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Eddystone User Group

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Newsletter

Issue No: 26

Featured Model: Model 840 Receiver

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*A non profit newsletter for Eddystone Users

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

*Please address all mail to:

Eddystone User Group
c/o Eddystone Radio
Alvechurch Road
Birmingham B31 3PP

FREE MEMBERS ADS - Please make sure that you put all the details, i.e. Sell or Wanted, Model & Suffix, Condition, Collect or Deliver and last but not least your contact details - name, phone number preferably or address.

Any remittances for subscriptions, badges or manuals must be by cheque or money order. A cheque must be for sterling and on a UK bank as otherwise the bank charges to convert foreign currencies is likely to be more than the subscription. May your cheques payable to the **Eddystone User Group**.

The Year for the Newsletter begins with the May/June issue. Issue 24 was the last of year 4 issues and this newsletter is the first of year 5. There are 6 issues per year and if you join after the annual subscription date "May" then you will get back copies from the first issue of the current year to date. Your subscription will end with the March/April issue.

Subscriptions are £10 per year UK. and £11.00 per year Europe. An attractive metal lapel badge specially designed for the EUG is available to members at £2 each.

Copies of Manuals and circuits are available for most Eddystone receivers through the EUG with discounts for members. We have not been able to complete the task of itemising all the manuals and their costs as promised last time but depending upon size and whether it is a photocopy, most manuals cost between £3 and £10.

Back copies of all newsletters are available at £2 each post paid.

All mail for EUG to be addressed to

Eddystone User Group
c/o Eddystone Radio Ltd
Alvechurch Road
Birmingham B31 3PP

PLEASE do remember that we cannot answer queries by telephone. THE EUG is run by volunteers at Eddystone and we can only respond to written queries.

A message from Chris Pettitt, MD of Eddystone Radio Limited,

Issue 25 was the first one issued by the EUG volunteers at Eddystone and thanks to those who have written in complimenting us. We now have nearly 200 on our mailing list and there are only a few who have not renewed with us for this year. Ted Moore is still doing the bulk of the work, i.e. writing this newsletter and answering members technical queries. I have a few letters to respond to and I am sorry if I am bit slow in doing this. Some of the questions asked have no simple answer!. We have been approached by people with Eddystone receivers for sale who are non-members and as such we cannot offer them our free advertising facilities, however if any EUG member is looking for a 770R (two available), a 770U, a 850/4 then please drop us a line and we will put you in touch with the vendors. The National Vintage Communications Fair in May was a good opportunity to meet members and a number of you renewed your subscriptions there. This is becoming a very popular event and looks like being a permanent date in our diaries for the middle of May each year. This issues featured receiver is the 840. We have decided to include the data sheet on the Model 5600 HF FSK/VOICE transceiver system. This is a variation of the ORION HF/SSB Channelised 150W Transceiver which has been in our catalog since 1985

- Issue 26. -

- Another issue, the second one to be sent out for EUG by Eddystone Radio. A number of letters have arrived this month, all mention the professional manner in which last Issue was produced, also the very informative leaflet that Chris included for us. I hope that those of you who expressed doubts about having the Newsletter printed and posted for us by Eddystone are now satisfied.

- Mention has been made of the fact that we have concentrated most of the Newsletters space on the older, valve type, receivers. Basically I think that is what most of you want. A check through the list of all those models in the hands of our members does show that the older models predominate. I shall continue to monitor this until the time that more of you indicate ownership of the newer models.

- Word also from one member who has converted the IF buffer/output stage in his 830 into a QRP transmitter, good for you Dave but I stick by my dislike of such mods, especially when holes in the front panel are a result.

- Several letters mention the possibility of using the spare triode in the Frequency Changer stage of the 940 to make a built in calibrator. It seems that several of you are adamant that it cannot be done, whilst Ian tells me that he HAS done it ! Until I get the circuit I shall not make any decision on this one.

- Is the newsletter ever going to become a monthly ? Not unless you are all prepared to pay a much higher subscription. I could do it, there is no shortage of items for extra issues, plenty of mail coming in which contains news and items of interest, but the extra cost would I think be prohibitive. And now of course we have the added factor that our photo copying is being done at Eddystone, the work load for Chris and Pat, his volunteer 'helper' must already be quite heavy, with six issues per year.

- The 960 is a rare model these days so it is all the more interesting to hear of Stan's acquisition of a mint specimen, complete in original packing and with matching speaker, all for £60 ! He states that he is doing some comparative tests with his 940, so far he prefers the valve receiver but has nothing to 'complain' about, with his 960.

- Bryan has just 'got' a Marconi 'PACIFIC' model, which he is delighted to find is also an Eddystone 1837, he got the set from an ex-MN operator and was not aware of the parentage until he got it home. Now he is not too sure whether he prefers his 830/9 or the 1837.

- TV timebase QRM is a problem for Alec, living up on the Isle of Mull. Since the only TV receiver within a $\frac{1}{2}$ mile of the QTH is his own I would

be inclined to suggest 'suppression at source' - i.e. sell the TV set. There really is so very little that can be done in such a situation, the waveshape of the timebase signal is such that harmonics are produced up through the HF bands to VHF even, I used to believe that most were radiated directly from the set, and that screening would help. It is now proven that some of the radiation can take place via the TV receiver aerial ! As one who has never owned, nor had, a TV in the house I have still had to suffer the emissions from all the neighbours sets. At least if the QRM is coming from YOUR set you DO have the solution in your hands.

- A home made, computer designed Yagi ! Yes, Charles is using one with his model 770R II and he comments that the set is quite lively within the designed frequency band of the Yagi (50 - 100 Mc/s).

- Comments from several members that they have bought Marconi HR2301 receivers within the last few months, since this is the 880/3 I am just a little curious as to who, or what organisation is divesting itself of these sets ? Can anybody help ?

- Andy has cured motorboating on his 740 at last ! It took him several attempts as this only started when the volume control was at about 1/3 up from zero. Eventually he changed the AVC decoupling condenser, cured it okay and he now wonders why he did not go for that in the first place.

- Bill Gibson has a problem with the logging scale of his 940, he took off the main tune knob and noticed that the spindle seemed to go back a little, now the knob is back on but the feel is not the same. I did have this on another model and found that by using very long nose pliers I was able to grip the spindle from under the chassis, hold it slightly forward whilst re-fitting the knob.

- Help wanted by several members, who cannot undertake their own repair work. Well other members have commented on the good service received from both Centre Electronics, 345 Stockfield Rd, Yardley, Birmingham or phone 021-706-0261. Also mentioned is the work done by Dave Tizard of Weymouth, Dorset, phone 0305-772927. If it is valves, electrolytics or droppers for those AC/DC models then you need to contact Philip Taylor who is in Billingshurst, phone 0403-786250. (not as in issue #25 ! Mea Culpa.)

- - - - -

- Apology to BILL COOKE, see Issue 24.*

- Re the Item in the last Newsletter, Bill has written to correct the statement that Geoff Woodburn was ever Chief Engineer at Eddystone, as mentioned in a previous issue. From Bill we hear that Geoff originally joined Eddystone in 1938 and was employed on assembly, eventually becoming Development Engineer. Sad to say Geoff passed away some 15 months ago. I shall keep my letters from him to EUG. They do contain a number of snippets

from his years with the Company, to be used in later Newsletters. I must say thanks to Bill for his very informative letter, which I hope he will not object to my printing in another issue.

- - - - -
 - An ADVERT in the Newsletter ? -

- No - honest - it is just that the enclosed ad for 'SARCON' was sent to me and I spotted the poor guy hefting what looks very much like a 770 receiver. Could not resist including the cartoon bit for those of you who, like me, know the feeling. The EUG badge shows that somebody out there does take notice of us !

- - - - -
 - Members Free Adverts. -

WANTED.- Bryan B Marsh of 20 Rimu Rd, Mangere Bridge, Auckland-1701, New Zealand would like to make contact with any EUG members in that country. Bryan is active in the NEW ZEALAND Vintage Radio Society.

WANTED.- a good ATU for use with my 840C, reasonable price please. Also want large gray knob, tuning knob for my 840C, and a Black diecast round speaker to match my 740 please. Jim Murphy, 63 Wrose Rd, Bradford, West Yorks; BD2 1LN.

WANTED.- 940 or 960 - prefer the latter. ring John on 0838-200-304, call-sign is GM8MLH.

WANTED.- one or two geared pulley wheels as for 888A cord drive. Ring Brian on 071-736-6581

SELL.- 1837/2 with copy of handbook, or would swop for a nice model 830/? plus some cash. or W.H.Y ? please ring Brian on 071-736-6581.

SELL.- New stock RS electrolytics for sale, high voltage types for replacement purposes made by Matsushita. Ring me on 0785-225106, the price is only £0.80p each.

WANTED.- EC958 in good working order, please call me on 081-467-3842 evenings only, Tony Allnut.

WANTED.- By collector of Marconi sets. Any Eddystone built sets bearing the Marconi or MIMCO badges, to buy or swop for a 670C in near mint state or a 958/1 GPO coast station version, contact Bruce Morris, GW4XXF, on 0654-710741 (home), 0654-711541 (work), or 0654-712441 (fax). Or write to 62 Gerllan. Tywyn. Gwynedd. LL36 9DE.

- GREMLINS ? Must Be !-

- After some 18 years of ownership and a near perfect record of service Luis came home from a trip to Spain. Fired up his 850/2 for some Beacon DXing, went off to make some much needed coffee leaving the 850/2 to 'warm-up' as they say. Sad to state the warming up process must have got out of hand, apart from a very expensive 'transformer smell' there was a definite smell of hot paint. It took very little to verify that the smells came from the 850. A burning sensation when he touched the rear left side of the cabinet caused Luis to reach for the main power switch.

- Opening up the set showed that there was a lot of powdery white goo around the seal of the 50 muf electrolytic, C115. The set had been in constant daily use up until the start of the Spanish trip, some 15 days previously. Nobody had tampered with the set during that period so it comes down to a matter of either old age or those dreaded Gremlins. As Luis had a great deal of experience during WW II with these 'imps' when he was an engine mechanic working on Rolls-Royce Merlin engines for the RAF, he was sure that this was a case of Gremlinitis.

- Checks showed that the mains transfo was still okay, they were made to last at least ! When the replacement e'lytic condenser was fitted the 850 was left on for a prolonged run to observe if there had been any damage caused to the transfo windings, all seemed to be normal however. Just why these 'imps' chose C115 is not known. The 640 that is used at this QTH is still running on its original e'lytics and had come on when the main power switch was thrown at the return from the Spanish trip, this seemed to rule out mains spikes etc; so now the question is, does any member know of a PESTicide effective against Gremlins ??? PLEASE !

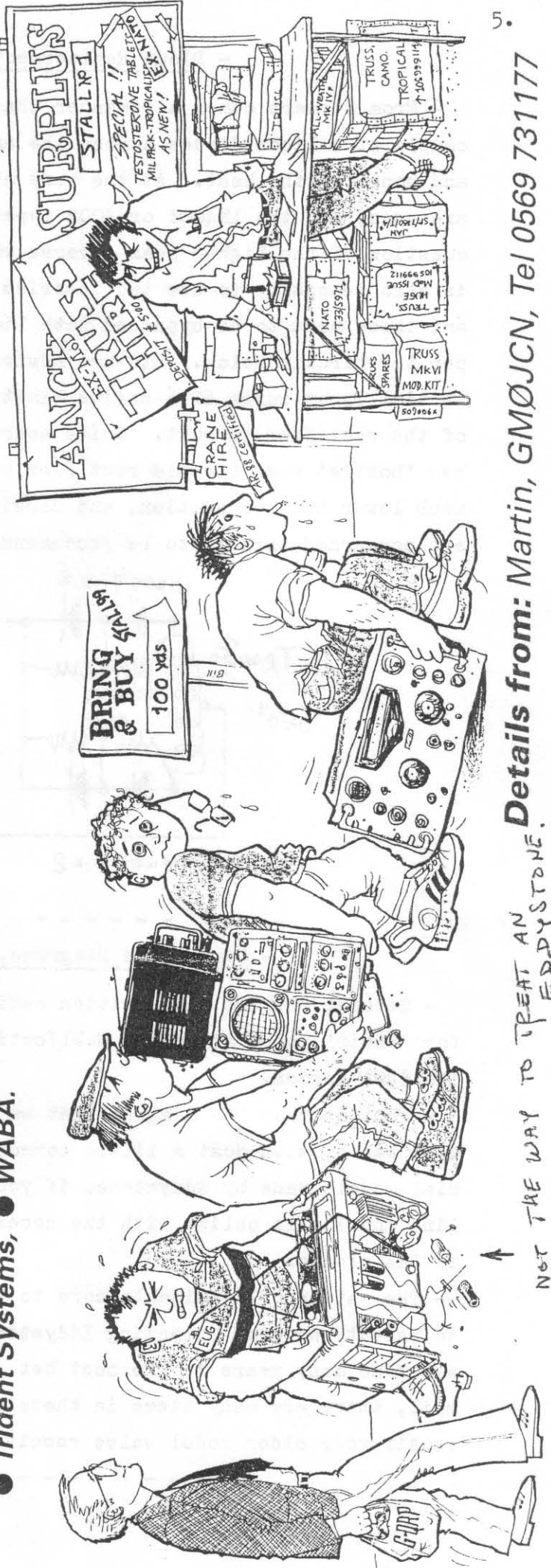
- - - - -
- 770R Mark II FM Fault.-

- This member had noticed a failure of the FM mode on his 770R II, not on each occasion that the set was used, it seemed to come on okay on FM but then after the mode switch had been changed to AM and back the FM mode appeared to die out. Much messing about was done, it was at first thought that the wafer switch was faulty. Eventually when voltages were checked it was discovered that there was about 30 volts across R49, a part of the Foster Seeley discriminator circuit. Several component checks later it was found that this voltage was coming via a very leaky C56. A 50 puff silver mica this condenser couples from the anode of V8 to the junction of R49 and R50. On a test when taken out of circuit the leakage appeared to be variable, according to the time it was left on test. The replacement of this condenser has effected a complete cure.

RAK 1994

SCOTTISH AMATEUR RADIO CONVENTION & COMPUTER SHOW Saturday 17 September 1994 Cults Community Centre, Cults, Aberdeen

Traders include: ● Badger Boards, ● BYLARA/Scottish YL's, ● G-QRP Club, ● Grampian Repeater Group, ● Ham Radio Products, ● Hatley Antenna Technology, ● J.A.B. Electronic Components, ● Janet McKay, ● Jaycee Electronic Services, ● Knight's TV & Computers, ● RAF Amateur Radio Club, ● RAOTA, ● Radio Bygones, ● RSARS, ● RSGB, ● SouthWest Radio, ● SMC ● Tait Components, ● Trident Systems, ● WABA.

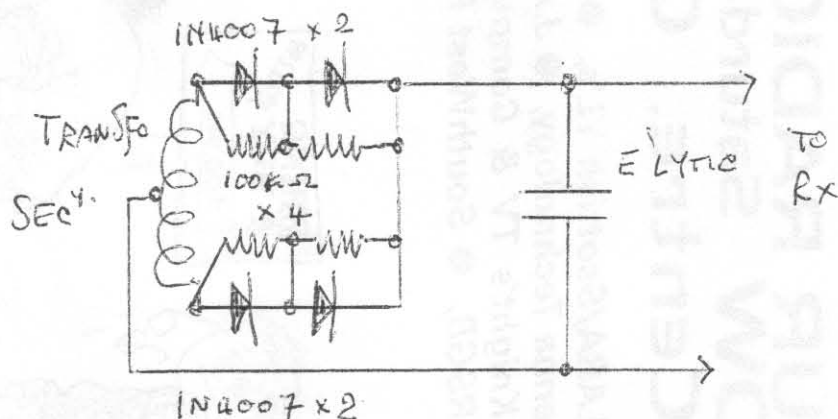


NOT THE WAY TO TREAT AN EDDYSTONE.

Details from: Martin, GMØJCN, Tel 0569 731177

- Diode Replacements for Valve Rectifiers. -

- From Stewart comes a reminder that it is just not enough to wire a couple of silicon diodes across the anode - kathode pins of the valve base and hope for the best. At the very minimum he suggests that 1N4007 diodes are used, not the 1N4001 or 4002 types that are more common, it is all a question of the higher peak inverse voltage rating of the 4007 types. It is also necessary to use two in series in each half of the rectifier circuit, and these need to be bypassed with limiting, (equalising ?) resistors as per the circuit below. Stewart advises also that it helps keep down the initial input surge if a series limiting resistor is included in each half of the rectifier circuit. Quite apart the elimination of the cost of a new 'bottle' when the old rectifier packs up, there is the added bonus of much lower heat production, and dissipation. Since no unputbackable mods are concerned this is to be recommended.



- Cord Drive Diagrams, as per *25. -

- Several members have written asking for similar cord drive diagrams for 'their' model after the publication last issue of that diagram for the 840A series.

- Fact is that the diagram that was reproduced in *25 is more or less applicable, with just a little common-sense, to any of the 'slide-rule' dial models made by Eddystone, if you are in doubt then just drop me a line and I will oblige with the necessary info, but do enclose that stamp or SAE please.

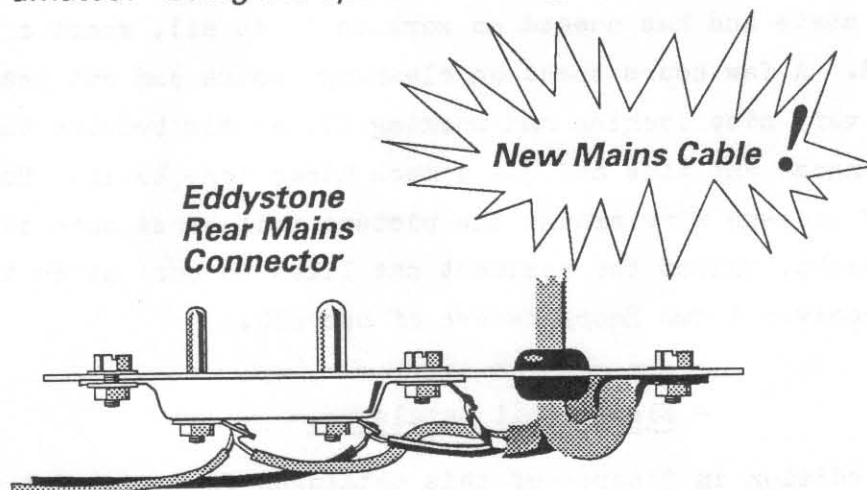
- The matter of a suitable cord to be used comes up frequently, I have to repeat, no good expecting Eddystone to be able to supply these items after so many years ! The best bet is to try Maplins, Cirkit, or Electro-mail, there are many items in these catalogues that will help you to repair your older model valve receivers.

... Not a recommended mod !

A few years ago I had a 640 or similar in for repair. The owner obviously had been unable to find the proper mains free socket, so he had done a very neat job of drilling the back of the chassis, taking a new mains lead through the carefully grommetted hole, clamping the cable and — finally soldering the new lead to the very convenient terminals on the back of the chassis mains connector !

I did some surgery there and can report that the owner, who is a licensed amateur ("amateur" being the operative word), is still alive.

Bill W.



N.B.— I suspect that Bill means the '840' not '640' type. Since the 640 did not use this 2 pin input socket (plug ?). However it does make a very valid point here, some mods that may have been put on to that bargain receiver which you bring home could be LETHAL !!! It always pays to do a thorough visual check on such a bargain before you even think of applying those ergs to make it tick. The oodles of ergs that you slap onto the set may perforce find their way into your body.

- If YOU have any such HORROR stories to tell us about then do send the details to EUG, maybe we can get Bill to do another diagram for the Newsletter to warn others.

* REMEMBER those AC/DC sets are safe when the manufacturers make them, the danger comes when unauthorised mods are made by the USER.

- Camper & Nicholson Radio Receivers ? -

- Maybe no connection here with Eddystones, or maybe there is ! Does any member know whether they actually manufactured receivers themselves or did they buy in the equipment and 'badge' it ??? A query from Brian Pollard as to info on the C & N model CXNR 7020, this as a result of the previous query in issue 19 by John Sutton. Brian now has the CXNR 7020 serial no; 091 and needs any info available on this set.

- Car Boot Sale Bargains.-

- From Les we have news that he has bought a second receiver at a car boot sale. Having been badly disillusioned over his previous purchase of a 750 which when opened at home was found to be in a much 'cannibalised' state, he took the plunge last month and came away with a nice looking 870, for the price of 2 gallons of petrol as he puts it. This time he certainly struck lucky as the set when cleaned up turned out to be in a very good state and has needed no work on it at all, apart a new longer mains lead. A few hours spent on cleaning inside and out means that Les now has a very nice looking and working 870 on his bedside table, beats his old Sangean any time and has a much nicer tone to it. Using about 15 foot of hook-up wire around the picture rail he is able to QAP the world at night, whilst the resident cat likes to curl up on top of the working receiver ! Two happy owners of one 870.

- - - - -
- Electromail Catalogue.-

-The new edition in 3 parts of this catalogue is a must for members. At a special offer price of £2.50 you get not one but 3 catalogues which total some 2000 pages. A lot of items do have some significance for owners of older valve radios, high voltage e'lytics, rod thermistors, bulbs and clip on bulb holders etc; I found it fascinating reading and have made numerous notes of items that I feel will come in useful in the future.

- Maplins do a similar though smaller catalogue and I have bought a number of items from them recently. One item is a solar panel which is in use to power an EB35, via nicads of course. This use of solar panels is a growing thing as I know of several EUG members who do use a panel to power a receiver in a caravan, they soon pay for themselves when you are in a situation where your power must come from batteries.

- - - - -
- LEDs for Dial Lights ??? -

- A member has recently fitted several green LEDs to his EC10 II in place of the normally fitted dial bulbs. Two high intensity green LEDs are sufficient to enable him to read the scale markings with ease, and they cut down on the battery consumption considerably, he finds that a series resistor of 330 ohms, 1/2 watt is sufficient to ensure good brightness whilst ensuring that they do not exceed their 20 mA rating.

- - - - -

- Featured Model, 840. -

- The 840 came out in 1954 and was a basic AC/DC communications set for both amateur and professional use. Using seven valves of the B8A series it had the then usual halfround scales in a rectangular dial, coverage being the usual medium wave up to 30 Mc/s in this case in 4 ranges, all overlapping. Range 4 the medium wave band is marked in metres as was then the norm. All current amateur and broadcast bands are colour marked on the scales. The high ratio gearing with mechanical bandspeed incorporated is flywheel loaded and permits of excellent resettability.

- Mains supplies of 110 to 250 volts are catered for and being of the 'Universal' type a very high degree of insulation is provided for safety. Mains selector and input plug are on the rear panel. Sockets for an external speaker are provided although the built-in speaker gives excellent reproduction. The usual Eddystone aerial arrangements of doublet or longwire/earth are provided for.

- The circuit is that of RF amplifier, Frequency changer, IF amp; Detector/AVC/AF amplifier, and AF output. A BFO is fitted for CW and this can permit reception of SSB. HT is by way of a half-wave rectifier valve circuit. The series type noise limiter is effective on most types of pulsed QRM, i.e ignition interference.

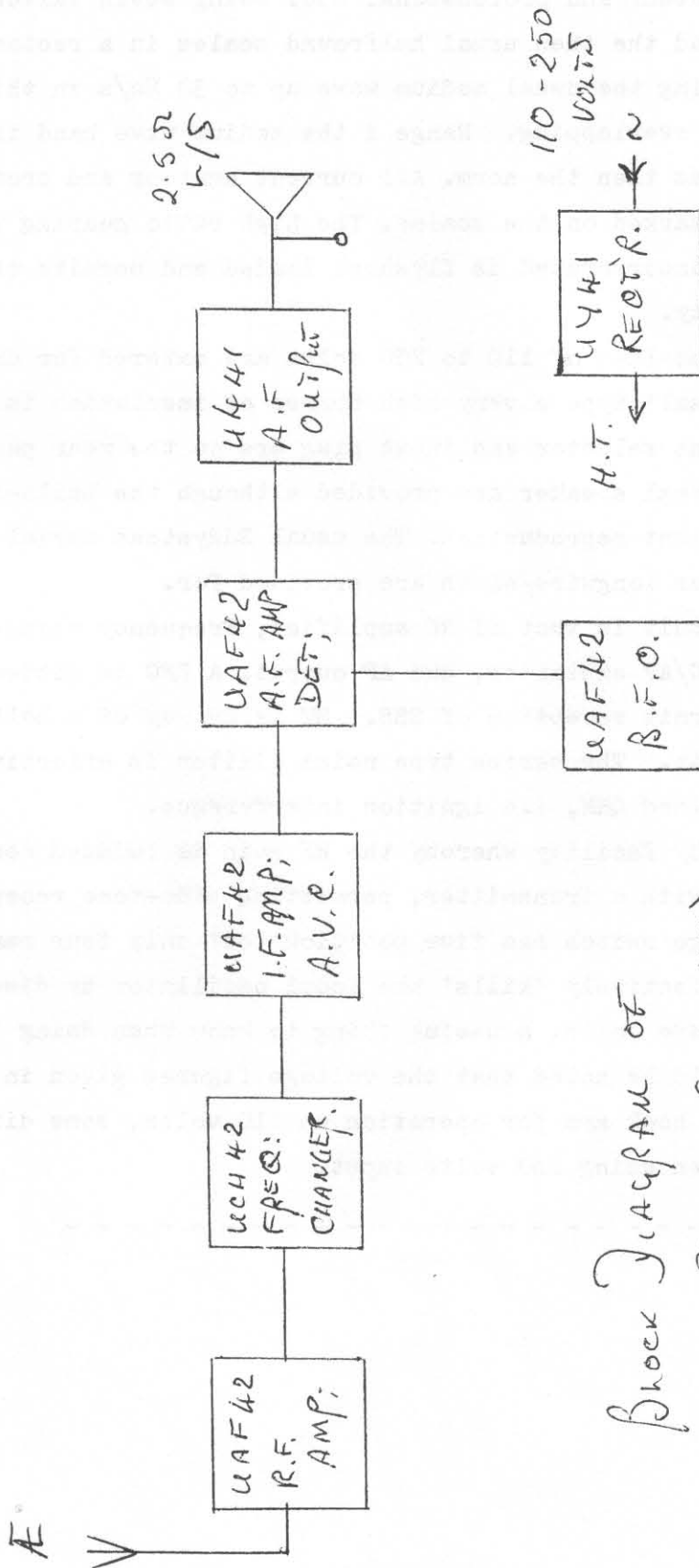
- A Standby facility whereby the RF gain is reduced considerably allows use with a transmitter, permitting side-tone reception facilities.

- The Range switch has five positions but only four ranges, the fifth position effectively 'kills' the local oscillator by disconnecting the grid and anode coils, a useful thing to know when doing IF alignment.

- It should be noted that the voltage figures given in the manual/instruction book are for operation on 110 volts, some differences will be found when using 240 volts input.



- Block Diagram of 840.-



Block Diagram of 840. (circa 1954)

- SFERICS. -

- Letter from one member newly returned to the delights of an Eddystone, a 940 no less, who mentions the similarity between an automobile driving Mr Toad - using his Klaxon repetitively to simply announce his, Mr Toads', presence, and the multi outlet QRO broadcasting stations on short wave. He wonders how many actual listeners some of these 500 Kwatt outlets actually have ? The difference between the present day short wave bands and those of the 1940 era when he was last a listener, with a 640, are quite astounding to Colin. One pertinent comment from his letter though is that 'the 940 can still cope quite easily on these congested bands and unless you know, there is no reason to think it is a thirty year old set'.

- Stuart mentions that his 958/5 has had to be partly rewired as the mini-coax used for coupling between modules has developed a disease that he calls the 'lurg', at each end the coax has gone green and the copper conductor has disintegrated, a case of fitting new coax throughout. I have heard of this happening on other 958 receivers and wonder whether it is on sets that have been subject to more than their share of salt laden atmosphere ?

- Queries from two EUG readers re the L63 valve, this is nothing more than a 6J5, I think it was Osram ? but may be corrected on that point. Used hundreds of them at one time, the mid fifties on various models of the Decca Navigator, the Mk VIII had 8 of them as output bottles. Have seen them in some 358s as a low current option to the 6V6, same with the 640.

- QRM from R.Eirreann on medium wave ? that is a new one to me. It seems that Alan has an EB37 which he uses at his holiday caravan in South Wales, on the coast. At home no problems, but when on holiday near St Davids he gets the Irish station at three or four places on range 4 & 5 of the EB37. This is a half Megawatt station on 567 Kc/s and it broadcasts RTE 1, it is clearly audible throughout the U.K on its 567 Kc/s frequency especially after dark. For Alan to be getting it as he does on what seems to be harmonics of its licensed frequency then something is amiss. He mentions 'about 1135, about 1700 and again about 2268/70 Kc/s. I am inclined to think that whatever he is using for an aerial must be strongly resonant at the 567 Kc/s point and that there must be some kind of non-linear condition which is acting as a harmonic generator, an oxidised joint would do it Alan,

but then I wonder whether it could be caused by the malfunctioning of one of the two diodes across the aerial input on your EB37 ? I had this on an EB35 some years back and when feeding in a strong signal from the generator was getting harmonics that could not be found on an EC10 when fed from the same sig; gen; a broken glass diode was the cause.

- To clarify the matter of which pots to use - at the request of Ray, in most sets the RF gain pot is usually linear, and wire wound. The AF gain pot is usually log; law and is carbon tracked. This holds good be it a 'hollow-state' or a 'solid-state' model. Okay I know, there are exceptions so don't jump on me, I did qualify the above statement by saying usually.

- How long to allow for warm up before attempting a re-alignment on your 740 ? well Mike I would say at least 30 minutes, but does it really need to be re-aligned ? I have known so many cases where a perfectly well aligned set has been 'redone' and the net result was a deterioration in performance. DO NOT try it unless you have the requisite 'know-how'.

- Tried everywhere for a dropper for your 840A have you Tony ? I cannot help there as many others are in the same boat. Suggestions are, a 240 to 120 volt transfo, either an auto type or a double wound isolating type but preferably the latter, look through the catalogues as there are some advertised. Other possibilities as shown by our members mail, I know of an EUG member who has been operating his 670 for several years on 120 volts and feeding it through a 40 watt bulb of the Edison screw type, a 120 volt bulb. it is in his operating bench lamp and so not only does it drop the requisite volts for his 670 to run okay but it gives him light to log by.

- A crystal set by Eddystone ? no it seems not. Although some are known which have Stratton/Eddystone coils etc; none came from the company.

- From several members this tip, that the magnetic ear-phone inserts as used by BT, ex GPO, are ideal for communications work as the response is tailored to speech frequencies to give maximum audibility over phone lines. No good if you want Hi-Fi, (so-called). I have myself bought several pair of those old stereo phones sets on sale at rallies for a £1 each. removed the usually faulty earphone inserts and fitted BT types bought at the same rally for 50p each.

- On Reforming Electrolytics.-

- Having recently purchased an excellent looking, but unused for 15 years, 940 receiver I was wary of the state of the three power supply electrolytics. Checks with a model 8 Avo showed them to be leaky but the main thing was the leakage was slowly improving over the few minutes that the Avo was connected.

- Not having a variable mains power supply at hand I decided to try a method I first used in the 1950s with ex WD condensers of WW II vintage. This involved disconnecting the wire from the kathode pin of the GZ34 rectifier valve and inserting in the line from kathode to filter condensers a 20,000 ohms - 10 watt wirewound resistance. In the instance the available items were two series connected 10,000 ohms - 5 watt types, ex RS catalogue

- With the Avo 8 on the voltage range and probes across the two resistors I powered up the 940. As the GZ34 warmed up the voltage across the two resistors was over 200, showing considerable leakage current. After a 5 minute spell it had dropped to less than 100 volts, a good sign that leakage current was dropping as the electrolyte reformed. It took almost 4 hours for the voltage on the two resistors to drop to a level low enough to reassure me as to the condition of the condensers.

- The final act was to remove the two resistors and reconnect the wire to the kathode pin of the GZ34. The set was now powered up in the normal way with the Avo 8 across the HT1, unstabilised, line. A reading of 244 volts was considered to be okay, well within the 240 +/- 5% allowed by the specification.

Dave Clute.

- Marconi HR101. An Eddystone in Disguise.-

- One member has recently bought an HR101 for the 'princes ransom' of £220. My figure of speech and quotes, not Stans.

- The HR101 is visibly an Eddystone with the exception of the logo and Model/Serial plate. The set is in fact a model 910/1 with a coverage of 375 Kc/s to 30 Mc/s in 7 ranges.

- EUG has no manual/circuit of this model, a variant of the basic 910 and so is unable to help Stan, the set is working albeit gain is low above about 10 Mc/s. If any member has

the relevant manual or circuit for the 910/1 - HR101 then Stan would appreciate a copy, he will pay all costs.

- - - - -
 - Valve Data Books. -

- Mention in earlier newsletter that I was compiling a list of data sheets for all valves known to have been used in Eddystone receivers brought offers of help from a number of members, in several cases copies of pages from various valve manuals and books. In one case the actual valve manual was sent on long term loan. To those who have helped, especially Doug Bishop, Harry Hartwell, and Dave Fletcher go the thanks of EUG. When the list is complete sheets will be sent out with each newsletter.

- - - - -
 - Circuit Design Query ??? -

- A note read recently in a very erudite book on Radio Engineering, published in the 1950s gave me cause for thought. It said 'CURRENT FEEDBACK;- this form of feedback may be secured by un-bypassing (sic) the kathode bias resistor. Current feedback results in an increase of effective output impedance and is not recommended for output stages.'

- Fair enough but then what about the output stage in the 750 where the bias resistor, R42, is not bypassed? Have come across one or two 750s where an electrolytic has patently been fitted by an 'outsider' but have met with far more in original 'unbypassed' state. Any answers?

- - - - -
 - 750 output Valves. -

- Whilst on the subject of the 750 output stage, if you do fit a 6AQ5 in place of the very expensive, and hard to get, type N78, then do please swop the 150 ohm kathode bias resistor to a 330 ohm $\frac{1}{2}$ or 1 watt type. Note also base wiring changes.

- Desperate Dan & His 888A. -

- It was a Saturday afternoon, nothing had gone right, the car had refused to start & so a taxi had to be called for the mornings shopping trip. In mid afternoon whilst listening to a U.S based sideband net on 14 Mc/s I found that the output of my 888A was dropping slowly, within minutes the gain was fully up & yet the output was down to whispers.

- As a WOP in the RN my technical know-how is minimal, but I have read a few books on servicing theory and practice. Still it was with some trepidation that I opened up the 888A, six years of use since purchase from the original 'new' owner and never a bit of trouble, as this is my third Eddystone I almost expect them to be immortal.

- The books said check Ht voltages if a visual examination shows nothing out of the ordinary. Well my only test gear is a venerable Avo Minor, still the anode and screen volts did seem to be all there. All heaters were glowing dimly and dial bulbs okay so I guessed at a fault not in the power supplies but in the signal paths.

- The books told me to check back from the output stage and so using a very long terminal type screwdriver I began. From the 888A circuit diagram I puzzled out that the input to the V8, 6AQ5 output valve was most easily reached on the AF filter in/out switch S8. A hum was produced in the speaker when the screwdriver tip was touched to the screened lead which goes from this switch to the output bottle grid. This meant the output stage was okay, or at least working.

- Next step was the same screwdriver tip to the centre tag of the AF gain control, there was again some output, hum that is, when I touched this tag, but when I turned the knob from maximum to minimum the hum faded out at both ends of the travel of the knob. Moving the screwdriver tip to the 'top' end of the pot; I got no hum output at all no matter what the position of the AF gain control. I had thought that at this point I would get hum again, loudest when the knob was turned to fully clockwise and nil when turned to fully anti-clockwise. Definitely something wrong I thought, but I did a double check by ringing a more experienced friend, formerly a repairer of the domestic type radios. He confirmed my prognosis and so with a few hints from him I did some further checks around that pot; the AF gain control. The screened lead from the 'top' contact was traced

888A -

back to S13 the AM/SSB,CW switch. Operation of this switch made no difference to the output from my test screwdriver. I snipped the centre core of the screened lead from the tag on the pot; and tried again. Better, the hum was now controllable by turning the knob from left to right, as should be. My attention went now to S13. With the switch to SSB,CW position the screened lead ought to have had an infinity reading on my Avo but no, a nice low ohms reading of about 8 Kohm, with visions of a couple of duff condensers in the feed from V9 the carrier insertion oscillator I snipped the S13 end of the piece of screened lead and checked again, the same ohms reading as before although the lead now went nowhere. It was noticed that squeezing the lead at various points along its length would vary the ohms reading. The centre lead was pulled out from the screening and it was found that the insulation was practically a gooey mass along one third of its total length. A new length of similar screened lead was cut and fitted to the 888A, result was all systems go again. No apparent reason for this failure of the insulation, and several other similar leads in the 888A were checked out and found to be okay, one suggestion from my 'advisor' was that a surplus of flux at the construction stage had gradually migrated down the lead and time had done the rest, still nice to know that despite my negligible testgear & minimal technical knowledge I had succeeded in getting my prized 888A back on the air. Next time, touch wood, I shall not be so hesitant in attempting a repair.

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- Local Oscillator Faults. -

- In general a valve type oscillator circuit will draw more current when not oscillating, this can be a guide to fault type conditions - if you know what to check and look for.

- A recent example where this happened was a venerable 840 which had been acquired for a few pound at a local radio club sale of surplus equipment. The set looked AOK both in and out but when powered up there was no signal output, just circuit noise.

- Checks on voltage points as marked in the instruction booklet showed only a slight drop of some 6-8 volts at point G, the anode of the triode half of the V2 - UCH42. Since this was the only disparate reading I reasoned the problem was likely enough here in the L.O circuitry. Touching a scope probe on this point, actually on pin 6 of the valve base, showed there was only a DC potential & not the required oscillator sine wave. This is an easy test and no real knowledge of the operation of a scope is needed. Some hours later I had isolated the fault, it had been a case of 'suck it & see' - or chop and try if you like. The problem was a 100 pF condenser, one of the ceramic variety, C38 in the circuit. On test there was only a few pF measurable, nowhere near the specified 100. I replaced this item with another similar and the circuit burst into oscillation as soon as the valve warmed up. Since this condenser couples the tuned circuits to the valve grid no wonder it had failed to perform.

- Another problem on a similar model was that whilst normal oscillation occurred on the Band 1 range there was nothing on the lower frequency ranges. Here it was a dud resistor to blame, R15 in the circuit diagram. This was a 22Kohm but on test it read so high that I automatically checked both the colour coding of the component in question, and the circuit value. It read almost 400 Kohm on both my Avo and on a modern DVM. A replacement cured the problem completely.

- Last but not least is the screen dropper in the mixer half of the valve. This forms half of a potential divider, with a 47 Kohm to earth, the top one, from HT to grid being a 22 Kohm. The 47 Kohm is bypassed to earth (chassis) by a 0.1 mF paper type condenser which can go leaky. If too much current is drawn through the combination R13/C21 then R2, the 22 Kohm will heat up, screen volts will drop and gradually the value of R2 will increase. Same result of course, little or reduced signal output from the set.

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- B.F.O drifting on an 830/8.-

- A real baddy this one, it persisted despite the usual checks and changes. Normal drift of course from warm up but then it would occasionally recommence to drift again after several hours of use.

- Since it happened on all positions of the mode switch I ignored the tuned circuits, which switch in various combinations of capacity for CW, USB & LSB.

- Waiting until the set had been on for some hours and the drift had begun I found that C184, the kathode bias electrolytic in V13 circuit had gone from being a condenser to being a low value resistor of some 30 ohms. Since this is taken - together with the 220 ohm kathode resistor - to the tap on the BFO coilits change would affect the frequency. I replaced this and powered up again, drift continued for a while after the normal warm up period, no doubt the forming process in the electrolytic I had fitted, but then after about two hours the BFO was once more rock solid, I left the 830 on, with gain down, tuned to a volmet signal and next morning there had been virtually no drift.

- I can recall an 830/7 some years back where the drift on BFO was traced to a 100 Kohms in the screen circuit which gradually went up from its coded value to a half megohm. Drift was not any where near excessive, just enough to be a nuisance on long overs of a SSB QSO.

Tape Recorder feed on a 670C ? It's built in.

- Needing a low level feed point from my 670C - I was intending to record some CW signals at $7\frac{1}{2}$ ips and play them back at $3\frac{3}{4}$ - my CW speed is very low. A look at the schematic for this set showed me that my needs had already been catered for, well almost.

-Provision is made for a pickup input to the audio driver stage via the volume control. Since this facility is never used I decided that it was ideal for my needs, a fixed level of audio at millivolt level which is not varied by the volume control. The only mod I needed to perform was a soldered link between the 'tip' contact of the socket and the break contact. No BFO on the 670C you say ? I have fitted a self contained kit built to run from a PP3 battery it is mounted on the underside of the chassis near to V3 and feed to this stage is via a wire probe.

- The EA12 - Amateur Band Model. -

This Eal2 had been bought privately and at a fair price of £100, considering that its last owner had been a DIY bodger. He admitted to have twiddled a number of the cores and trimmers under the chassis and that performance was not what it had been when new. This last was an understatement, as I found out when the EA12 was fired up. I soon realised that a complete re-alignment was needed and that on this model the job was liable to be a long one. It was. Several weeks later I had the set working more or less to spec; but in the process I had found it necessary to replace several damaged slugs & a number of damaged wires, where the bodgers iron had melted insulation on them. All was okay now except that there was some drift on all ranges from warm up, lasting over a half hour and going some 20 Kc/s. I cured this by replacing V5 the 2nd local oscillator which was an EC90.

- SFERICS. -

- If you want to see an EC958 in operation - well two of them in fact - then visit the Isle of Wight. The Communications' and Electronics museum at Puckpool Park has the original operating console from the old Niton Radio featured and it contains two EC958 receivers. Ring Douglas Byrne G3KPO, of cartoon fame, for further details. The phone number is :- 0983-67665.

- Just a thought for you neophyte constructors, The Radiophile, published and edited by Chas Miller, is /has featured some basic valve construction projects in recent issues. This mag is a must if your interests are towards the 'hollow state era' as opposed to todays black box era. Phone number is 0785-284696.

- On the same 'hollow state' subject there is a nice project in the QST magazine for construction of a 1-V-2 regenerative receiver for use on the 40 metre band. Very well explained and the parts are easily obtained in the UK. Get hold of a copy of QST for September 1992 by fair means or foul.))

- Steven tells EUG that his formerly deaf 770R MkII has become very lively on all ranges now that he operates it in conjunction with a Dressler ARA 900 active aerial which is sited on top of a 30 foot scaffolding pole in the garden. He got the ARA 900 for £25 at a local rally.

- An EUG member recently got a model 870 for £5 from a car boot sale, A.O.K except that the mains lead had been snipped off close to

the case, and of course more important, no knobs. Well the knobs fitted are now Eddystone if not the originals and the mains lead would have been renewed anyway as it was rubber. For a minimum outlay he now has a fine working 870.

- Fair Swop ? Dave Cunliffe thought so when he was offered a Panadaptor type EP17R for his late 1950s Bush VHF51. The panadaptor was working fine and since it has a 5.2 Mc/s input he can use it with his 770R II.

- Eddystone have once more shown their support for EUG by the welcome donation of four large boxes of 'goodies', no not spares but manuals circuits and brochures to go into our EUG collection. You - the members - will benefit as there will be much to be used in future issues of the newsletter.

- Do you know that Maplins do 8 mF electrolytics rated at 450 volts, for a mere 60 pence ? they also do 47 mF , same rating. You ought to have a Maplins catalogue - or a Cirkit catalogue - for those often needed bits and pieces, resistors, condensers, fuseholders & fuses, etc;

- A recent find by one member was an almost complete 'SPHINX' of circa 1934/5. The original teak cabinet is in fair condition, as he says 'definitely repairable' and he intends doing it properly. The one problem is that the speaker cone has disintegrated completely. Still that matter is already in hand. the set is the AC version & it does seem to work but he intends replacing some of the doubtful components.

- The 840C is an AC/DC model with a miniature DM70 tuning eye valve. A common fault with this model is where the DM70 becomes inoperative whilst the set appears otherwise okay. This happened to Colin and his investigation showed that R25 the anode feed to the DM70 was measuring out at 630Kilohm in lieu of the stated 470 kilohm, this was replaced and a check made on other components in this valves circuit. It is fed by the detector/AVC circuit via R22 a 2.2 Meg resistor, this too was found to be about 2.6 Megs and so was changed. When powered up the magic eye was once more working okay.

- the semicon type product detector circuit originally meant for the 730/4 series can in fact be used with many other models which lack this circuit, which does assist in reception of SSB, one EUG member is at present fitting it to his 640, more on this when he tells us that it is working okay.

- an EUG member with a one track mind ??? Chas has got 6 different Eddystone receivers, different only in that they are all versions of the 830 series, definitely a specialised collector this. His 830s all have a catalogue type 906 plinth speaker unit mounted beneath to elevate the receiver for operating convenience, all are fed from an ex WD aerial amplifier distribution unit to which is connected his external longwire type aerial, some 100 feet of wire at about 25 feet above ground. What is more to the point all the 830s are functional and actually USED !

- Using a digital frequency readout has never been easier ! So says Alan, he has a mini frequency meter which has a front panel switch to enable either direct readout of input frequency or at a push of the button it gives the offset readout for a 455 Kcs IF. A check on the facilities built into the chip showed that a choice of IF offsets could be chosen by minimal mods to the PCB. Having reset the chip to 450Kc/s IF offset he now finds that using a coax lead from the DFM to his 680X it is possible to get sufficient pickup simply by positioning a 2 inch length of the centre conductor of the coax close to the stator of the tuning gang, the forward oscillator section that is, result a 680X with digital readout for just £7.00 (which is what the DFM cost him at a rally.)

- A plug-in Heathkit calibrator unit, meant for use with the model RA-1 receiver has been built into a small plastic case with a mains power unit, this is now stood on top of Mikes 750 receiver and gives him pips at 100 Kc/s intervals throughout the range to 32 Mc/s, actually it is mainly there as a reassurance as Mike says that the 750 calibration is pretty much spot on.

- The so called Warc bands which came out in 1979 are not of course marked on the scales of many of our Eddystones, Steve has added them to the scales of his 840A using a fine tipped marker pen, he intends doing the same for the new broadcast bands.

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- SFERICS. -

- Use of a 6G6 to replace the current hungry 6V6 in the 640, this is suggested by a New Zealand member of EUG, slight adjustment is necessary to the kathode bias but this valve will reduce heater consumption and HT current consumption.

- Replacement of the hard to get and costly UL41 output valve is suggested by Radio Bygones as best done by another type, the UL84. In effect the change needs no mods to your Eddystone at all. A B8A nylon plug is glued into a piece of scrap plastic tube, the wires from the pins are taken to a B9A valve socket which - once the wires are soldered to its pins, - is glued into the top of the tube. Hey Presto a pluggable adaptor for the UL84. Nothing else needed, and should you want to go back to a UL41 later then just remove the adaptor and fit the original.

- Those hard to get (some say!) 'jones type' plugs and sockets as used on some Eddystones are available from Methodical engineers, 4/6 Armstrong Rd, Benfleet, Essex, SS7 4PW. Best to send a sketch as well as saying how many pins, there are many types.

- A recent advert for an 'EC10 transceiver' had me foxed a bit. I rang to check and was told that it was in fact an EC10 with a QRP 3.5 Mc/s transmitter fitted in a diecast box bolted to the rear of the receiver, 250 milliwatts output but apparently potent if the sellers list of contacts is to be believed.

- Noise pollution, a recently repaired ghetto blaster boasted of 50 watts per channel (music power), the speakers were 5" types and the power supply was 6 off U2 or R16 dry cells. At full blast I got more output from my EB35 II. How can anybody believe the sales patter that is used these days ?? And what is 'music power' anyway ?

- Nice to hear yet another member who uses all hollow state equipment, Ian has Eddystones for the full range from 10 Kc/s to 1000 Mc/s and all are working, with either a long-long wire or two Dressler active aerials to choose from. (the LF end is covered by an 850/4 and the UHF end is covered by a 770S. A variety of 750, 770, R & U sets cover the mid ranges.)

- As with so many of the products from Eddystones factories, one version of the 830 series receivers was modified for use by the Canadian Government. It is known to have been utilised by the Coastguard, the Navy and Air Force, as well as by the Civilian Aviation Department.

- At the request of the government the 830/4 version was produced in 1965, whilst in all other parameters the /4 was similar to the so-called standard 830/2 there was one major modification. The lowest frequency range did not begin at 300 Kc/s but covered from 120 Kc/s to 560 Kc/s.

- Whilst none of our U.K members have so far admitted to owning one of these variants, there are two known to be in working order in the hands of Canadian members. There is also one in the U.S of A but it is not at present working, lack of an I.F.T being the reason.

- Panadaptors. -

- Several queries from members re these, seems they all saw the one for sale at a recent rally.

- The EP14 and EP15 were/are tunable front end models with ranges of - respectively - 5.2 Mc/s fixed and tunable 6.2 to 60 Mc/s. And 100 Kc/s fixed, tunable 400 to 800 Kc/s.

- The EP17R and the EP20 were/are both fixed inputs for I.F's of 5.2 Mc/s and of 100 Kc/s respectively.

- The display medium in all four models was a $2\frac{1}{4}$ inch diameter Kathode Ray Tube of either medium or long persistence. An attenuator acted upon the incoming signals, being calibrated in steps of 10db over a range of 60 dbs. The input impedance is nominally 75 ohms although it is not critical. The units can also be used as very potent alignment 'tools' when operated as 'wobblers'.

- All are mains operated and are about 36 pounds in weight.

- The conclusion is that if you do see one, DON'T HESITATE; buy it and if you decide that it is not for you, advertise it in the newsletter. Many members are just waiting to get their sticky hands on one.

- PLUG-IN COIL FORMERS, AND SOCKETS. -

- How nice to see the recent advert in the 'Wireless' magazines and the mention in Radio Bygones re the above products. Isoplethics of 157 Mundesley Rd. North Walsham. Norfolk. NR28 ODD, are the makers of these items, priced at £3.50 each.

- Whilst not being by any means replicas of the old 'ribbed' type of former, these can be used for your home construction projects and can if necessary be substituted for that unobtainable one when you are anxious to get an early Eddystone working. Made from modern high quality rigid plastics the formers are of very high Q.

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- Swapping. -

- On several occasions lately members have written in to mention that they have met up at rallies and that in the ensuing conversation an agreement has been reached to swop their Eddystones. Dave tells us that he arranged in this way to swop his 840A for an EC10, as he has recently moved to a retirement home the EC10 suits him far more than the 840A did. Colin mentions that whilst looking at and considering the purchase of a 770R at a recent bring & buy stall he spoke to another interested person who turned out to be an EUG member too, Surprise - Surprise. Anyway the outcome of this meeting was that Colin was able to swop his 640 plus speaker and 'S' meter for an 830/7. All parties were happy at these deals and it does seem to me a very civilised way of doing business. If any of you who are reading this newsletter would like to do swops then why not write in and have the ad put into the next issue? It need not be an Eddystone remember, but must be radio related, no quarter million pound homes with acreage enough for a top band rhombic.

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- The 770M. -

- This seems to have been an early version of the 770R and from what I am told by an ex Eddystone engineer the production was pretty reduced. Problems with stability on the higher frequency ranges appeared to be insoluble with the existing design. A complete redesign was decided upon and the result was the successful 770R series, which was sold world-wide to both the west and the eastern bloc countries.

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- Refurbishing an Eddystone All World Two.-

- The A.W.2 was a kit set made by Strattons in 1936, it came complete with all hardware but minus valves, you were given a list to choose from but had to buy them yourself. This was a common way of marketing not only kits but ready built sets in those days, made necessary by the royalty situation. This particular example had not only two valves fitted but also a set of spare valves in their original boxes, the fitted output valve was a triode but the spare a pentode. This was allowed for in the design of the AW2 and the booklet explained that for economy of HT battery sake, the triode could be used. The circuit was a basic detector with reaction which was RC coupled to a small output valve which was designed to drive headphones of the then standard high impedance type. Reaction to the first stage was applied by capacity feedback through a reaction winding on the plug-in coil. When received there were two coils with this set, the type 6Y and the type 6LB, possibly others were obtainable at the time, these two gave coverage from just above 5 Mc/s to about 19 Mc/s. Original price of the kit in June 1936, from the original receipt, was £3-17-6d, although I have heard a price of £3-7-6d quoted elsewhere for this model. Valves were a further £1-0-6d on top of this and phones if needed could be had for a mere 8 shillings. Of course you would need also an accumulator and HT battery plus an outside aerial, the costs mounted the more you thought about it.

- When received the set plus spare valves and a pair of S.G. Browns phones and the original construction booklet were in a cardboard box which itself was an antique, it was a 'Stork Margarine' box circa 1940. Having been kept in the box in a wardrobe for many years and apparently undisturbed, the set was in very good condition. Most of the refurbishment was electrical not mechanical. A few ancient webs and some dust had to be vacuumed off the chassis, the metallised coating to the V1 detector valve had to be restuck and this was done before any more could peel off. The rubber covered wire in the 4 way power lead had to be replaced as the rubber was cracked and crumbly. A check was made at this time on the phones lead but there appeared to be no deterioration of the rubber here, they are possibly not as old as the AW2.

- Component checks came next, strangely enough none of the condensers needed replacement despite checks done at 150 volts, on the other hand

AW2 cont;-

several of the old carbon rod resistors needed to be replaced, tolerance had originally been something like $\pm 25\%$, I had some similar looking 5% carbon types but the colour coding was in bands. I did my best to re-code them in the body tip dot code with artists oilpaints and refitted them, those needing change were the 100 Kohm detector anode load and the 40 Kohm V1 screen dropper. Also needing replacement was the top cap lead for V1 which went through chassis alongside the socket.

- Both the bandspread condenser and the main tuning condenser were given a touch of 3 in 1 oil as was the slo-mo reduction unit. Both valve sockets were cleaned with a brush and some RS cleaner, meant for switches but good for this use too.

- Time now to think of powering up the AW2, a check was made first on the filament circuit, all seemed okay and so 2 volts was applied from an accumulator, both filaments came on - seemed a bit bright to me but then they used to be in those far off days, my only HT source was two 45 volt batteries and the specified voltage was 120, I added a 15 volt battery of doubtful age and got an on-load reading of 102 volts, the current drawn at this voltage was a mere 4 mA. Since all seemed okay and there was a nice soft hiss in the phones I coupled up my external 40 foot random wire aerial and external earth. It amazed me, the set was so lively, with the lower frequency coil in I was able to tune in at good strength many known short wave stations around the 6 Mc/s band and all up to above 11 Mc/s. It took some time to get used to the reaction control but by backing it off to a point where oscillation just stopped, and then a little further, I was able to cope. Some 'hand effect' was noticeable at the HF end of the range but I did notice that this did not occur when I plugged in the second coil for the HF coverage, strange that. I have now been able to get together a battery eliminator for the supply of both LT & HT at the recommended 120 volts, not a great change in sensitivity and HT current goes up to about 6 mA. Both spare valves were checked and found to be 'usable' so I now have spares against the day when one goes down. I do have several spare 6 pin coil formers and shall be experimenting with the winding of coils for other bands, when time permits. For now the AW2 is a remarkably good working example of vintage Stratton, a credit to the Company and to its original owner who not only built it but took good care of it afterwards.

- An EC1004 BFO Fault. -

-The 1004 is a little known model from what members tell me, it was a second generation discrete device model using both bipolar and FET devices plus an audio stage IC chip, designed as a marine standby receiver it covers the old Long-wave marine band, the beacon band and full coverage Shortwave from 1.6 to 30 Mc/s. Besides the fully tunable 7 ranges there is provision for up to 10 spot channel frequencies using plug-in crystals and a pre-tuned 2182 emergency channel.

- When I first received the 1004 it appeared normal in every way excepting for the BFO, which just did not oscillate. The oscillator is a Fet type UC734B and it is tuned by two voltage variable condensers of the BA111/112 type. Delving into the circuit with a DVM I discovered that there was not the expected 3.3 volt supply to this stage. It is normally provided by a zener fed from the +11 volt supply, in this case a noticeably warm R93 and R94 were dropping almost the full +11 volts and there was a mere 130 millivolt across the zener. Easy I thought and in went a new BZY88, not so easy though as - despite a healthy 3.3 volt - the circuit failed to oscillate yet again.

- Some checks later I discovered why, one end of C126 had been disconnected from it's junction with C125/L25, apparently in a previous attempt to debug the circuit. With this resoldered in place the BFO was once more operational, the 1004 was rechecked on CW & SSB signals and seemed okay, it was returned to a satisfied owner and the cost of 60 pence for the zener was not considered excessive.

- SFERICS. -

- The ORION, what was/is it asks one member ? Not a common model at all on the second-hand/rally markets. It is a Fixed or mobile HF SSB transceiver of circa 1984. Supplied to many foreign governments and administrations it was known to be still in use up to 1990 in some african game parks, fitted in landrover type vehicles for use by game wardens. With a 150 watt RF output it proved a very versatile set and good enough for long distance communication.

SFERICS, cont;-

- Complaints that spares for valve types are hard to come by, so says Steve. I haven't noticed that myself, fact is at each & every rally you will find a plethora of such items on sale. I do also have a few 'favourite' dealers such as Birketts who can usually come up with something. For second hand bits of Eddystone origin you can always try Centre Electronics. Even at rallies it is not so unusual to come across the odd stack of Eddystone parts, I came home with a box containing some 20 mixed IF transfos all extracted from HF or VHF models, all eventually proved to be 'good uns'.

- Queries recently from several people as to the chances of fitting 'newer' silicon trannies in place of the germanium types in the first generation models, i.e the EC10. I just do not think it will work and would not try it on one of my own sets. Not just a case of swopping the trannies but also the various bias resistors, polarity of the electrolytics and power supply too. Gains are different leading to the chances of instability. The answer must be NO.

- BFO for such as the 670 ? Well apart from fitting a mini PCB internally with the transistorised BFO on it I would suggest the use of one of those advertised external BFO kits, bit expensive in the ads I have seen when all you need are a trannie, an old IF transfo and a couple of resistors and condensers. The whole thing could be built in half an hour.

- GAM 1 - the RSGB station on 3.8123 Mc/s has been heard by several members in various parts of the U.K - I wonder how many of these members have advised the RSGB of the details ?

- In the 'believe it or not' category I guess, Ivor recently got a 'bargain' model 740 for £12, described as in 'working order' (I do seem to have heard that before.), anyway when he got it home & decided to open it up for a good visual inspection prior to the application of some juice, guess what ? all four retaining screws holding the chassis into the case have been epoxied - or superglued - into place. No amount of force exerted with various screwdrivers can budge them. His query is what can be used to loosen the goo, sorry glue, as he thinks it will be difficult to replace the original type screws ? Any ideas to help him ? If they can be replaced I would be tempted to drill them out.

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- Missing Models. -

- Well hardly missing, as in lost. Stewart Ellis has queried the lack of a model 800, given the plethora of 820,830,840,850 & 870 numbers. It did exist though and is on the list of models that EUG put out at the end of Year 1. The 800 is, or was, a television receiver. It would be nice to know that one or more still existed somewhere and was being lovingly cared for. The 800 is down as a console model TV, whilst the 793 is listed as a projection model. Both were circa 1958 production models, apart this little is known of either. If YOU have any gen on these then please do let us hear from you, for inclusion in the newsletter.

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- A 990R in the U.S of A. -

- Mail from a stateside member tells that he has obtained a nice 990R in very good working order and that he is on the verge of getting his hands on a 770R Mark II. He now has the manual and schematic for the 990R and is looking at ways of increasing the sensitivity somewhat above it's present level. This 1969 model will be lacking in overall sensitivity when compared with some of today's super black boxes, but I would hesitate before performing any serious mods to it, far better to use it with a tunable pre-amplifier unit. If however the intention is to operate it on a specific band of frequencies why not simply do a re-alignment of the R.F front end peaking the gain on the chosen band? Worked wonders on one of mine which was used for several years for monitoring the 136 Mc/s satellite bands.

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- The 960 versus the 940. -

- I have both these models in my collection but must admit to preferring the 940 for listening purposes. The semi-conductors as used in the 960 were very much first generation germanium types, not highly thought of in professional circles then, or now. The one parameter which lets the 960 down has got to be the overloading of the front end by strong signals, the AVC becomes confused - poor thing - and the set loses sensitivity. If you are aware of the shortcomings of the 960 however then it can be a nice SWL receiver, not too many about though.

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- BEWARE, HOT VALVES.-

- The owner of a 640 recently acquired has written in to mention that it would be wise to mention in the newsletter that the valves in our 'hollow-state' models do get VERRRY hot.

- Andy had been listening to, and enjoying the new toy for some hours when he foolishly, (his words), reached inside and grasped the glass envelope of the 6V6G output valve. He says that he did not just touch lightly, but 'grasped' the bottle, in that confined area it was easier to grasp than to let go. The result is very badly burned fingertips, a visit to the hospital burns unit at 9.00 p.m in the evening, and sore fingers for several days afterwards. He mentions the job of scraping bits of burned to cinder skin from the 6V6 glass some time later, not a very nice thought.

- Valves Again.-

- This time it is the handling of, or removal of, the offending items. With the octal based types, i.e. 6K8, 6V6, or 5Z3 types, it is almost always fatal to pull them out by taking hold of the glass part and pulling. The inevitable will happen, a parting of base and 'bottle'. The only method is to grasp the base and with a slight to and fro movement lift the valve upwards. Same goes for the 'all-glass' types, EB91, EF91 etc; hold as low down as is possible and remove in the same way as above. With the B8A type valves, that is the UAF42, UCH42 series it is advisable to use minimal movement and force as the metal clip holding the valve in place is frequently rusted or corroded, the result is that the locking pip on the valve breaks. The proverb re Patience being a Virtue holds good here.

- The 810 Broadcast Receiver.-

- Help, can anybody out there provide info on this model ? I know only that it came out in 1953, have heard a rumour it was a feeder/tuner unit similar to 820 but cannot prove this either way. Any info on this model, and on any of the less common models, would be appreciated by EUG.

- Comments from the Mail. -

- Dan, the guy who wrote about his 888A in this issue, comments that a little know-how and a lot of common sense can save you the cost of having your receiver repaired outside. Agreed there and when you realise the labour costs these days I am sure that many members would prefer to do the job at home. If you need help or data then DO contact EUG. We can copy the manual for you, I will do my utmost to help you by mail, IF you give me all the details re your set, and the symptoms of the fault condition.

- A comment from one member who had the honour of being one of EUGs pre-start up members. 'How do we get the stuff to fill each newsletter'? And that he would not have thought we could go on as we have featuring a different model each issue. Well you do have to realise that a lot of the stuff comes in from YOUR letters and then gets typed up. As to featured models, well look at the model list and count how many there are yet to be featured, enough for many years I guess.

- Allan has a 720, 'Yachtsman' model, he wonders whether any member has a copy of the 'old' frequency lists of shipping and aviation frequencies from the 50s. He mentions 'Airmet' on long wave, also the old consol stations of Bushmills and Reyjavik. The ship to shore stations such as Seaforth, can anybody oblige with a copy ? if sent to EUG we can photocopy it for him and return to you.

- The original kit-building instructions for the All World Two of 1936 are needed by Stan, can you help him ??? Send to EUG and can copy for him and return, postage costs will be refunded.

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- That is IT, another newsletter ready to print, and time for me to start on the next ! Any items you have for insertion try and get them to us before the beginning of the month of publication. That is within say the next 5 - 6 weeks. Keep your mail coming, whether it be Ads, Items for comment, Service problems, etc; and if you want any of the booklets then just ask.

73,

Kathy & Ted.