each end loosen and the contact surface can become corroded, hence an increase in total resistance and the possibility of noise generation. It has even been shown that in extreme cases the contact between the tinned copper wire and the carbon rod can become non-linear, i.e. the junction becomes a diode passing current more easily one way than the other.

- The second stated possibility is that the carbon rod takes in moisture from a high humidity atmosphere, this can cause swelling of the rod, cracking of the rod, hence a change UP (always) in value.

- Those leaky paper type condensers.-

- The insulant is usually paper which is heavily impregnated with wax. The wax being the actual dielectric whilst the paper serves as a 'support' medium for the wax.

- Failure in these condensers comes usually with age and can be attributed to several factors. Primarily this is the leakage of the wax caused when heat causes it to melt and it can escape to the outside via a seal leak in the case. Secondly comes the ingress of moisture which makes the now dry paper wet.

- One point which is not appreciated by many is that changes in atmospheric pressure can speed up and exaggerate such symptoms, bring your rx down from the top of a hill on a rainy day and Bang goes the paper condenser !

- The 958 and Gooey Co-ax. -

- This has been mentioned in previous newsletters however Frank has written in detailing the work necessary to restore his recently acquired EC958 to good working order.

- Contrary to comments by myself and others it would seem that the poor condition of the polythene dielectric material in the mini co-ax is NOT due to exposure to salt spray, as when in use on board ship.

- This particular 958 has never been anywhere near the seaside ! Not even for a day out in summer ! It has spent all of its post-sale life in Bedfordshire used on a 24 hour basis.

- Frank says that when he purchased the set at the end of its professional life he decided on a complete overhaul, despite the fact that the set looked to be in excellent condition and did appear to work well.

- External appearances can and do give a false impression though. The set was both dirty and all the interconnecting mini co-ax cables were green and gooey at the extremities. In some cases the goo had run down onto the contacts of the interconnecting strips. Frank now believes that humidity and even mild heat are sufficient to cause the chemical reaction which turns the polythene into a green syrup like goo.

- A quantity of the required mini co-ax was bought new from Electromail and thought was then given to the manner in which the job would be done. Eventually it was decided to take a series of black and white photographs of the 958 as it was dismantled unit by unit, these were mounted on a wallboard above the workbench. All the co-ax was then removed, and measured. Replacement lengths were cut and marked as to their eventual position, both referring to the diagrams in the manual and to the various photographs. When all had been removed all connecting strips were cleaned thoroughly with switchcleaner fluid and a stiff bristled brush. Frank warns that the use of the switchcleaner fluid in an unventilated room can cause bad headaches, best to work with a window open.

- With all contacts cleaned the various units were set out on the bench in the order in which they would have to be refitted. The co-ax lengths were now soldered into place and units fitted one by one. Sounds easy and quick but it was a job that took several weekends to complete, the double checking took as long again !

- That there is a considerable improvement Frank has no doubts, his EC958 has been transformed by the co-ax replacement, apart cleaning no other work was necessary. As an experiment some lengths of the old gooey coax were checked and it was found that a 7 inch length read out at about 1400 ohms from inner to outer screen, this ohmic value decreased as the co-ax was squeezed between the fingers ! Frank now hopes that he will get another 25 or so years of use from his re-born EC958.

- The Eddystone 5 metre Transreceiver. -

- The Wireless World for October 30th, 1936 contained a short write-up and a photo of this model. On the same page was a similar write-up and photo of the new Eddystone Four band crystal controlled amateur transmitter.

- If YOU have a copy of this Wireless World may we borrow it to make good professional copies of the items for use in Newsletters ? If you can help you can write first off to me or Jim Murphy. Jim will do the copying and return your magazine to you. I shall re-imburse your costs for postage if asked to do so. Thanks !

- HELP -

- Does any member have a good copy of the Wireless World Magazine for the date of December 15th, 1938 ???

- If so can you lend it to EUG to have a good professional copy made from the article on Stratton & Co; PLEASE ???

- EUG will pay all your postal costs and return the mag; to you promptly in good condition. The article is about 1½ pps long and details the factory workshops with some photographs, we would like this for future use in the Newsletter. Thankyou in advance.

- Geoff Woodburn, of Eddystone.-

- It is three years now since Geoff passed away, and I had been in correspondence with Geoff for several years previously. His lifetime of work at Eddystone had made him a 'human memory bank' on things Eddystone. Many of the circuits and photographs that we have of the pre-war and early post-war sets came from Geoff who was still visiting the Bath Tub until shortly before he left us. I hope that he has his favourite Eddystone receiver with him, wherever he is now !

- Recently a letter from his widow Margery has arrived at EUG and I think that Geoff deserves this belated Obituary, possible quoting from a letter that I received last year from a mutual friend.

- "Geoff had been with Strattons since 1938, when he began on assembly work where we worked alongside each other. He was a meticulous person and soon his worth was recognised. Shortly before the outbreak of war he moved over to the Test & Inspection (Quality Control) Department. Much later he transferred to the Development Department as a Development Engineer and was still employed by the Company during the final testing and developing of the 1990R series, as you may see from the enclosed photograph."

- I know myself that Geoff still went into the Bath Tub since I met him there on one occasion in 1991 when he had been able to copy up a number of very early schematics for EUG. Some of these have already been shared with members, others will follow in future issues. Geoff's interest in EUG meant that he was in receipt of our Newsletter and he frequently commented upon articles and items that appeared, his letters to me are full of details about life at Eddystone.

- The Kilodyne Four Receiver.-

- This model was made in a number of versions by Eddystone, during the years from 1932 to 1940. A number of schematics of the various battery and mains models sold under this name are being collected together and will be available to EUGers shortly. ALL of the information contained in this booklet will have been supplied to EUG by Geoff Woodburn from personal and Company files. Don't write me, just watch your N/Ls for further info on the booklet.

- Model Shops !!! -

- A letter from Dave to say that he has been able to obtain suitable pulleys for use on the 770R that he is re-furbishing, he was also able to buy a full spool of stranded brass wire suitable for use as 'drive wire' on various models of Eddystone receivers. The source ? a model shop on Stockport Road in Stockport, Cheshire. And if any member writes me asking why the likes of Naomi Campbell need, or use, nylon pulleys and brass drive cord then I shall be annoyed !

- This Months Accessories, 5 of them.-

- These are all five based more or less on the Battery box catalogue number 938, as used with the EC10 and EB35, 36, 37 receivers.

- There is the battery box itself designed to hold six of the D type cells, what are usually called R20 or LR20 cells nowadays. Then there are two versions of the 12/24 volts DC to 9 volt DC adaptor unit, one for early negative supply and positive earth sets (Ge type trannies), and one for the later versions with a positive supply and negative earth as the EB35 III receiver. (Si type trannies and IC).

- Next you have the mains power supply units with negative or positive earth for use with the sets as specified above for the adaptor.

- Five types of supply, all giving you the required 9 volt DC to operate one or other of the EB/EC series receivers. These units all have the same basic external dimensions and all are suitable to be slipped into the psu space at the rear. One slightly different variation of these will be found for use with the Post Office 40A receiver. The three positive supply versions can be had in a buff (yellow) colour for use with the 40A but circuitry is the same.

- Catalogue numbers are as follows,-

938 - Battery box for x 6 cells, either polarity.	+9	volts DC output.
924 - Mains psu for 110 - 240 volts AC input.	- 9	" "
924A - " " " "	+ 9	" "
945 - 12/24 volt DC input.	- 9	" "
945A - " " " "	+ 9	" "

- These units are all connected to the appropriate receiver via a 4 pin connector which enables the front panel power switch to switch the input mains or battery supply, care must be taken to get the polarity correct by noting the coloured spot on plug and socket.

- Incidentally I have had to correct a number of members over the assertion that this mains psu employs a 'voltage doubler' circuit. Why they believe this to be so I cannot fathom out for myself as the circuit is a perfectly simple and basic full-wave bridge rectifier circuit, usinf zener regulation of the 9 volts DC output.

- The adaptor units use a simple series dropper, with diode protection of polarity, and again the zener regulation of the output, a switch brings in a separate resistor to change from 24 to 12 volts input.

- The type of rectifier used is no longer available so when your mains psu packs up you will need to substitute one of the potted silicon type of bridge rectifier unit, or use 4 separate 1N4007 type diodes (get the polarity right or you risk losing an eye when the e'lytics blow up!).

- When you have the 938 battery box but no mains psu, and want to operate off AC mains then why not build your own mains psu in the battery box? This is a very common 'mod' for many EUGers and as the circuitry can later be removed and batteries re-fitted no harm is done.

- - - - -

- Handling Germanium Transistors. -

- It seems not to be common knowledge amongst some members that the Ge type of trannies are very sensitive to both heat and static. Far more so than the later Si types which, whilst not indestructible, are able to withstand more heat and are far more tolerant of handling, when static charges may easily be transferred to them.

- To those wrinklies who have been brought up on hollow-state devices it is hard to realise that mere volts, or fractions thereof, are sufficient to blow such as the OC171 or OC81 type of Ge trannies.

- When you realise that just walking across a room carpeted in nylon carpet will generate a potential of many thousands of volts on your body, and that if you now touch an earthed metal this potential will discharge through YOU to earth. Well just think how that poor little blob of Ge in the trannie will be affected by this massive discharge? You must all have felt the effect of such a static discharge either when crossing the room and touching a piece of metal or on a hot day when you touch the handle of the car door. If done in the dark you will also see the sparks leap across the gap between fingers and metal object.

- Now to the handling of Ge trannies. In storage they should best be kept with the 3 or 4 leads twisted together, and left this way until used.

- Before picking one up you need to ensure that your body is not statically charged, so earth your hand before picking one up, or use an earth strap on one wrist.

- For soldering make sure that the body (tip) of the iron is properly earthed and use the lowest power iron that you can find, ideally a 12 - 15 watt iron. If it is thermostatic controlled then so much the better. Set the temperature so that it is just sufficient to melt the solder, which MUST be of the low temperature type.

- Handle the tranny as little as possible, so ensure that the holes are clear of all solder, so that wires can go straight through. Tin the iron bit first. Now using a heat sink on the wire between the can and the soldered joint apply the iron and solder holding the iron on the joint for the absolute minimum time possible to make a good joint - as soon as the solder flows remove the iron but keep the heat sink on a bit longer. 'Heat Sink' means either a croc clip or a pair of locking tweezers that will serve to take all heat from the wire lead before it can go up the lead into the can! One last thing - don't be tempted to make a 'neat' job by pushing the trannie right down to the PCB and cutting the leads off short, they were left long at the time of manufacture for a purpose.

- Okay so all the above is SOP to many of us EUGers but be patient as some of the members do not realise just how fragile the old first generation of trannies were. They find out the hard way!

- Eddystone Short Wave Manuals. -

- Thanks to the generosity of EUGers I have been able to add copies (thanks Jim for the copying) of some of these pre-war and early post-war Manuals to the EUG files.

- This means that I now have file copies of the SW Manuals numbered as follows,-

Number 3 of date 1938, 44 pps @ 1 shilling.

Number 5 of date 1946, 21 pps @ 2/6 pence. (half a crown to the uninitiated)

Number 6 Of date 1947, 25 pps @ 2/6 pence. (listed amongst you!)

Now what would be nice if I could get copies of the missing issues, say numbers 1, 2, 4, and any later ones. If you have one of these issues then please let us make a copy. Send it to Jim who will do the necessary and return it to you.

- Should I be able to make up the set of, say 6, then we could start to supply them to members, believe me they make delightful reading and much of

cont:-

the contents of these Manuals is still very appropriate today. There are some quite good articles on the construction and use of various aerials for Broadcast and Short wave use, also some for VHF use.

- The construction articles are equally interesting, for example did you know that Eddystone had designed and provided parts for the construction of reliable Transceivers for use on the 50 Mc/s (6 meters) amateur bands? There was a very simple 2 valve transceiver and a more complicated 6 valve transceiver for Duplex working, with a range of up to 25 miles range in open country, or 3-5 miles in urban areas. This was in 1938! and operation was from an LT accumulator and an HT battery! So power was measured in milliwatts!

- A quantity of valve base and operating data is contained for each of the many models that is described in these manuals, all Eddystone catalogue part numbers are quoted as are many of the period prices. Well worth having for the read alone but then some of the more intrepid amongst EUGers are actually building replicas of these old sets.

- E.U.G Files. -

- The archive files as held at present are quite considerable, dating from 1922 up to the present day. Many schematics and detailed descriptions of the pre WW II models are held, actual blueprints in a lot of cases but others are photocopies. Both 'civvy' and military manuals are held for later models. My method of filing has been to split everything into 3 sub-groups and I am now re-classifying this load of info into an alpha-numerical form. Believe me it ain't easy! Sooner or later I shall have the lists completed in this form and shall arrange for a copy to go out with the N/L so that EUGers may know just what we have, and can supply. Meanwhile if you have a particular need ask Graeme first. If he, or the Factory have it then he will send you a copy against a suitable payment for the copying. Should he lack the info you need then he will no doubt ask ME and I shall arrange for Jim to do a copy from my files. Gradually Jim is doing copies of what I have both for himself and to send a copy to Graeme, but it is a long process despite the enthusiasm that Jim has for anything and everything Eddystone.

- Did You Know ??? -

- A suggestion from Pete that I start a series of articles with the above title, where I give some general info on either the Company, or particular models made by Eddystone. Okay then I shall present my first offering and see what response I get.

- Did You Know, I.-

- That from records held the Stratton/Eddystone Company produced something like 650,000,000 (650 million) separate items for the war effort? Fact!

- Whilst not all of these were radio related items they were all manufactured in the five factories in the Birmingham area which after the fire-bombing of Brum in the Blitz was reduced to the new location at the Bath Tub, so called as it had been formerly a leisure complex and had a large bathing pool.

- Amongst the non-radio items were fuse casings and fuse mechanisms for shells and bombs, but of course the major work was on radio parts.

- Some 450,000 different components were manufactured before the end of the hostilities, also a matter of 4,500 transmitters and 7,264 receivers came out of their manufacturing facilities to help the war effort. The 358/400 series is a good example of these receivers, the 440/450 transmitter/receiver units a good example of how Eddystone helped win the War.

- This is all a far cry from the situation that existed in 1922 when the main item that Strattons produced was some 6 tons per week of 'bobby pins' for ladies to pin up their hair.

SHORT WAVE BROADCAST STATIONS

m.	kc/s	Station	Dial Reading	m.	kc/s	Station	Dial Reading
50.26	5969	Vatican City (Italy) HVJ. Daily 20.00-20.15; SUN. 11.00		31.09	9650	Lisbon (Portugal) CT1AA. TUES. and THURS., 22.00-00.00	
50	6000	Moscow (U.S.S.R.) RW59		31	9677	Lisbon (Portugal) CTICT. THURS., 21.00-23.00; SUN., 12.00-14.00	
49.33	6020	Zeesen DJC. 18.00-22.30; 23.05-04.30		30.43	9860	Madrid (Spain) EAQ. 23.15-01.30; SAT., 19.00-21.00 also	
49.67	6040	Boston (Mass.) W1XAL. SUN. 22.00-00.00. MON., TUES., & THURS., 00.00-02.00		25.6	11,720	Radio-Colonial (Paris) TPA4. 23.15-05.00	
49.59	6050	Davertry GSA.		25.53	11,750	Davertry GSD.	
49.5	6060	Cincinnati W8XAL. Daily. 12.30-02.00; 05.00-08.00		25.49	11,770	Zeesen (Germany) DJD. 18.00-22.30	
49.5	6060	Skamlebaek (Denmark) OKY. 19.00-00.30. SUN., from 17.00		25.45	11,790	Boston (Mass.) W1XAL. SUN. 15.45-17.00; 20.30-22.00; MON., TUES., THURS. & FRI., 22.30-23.00; WED., 22.00-23.00	
49.41	6072	Vienna Experimental OER2. MON. to FRI., 15.00-23.00. SAT. to 00.00		25.4	11,810	Rome (Italy) 2RO. Daily. 14.15-15.00; 15.15-17.00; 18.00-19.00; 19.45-23.15	
49.31	6083	Nairobi (Kenya) VQ7LO. SUN., 17.00-20.00. MON. to FRI., 11.45-12.15; 17.30-20.30. TUES. & THURS., 14.30-15.30. SAT. 17.00-21.00		25.38	11,820	Davertry GSN.	
49.13	6100	Bound Brook (N.J.) W3XAL. MON., WED., SAT., 23.00-06.00		25.29	11,860	Davertry GSE.	
49.1	6110	Davertry GSL.		25.27	11,870	Pittsburgh W8XK. 22.00-00.00	
49.1	6110	Calcutta (India) VUC. Daily 08.06-09.06; Irreg., 14.06-17.36; SUN., 05.36-08.36		25.23	11,880	Radio-Colonial (Paris) TPA3. 06.00-09.00; 22.30-23.00	
48.36	6140	Pittsburgh W8XK. 00.00-06.00		25	12,000	Moscow (U.S.S.R.) RW59. SUN., 04.00-05.00; 16.00-17.00	
42.4	7074	Georgetown (British Guiana) VP3MR		24.52	12,235	Reykjavik (Iceland) TFJ. SUN., 19.40-20.00	
39.95	7510	Tokio (Japan) JVP. TUES. & FRI., 20.00-21.00		19.84	15,121	Vatican City HVJ. Daily. 16.30-16.45	
38.43	7797	Radio-Nations HBP. SAT., 23.30-00.15		19.82	15,140	Davertry GSF.	
34.29	8750	Hong Kong ZCK3. Daily. 05.30-07.15		19.76	15,180	Davertry GSO.	
31.55	9510	Davertry GSB.		19.74	15,200	Zeesen DJB. 14.00-17.30; 18.30-08.00	
31.55	9510	Melbourne (Australia) VK2ME. MON. to SAT., 10.00-13.00		19.72	15,210	Pittsburgh W8XK. 14.00-00.00	
31.48	9530	Schenectady (N.Y.) W2XAF. 21.00-05.00		19.71	15,220	Eindhoven PCJ., Exp. SUN. 13.00-14.00; TUES. 09.00-12.00; WED., 23.00-17.00	
31.45	9540	Zeesen DJN. 09.45-13.15; 23.05-04.30		19.68	15,243	Radio-Colonial (Paris) TPA2. 11.00-16.00	
31.38	9560	Zeesen (Germany) DJA. 06.30-08.15; 14.00-17.30; 23.05-03.15		19.66	15,260	Davertry GSI.	
31.36	9565	Bombay VUB. SUN., 07.00-08.30; TUES., 17.00-18.30; SAT., 17.30-18.30		19.60	15,310	Davertry GSP.	
31.35	9570	Millis (Mass.) W1XK. Daily. 11.00-05.00		19.56	15,330	Schenectady W2XAD. Daily. 15.00-19.00	
31.32	9580	Davertry GSC.		16.88	17,770	Huizen (Holland) PHI. SUN., 14.00-17.00; 19.00-20.00; MON., THURS., FRI., 14.00-16.00; SAT., 14.00-17.00	
31.28	9590	Sydney (Australia) VK2ME. SUN., 07.00-09.00; 11.00-15.00; 16.30-18.30		16.87	17,780	Bound Brook W3XAL. 14.00-22.00	
31.28	9590	Eindhoven PCJ. MON., 01.00-02.00		16.36	17,790	Davertry GSG.	
31.27	9595	Radio-Nations HBL. SAT., 11.30-12.15		15.93	18,330	Bandoeng (Java) PLE. TUES., THURS., SAT., 16.00-16.30	
31.13	9633	Rome (Italy) 2RO. Daily. 00.00-00.15; MON., WED., and FRI., 00.00-03.00; TUES. and THURS., 23.15-23.30		13.97	21,470	Davertry GSH.	
				13.93	21,530	Davertry GSJ.	
				13.93	21,540	Pittsburgh W8XK. 12.00-14.00	

With acknowledgments to "World Radio." All times are B.S.T. Deduct 1 hour for C.M.T.

- The Search for More Selectivity, and the EB35/EC10.-

- I have known for some years now that a more selective version of these sets was manufactured by Eddystone, but have never been able to track it down. This was until just recently when a member sent me - via Eddystone - a copy of the manual for the model EB36A. Lo and behold the schematic does indeed show a ceramic type IF filter, and the spec; does indeed show a narrower than usual for this model selectivity. A case of "Everything comes to he who waits" - and so it may now be possible for members to mod their sets in this series to provide a bandwidth more suited to serious SWL and even Amateur working.

- Nothing magical about the circuitry involved but you will have to locate an equivalent for the filter type as was then employed. This was a Clevite ceramic filter type number TCF-4, 4D10A. No doubt that it is not a stock shelf item today, but then again there is sure to be an equivalent so who amongst you is going to write in and tell me (us) ?

- The quoted figures for the EB36A with this mod are as follows, the normal EB36 figures are quoted for comparison.

- EB36A-	- EB36-
Selectivity,- 3.5 Kc/s @ 6db	5 Kc/s @ 6 db.
7.0 Kc/s @ 60 db	25 Kc/s @ 40 db.
Sensitivity,- 7 uV @ 15 db S/N (R1 -3)	5 uV @ 15 db S/N (R1 - 3).
20 uV @ 15 db S/N (R4 &5)	15 uV @ 15 db S/N (R4 & 5).

- This is a considerable improvement on the usual figures for the EB36, and these are of course also applicable to the EB35, EB37, EC10 models. Why this type of narrow filter was never used on the EC10 which was sold as a Comms; receiver I cannot imagine, maybe cost ? The improvement must definitely transform the EB/EC models on todays crowded bands although since the filter is not switched this would limit the use of the EB series for domestic listening, but then if you want Hi-Fi use your domestic installation !

- The substitution of this type of filter involves very little in the way of component changes, and no wiring changes. The filter fits in place of the second IFT and you will need to change but 4 resistors so even for the neophytes amongst us the hardest part will be the location of a suitable 'drop-in' filter like the Clevite TCF-4. If you contemplate doing this mod then keep the old IFT2 as you may need to undo the mod when you sell the set. Let me know should you want a copy of the manual, or rather let Graeme know ! Send him the requisite £3 and I am sure he will be happy to do you a copy. This model will eventually be a Featured Receiver in the H/L as it does have a number of other points to differentiate it from the normal run of sets, a clue is that it was used for professional monitoring purposes.

- SENSITIVITY ??? -

- Eddystone models are all lacking in sensitivity !!! Who said so ? well I have heard it said a number of times, and it has occasionally featured in your mail to EUG.

- Lets be serious about this question of sensitivity, in the communications world of today extreme sensitivity can be a definite burden. What good is it having a receiver with a sensitivity of 1 pico volt input for 1 watt out ? (just my hyperbole). The more gain you have the more you will be amplifying all those horrible noises that are prevalent on our bands nowadays. Local QRM from domestic and industrial appliances plus the natural QRN would deafen any of todays super-sensitive solid state sets if operated without an input attenuator, the fact that so many of them have an open, wide-band and untuned RF stage just makes things worse.

- The fact that our Eddystone receivers have the tuned RF stages of the 50s, 60s and 70s is a definite advantage, this added RF selectivity also works against QRM and QRN. The lower sensitivity helps in that they pick up decidedly less of the noise that is generated in the modern household, believe me once that noise is picked up and enters your receiver it is not so easy to get rid of it. This is a typical problem for modern solid state sets with high stage gain.

- Using any Eddystone receiver in conjunction with an adequate aerial and earth system you should be able to hear anything that is there. An adequate aerial usually means one that is a suitable length for the band that you are using, luckily most of the simple types we use are effective on a number of harmonically related bands throughout the SW range. A good earth system ? well the thing you must not do is to use the mains earth system for RF purposes. Honestly the noise picked up by this earthing system is horrendous, and it all goes into your Eddystone !!!

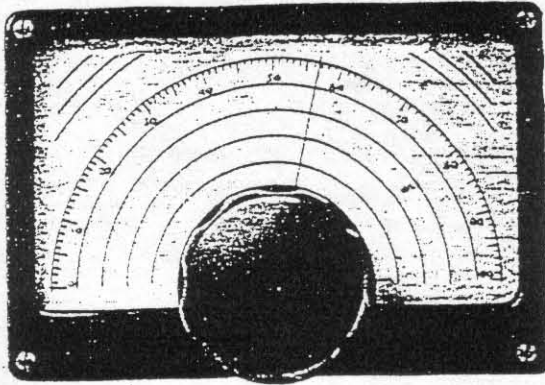
- Do yourself a favour and install an external ground using a good long earthing rod knocked into soft soil and connected to your set by a good solid lead-in, then do a comparison on your set with it tuned to a clear channel on each range. The surprise reduction when using the external system will make the expenditure and the work well worth while.

- If you suffer from any one type of QRM and have been able to locate the source then you can next consider how to stop it getting into your set. Is it still there when the aerial is disconnected from the set ? then it is coming in via the mains lead so fit suppressors in the lead. Is it coming in via the aerial ? then consider how to keep the aerial and the downlead away from the field of noise, or use a coax screened lead, or a balanced lead to eliminate leadin pickup. Move the aerial away if this is possible, a 90 degree change in orientation will often clear one particular source of QRM. So don't be passive and simply accept that the QRM is there, wishing for a super high gain receiver will not help either as high gain just acts to increase the level of signal AND QRM.

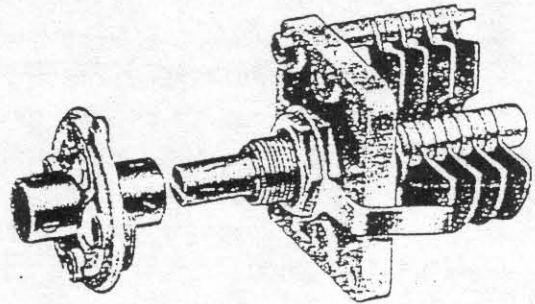
EDDYSTONE

SHORT WAVE COMPONENTS

FULL VISION DIAL CONDENSERS



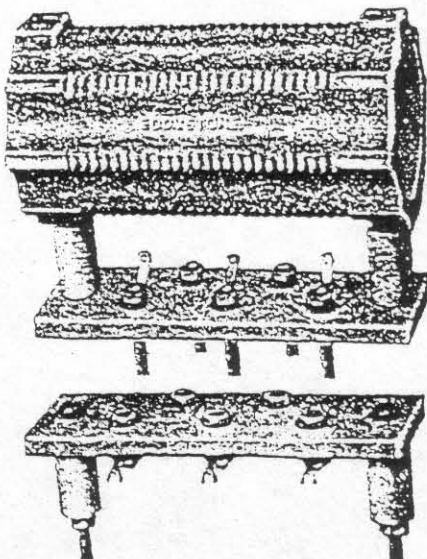
A most useful dial for all types of receivers, test oscillators and similar equipment. The dial escutcheon measures 6 in. long by 4½ in. wide. The scale is 5 in. across. The outer scale is marked 0-100 degrees and three other scale lines are provided for the user to mark in his own calibrations as desired. Two spare printed scales are supplied with each dial. A large fluted instrument knob is fitted. The drive mechanism has a reduction ratio of 10-1. is free from backlash and has a beautifully smooth movement. Cat. No. 598.



Eddystone also manufacture a complete range of variable condensers to suit the requirements of the short-wave experimenter, the professional radio engineer and the specialist trader. The condenser illustrated is an air dielectric condenser of 15 mmfd. capacity and is especially recommended for fine trimming and band-spreading purposes. Cat. No. 580.

FREQUENTITE COIL FORMER

Frequentite ceramic former for transmitting and similar apparatus. The former is 5 in. long by 2½ in. diameter, and may be mounted as illustrated or on Frequentite pillars. Spiral grooves take 26 turns of wire, up to 12 S.W.G. 14 holes are provided for leads and coil taps. The former is designed for coils covering 3 mc/s. upwards. Cat. No. 1090.



FREQUENTITE SUB-BASE

The sub-base is in Frequentite ceramic and is easily attached to the former by the two bolts and Frequentite pillars provided. It can be used separately as a base for self-supporting Inductances. Helically slotted power type plugs give positive electrical contact and even fitting to the ceramic is assured by lead washers. Leads are secured by heavy gauge tinned phosphor bronze self-locking soldering lugs. Cat. No. 1091.

FREQUENTITE BASE

The base is provided with Frequentite pillars for above chassis mounting. Heavy duty power type sockets give sound electrical connection with sub-base and lead washers on each socket ensure even fitting to ceramic. Leads are secured by heavy gauge tinned phosphor bronze self-locking soldering lugs. Cat. No. 1092.

FROM ALL RADIO DEALERS OR
ARNOLD & WRIGHT, LTD. (WHOLESALE ONLY)
 AUCKLAND, WELLINGTON, CHRISTCHURCH.

NVCF AT THE NEC

CHRIS AND GRAEME HAVE A DAY AT THE FAIR

In February I went to visit Chris Pettitt GOEYO, Managing Director of Eddystone Radio and patron of our Group. I had volunteered my services to help out with the administration while the Company relocates its premises at Selly Oak, about four miles from the Bath Tub at West Heath, where they have been making their famous products since being blasted out of Birmingham City Centre by enemy action in 1940. Not only is Chris run off his feet by the impending removal, he has also been made responsible for the Marconi Company's Transmitter Division (of which Eddystone forms a part). This means that he has become a roving ambassador of the British communications industry and spends less and less time at Eddystone and more and more time at Chelmsford and overseas.

After we had organised the division of labour I asked him "What about the National Vintage Communication Fair?". This was to be held on May 5th at the National Exhibition Centre, just outside Birmingham airport. "I'll book the pitch and hire the van," he said. "You organise the display. Come into our museum and see what you think." So in we went and my education took a sharp upward turn. In the final selection we took seven of the Company's pieces and four of mine; selected to produce the greatest contrast in styles.

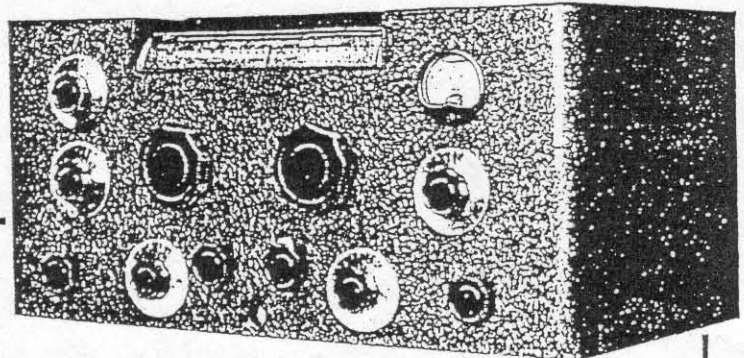
On the Friday before the Fair I reported to the Bath Tub to find Chris sorting out tables and panels. We got out boxes and packed the sets. "Meet you at the NEC," said Chris, "Eight-thirty; should give us time to set up for the admiring public by ten-thirty." Those of you who visit the NEC will wonder how I ever found the place to go, let alone find Chris. The back doors open at 7.30 for dealers to go in and the site marshals are organised like the beach-marshals on D-Day. Those with the magic windscreen stickers are whizzed through the site like rockets until suddenly there are four long parallel queues behind the halls. It was twenty past seven. Not a sign of Chris's transit wagon. Ah, well; just switch off and wait. Gazing into the mirror, more in hope than anticipation, I see Chris's smiling face zoom into line two cars behind me. Faster than you dare hope the line starts up and suddenly we're in the hall, surrounded by total chaos as dozens of dealers unload their gear. Empty the van, park outside, set up the tables, unpack the boxes, and an hour later we're all ship-shape. A quick cup of coffee before the punters arrive.

And the first member to arrive was Alan Ainslie, fresh from his trip across the pond. "I've got my E.C.R. outside, shall I bring it in for the table?" Shall he bring it in! How many members have ever seen a picture of an E.C.R., let alone the real thing. In it came and in came the public. The interest was terrific. We'd made captions for all the rest but the E.C.R. sat there in all its glory and everybody asked "What is it?" One visitor was seen with a video-camera held *inside* the glass-fronted 1924 Eddystone Twin, the Company's first radio.

Members arrived from all points of the compass and enthused about EUG. Non-members arrived and were press-ganged into taking application forms. One gentleman from EA-land joined up and ordered a full set of Newsletters for the past six years to be sent out to him. We took a selection of handbooks for the more popular models and did a brisk trade.

The whole event was well-attended and more Eddystones were on offer at traders' stands than last year. I know that Chris and I enjoyed ourselves hugely, we hardly had time to make a quick tour of the other stands for the constant stream of visitors. One member who renewed his subscription invited me over to his stand and I was press-ganged into joining RAOA*, which I discovered I qualified for twice over!

POST THE COUPON
FOR DETAILS



INTRODUCING -
THE LATEST

"EDDYSTONE" COMMUNICATION RECEIVER

Type E.C.R.

We particularly invite every reader of this announcement—including YOU
—to write for the literature describing this new "Eddystone" Wonder.

The Chassis, Coil Unit and Crystal Unit are die-cast and the most complete screening is employed everywhere. The Superheterodyne circuit comprises 10 valves, including Rectifier. Switched coils cover a waverange of 9.5 metres to 100 metres, 30 megacycles to 1.6 megacycles, divided into 4 wavebands. Electrical bandspread tuning is employed. A crystal gate is fitted with phasing condenser and variable selectivity control. Volume controls for R.F. and L.F. adjustment. An "R" meter calibrated in decibels, B.F.O. control and switch and A.V.C. on and off. 3 Watts output.

PRICE £45

Post the Coupon for descriptive literature and performance specification of this wonder model to:

STRATTON & Co. Ltd. BROMSGROVE ST
BIRMINGHAM 5.
LONDON AGENTS: WEBB'S, 14 Soho St., W.1

CLIP ALONG THIS LINE.
COUPON
To Messrs. STRATTON & Co. Ltd., Bromsgrove St., Birmingham
Please send me details of Eddystone Receiver type E.C.R.
Name _____ Address _____
Clip off and post in S.H.

And here it is: Alan's magnificent E.C.R., the Eddystone Communications Receiver, when it was first announced in the Short Wave Magazine for February, 1939. But just think of that price-tag in 1996 terms! About £3,000 in today's money.

*Radio Amateur Old Timers' Association. Qualifying period: 25 years radio activity!

GRAEME - G3GGL

MY FIRST ENCOUNTER WITH EDDYSTONE RECEIVERS

by Peter Lankshear

As a boy, in the early 1940's, in avidly digesting the RSGB Amateur Handbook I became aware of the splendid components that Eddystone made, but there was a War in progress, and actually getting hold of any of these goodies, even if I could have afforded them, was impossible. At that stage I did not realise that Stratton & Co. actually made receivers.

A few years later I commenced my life's work with the New Zealand Broadcasting Service as a technician, a job which more or less equated with that of a BBC engineer.

It was in May 1950 that I was transferred to the isolated Quartz Hill Receiving Station, situated on the hills high above Cook Strait which is about the width of the English Channel and separates New Zealand's North and South Islands. Cook Strait is the only gap in many hundreds of miles of high mountain chains which sit right across the path of the Roaring 40's, fierce Westerly gales that come up from the Southern Ocean. Consequently, Quartz Hill can be a pretty wild place, but being situated midway between the Equator and Antarctica is ideal for World wide radio reception.

Quartz Hill was a DXer's dream. Directed all around the compass were no fewer than 18 aerials connected by open wire feeders to the control room. And what aerials! All were supported on 70 ft Australian hardwood poles and were 2000 ft long, optimised for operation from 6 mHz to 30 mHz. There were 4 reversible rhombics, each with four 1000 ft legs of 3 wires. This adds up to more than 2 miles of wire for each aerial. Switches in the control room reversed the direction of reception as required. The remaining aerials were single pole sloping Vee's with two single wire 2000 ft legs terminated on stub poles just above head height. With so many aerials spread over a wide area, diversity reception could on occasion be used most successfully, especially on the BBC Pacific Service.

The station performed several functions. Initially installed during World War II, as a vital news and information source, it had developed as well into an international monitoring service, providing reception reports on transmissions received from countries as diverse as India and Canada. Major activity was however monitoring of the BBC General Overseas and Pacific Services. Each BBC transmission frequency was checked every quarter hour and the SINPO figures entered on specially printed charts. This work was made the more interesting because, situated as we were, (there is nowhere much further from England than New Zealand), BBC signals often came from very odd directions. At around 2000 GMT (8.00 am local time) signals would switch in a few minutes from the night path over the North Pole to the daylight South Polar route. It was at this time too, that we could encounter multiple echos, when propagation was so efficient that the signal would go more than once round the globe. Then the time signals would register as a series of pips 1/7 second apart, each echo representing a circuit of the World! A dramatic illustration of the speed of radio signals.

When I was first at Quartz Hill, receivers used included several Canadian Marconi CSR5 and Hammarlund Super Pro, these latter being considered by many as the best communication receiver of the time, with two R.F. and three variable bandwidth I.F. stages. For the operators' search receivers, we used a couple of the CSR5 sets. These had the classic format for single conversion communication superhets, pioneered by the National HRO, of two each of R.F. and I.F. stages, an oscillator and mixer and the usual BFO, detector and audio system. The search receivers took quite a pounding, working 24 hours a day checking a dozen or more transmissions four times every hour.

I had not been there many weeks before two interesting looking crates turned up. These were unpacked to find lurking within, a pair of beautiful Eddystone 680X receivers. The NZBS had purchased a shipment and these two were our allocation. Needless to say we soon had them installed as our search receivers and an excellent job they did too. Apart from their excellent performance, their nickel plated chassis and meticulously laced wiring were a

revelation to someone used to North American utilitarian finishes and wiring. For me it was love at first sight and I vowed that I would have a 680X some day. It would not be for a while though, for to buy one then would have taken the best part of a year's wages.

I can recall only one Eddystone failure in the 18 months I was at Quartz Hill. One day one receiver just stopped and I drew the short straw for finding and repairing the fault. It turned out to be an open circuited filter choke and to my surprise it proved to be quite easy to repair. Unswearing the base of the nickel plated brass can made the winding accessible. Inside, a corroded lead out wire was soon repaired and the 680X was back in service.

Not surprisingly, with the constant tuning and bandswitching the Eddystones finally wore out mechanically, but this was years after my departure. I paid a visit to Quartz Hill at the time of their replacement to find some new GEC BTR 400 receivers being installed. These sets immediately impressed me as having all the hallmarks of Stratton construction. Does someone know if the GEC receivers were in fact made in the Eddystone factory?

Today Quartz Hill as I knew it is no more. News now comes by satellite and shortwave broadcasting is in decline. The all pervading electronic pollution means that massive receiving aerials are now dinosaurs, providing little better reception than dipoles.

There is a sequel to this story. In another part of the country, some 20 years after I left Quartz Hill, I took up a senior position which included among its responsibilities, supervision of a broadcasting station. In the main control room equipment racks was a rather familiar dial scale and a row of controls visible through cutouts in one of the panels. Yes, it was a 680X which, situated in an air conditioned environment was in pristine condition. I was a bit disturbed to note that there had been some modifications. The case was missing and the output transformer had been replaced by a 600 ohm unit. More seriously though, I feared that the front panel was seriously mutilated.

Some time later, while inspecting a workshop, I came across a black wrinkle finished cabinet stored under a bench. It was of course from the 680X. It was about this time too that in a cupboard I discovered the Eddystone round diecast speaker unit. Naturally these two vital items were moved to a safe place.

A decade was to pass and the radio station equipment came up for renewal and the old equipment was written off. Naturally I rescued the Eddystone and the rack panel was promptly removed. To my delight, the original diecast front panel was in as new condition. There were no extra holes as mounting had been by means of the screws fastening the chrome side bars and the add on panel had in fact been a protection. A few straightforward repairs were necessary, including a new switch wafer, a couple of resistors and two of the TCC bolt on Metalpak capacitors. Unbelievably, original spare capacitors were in store and still tested 100%. The foreign output transformer had to go. The original had been in a brass box matching the filter choke and fortunately I found a perfect substitute box in some old telephone equipment.

While the box was at the electroplaters, I wound a 10,000:3.0 ohm transformer and finally, after a reunion with its cabinet and speaker, the 680X was complete. Installed in my office, it looked a picture and attracted many admiring comments from visitors and even from those people who had never given it a second glance whilst it was in the equipment rack.

After 35 years I had my Eddystone 680X!

Today, a further 10 years on, it is still operating like new, and is more than a match for any Asian plastic fantastic.

* HELP * HELP * HELP *

- Whilst not being Eddystone related this is an SOS from Jim Murphy to all members.
- Can anybody supply Jim with information on the McMurdo Radio Company, the McMurdo family and the Company products, PLEASE?
- If you have original material Jim can photocopy it and return to you pronto.

- Model 40A and narrow band Filters. -

- The filters fitted in the 40A were pretty wideband, it was never intended that this set be utilised as a comms; receiver !
- As is only to be expected of EUGers there are some owners who want to fit narrow band IF filters, to upgrade the 40A.
- Roger Bunney has been researching this matter and has been in touch with the makers of the filters that were fitted at the time of manufacture.
- It seems that they do not make any compatible narrow band types but they have supplied the part number of the original type, as being Vernitron TBF6 ceramic filters.
- All it needs is somebody with the time and the trade contacts to get stuck in looking for a 'plug-in' compatible narrow band type of ceramic filter. Please let us all know if, or when, you come up with an answer.

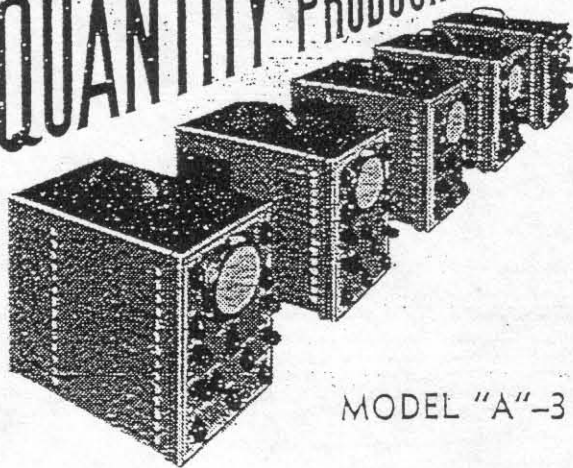
- Courtesy Costs Nothing - Past Tense. -

- A letter from Roy Elwen commenting upon the correspondence that he had with the Eddystone dealer in his area IMHOFS. This was way back when he was interested in buying an EC10 II, circa 1970.
- Roy quotes their letter which thanked him "for the time and trouble taken in advising us of the safe arrival and satisfaction with the Eddystone receiver recently dispatched". He comments that it is almost unheard of for any company to begin a letter today with, - "We are obliged for your enquiry of the 22nd -----".
- I can well understand his point, today customers are simply told that they can expect to hear something about their order within 28 days ! And believe me the customer very rarely does.
- Several times in recent months I have sent off payment for items to be sent by post to me. No acknowledgement of my order, nothing heard even within the stated 28 days and so I had to write again, and again. In one case even after 3 letters and six weeks I heard nothing and was forced to contact the Trading Standards Office to get satisfaction. I tried the phone but all that they had on was one of those damnable answerphones.
- I now tend to take further business to another company rather than deal again with such folk, who seem to forget that repeat orders are the very life blood of any company.

- Correction, with Hindsight !-

- In the advert on the opposite page for the 145 Mc/s tuning assembly it will be noted that they claim an 8 x 8 mf butterfly condenser is used.
- This should of course specify an 8 x 8 pF condenser, well have you ever seen or heard of an 8 microfarad variable condenser ? Ted.

QUANTITY PRODUCTION



MODEL "A"-3

OSCILLOSCOPES

by

WELLINGTON ELECTRONICS

Quantity production has enabled us to make available this model at a new low price.

NOW £48

As supplied to such bodies as Universities, National Airways and Government Departments

Made by

WELLINGTON ELECTRONICS LTD.

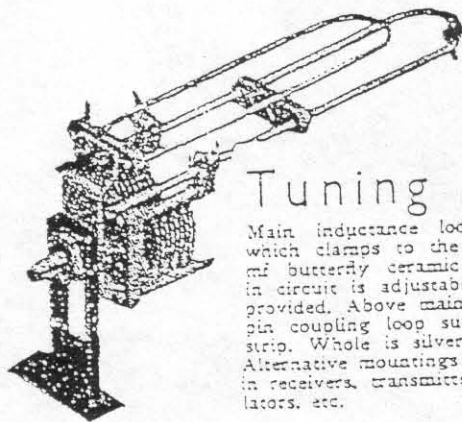
33 HARRIS STREET,

WELLINGTON

PHONE 45-756

Two Specialised Shortwave Components

EDDYSTONE



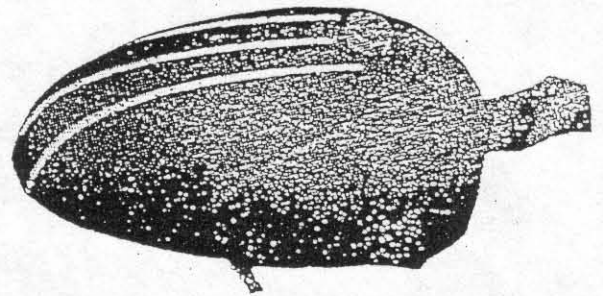
145 Mc/s.

Tuning Assembly

Main inductance loop of 1/8 in. copper which clamps to the stators of an 3 x 3 mf butterfly ceramic microdenser. Length in circuit is adjustable and tapping clip is provided. Above main loop is fitted a hair-pin coupling loop supported on a ceramic strip. Whole is silver-plated and lacquered. Alternative mountings possible. Can be used in receivers, transmitters, wavemeters, oscillators, etc.

Stocks arriving soon. Watch for further announcements. Keep in touch with your local dealers.

that every amateur, experimenter, and professional should have.



SEMI-AUTOMATIC MORSE KEY

This key, of really modern design, is totally enclosed in a streamlined diecast housing, which is finished in a fine ripple black with chrome relief. The movement has received special attention and is a fine example of first-class light engineering. Words cannot do justice to the beautiful action; you must try the key for yourself to appreciate it. It is fully adjustable to enable any operator to make full use of the wide range of speeds provided. The handle has been designed to give equal facility to right or left-handed operators. A short-circuiting switch is fitted to the base, which is a heavy diecasting provided with rubber feet and with holes for screwing down.

New Zealand Distributors:

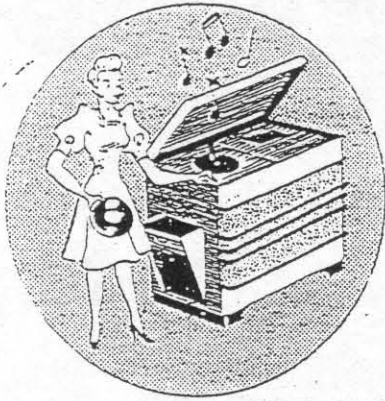
ARNOLD and WRIGHT LTD.

AUCKLAND

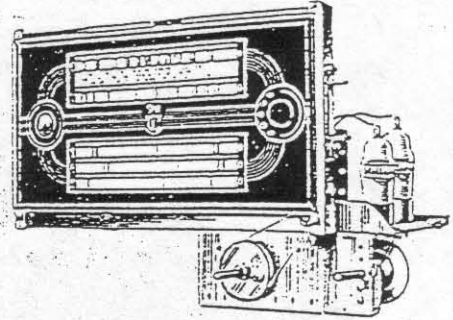
WELLINGTON

CHRISTCHURCH

For BIG SET Construction



'COMPANION' SUB-ASSEMBLIES



TYPE CABY SUPER BANDSPREAD
ASSEMBLY

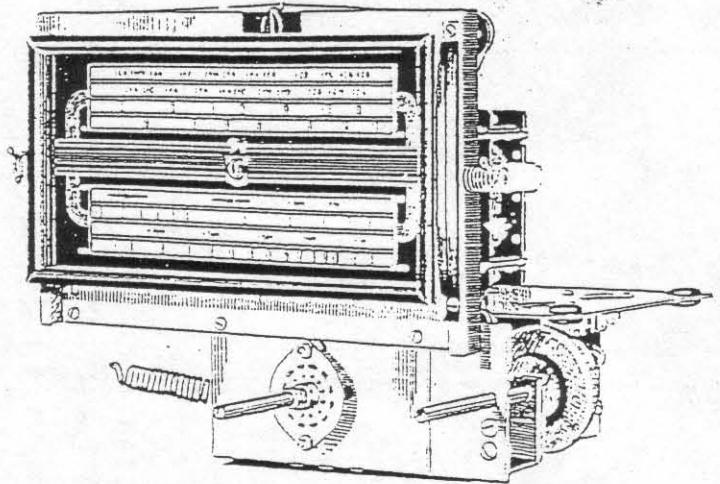
Five bands:

- (1) Broadcast, 550-1500 kc/s.
- (2) 7.5-22.0 mc/s. (40-13.5 metres)
- (3) 9.4-10.5 mc/s. (31.9-28.3 metres)
- (4) 11.4-12.4 mc/s. (26.3-24.2 metres)
- (5) 14.0-16.0 mc/s. (21.4-18.75 metres)

Air trimmers and plastic coils for H.F. stability. "Mullard" "E" series R.F. and mixer tubes for high gain and high signal-to-noise ratio. Ten colours combined in dial assembly chassis available to suit.

TYPE CAB C TRIPLE-WAVE ASSEMBLY
3-band coil unit with broadcast band, plus 3.2 to 24 mc/s. high-frequency coverage; 3 bands; straight-line frequency tuning gang, prewired excepting R.F. and mixer sockets. Chassis available to suit.

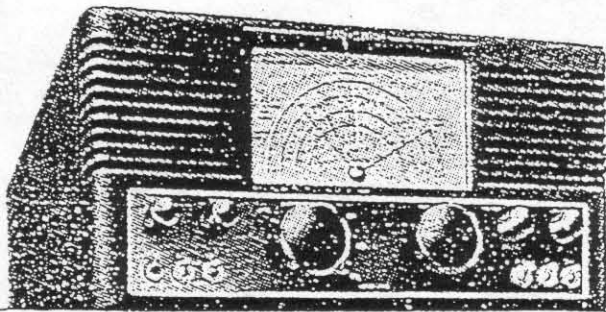
WRITE FOR NEW COMPANION PRICE LIST



JOHNS LTD.

Radio and Sound Engineers
JOHN'S BUILDINGS, CHANCERY ST.
P.O. Box 471
AUCKLAND

Only 15 Left*... **HURRY!** Place Your
Order **NOW!**



EDDYSTONE 640

Hurry! Place your order now with
your local dealer, or—

TRICITY HOUSE, Christchurch
ECLIPSE RADIO LTD., Dunedin
FEAR'S RADIO & CYCLE CO. LTD.,
Wellington

N.Z. Distributors:

ARNOLD & WRIGHT LTD.

Auckland, Wellington, Christchurch

★ **£52/5/6**

Complete with
688 Speaker

Don't miss this chance—get one of these Eddystone 640 Communication Receivers now while they last—it's the lowest-priced receiver you're ever likely to see. First-class workmanship and features. Eddystone 640 production is completed, so this offer can never be repeated.

It's got all the requirements expected by amateurs—and more! Ask for illustrated leaflet which gives "all the answers" as regards the technical features.

- The N.E.C. 1996. -

- There is a write-up about the EUG stand at the NEC on May 5th, by Graeme Wormald who was one of those EUGers who manned the stand. However I have the following paragraph from a letter sent to me by a friend who attended the show just to take a few photos of the stand, she is not an EUGer, has little interest in radios of any kind and so her opinion should be that of an unbiased onlooker. It made me think that Graeme, Chris and Alan deserve the thanks of all EUGers for their hard work in putting the Group before the public. They did meet many members, they did get more new members signed up, but more than anything they showed that we care for - and about - the wonderful products that have come from the Bath-Tub. Now read on;-

- "Ted, I know little about radio, or wireless if you will. For me it is just a source of information and music. I went on Sunday to get the photos for you. Leaving the carpark we followed the crowds, as you had told me there would be a Classic Car show at the same time I looked for the NVCF signs and followed these to the Hall, those walking with us seemed very keen and dedicated to judge by their conversation. My first impression was that we had hit upon some kind of giant flea-market - with its attendant stalls. But immediately we went through the doors, Eddystone's logo was clearly visible on the first stall. Now despite my lack of knowledge it could be that my impressions were coloured by your rather contagious enthusiasm, however I have to say that EUG had the most professional looking stand. The rest of the exhibitors were probably just as passionate over their speciality, but they just did not have the 'class' that was evident on the EUG stand, which was continually busy when I was there or nearby. The radios for which you have so much passion were well laid out and labelled, and I could see that Graeme's enthusiasm was responsible for signing up other members, he did that for a Spanish visitor as I waited to talk with him. I was fascinated by the history of the radios, and of Strattons - mainly because I happen to have a Strattons powder compact. I came away with several souvenirs kindly given me by Graeme, and your photos. The film will be going for printing on Monday. It was altogether a delightful experience as I saw so much at the Fair, nostalgia is always a great attraction for Joe Public".

- Now see Graeme's write-up. Ted.

- Making the most of your Radio. -

- The booklet that was sent out with all new Eddystone models, and which has been mentioned recently in the N/L seems to have attracted quite a lot of interest amongst members. There were several versions of it over the years but the info contained in all was similar. Many types of aerials to be used with Eddystone radios, simple wire types that could be used in almost any and every situation be it at the home QTH or on board a Tugboat ! There is also basic info on local and domestic QRM and some cures for this bane of the listener. There are some details of Eddystone accessories such as the pillow speaker, the diecast speaker, and the mains filter for plug in line use. One part that so many ignore these days is the section on earthing methods, and if you doubt the efficacy of a good earth then just try it, Jim Murphy has written to say that connecting an earth to his newly acquired EC10 has made all the difference between mediocre reception and excellent clear signals.

- Graeme tells me that his stock of the booklet was soon exhausted after the mention in the N/L and he had to re-order from the Factory. Both he and Jim will send you a copy in exchange for £2 in stamps, the best £2 you have ever spent since you became interested in radio.

- Aerials for Listening. -

- Recent mail has included letters from EUGers who have just bought their first Eddystone and have needed an outside - or inside - aerial. In some cases they have paid out large sums for those hyped up models as advertised in so many of

the radio magazines. One member recounts having paid £36 for a longwire kit & an extra £18 for a balun. Now since his 840A had only cost him £45 to begin with I think that he made a big mistake. For that money he could have bought himself another Eddystone ! (and become a collector !)

- For the absolute beginner there is nothing so good as an old piece of wire lying on the floor behind the receiver, use it, see what you get. The next step would be to obtain a longer length of wire, any old kind will do but about 30 to 40 foot of it. Just let one end hang out of a window and see how much your reception is improved, be prepared for a surprise here. This may be all you need for your listening, if not take it a step further.

- How about a 30-40 foot wire in the loft ? the same length running up or down the side of the house wall, say from the eaves, or an upstairs window to a suitable tie point near the ground ?

- If you have an outside garage or shed then take the aerial from a point of attachment here to the window of your 'shack'. Of course here you may use any length of wire that you have available, up to 150 foot long if you have the space. It does NOT need to go in one straight line, may zig-zag from one tree or shed to another before reaching your set, be inventive it costs nothing ! And whilst baluns may help with today's sets, most Eddystones work happily without. In fact the use of a balun with many older models will be counter-productive as the old sets were designed to work with an unbalanced, high impedance aerial, and NOT with a balanced low Z aerial.

- SSB on the Older Sets.-

- Roy Elwen makes the point in his letter that the BFO facility as fitted to many of the older models was there for CW reception and not for SSB. In fact this is borne out by the wide tuning range of the BFO control, in some models it is as much as +/- 7 Kc/s and is far too broad and coarse in adjustment to give comfortable SSB tuning. Over the years I have 'operated' upon many of the older sets at the request of owners, in an attempt to make SSB tuning easier.

- One favourite method used has been to remove one of the fixed, or stator, plates from the BFO variable condenser, this is a destructive method that is anathema to many Eddystone users. The preferred method is to fit a series condenser of approximately half the value of the BFO variable condenser, in series with it, this reduces the total value in the tuned circuit to about $\frac{1}{4}$ capacity, and like the previous mentioned method it requires re-tuning of the BFO coil slug to reset the BFO to zero-beat with the line on the knob at 12-o-clock.

- Best way is to get say a 50pF maximum trimmer, lift the wire from the top (stator) end of the BFO variable condenser and solder one end of the trimmer to the stator connector, the other end of the new trimmer to the wire. This enables you to set the actual swing to a comfortable value for SSB tuning, but do remember to reset the coil slug for zero-beat !

- Mono phones from Stereo phones.-

- Never had so much mail on any one subject ! If I had found the time to read my Maplin's catalogue - so everybody tells me - then I would have seen the part number CP51F 'educational headphones' which are of 600 ohms impedance and have a $\frac{1}{4}$ " inch plug fitted, just the job at £4.99. The other suggestion for those already having phones but the wrong plug is to use one of the advertised stereo to mono adaptors. The FK11M adaptor at 59p takes a $\frac{1}{4}$ " stereo plug and gives you a $\frac{1}{4}$ " mono plug to go in the receiver socket, again this is Maplin's. If you have phones with the 3.5mm stereo plug then you can adapt this to a $\frac{1}{4}$ " stereo plug by using the YW34M adaptor first, then the FK11M !

- The point re the extended response of modern Hi-Fi phones, as being entirely unsuited to communications use is made by several members who suggest either a small in line LC filter in a mini-box, or refer to the Newsletter 35, p.14 where I outlined a simple but effective 'mechanical' audio filter, the fitting of discs of card in each earpiece, the hole to restrict audio response being decided by test. And do please remember that a high level of audio signal fed direct to

your ears can be dangerous to your health. If you find you suffer from ringing in the ears, or headaches, after using your phones then you have the volume up too high. This can cause permanent deafness, and YOU will be the last person to know ! Your family will know first when they find they have to shout at you !

- - - - -
 - A note of Thanks. -

- Jim Murphy would like to express his thanks to Graeme for the assistance received in repair and setting up first his EB35 II and then recently his EC10 receiver which arrived in a non-working state. Graeme applied some of his TLC and the EC10 is now functioning well at the home QTH.

- - - - -
 - Standard Frequency Stations. -

- Mail from Bert Clark on the above, he had been confused by the fact that the ones on 10 Mc/s always showed up a few Kc/s low on his receivers. The fact is that by far the strongest signal in the UK comes from the Russian SFT on 9.996 Kc/s and not the WWV station. The ID is in slow morse so you ought to be able to identify this if you listen carefully. The ISWL do issue a very good guide to all the SFT signals on LF and HF throughout the world and it only costs pennies.

- - - - -
 - DFM Modules for use with Analogue Receivers. -

- A number of queries have been received re the use of, and fitting of these outboard modules so that precise frequency readouts can be obtained with the older models of Eddystone. There have - in the past - been a number of such units marketed, whereby a low level feed from the LO could be extracted from the receiver, fed into the module where the IF would be subtracted and a correct frequency readout obtained. The problem with those advertised today is that none appear to cater for the IFs as used by most Eddystone sets.

- If YOU have had any success with the use of such a unit, as used with your Eddystone, then please let EUG know, so we can put an item in the N/L for other members.

- - - - -
 - 6V6 Substitution. -

- I know that this has come up before - but here goes again for the sake of Alan, the EL33 and especially the EL34 are NOT equivalents for the 6V6G or GT.

- Now Alan says that he was told they were by a dealer, some dealer ! There would be have to be changes at least in the kathode bias resistor if you wished to utilise either of these in the 504 receiver, and whilst you could try it with an EL33 I would certainly not consider the EL34 here. Anyway there are plenty of 6V6s around still at a good price.

- Alan also mentions that fitting silicon diodes in lieu of the EB34 and the 5Z4, with only 2 instead of 3 dial bulbs gives him a reduction in heater current of @ 3 amps. This has meant a reduction in mains power of some 20 watts and a considerable reduction in the operating temperature of the 504, all beneficial towards a longer life for the mains transfo. He had costed the price of a rewire for a burnt out 640 transfo last year and the price of £35 was scary.

- - - - -
 - The ECR, date of manufacture. -

- As can be seen from the Eddystone ad in this issue, for the ECR receiver. It would seem now that this model was first advertised as a 'New Model' in 1939, and yet I have always gone by the 1936 date on one of the original factory drawings. So if you have one of my Model Listings you may want to change the -36 to -39. My thanks to Graeme who found this ad amongst the loads of paperwork he recovered on behalf of EUG from the shack of Geoff Woodburn.

- FREE MEMBERS ADVERTS. -

SELL, Eddystone 990R complete with manual £60, also plinth speaker for 770R for £20. Will sell separately or together for £75, no offers less. Must be collected or buyer pays carriage. Ring Tony, GØ MDZ on 01636-830005 (Notts).

WANTED, first IF transformer for the EC10 (465 Kc/s), this is the part number 6653P and is the same as that used on the EB35, 36, & 37 sets. please contact Wilf Corkish on 01624-629455 (I.O.M.).

SELL, 730/4 in GWO and with manual for £79, also Wanted dial glass or good photocopy of one for the 870A receiver. Please contact Trevor on 01274-824816, (West Yorks;).

SELL, EP14 Panadaptor Manual (not the EP14 itself), this has the update sheet for Nov;-63. Anybody like to make me an offer? Wanted any HF model Eddystone that is AC mains only, not universal. Must be in GWO. Contact Graham on 01254-682351 (Lancs;).

SELL OR EXCHANGE, following list of Old Eddystone Components,-

- 2 x variable condensers, crescent shaped, 6 fixed & 5 moving plates.
 - 1 x as above but with 8 fixed and 8 moving plates.
 - 1 x ditto but with 5 fixed & 6 moving.
 - 1 x ditto but 3 fixed & 3 moving and integral slo-mo drive.
 - 1 x butterfly type split stator/differential with 7 fixed & 8 moving plates.
 - 1 x chassis mount oreset trimmer airspaced, 7 fixed & 8 moving plates.
 - 1 x ditto long spindle, 3 fixed & 3 moving plates, wide spaced, cat 900?
 - 1 x 300pF variable double ball bearings in ceramic endplates, 15 fixed, 16 moving plates semicircular.
 - 3 x 4 pin bakelite slugtuned coils, white, red/pink, green spot.
 - 1 x 4 pin base holder for above.
 - 1 x flexible coupling cat; 1009.
 - 6 x 4 pin plugin coils, 2 each of LB, Y, R, cat 932.
 - 2 x 4 pin baseboard mount valve or coil holders, frequentite, cat; 949.
 - 1 x adjustable mountg bracket cat; 1007.
 - 2 x pie wound 4 section transmitting HF chokes, cat 1022.
 - 2 x pie wound 5 section ditto, cat 1132.
 - 2 x pie wound 4 section receiving type HF chokes, cat 1010.
 - 6 x UHF type chokes wire ended type, cat; 1011.
 - 2 x drive extension tubes, 5" o/all, cat; 1008.
 - 1 x ditto 6" o/all. Tubes and collars only no bushes or $\frac{1}{4}$ " spindles.
- Also Wanted 'S' meter to suit 888A set and 4 or 5 UX6 valveholders for an HRO rebuild. Plus one diecast speaker for my 888A, please contact R.P. Neave on 01206-395968 (Essex).

FREE to a good home where it will receive Tender Loving Care, one HRO receiver with 3 coil packs for 3.5 - 7.3, 24 - 30, and 0.48 - 0.96 Mc/s, plus power supply all in good working and external order, prefer this to go to a museum or collection. Please contact Sid Bolam, GØ OKF, 100 Bushfield Rd; Scunthorpe, Nth Lincs; WANTED, Model EAL2 in good working order, please call Jack Hussey on 01684-574968, (Malvern).

WANTED, Model 770R II in complete and unmodified condition, please ring Jack Read on 01270-67059 evenings please, (Nantwich).

WANTED urgently for my S358X, Coilpacks ranges 'B', 'C', 'D', please ring J.H.H. Buckley on 01944-738476, (Nth Yorks;).

WANTED Model 888A and S meter and matching speaker. Please ring B. Tibbert, G3 RKZ, on 01332-883035, (Derby). Thanks.

WANTED, cabinet for my 1830/1 also cabinet for 1837/2. Condition is not important and will travel to collect, please phone 01235-512660 (Oxon).

WANTED, 770R or 770U, maybe both, but must be in good working order, please contact Pete, G4 DAN, on 01206-395968, (Essex).

SELL, model 770R in working order with manual, offers please, collect or pay carriage yourself. Also 150 watt 240 volts, Isolation transformer, please ring F. Penny on 0181-6754622, (London).

- SFERICS.-

- Peter Lankshear in NZ who has supplied ads and the article on p.22 has sent in his thoughts on the use of silicon diodes for heat-free voltage dropping purposes. I shall write up an item on this for a future issue as there have been a number of letters on the subject from interested members, thanks Peter.

- Pete Neave, G4 DAN, has the Eddystone speaker cabinet type 935 and is interested in obtaining a suitable speaker to fit this cabinet, any offers, or any info on a suitable $2\frac{1}{2}$ to 3 ohm type?

- Since mention of the EUG badges in recent newsletters, seems that many members had no idea that they are available! Rather remiss of me to not keep mentioning the existence of our badges. They are useful for meeting up with other EUGers at rallies, Dave met 3 members at the NEC just because they saw his lapel badge & stopped him for a chat. (or was it the EC10 he was carrying out to the carpark?). Anyway if you want a badge then send just £2 to Graeme and he will oblige.

- There is an advert by Pete Neave in this issue for many old Eddystone components for sale or exchange. Pete says in his letter that if any EUGers are really interested, and wish to see before they buy, then he might be prepared to cart the parts along to the Woburn Rally in August! Now there is an offer you cannot refuse!

- Just a point for those who own the EB35 sets, you MAY get a good signal on VHF/FM with your HF aerial plugged into the HF/MF sockets, BUT no matter where you are in relation to the Transmitter you WILL only get decent, fulltime, all band FM coverage with a separate FM aerial plugged into the coax socket on the rear of the set. In almost all cases a single wire of the correct length will suffice, rather than the usual $\frac{1}{4}$ wave wire I advocate using a $\frac{5}{8}$ th length of wire. Similar impedance for both, to match the EB35 input but there are two differences, the $\frac{5}{8}$ th needs no groundplane for good operation, and it has $2\frac{1}{2}$ times as much wire to pick up signals compared with the $\frac{1}{4}$ wave. (Okay George?).

- Re my comments on mono - stereo adaptors, Norman Parker comments that he bought 8 pair of mono phones for £2, from BULLS, ex Virgin Airlines these are well worth the money. Can't run out of spares here can you?

- Anthony went to the NEC show and comments that there were quite a few of our favourite brand of receiver on sale. Not I hasten to add on the EUG stand. Graeme was quite right to put out leaflets stating that the exhibits on the EUG stand were for 'Display Only', some were Graeme's own sets and some from the Factory collection were loaned by Chris for the occasion. Anthony comments on a 358 for £150 on one stand, a 750 at £85, an 830/7 at £220 (!), plus several 840C sets at @ £100. Looks like prices are still on the 'up'. I hope that these sets went to EUGers.

- Coil Packs for the 358 sets, does anybody have any spare coilpacks in their Junk Box, or attic? Please have a look as they are wanted by EUGers, see the Free ads section.

- Consol Stations update, from member W. Walker who lives in the Bushmills area of Northern Ireland we have the info that this Consol station closed down in 1976, the only survivor today is at Stavanger in Norway.

- Jack Hussey mentions the 'old days' when the only way to see Tv was to DIY and he recalls building his own using the ubiquitous Pye IF strip ex WW II radar equipment this was, he used a 6" green radar tube type VCR97 for the picture! Those were the days Jack, none of these off the shelf black boxes then. I can remember modding an R.1132 to receive on the amateur 2 metre band and hearing my first QSO on '2' - from a local who was all of a mile distant from my shack.

- Eddystone Active aerial type LP3382, a new one to me and I believe to all other EUGers. But it does exist and EUGer A.P. Jennings has one, dates from the 70s I would guess, going by the part number. But still another new one for me to add to my collection of Eddystone gear.

- I have finally completed a list of all the pre WW II data sheets, manuals and schematics that I have here at EUG, and am now working on the 1940 to 1970 part. Then will come the 1970 onwards solid state stuff, but it will take time as your newsletter comes first. Meanwhile if you want a copy of the first part

of my list you can get it by sending 4 x 25p stamps to Jim Murphy. It details models from 1922 to 1940 and I guess if you are in need of any item from the list we will be able to supply it, Jim already has most in his own collection and I am supplying the rest to him bit by bit.

- Back to headphones, I still say that the best for comms; use are those BT, ex GPO telephone type inserts used with the cushioned pads from a defunct pair of modern phones. These had a mechanical design such that they reproduced just the voice bandwidth at a fairly level response, with upper and lower - frequencies attenuated, if you have never tried them you will never know just how comfortable SW listening can be, none of that high frequency hash, or the low frequency grumble is reproduced, just a nice crisp speech signal.

- - - - -
- END IT - END IT - END IT -

- That is it, another super bumper newsletter and with more than usual from members this month. Anything for the next issue must be with ME before the end of JULY as that is when I send my copy off to Graeme for onward transmission to those kind folk at Eddystone to copy and post it out to YOU.

- If you want to contribute then do it in this format, that is typed on A4 both sides if possible, clear copy, and say whether you want your name on or whether you want to remain ANON.

- Oh yes one point, subs have been held for the coming year,

that is £10 for the UK and £11 Overseas (and please, this must be in STERLING on a UK Bank)

73 to all,
Ted.

- - - - -
- Late Members Advert. -

- Model 1590 receiver, general purpose AM/SSB, MF/HF with 150 Kc/s to 30 Mc/s virtually mint specimen - just the stick on crystal channel label on the access door to the crystal box missing, removed by previous owner. Replacement easy. This is a rack mount (19") version of that shown on the cover of issue 35, has handles. One mod, the wide band ceramic filter replaced by narrow 6 & 4 Kc/s switched, but easily restored three soldered connections. Otherwise is an unmarked unit. Original 10 Kc/s filter supplied for replacement. Would prefer EUG member collects £150, or pay carriage at cost. This was bought new by TVS and hardly used, rack mounted but no mains connected for years, made redundant like me at franchise end - 1992. Roger Bunney on 01794-517497.

EXCHANGE: Collins 75A2 Ham-band receiver for Eddystone 730/6 or 730/8. Call Jack on Malvern (01684) 574968

FOR SALE: Eddystone 770S, Reasonable Condition, £45. Call Mr Leach (West Midlands) 01922 417471

WANTED: Crystal 500kc/s for crystal calibrator on Eddystone 730/1A
Phone Richard (S. Humberside) 01472 250 978

WANTED: HRO Cabinet Speaker and National or British Military PSU. Can exchange for Eddystone 870 in good condition or purchase.
D.W.Blanchard, 141, Dunes Road, Greatstone-on-Sea, Kent TN28 8SP.

WANTED: for Eddystone model 1590 Build, the following items:-
Metal Chassis. Tuning Capacitor Part No. 10607P,
Tuning Meter Part No. 10448P, SSB Filter Board Assembly
Part No. LP3712/5 or PCB Part No. 10529P and 455 Khz LSB
Filter Part No. 11423P, 455 Khz USB Filter Part No. 11422P.
Call Peter (Gloucestershire) 01242 529758

WANTED: Bench Cabinet for model 1650; can exchange for bench cabinet for 958/1990 (130mm or 225mm). Call Graeme 01299 403372

FOR SALE: Racal RA117 general coverage receiver, rack mounting, working order, £100, call Ron G8URU, (Carlisle) 016977 48 672

FOR SALE: Copies of nearly 500 Eddystone Manuals; these are specially produced for you by Christine in the Technical Publications Section at the New Factory. Order them from Graeme G3GGL. Pay later.

WE DO NOT send receipts or otherwise acknowledge renewals of subscriptions, but those who make an order for publications or send a stamped addressed envelope with their remittance will receive a Membership Certificate.

PLEASE,PLEASE, remember to include an s.a.e. with all queries, whether for Ted (via Jim) or Graeme at Bewdley.

STOP PRESS

Latest Membership Information

From Graeme Wormald G3GGL

Membership Administrator

Eddystone User Group.

Members will be delighted to know that on 1st June 1996 we signed on our 300th member. Another feather in the cap for Ted Moore who started E.U.G. just 6 years ago with a small group of 12 enthusiasts.

WELL DONE.

Not so Well Done: 176 members have paid their subscription for 1996-7. One member has resigned. This means that 124 members have not yet renewed their subscriptions! Come on, chaps, this is your last chance. At the end of July when the next Newsletter is being printed I shall have to advise Chris Pettitt to erase all defaulters from his database. You wouldn't like to be one of those would you? Get your chequebook out now and sign up for another year's membership of the best User Group going; all for the price of one cigarette a week. You know it makes sense.

Send your renewals to: Graeme Wormald G3GGL,

15, Sabrina Drive, Bewdley, Worcestershire

£10 UK - £11 Overseas