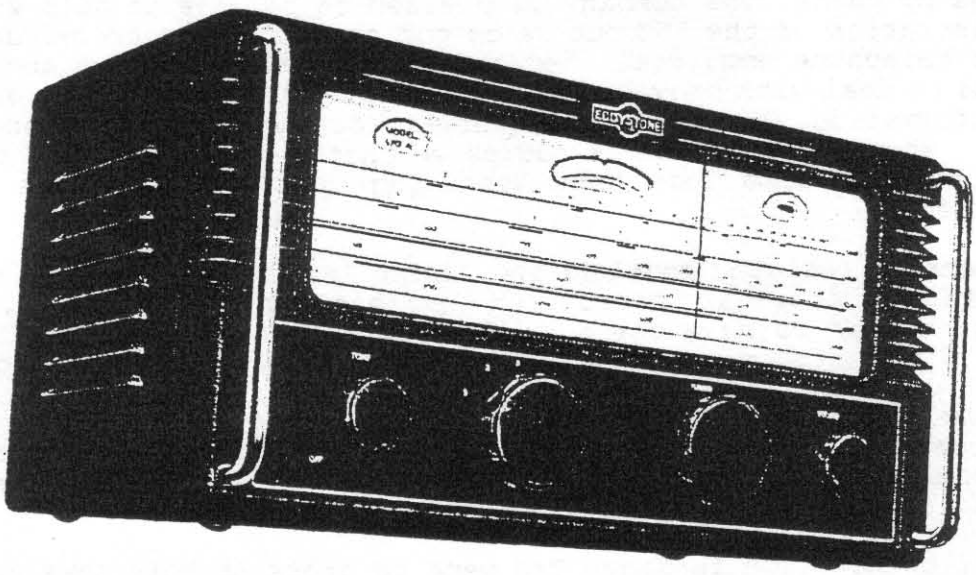
Eddystone User Group Newsletter

Issue No: 33

October 1995

Featured Model: Marine Receiver Model 670A



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Eddystone User Group
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Alvechurch Road
Birmingham B31 3PP

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

This is issue 33 of the newsletter and is the third of six issues for the year 1995/96. If you join after this issue you will get the back issues to and including no 31. Your subscription will end with issue no 36. 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.

All correspondence for the EUG should be addressed to Ted Moore, Eddystone User Group, c/o Eddystone Radio Limited, Alvechurch Road, Birmingham B31 3PP. PLEASE do remember that we cannot answer you queries by phone. The company is pleased to be able to help with the administration of the EUG but we do not have the time or resources do answer telephone enquiries. Request for manuals will take about 4 to 6 weeks to deal with provided we can identify the requirement and have the information. Any technical queries are sent on to Ted for him to answer. Where information is requested that requires a bit of digging then this can take some time depending upon the free time of the volunteers.

This month's featured model is the Marine Receiver Model 670A. We have a quantity of original instruction leaflets for the Model 670A. If any members wishes to have one just send in a post card to the EUG with "Free 670A Instruction Manual Please" and we will send one to you.

Our move to new premises will now be phased on account that we cannot get access to all parts until December. We expect the offices and development departments to move early in November. Keep sending your mail to the old address until we advise you otherwise.

The following came in since Ted went to press on this newsletter so is included here so that members will not have to wait too long for their requests to be printed.

MEMBERS ADs

For Sale: Eddystone 1650/2 requires attention on scan modules but good working order. Offers over £700. Eddystone 1837/2 Good Working Order £250. Ring Mr g Boyd 01772 704009 after 6pm or weekends.

-ENDIT. - ENDIT. -

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- Issue 33.-

- Just a few days ago I received my copy of The Radiophile magazine, there was an enclosed list of Valves and Electrolytics, high voltage types. The advertiser, Ken-Zen, has been mentioned by several members recently. In one case a full set of valves had been purchsed for an 840C and the member was quite pleased with both the price and the rapid service. With regards the e'lytics it seems that several members have been pleased with the replacement types received, apparently a good fit for the original types. Many of the e'lytics in our 1950s sets must by now be on their last legs, with reduced capacity and the resultant increase in hum levels. The inability to withstand the instantaneous application of a high voltage, when the e'lytics are old can be another problem, a short in the reservoir condenser when powered up can mean a burnt out mains transfo !

- In the same post as my last issue of the Newsletter I received a letter from a USA enthusiast, not an Eddystone fan(atic) but somebody who collects any type of valve equipment. He mentioned the complete lack of Long Wave Broadcasting in the USA, and the opportunities that this gave for Long Wave Dx-ing. It would seem that the Droitwich R4 service is a frequently heard signal over there. All that is needed apart the receiver with a Long Wave range is a good external long wire aerial.

- From the latest members list that I have received via Eddystone Radio, it looks like most of last years members have stayed with EUG, many of the first year names are still on the list also, it makes all the hard work worth while !

- Interest in the Active Aerial that was in a recent Newsletter still seems high, with several more queries as to the availability of the FET used. These are available from Birketts, of Lincoln. This emporium can also supply the required variable condensers for making up a DIY ATU, low prices too.

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- Air Band Signals on an EB35 ? -

- When this EB35 was bought some months ago it appeared to be okay on all ranges, but gain on FM was much lower than that of an 'oriental black box' operated from the same simple aerial. When the Bank Holiday arrived and a whole day was available for 'messing about' the decision was made to check out the FM stages of the EB35. When the set was taken from its case and powered up on the bench a number of airband signals could be resolved at the top end, HF end, of the FM band. These could not be heard when the set was in its case however.

- Using the correct fibre type of trimming tool some tests were done, these involved the feeding in of a harmonic from the HF signal gene, coverage of which stopped at 60 Mc/s. One of the diodes in the FM detector was shorted out to enable detection of the modulated test signal.

- It was immediately apparent that the RF and Mixer stages were way off tune, the actual scale readings seemed to be correct so it was assumed that the local oscillator was on tune.

- The RF stage was tackled first and resulted in an increase of sensitivity especially at the low end of the range, also some local pirate stations at the high end became audible for the first time.

- When the mixer stage was retrimmed the intruding airband signals went away, so they had evidently been image signals picked up directly by the PC board, fitting the case had eliminated them so they had not been coming through the Rf stage. When the short on the diode was removed it was possible to check the FM IFs and these appeared to be okay, retrimming needed.

- Boxing up the EB35 it was found that sensitivity compared quite favourably with the 'alien' set, whilst AF quality was much better than the plastic cased model. The four hours or so of time spent had improved this £50 Eddystone considerably and it is now used as the main SWL receiver.

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- Swop Everything ! ? -

- Everybody has their own opinion as to just how to go about 'restoring' one of the older hollow-state sets.
- Recent mail has included one project story, where ALL the resistors and condensers were swopped for 'new' items. Although new is a misnomer in this case since Alan found that some of the ceramic condensers used were of 1970 stock. The final comment in his letter is to the effect that after the job was completed, taking up several months in all, he could distinguish no difference in the performance of his 670A receiver ! And he had been persuaded to do the job only when one paper type condenser had failed, bringing the Screen volts of the RF stage down to a low value.
- In a second letter the failure of one resistor had spoiled the performance of an otherwise pristine 870A. Tests were done on all the other resistors whilst in-situ. Since all appeared within the tolerances given it was decided that just the one faulty item was going to be replaced, this was done and the set was back in use within an hour.
- It seems to be a case of 'take your pick' - or do as you wish. I don't think that a complete replacement job is either necessary, or advisable, when we are talking of sets like these. Unless of course you test all the resistors - or condensers - and DO find them to be dud.

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- Wire-wound Droppers. -

- In a recent case where the wire-wound dropper went open circuit within some ten minutes of powering up the 840A the real culprit turned out to have been the C62, 50 mFd smoothing condenser. Almost a full short meant that the rectifier valve was passing enough current to cause a burn up of the dropper wire. An almost exact replacement was purchased for the dropper and a 47 mFd e'lytic was bought to replace the dud. Since the valve may have been damaged also it was thought best to fit a spare that was on hand, the set was back on line the same evening as the repair was started ! About 2½ hours work in all, however when the UY41 was tested recently by a club member who is fortunate enough to have a Mullard High Speed Valve Tester, guess what ? the UY41 still shows up as Serviceable !

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- Valves and Vibration, more on ! -

- My recent support for valves in a recent Newsletter, where I wrote about their resistance to vibration has caused some correspondence on the subject. From Bill up in Cumbria comes the following letter of whole-hearted support. When his Mark II Zodiac was scrapped in 1973 the Ford radio was removed and fitted into the cab of his almost new tractor, sort of 'Music whilst you Plow'. Anyway the tractor has now been retired and he has reclaimed the Ford radio, which is still in working order, it has been mounted on the wall of the farm garage so as to have an active retirement. This has needed no new valves since new, when he bought the Zodiac in 1959. The amount of vibration that the set, and thus the valves, has had to suffer over the period must be sufficient proof that valves can live happily in an atmospehere of constant vibration.

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- The 960 Model.-

- This has always been rather scarce on the second hand market, several members are trying to get hold of one at present. If any member does know the whereabouts of any model 960 receiver, which might possibly be sold, then please let EUG know. Alternatively a letter or phone call to Peter Lepino would be appreciated. Try him on 01374-128170.

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- Apologies for Errors, Issue 32.-

- A number of errors have been noticed in the last issue, this is what comes of accepting help in the editing ! I guess that I shall have to do all the final proof reading myself, until somebody comes along who has an adequate knowledge of Eddystone receivers.

- Firstly, page 10, in the description of a plug-in adaptor to replace the EF39 pentode with a cascode, double triode ECC82. It had been intended to provide a diagram, this was missed out and is in this issue.

- Next comes page 13, (unlucky 13 !), and on line 4 the whole word should be several , the 'al' having been missed out somehow. A minor detail but annoying and it was the cause of 2 letters.

- On page 15 there is at the bottom an item on the Valve and component lists that we get from EUG member Philip Taylor, all well and good BUT we included his OLD address, really OLD as he has been at 3 Silver Lane, Billinghurst, West Sussex, RH14 9RP, for more than a year now. Sorry Philip ! Hope I have made amends this issue.

- Page 17, and the first item re the 30 Kc/s generator for communication from Bordeaux to the U.S of A. What was not made clear was that this generator was actually the Transmitter ! The output of 30 Kc/s was was coupled directly to the aerial system. (only one letter asking about this).

- Sorry about the above, Mea Culpa, and will try not to let it happen again.

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- Idiosyncratic ? What me ? -

- Just that I have had another letter asking me why I write Kathode and not Cathode like all other mortals. Well fact is, I was taught to write it that way and the habits of a longish lifetime are not easily thrown off. Anyway if others can mispell in educational pamphlets and the like, why cannot I ? A recent notice put out by a head teacher had three blatant spelling mistakes and several misused apostrophes.

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- Reductions in the Fishing Fleet.-

- With the Government allowing up to £30K in grants when a Trawler is sent for scrap, there are many bits of radio equipment turning up on the second hand market. From up in Teeside one member writes that not only has he bought a 958 receiver for £100 plus a bottle of Scotch, he was also GIVEN an old Marconi radio DF receiver plus the crossed loop aerial. Dave in Scarborough has paid £150 for another 958 which included a whole carboot full of bits and pieces.

- Seems that if you live near any port where trawlers are being demobbed,

then it could pay to keep an ear to the ground, maybe even to pay a visit and ask a few questions about trawlers due to be scrapped, and do remember that in cases like this, REAL money talks Loudest. Many would not dream of taking a cheque but shown ready cash you could get an instant bargain.

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-Soldering, and Good Mechanical Joints.-

- Okay if you want to be a bit pedantic, Good Physical Joints. Several have queried the need for this, the idea being that a soldered joint is itself solid enough, and making a good mechanical joint first makes it so much harder to unsolder a component.

- Maybe with modern PCBs the technique is not so often used these days but in my period of apprenticeship with the old Post Office Engineering Dep't I was taught that it was essential to make a good firm joint before even applying the iron to a joint. Also that it was necessary to apply the iron first, to bring the temperature of the joint up to temperature, so that when the solder was applied you had instant flow into and around the joint. Trying to solder a cold joint was a recipe for 'dry joints'.

- I still use this method, and cannot recall ever having had any problems with dry joints or with unmaking a joint when necessary. In this latter case a pair of good insulated long nose pliers are helpful.

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- Further on the 1 Ton Receiver !-

- Just my writers hyperbole, the 770S really only weighs in at about 90 pounds. Anyway the one advertised in last issue by Jim Murphy has gone to a new owner. Jim is now looking for one of the 'baby' models to complement his 740 and 840C sets. He would like either an EB model or one of the EC10 versions.

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- A query from Ron up in Glasgow about the feasibility of fitting ceramic filters to his 940. DON'T DO IT. So far I have heard of several attempts at this sort of MOD, but none have been successful, apart the mismatching the effects appear to be detrimental to the good performance of the set.

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- Featured Model, The 670A.-

- This update on the original 670 besides having the later type slide-rule dial, does have various circuit differences.

- Frequency coverage is different in that this /A version covers the long wave band but the top frequency is the same at just over 30 Mc/s. Actual ranges are;-

Band 1. - 30 to 10.5 Mc/s.
" 2. - 10.6 to 3.7 Mc/s.
" 3. - 1.5 to 0.54 Mc/s.
" 4. - 0.38 to 0.15 Mc/s.

The recognised broadcast bands are marked off in red underlining the scales. The usual 0 to 2500 logging scale is provided.

- As befits the designation of a 'marine cabin receiver' the 670A is still of the universal AC/DC type, using a total of 6 valves of which one is the miniature DM 70 tuning indicator. Line-up is the normal B8A range of UAF42, UCH42, UAF42, UAF42 and UL41. Operation is from mains supplies of from 110 volt to 240 volt. It must be made clear that the makers DO say that the 670A will operate quite well, albeit with reduced AF output, from supplies as low as 85 volts. It would not have been uncommon to find shipboard supplies which went down to that figure in the days of 110 volt DC systems.

- The normal Eddystone aerial input arrangement of long-wire plus balanced med; impedance doublet can be used. This feeds the RF amplifier stage which is tuned and has protection from high powered signals generated by shipboard transmitters, the diode in the UAF42 is used for this, it is taken back to the aerial input so as to shunt such strong signals to earth. The mixer stage is a standard triode hexode local oscillator cum mixer and the output is at 450 Kc/s, at all times the local oscillator is above the signal frequency. Double tuned IF transfos couple the IF stage from the mixer into the detector and AVC stages. The diode in the IF valve is used for AVC and the diode in the AF driver is the second detector. AVC is fed to RF amplifier, IF amplifier and tuning indicator. In the case of the Triode hexode valve it goes only to the hexode side.

- The AF stage is fed from the AF gain control pot; with either the RF signal or, when the range switch is put to its fifth, unmarked position, it can be fed with external audio from a source such as a record player. The output from this voltage amplifier stage is RC

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coupled to the UL41 output valve. This has a variable tone control in the anode circuit and feeds a built-in speaker. No facility is provided for external speaker nor for phones operation.

- Power supply is the usual series heater chain with protective thermistor and dropper resistance, the DM 70 heater has a paralled resistor to equalise the current. HT supply is from a ½ wave metal rectifier of the infamous 'selenium' type, old timers used to say "keep a clothes peg handy in case it goes up", they do pong.

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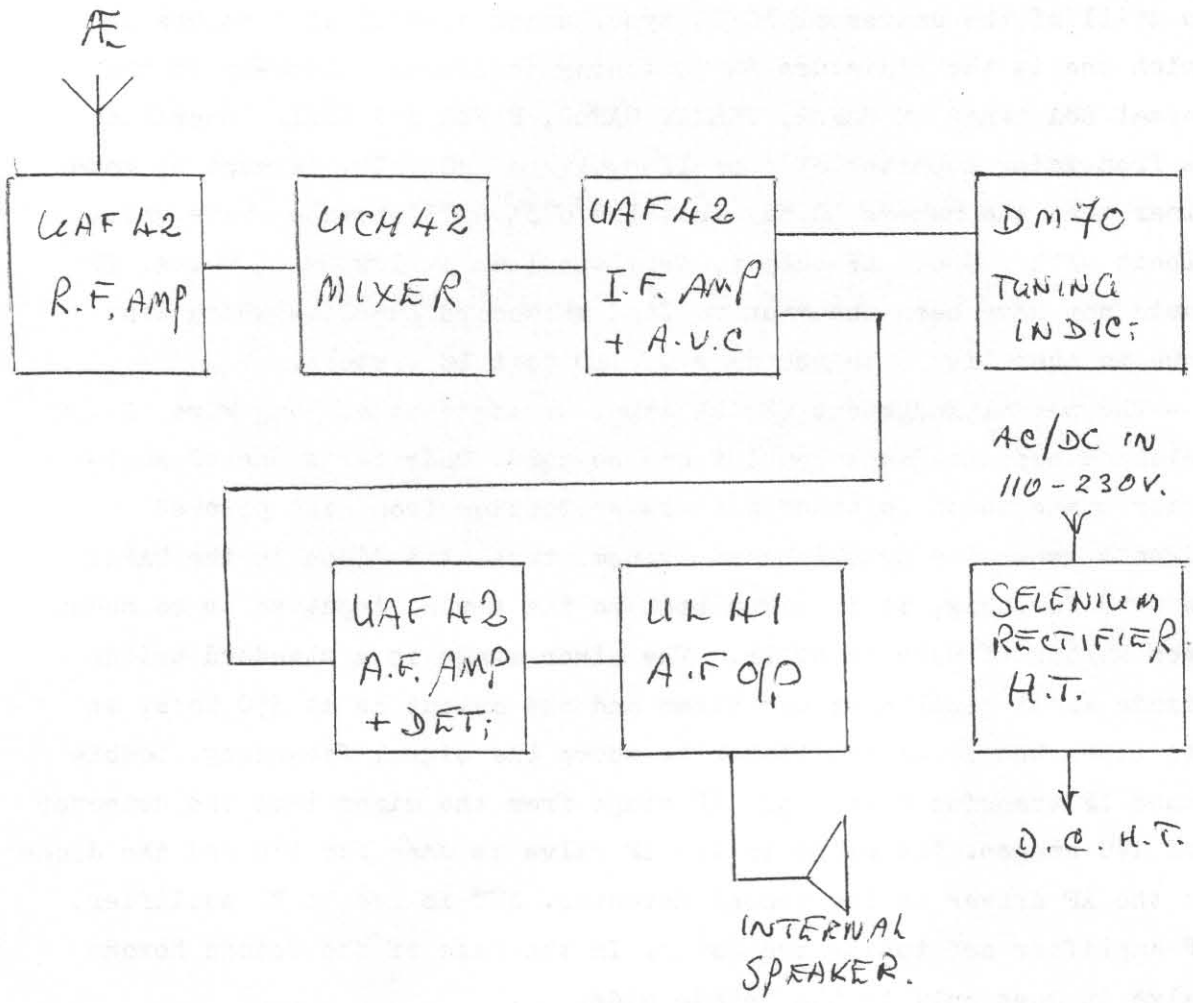

MODEL 670A.

- Talk Radio UK on 189 Kc/s ??? -

- A recently bought Eddystone EB36 was powered up and whilst being checked out on all bands it was discovered that there was an S9+ english language station on about 190, just one channel down from BBC R4. A few minutes of patient, or impatient listening to the waffle being aired showed that it was actually Talk Radio UK. How come it was on the LongWave Band then ? A check with a DFM showed that it was in fact on 189 Kc/s. Looking at the Radio Listeners Guide showed that Talk Radio have a channel of 1089 Kc/s MW. This works out at 900 Kc/s difference, (1089-189 = 900).

- Immediate thought went to image signals, BUT hold on there the stated IF of the EB36 is 465 Kc/s not 450, so ? Anyway the image for 1089 ought to have been on 639 (IF=450) or 624 (IF=465). So what is going on inside this EB36 ?

- Opening up the set showed immediately that there had been a fair amount of 'manipulation' done by a previous owner, although the seller had maintained that the set was 'in perfect working order' - okay it did work fine but seemed a bit deaf, and tracking was noticeably off at the right hand end of the scales, on all bands.

- First step was to do a check on the actual IF frequency that the IFTs were now tuned to. Sure enough they were more or less peaked on 465, except the first which was nearer to 450. Since this is the one that selects the IF signal to be amplified from the many output signals present in the mixer, then it was partly the culprit. It was retuned to the correct 465 Kc/s and all of them were again peaked.

- Next came a check on the RF stages, Mixer and Local Oscillator stages. It was apparent here that all were off tune to some degree and a complete retune was needed. This was completeed with no problems, except that on range 3 it was difficult to get equal gain at both ends of the range, a bit of 'tooing & froing' eventually brought satisfaction here.

- When re-checked on the LW band at about 190 the mystery signal had gone, I am still not sure just what combination had caused it's appearance at S9+ but am open to ideas from other EUGers.

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- Diagnostics at a Distance.-

- Much of the incoming mail contains requests for help, where the correspondent has a fault on his one and only Eddystone. In many cases from the letter it is apparent that the member is actually suffering deprivation symptoms !

- I always try to help out, in many cases can recall actual cases where a similar fault has occured during my past servicing.

- This long range diagnostic service does very often work !!! In the most recent case a letter from Jim Park up in Fife detailed his problems with the 680/2A. He had BFO problems that precluded the use of his set on SSB.

- I sent off my thoughts on the problem and have just had a letter back from

one more delighted EUG member. Jim says that the coupling condenser which fed the BFO signal to the the IF strip was faulty, very low capacity. A replacement has been fitted and the 680/2A is now back on line. (Mind you Jim, I appreciate your cartoons but do not like the idea of an S.680 being used to fry eggs, and were they Owl eggs ? Ware the RSPB !). Should it really get that hot ?

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- Equivalents ??? -

- A propos Jim's letter, he mentions that all the valves that should be 6BA6 in the 680 line up are so except the BFO valve, which is an EF93. Not a problem here as they ARE direct plug in equivalents, as would be a CV454.

- This is an increasing problem today with the scarcity of valves. But if you are ever in doubt most of the reputable valve suppliers will put your mind at rest by quoting you the various equivalents, if in doubt write and ask me.

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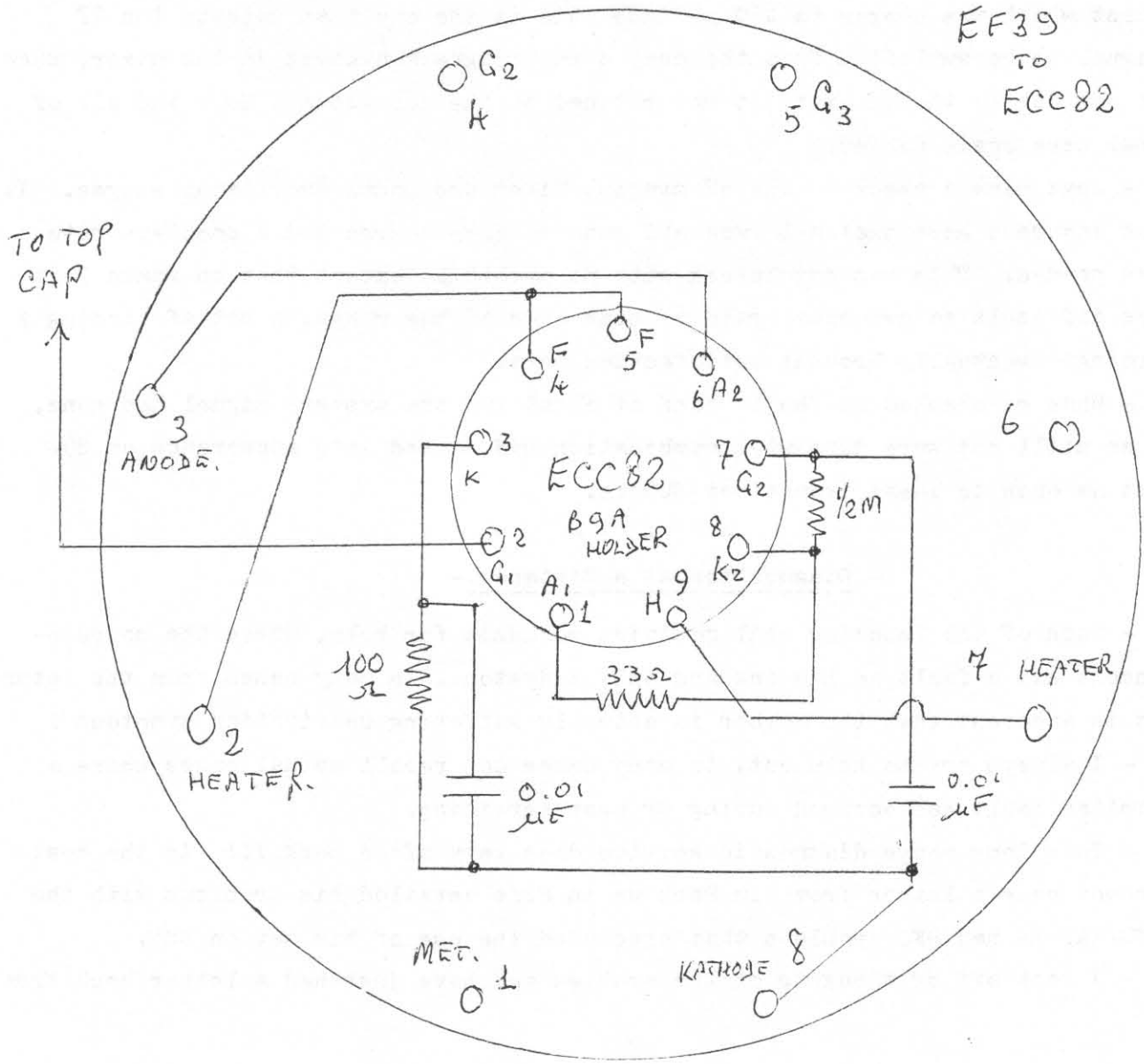
- The missing drawing for the Adaptor, Issue 32.-



- Broadcast Breakthrough on the 850.-

- The S.850 has been in almost constant use for more than 5 years at the same QTH, using a rather convoluted random-wire aerial. This had a total length of some 100 feet but was a mere 10 feet high, ran north for a third of its length, then a dogs leg to take it west and finally north-east for the last few feet - yes it was supported on trees !

- A more 'professional' effort was recently put up, here the aerial started at the chimney some 25 feet up, ran due North for over 150 feet to the top of a large oak tree at about the same height.

- First impressions were that the reception of Beacons was considerably improved, and after dark a dozen or more 'new' ones were logged.

- When it came time to check out Range 1, which just covers the bottom end of the Medium Wave band, the segment from 540 to about 600 Kc/s, there was an immediate problem. A Spanish language station was audible on the 850, it came through at several points on the scale between 560 and 610 Kc/s, strong enough to be heard over the RTE 1 signal on 567 Kc/s. This was eventually identified as being the RNE 5 signal, useful to know some Spanish in a case like this. However there are NO high power RNE 5 outlets anywhere near, in fact a current listing shows that all RNE 5 outlets are limited to between 5 and 20 Kilowatts. Using an HRO Senior on the same aerial the phenomenon was not observed. SO ! it had to be in the combination of 850 and new aerial.

- Not having any test gear it was a case of using the aerial signal to attempt a trace of the problem. The 850 was pulled from its case - first time ever at this QTH. After some basic checks such as swopping valves, a small screwdriver was used to poke away at various components, the first RF and mixer stages being prime suspects. Nothing was found until the tip of the insulated screwdriver was touched to the signal grid pin of the mixer stage, this is pin 2 of the heptode part of the 6AJ8, V2A. With the metallic tip actually touching the valve base pin the interference from RNE 5 disappeared, holding it in contact whilst tuning about the top end of the range showed that the problem was clear, removing the screwdriver tip brought it back.

- A typical case of parasitic oscillation in the mixer ? it certainly did look that way, both the currently in use 6AJ8 and a new unused one produced the same effect. It was found that gripping the 100 pF condenser C31 in the jaws of a pair of long nosed pliers, or even with tweezers would also cure the problem. C31 was removed and a substitute silver mica of the same value was fitted, it was of more recent manufacture having come from a modern Hi-Fi tuner unit. This cured the problem completely and the 850 was boxed up again. Later when a capacity test was made on the '100 pF' it was found that it had a measured capacity of just over 25 pF.

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- Mains Borne QRM, Chapter ? -

- This is a problem which is getting worse, not better. Pollution of the RF bands is caused by practically every new electronic device that goes on sale.

-The 670A series of 'Cabin' receivers were meant to work aboard ship where power supply was normally very 'dirty' - for this reason they had brute-force mains filters fitted internally.

- This filter is a double choke, double condenser type and is connected directly where the mains supply comes into the set, under the chassis. It has always been pretty effective at eliminating the QRM at this town location, until recently.

- The installation of some new traffic lights close to the house had been the cause of an untunable buzz lasting about a second, each time that the lights changed colour. From his time at sea the 670A ownerknew that it had often been necessary to fit an extra external filter to use the set in

comfort aboard ship, this had been an Eddystone product too ! Not having the original available it was now necessary to do some experimenting with junk box components.

- Just the addition of a high voltage 0.15 mF across the mains input did attenuate the QRM considerably, this was a 440 volt AC working type. It was decided to replace the two 0.05 mF condensers in the original filter with two of these 0.15 mF high voltage types and the QRM was almost cured. The last test involved fitting one of these high voltage types actually in the mains adaptor that feeds the 670A and an EC10 from one 13 amp socket. No more QRM !!! I suppose that the moral is that bad QRM may be cured with little expense and just a few hours of experimentation.

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- 770 model Turret Tuners.-

- Whilst the switching mechanism of these turret tuners does function for many years with little or no attention, there will come a time when they require some lubrication.

- As the owner of 3 of these sets, two 'R' versions and one 'U' set, Ian finally decided to do something about the sticking mechanism on one 770R.

- Since the molybdenum sulphide grease that he uses on his classic Ford Anglia is so successful he tried it out on the 770R turret tuner. A liberal dose was applied to the mechanism, especially the detent part which seemed to be the root of the problem. He remembers that an attempt to use oil on a previously owned 770U had not worked well, and he had been told by a works engineer that such mechanisms require grease NOT oil. In the event the range switch is now much easier to operate, the 'KLUNK' is more subdued, and he finds operation of his 3 770 sets much improved.

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- Increased HT for the 840A.-

- A look at the circuit of the 840A, or any of the Eddystone range of AC/DC sets, will show that the comparatively low HT which is necessary due to the requirement for these sets to run from 110 volts supplies, means that the valves are being run at quite minimal operating conditions.

- The manual gives a set of operating figures for the UAF42, for HT voltages of 100, 170 & 200 volts. The added HT when run from the higher voltages does not increase gain much, but it could mean that valves which are borderline when run from 100 volts will still be 'good' when run from a higher voltage.

- Kev has recently been made redundant and the thought of paying out for a new set of valves for the ageing 840A was not a happy one. The circuit was checked out and thought given to a mod to increase the HT somewhat, it is given as 100 volts and in his set checked in at about 105 volts. The valve heaters all seemed to be okay for their AC voltages so it had to be some where on the kathode side of the UY41.

- Eventually the simple addition of a 1N4007 silicon diode across the anode and kathode pins of the valve base, leaving the valve in situ, seemed to be a possibility. This was done, with a 1000 volt ceramic condenser of 0.001 mF across the diode. HT was now about 125 volts, not too high to require the changing of any of the feed resistors. Sensitivity did not appear to be any better but it was found that whereas the set simply had been deaf at the top end of range 1, with no signals at all. Now there were numerous signals both broadcast and amateur. The increase does not appear to have upset the 840A after several weeks of use, all ideas of spending hard earned pennies for a set of new valves have been put aside, pro tem.

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- All World Six, Model 710/B.-

- Don't often get one of these do we ? this one had been bought by an EUG member who lacked the expertise to get it working. As so often happens I ended up with the job. This model originally had a six volt vibrator PSU to provide the required HT, I found a very professionally designed and fitted solid state invertor unit which with 12 volts in gave the requisite HT output, and it worked fine. No the fault was in the receiver circuitry and I had to replace several paper type condensers, C18, 42, 20, and 38, before the 710 came to life, even then I had to replace R5 in the screen of V4 to get a decent signal level. Re-alignment was necessary for the HF ranges 1 & 2, but after that the 710 was back to normal.

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- Deaf 770R.-

- Okay some of you say that all 770Rs are deaf, well I disagree there as a properly set-up one will perform quite well with a S/N ratio of 15 db for 5 microvolts in, used with an aerial for the band in use they are a delight to use. This one had plenty of valve noise when the AF gain was full up, the RF gain pot had no effect at all. All valves were lit-up normally but several of the cans were missing, I decided to check that all were in the correct sockets, good job too as when I got to V7 I spotted that the anode pin was missing from the valve, broken off clean with the glass. A replacement 6BA6 was available and was fitted, this brought up the noise level and the RF pot did now have some effect, but no signals as yet. Further checks showed that V2, a 6AK5/EF95, was faulty, it looked okay but was almost certainly soft. The new valve brought me a fair number of signals on range 1 & 2, both airband on AM and some utility signals on range 1, FM and AM these. No attempt was made to re-trim the mixer stage as I lack the necessary test gear, and I do know from experience that this turret tuner is best left alone, too many 770R and U sets have been ruined for ever by 'twiddling' the RF stages. Using a 5 foot length of wire I got signals on all the 6 ranges, with a 5 element 2 metres beam I got good results there with 3 repeaters, can only get 2 on my hand-held icom.

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- 670A Marine Receiver.-

- The 'mad-twiddler had been at this one, both IFs needed new cores as did several of the RF coils. First though I had to fit a 1N4004 diode as a replacement for the duff selenium rectifier, I had thought maybe the electrolytics had gone down and taken the rectifier with them, no such luck, it was not to be so easy. That there was a full short on the HT line I soon found out but where was it ? With all valves out I began to check back, it turned out to be a short between the anode of the output valve and the screen of the lead which goes via C55 to the tone control. A replacement length of good polythene insulated screened lead did the trick.

- The re-alignment was a different matter, took me three full evenings to get this right, after I had located the necessary slug cores for the IF and RF coils.

- One more problem was that the operation of the DM70 seemed not to be too good. A check on the value of R29 showed that far from being 6,8 Megohms it was nearly 14 Megohms. A replacement for this was fitted and the 'magic eye' was operating normally.

- Why, Oh Why, do people insist on twiddling all the cores and trimmers in sight ? It may be sheer ignorance in some cases okay, but the previous owner of this had been a G3 ham for many years & should have known better.

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- 888A Calibrator Unit.-

- Apart a non functioning calibrator the 888A was okay, still I opened it up and started to check out the unit which is mounted in a very accessible site above the main tuning gang. The 6AU6 valve was lit okay so I did a check for HT, the operation of the calibrate switch shorts out the R54, a 3 Megohm, and applies full HT to the 6AU6 valve, in fact there was a variable voltage of from 40 down to 25 volts there, on the screen pin. I could also hear a slight sizzle above the noise of the audio. Further checks showed that the insulation of the push switch for the calibrator had broken down, caused by tracking no doubt. There was a definite lowish resistance path across the insulation which appeared to have been burning, hence the sizzle. A replacement, but non-standard switch had to be fitted here and the calibrator is back to normal.

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- Signal Generators.-

- In issue 19 I made the point that most of the analogue type sig; gens; on the market could not be calibrated sufficiently closely for real servicing work on our Eddystones, especially those cheaper models.

- Following a number of letters on this subject, most asking what to do in this case, I guess that the best thing is to tell you what to do for the best with your limited 'pennies'. What I have myself is a BC221 that cost me a mere £25 some years back when it was sold off by British Aerospace (ONLY 6 years ago !) Mine has a professionally built regulated mains PSU fitted in what was originally the battery box. You should be able to get one for a similar price but DO make sure that it has the original calibration booklet. Mine is easy to calibrate against WWV and when checked with a DFM the calibration is usually 'spot-on'. The stable crystal calibrator is a useful function since with a 6 inch length of wire it can provide 'pips' for all the receivers in the shack. This mini aerial connected to the top terminal can be replaced with an external long-wire and WWV can be heard directly. Despite it's age the '221' - if in good nick - is still one of the best items of test gear to have around the shack.

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- R.A.F Volmet.-

- A PAN letter here from Simon, who apparently spends a lot of his time QAP-ing the RAF Volmet transmissions on 4722 Kc/s with his 940. His query is 'where does this station go when it QSYs from this channel ?' Is there another higher frequency (or lower ?) to which it QSYs ? As does Shannon Volmet. I cannot find any other frequency quoted for this station but there may well be one, maybe somebody out there can tell us ? He mentions New York Air and Gander which are on adjacent channels on 13270, says that they are both several 'S' points up on Shannon at his QTH, in Blackpool, this could be the type of aerial in use.

- Consol Stations.-

- I could be wrong here but I believe that the only one left on the air in this part of the world, maybe anywhere, is the one at Stavanger in Norway (318 Kc/s). Allen has been asking about the former Bushmills (Ireland) and Reykjavik (Iceland) stations. I can only find the one in my literature Allen, I do know - from a trip to Iceland several years back - that the Reykjavik one is defunct. Can anybody help ?

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- QRM again, and again.-

- Too late now to do anything about the many serious problems that are caused by the 'cheap' methods used by Computer manufacturers over the past 20 years. One of the worst I have met is the BBC Master. It is a very efficient generator of junk signals throughout the long, medium and short wave bands. My 2 metre h/held even gets swamped if it is in the same room. So much of the incoming mail does mention the subject of QRM that it must be the worst problem for listeners these days. I have even had cases of it affecting the VHF/FM broadcast band. The signal is composed of multiple harmonics of a, usually, low frequency, square wave. In some cases this can be traced to a switched mode PSU, in other cases it is generated in the digital circuitry of the computer, if the crystal frequency used in the computer is known it will be found that the QRM will peak at or around harmonics of this frequency.

- What to do, well you can sell your sets and take up stamp collecting or knitting, that is the EASY way out ! Basically you need to find out how this QRM is getting into your set, one of 3 ways usually. It may be coming out of the 'generator' or 'source' (computer) into the mains wiring, thence into your receiver mains circuitry. Or it may be a case of direct radiation from the source into your receiver. Lastly it may be radiated from the source into your aerial and fed into your set that way. Whichever, whatever, way you have to find out first. A simple enough test is to dis; the aerial from the set, does it go away now ? then it is coming from the aerial or lead-in. Try a screened, or co-ax lead-in, try repositioning the aerial. No go ? then is it coming via the mains leads ? If you can run your set from a different source say batteries, then do so. Try mains filters on both the mains input to your set and the computer ? (these can be series chokes and parallel condensers). It would be rare for there to be direct source to receiver radiation with an Eddystone since the sets are in steel cases which make very effective screened units. Filter plugs can be bought today, (see the various catalogues). Another thing is Ferrite rings which are used on the connecting leads. Don't give up though. In a number of cases I and others have reduced 'S5 to 7' QRM to levels which do not register on the meter.

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- Repairs and Mods to a 740.-

- The following repairs and mods have been done to my 740, to make tuning easier on the HF bands and BFO adjustment less critical when receiving SSB signals.

- Stage 1, do the much published mod to the BFO tuning condenser, that is remove one plate from the stator, then reset the BFO to zero-beat with the knob spot at '12' or TDC (if you are a motor DIYer). Be sure to let the set warm up to its stable temperature prior to re-setting the BFO, use MSF or WWV rather than trusting to your signal gene; for this.

- Stage 2, check and replace if doubtful any resistors and condensers. This was the reason for my opening up the 740 in the first place, I found the following out of tolerance resistors and leaky condensers, R3 - a 33K was reading over 39 K. R2 - a 22K was reading over 26K. R7 - a nominally 270K was way up at 360K. R28 - at 445 ohms was only 10% out but was changed too. The following paper type condensers were changed too since they showed leakage at operating voltages. I used polystyrene types as replacements for, C42, 54, 9, 20, 38, 44, and 46. The kathode decoupling electrolytic was swopped as on test it read a mere 12 muffs in lieu of the specified 30 muffs.

- Stage 3, disconnect R11 bottom end from the AVC line and solder it to chassis, earth. This is a 470K, the other end of it goes to C18 a 0.1mF. This removes AVC from the common kathode mixer/oscillator stage.

- Stage 4, this was to replace 3 lengths of screened lead with modern polythene insulated screened lead, the rubber insulation in the old lead being no longer rubber, more of a 'gooey' jelly. One length is that from the anode of V5, pin2, to the junction of C41 and C50, this is in the tone control circuit. A second is from the grid of V4, pin 6, to the centre tag of the volume control pot; - R35. The last length is from the anode of V7 to the junction of R23 and R24, both 100K resistors. In my experience any sign of a hot, humid summer and these old screened leads would have become very leaky to chassis. A cause of not only low gain but also a fair amount of noise.

- Stage 5, all the hardened grease visible on the moving parts of the tuning drive and the variable condenser was removed, both items were re-greased with a molybdenum-sulphide based grease, a light application of this also went to the pointer slide bar. Running the

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maintuning from fully left to fully right hand will help spread the new grease properly.

- Stage 6, this was a later addition, the single-pole switch cum tone control pot; was replaced with a double-pole switch variety as I have always had a personal distrust of the use of single pole mains switching.

- The re-vamped and re-vitalised 740 is now back in use and does seem to be far better than before. Especially so is the SSB tuning, the reduced BFO swing makes clarification far easier. Noise appears to be lower on the HF ranges, I believe that the older carbon rod resistors were known to be noisy. The unwelcome pulling of the local oscillator when listening to strong local signals is reduced thanks to removal of AVC from the ECH42. A final clean up of the case and front panel was done using a thin oil on a clean rag, the oil soon evaporated leaving a 'new' finish to the black paintwork.

Austin Davis.

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- EC10 PSU Faults.-

- A recent spell of operating the EC10 in hot summer weather, on the 21 and 14 Mc/s bands showed that gain was way down when compared with my 670A. This had definitely not been the case when last the two sets had been compared. The EC10 is run from the supplied type 924 mains PSU and so my first job was to measure the supplied, on load, voltage from this PSU. This was down to 6.8 volts, and off load there was very little difference. A check with the EC10 run from 'D' type cells in a battery box showed that the receiver gain was normal with a full 9 volts supply.

- Component checks in the 924 PSU were done and it was eventually found that the metal rectifier unit was the culprit, due to the age of the PSU it was also decided to change the electrolytics. Two 1 amp silicon diodes type 1N4001 were used to replace the old metal type, 35 volt working electrolytics were used as they were to hand in the junk box. All items were in stock so no cost was incurred. The on-load voltage of the PSU was now measured at 9.3 volts, a check was made that the zener was working. No reduction in voltage was noticed when a station was tuned in at high volume. Performance was now back to normal when the set was again compared with the 670A.

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- Typical Faults.-

- Is there such a thing ? I suppose each model must have certain idiosynchrasies, originating with the design, the components that were specified, or the conditions under which it was produced.

- In one formerly well behaved 640 the Kathode bias resistor in the AF output - a 6V6 - went O/C twice within a year. It has been quite happy since though, two years on. Last week a letter from Stephen Dale says that this happened to his 640 and please, Why ? I guess this has the making of a 'typical fault' and is my reason for giving some others gleaned both from personal experience and from YOUR mail.

- The EB35, well several times recently I have had this brought to my notice. Seemingly a reduction in audio output and some loss of bass reproduction was traced to a dud C92. This is a 200mF electrolytic condenser which couples the AF from the trannies to the speaker, on test it read 35mF.

- The EC10, a non functioning BFO was the fault. Reported in three recent letters, this was traced to a 'duff' OC171 trannie. Never fear - no problems with a replacement trannie. It was simply a case of the dreaded 'whiskers' syndrome, cured instantly by a snip of the 's' leg of the trannie. Just leave this screen leg floating and normal operation will ensue.

- The EC10, again. Drift on the HF ranges was caused by a dud zener diode D3, it is an OAZ203 in the circuit, this was not to be found anywhere and so a BZY88C zener rated at 6.8 volts, 400 mwatts was fitted, back to normal and fine for last sixmonths in daily use.

- The ED902, commonly called the Edometer, a wide range Dip Oscillator failed after use as wavemeter with a QRP semicon rig, just a case of being too close to the source of the Ergs. Funny though as I recall this happening to my ED902 many years ago, & heard of it later from an Eddystone employee. Cure was to remove and replace the two OA70 diodes used in the full wave rectifier circuit which detects the signal across the tuned circuit. One point springs to mind here watch the polarity as - without checking the actual circuit I have a faint memory that it is a voltage doubler diode circuit.

- EC958, can't argue with this as it hits them all sooner or later in their life, especially if they have seen shipboard service. The set - one or more functions - becomes intermittent. This is

typical faults cont;
a doddle, corrosion on the multiway connectors and/or the mini coax connectors. In my case complete replacement of all the mini coax was necessary as the green goo inside each connector had contaminated the coax screen which was open circuit in several places. Cures ? Replace all the coax leads, clean all connectors with switch cleaner or WD40, use a stiff bristled brush to remove the goo.

- The 670A, another which may have seen shipboard use. Poor performance may often be no more than dirty valve sockets. This could crop up for any model yet funnily enough when it comes up in mail the culprit is always a 670A, not the 670 or 670C. Still if you remove the valves - all of them - you will see dark tracking deposits across the insulation between the pins. Simple cure is to clean thoroughly both the socket and the valve base and pins. Why nobody has reported this with, say, the 840A I cannot fathom.

- The 670, older version of the 670A and the fault that comes up too often to be coincidence is the corroding through of the wire on the dropper resistor, could it be anything to do with its being positioned directly above the metal rectifier, I wonder ?

- The 680, four times in two years, from EUG members this one. Lack of bass, such as it is, on the AF output. A dud C87 which is the kathode bias condenser, it should be a 25mF, 25v.w and has apparently gone dry with the ensuing reduction in capacity. Just fit a new one.

- The 680 again, twitching of the tuning scale pointer, just needs the addition of a very minute quantity of fine oil to the mechanism, could apply to other similar drives i.e. ason the 640.

- The EA12, could be expensive or cheap this repair. If you lose gain on any one band, or it goes dead altogether on one band then open up the crystal box. It may be simply a case of cleaning the pins on the crystal and its socket, if so you're lucky. It could turn out to be that the particular crystal has reduced activity. Only way out here is a new crystal. I have got one for £2.50 - just luck - but others have paid up to a tenner for a new crystal.

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- Beverage Aerials on VHF, viz; Issue 21, page 15.-

- Well I never did claim to be perfect ! A letter from James to mention that you can use Beverage type aerials on VHF. Yes I have just a faint recollection now that I have seen mention of this somewhere. Theoretically there is no reason why not. The aerial system would need to be a number of wavelengths long at the VHF frequency, it would present a high impedance feed to the receiver input and an ATU would come in useful here, since most sets are either 50 or 75 ohms input.

- Anyway James tells us that an @10 wavelength long aerial wire, horizontal and leading from his shack almost due west has given him a number of good transatlantic signals. Not always on the great circle bearings that would be expected. He uses this on 50 Mc/s and feeds it via a small variable condenser, 50 pF, into his receiver. The same aerial on 10 metres also gives good signals, no ATU needed. (Wonder how much better it would be with a proper ATU ?).

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- Eddystone 1837/2 on the market ? -

- Recent ads in the Wireless World have M & B Radio of Leeds offering this model for sale at the price of £600, quite a pricey set but if you really yearn for one then money does not count.

- These models are likely to be coming on the market now as users update their equipment, a number of 1990 models have been advertised by various sources too, these are the VHF set that came in to replace the first generation transistor model 990.

- Always worth keeping your eyes on the ads, both trade and personal, but don't hesitate as others are just as keen as YOU are.

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- The 840A again.-

- A letter from Billy, ex merchant navy steward, reminiscing about the happy listening that he had from his 840A aboard the old Blue Funnel Line steamer, the Aeneas. This Blue Funnel line was the Alfred Holt Shipping Company and the Aeneas operated from Liverpool to the far east, Hong Kong being a frequent port of call. Billy says that no matter where, he was always able to tune into the BBC overseas services, this despite the dirty mains supply provided on board. His aerial was most often just a length of plastic insulated wire trailing from the porthole, the supply varied from about 95 to 115 volts yet the 840A took all of this without complaint.

- He adds that it was the dream of everybody in the M.N to own an Eddystone, either the 670 version or the 840. Since his retirement and the availability of AC mains he has gone up in the world with first a 680 and latterly an almost mint 940.

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- The MIMCO 2232A, Cabin Tuner. -

- John Redmond wrote some time back that he had got hold of one of these models, serial number JK0380. The number is definitely Eddystone and the set is very similar to the 670 series to look at. Now another has turned up and a member has bought it, for £20.

- Steve says that it is complete and that when he tried it out the UL41 was found to be microphonic, since they cost so much he decided on a 10P13 which cost him just £4. He has no manual for this and has had no luck from Marconi despite a phone call and the offer to pay all costs.

- The PCR2 that you have Steve was made by Pye during WW II, it is more of an up market broadcast set than a comms; set, sorry cannot help with info on it.

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- The R 213.-

- Colin has a 770R with the number R 213 stamped into a small plate on the rear of the chassis. (usually this plate was on the front panel just between the two big knobs).
- Anyway the info is that this was the MOD designation for the 770R and it is to be found on any of the sets that went to the armed forces. Some in a very light shade of grey will also have this number and I believe that they were used by the then Ministry of Civil Aviation. I can recall seeing them in use at the M.C.A place in Lodge Lane, Liverpool many years ago, also some S.358s still in use, this would have been in the mid 1950s if my memory serves me right.

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- 770U variations.-

- These were many and varied, and usually denoted by one of the many suffix numbers, i.e, 770U/2 etc;
- This "/2" version was for the ASWE establishment of the Royal Navy and came out of the Bath Tub in 1953. One identifying mark would be that the phones socket has had to be relegated to the side of the front panel due to an extra switch being needed on the front escutcheon. Another point to note is that the various suffixes also denote differing IF bandwidths. The /1 was 15 Kc/s and the /2 was 75 Kc/s bandwidth IF.
- I think that the 770R and the 770U had more suffix types than any other Eddystone model.

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- The EP20 Panadaptor.-

- Several of these seem to have come into the hands of EUGers just lately. The main query seems to be what set they can be used with and what for.
- Either the EA12 or the 830 series have the necessary IF to go with this panadaptor, thus providing a visual indication of the signal to which the set is tuned, and the signals to either side also.
- What is not too often known, or appreciated, is that the EP20 can also be used as a wobbulator for sets with IFs of up to 500 Kc/s, thus permitting its use for re-alignment.
- Both the above sets have the requisite kathode follower output to a rear panel co-ax socket for coupling to the EP20. If you contemplate its use with another model then you need to make a kathode follower IF output by lifteing the earthy end of the kathode bypass condenser, connecting it via a 75 ohm resistor back to chassis and then from the junction of the resistor and condenser take a co-ax lead to the EP20. Sounds Easy ? Well yes it is easy.

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- Hum on the 640 ??? -

- Do you have a 640 where you get mains hum on the received signal, but no hum when tuned off a station ? This has been mentioned several times for the 640. Simply connect a ceramic type 500 pF condenser from pin 2 to pin 7 of the V2, frequency changer valve. Cured ! Seems that it was not fitted to early versions of this model but was incorporated on the production line later on, although it may not be on YOUR schematic of the 640.

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The Missing Loudspeaker and how to Replace it.

Have you ever wondered why the S.640 (and other "Type 'A' cabinet" communication receivers) look as if they've got speakers in them but haven't? Are you still looking for an Eddystone Diecast Speaker to match it? Well here are some answers...

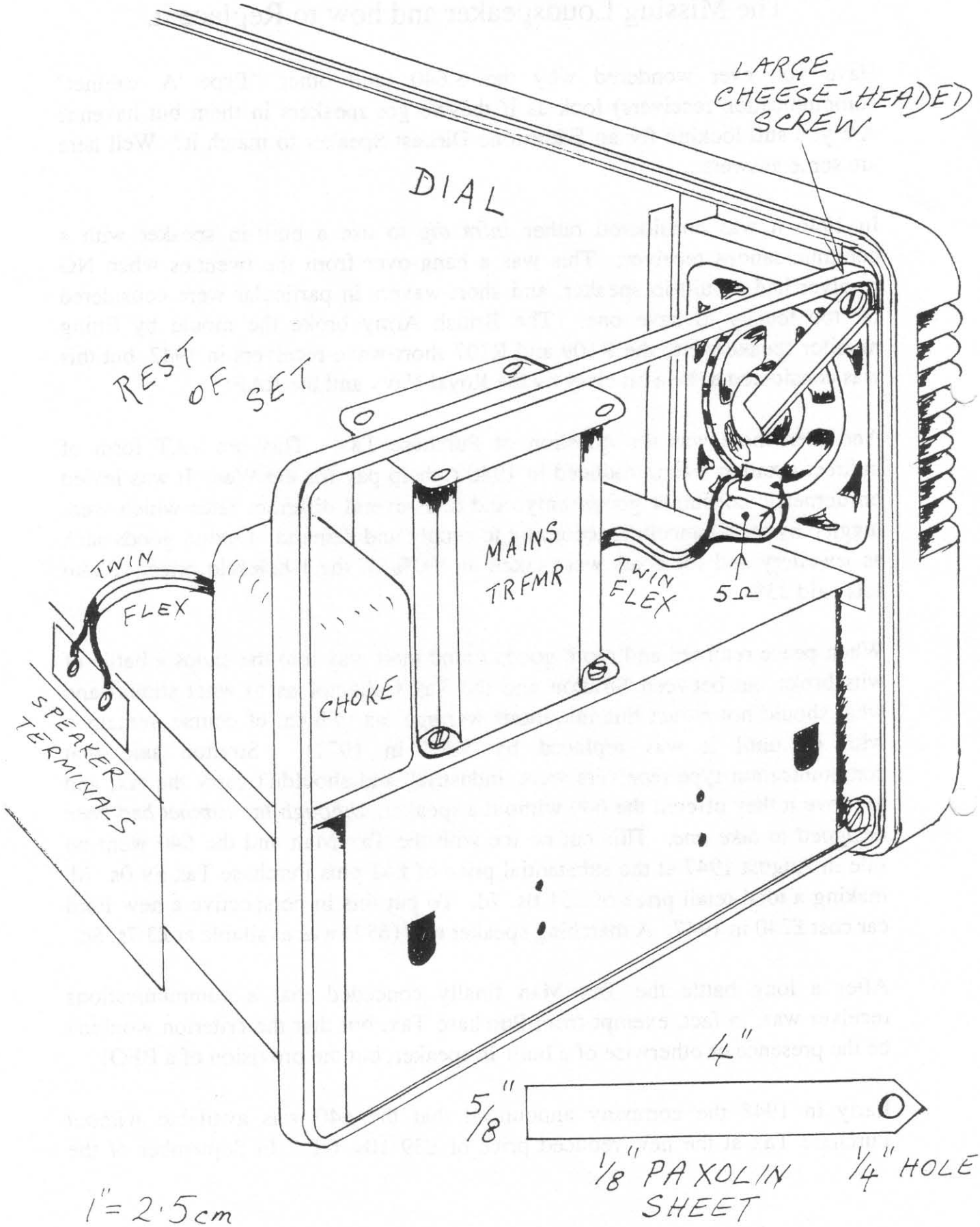
In 1946 it was considered rather *infra dig* to use a built-in speaker with a communications receiver. This was a hang-over from the twenties when NO receiver had a built-in speaker, and short-wavers in particular were considered far too touchy to have one. The British Army broke the mould by fitting monitor speakers into the R109 and R107 short-wave receivers in 1942, but this was considered to be a bit cissy by the Royal Navy and the RAF!

And then there was the question of Purchase Tax. This pre-VAT form of indirect taxation was introduced in 1940 to help pay for the War. It was levied on domestic consumer goods only, and had several different rates which were juggled by the Chancellor, according to supply and demand. Luxury goods such as jewellery and fur coats were taxed at 100% of the wholesale price. Radio sets paid 33%.

When peace returned and more goods found their way into the shops a battle of wits broke out between Stratton and the Tax Collector as to what should and what should not attract this iniquitous wartime tax (which, of course, remained with us until it was replaced by VAT in 1971). Stratton said that communication-type receivers were 'industrial' and shouldn't carry the tax, and to prove it they offered the 640 without a speaker, *although the cabinet had been designed to take one.* This cut no ice with the Tax Man and the 640 went on sale in August 1947 at the substantial price of £42 plus Purchase Tax £9 0s. 7d. making a total retail price of £51 0s. 7d. To put this in perspective a new Ford car cost £240 in 1947. A matching speaker unit (652) was available at £3 7s. 6d.

After a long battle the Tax Man finally conceded that a communications receiver was, in fact, exempt from Purchase Tax, but that the criterion wouldn't be the presence or otherwise of a built-in speaker, but the provision of a BFO!

Early in 1948 the company announced that the 640 was available *without* Purchase Tax at the new reduced price of £39 10s. 0d. In September of the


LARGE CHEESE-HEADED SCREW
DIAL
REST OF SET
TWIN FLEX
SPEAKER TERMINALS
CHOKE
MAINS TRFMR
TWIN FLEX
5Ω
4"
5/8"
1/8" PAXOLIN SHEET
1/4" HOLE
1" = 2·5cm

same year a further reduction to £27 10s. 0d. was announced and the 640 held this price until it was replaced at the end of 1950 by the new 740 model. This was priced at £32 10s. 0d. (no Purchase Tax), having a similar circuit but using the new miniature eight-pin valves (EL42, etc.). It didn't have a built-in speaker, though!

At this point you could be forgiven for saying "What speaker is he actually rambling on about?" And quite rightly too!

What I'm getting round to saying is this... If you've got an Eddystone 'Type A' receiver with no internal speaker fitted it's very easy to fit one without any modification to the set at all. The "ships' cabin/broadcast types" (such as the 556 and 670) all used the same front panel casting as the 640, etc., and all had internal speakers fitted. Take the case off the 640 (etc.) and look at the back of the panel in front of the mains transformer. There is a neatly louvered and recessed 3 1/8" diameter hole in it. Go to your local Tandy Shop and buy a replacement CB speaker (Cat. No. 40-248, price £1.99). It is 3" in diameter, rated at 2 watts (!) and with an impedance of 8 ohms.

From a piece of 1/8" sheet paxolin (or perspex or plywood or scrap pcb board) cut a strip 4" by 5/8". Cut a 90 degree point at one end and drill a 1/4" hole in it (see sketch). Solder a 5 ohm, 2 watt resistance (junk box or Maplin type W4.7R, price 23p.) across the speaker terminals (this reduces it to 3 ohms and loses some of the excess output from the 6V6GT). Solder about 15" of twin flex to these terminals also. Remove the large cheese-headed screw which bolts the frame to the rear top corner of the front panel. Place the speaker into the 3 1/8" recessed hole and make it captive by placing the plain end of the paxolin strip over the magnet. Hold the 1/4" hole in the pointed end against the hole from which the large screw has just been removed and put the screw through it, tightening it fully back into place. The speaker is now firmly fixed. Run the twin flex back over the chassis and connect to the speaker terminals at the rear. Replace the cabinet; job finished!

Just one more point. These cabinets were never the best-ventilated in the world. Putting in the speaker doesn't improve things. If the set is to be used for an extended period, say more than half-an-hour, I would recommend that the lid be wedged open at least half-an-inch. For preference opened fully. It keeps the old lady much cooler and she deserves it. *GRAEME - G3GGL*

- Dr No and Eddystone.-

- Further to the recent query as to the model of Eddystone receiver that is displayed in the Dr No film.

- A letter from John Caines, accompanied by several good 'off-air' photos has solved this mystery. It was none other than the popular SWL model, the 840A. Hardly the professional comms; receiver model that one would have expected to be found in a James Bond film, but it certainly is the 840A and if you need proof here goes.

- The scales as depicted show that they are underlined with coloured strips to denote amateur, broadcast in blue and red respectively, as can be seen on the photos.

- The bottom right hand of the escutcheon shows a chrome trigger type switch, for the NL on/off.

- There are but four small control knobs on the front panel, 2 either side, and the phone jack is on the front panel, not as with the 680X on the side.

- There is no calibrator switch, nor scale reset, at the top of the front panel.

- No S meter built-in above the scales either.

- Looking through photos of all the models in that style of case, there is but the one - the 840A - which fits the bill. End of Sherlocks Tale.

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- Discovery of New (Old) Model ! -

- Yes, this still does happen. Not often though. A recent letter from long time member Ross Paton in New Zealand contained photocopies taken from a 1928-9 copy of the Harrods of London Catalogue. Whether Ross knew what he was doing and kept quiet I know not but the fact is that when I looked through the pages I spotted, amongst other Eddystone sets, the ATLANTIC TWO. Never heard of this I thought, and dug out my original list obtained years ago from Richard Baker. Not a mention of this model, checked it out from other sources and still not one word about it ! So it is to US, in EUG, a newly found, but old, model.

- Basic information that is contained alongside the picture states that it was/is a 2 valve short wave model, with plug-in basket weave coils. The set was housed in a similar style case to the Eddystone Twin, made of oak with a glass front panel and a glass panel at the side for insulation of the aerial and earth terminals. Transatlantic reception of the U.S stations KDKA and 2XAF was guaranteed, was in fact checked

for and tested prior to the despatch. These stations could usually be received at loudspeaker strength with a good aerial. Eddystone, or Stratton components were used throughout and there was no evidence of the 'hand-effect' that was so prevalent with early sets. Extra coils could be supplied as an option for reception of the BBC short wave transmissions. The complete set was retailed for a price of £10-0-0d with a Marconi Valve Royalty of £1-5-0d extra.

- The copies sent to me by Ross are a bit thin on contrast to be included here, maybe at a later date a good copy can be obtained.

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- Another Kind of UAF42.-

- I have been reliably informed by one member of EUG that the UAF42 which we know so well for its use in the various AC/DC models, is not the only UAF42 that is on the market today.

- Think well before you order one, specify that you want a valve ! It seems that there is a semiconductor device, an I.C. that is called UAF42, it is an active filter type of I.C. Wonder how long it will be before we get a UL41, or an EF39 ???

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- Short lived Valves ! -

- In a handbook for radio engineers that was published in @1941, the U.S Dept; of Defense stated that, and I quote, "the average life of a vacuum tube (valve to us) is about 20 hours", unquote.

- Okay they were commenting upon the fact that valves used in sets that were installed in aircraft of the USAAF had to be swopped after each mission, but even so I think they were a bit off. If I found that my valves needed to be swopped for new after an average life of 20 hours then I would go for a different brand of valve.

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- Digital Audio Broadcasting in the U.K.-

- Almost unheralded and unnoticed by the Public this DAB system of broadcasting began on September 28th. The Beeb began broadcasting DAB programmes in the London area on what was the old Band Three Tv allocation around 180 - 190 Mc/s.

- There is the 'Catch 22' situation where there are so far no sets on the market for Joe Public to buy, but then the makers will not build them until the transmissions start !!! How about it Chris, is there an

cont; p. 29.

- EB36 Problems -

- Stanley has a very nice looking, almost new looking EB36 which has come to him from a previous owner who admitted, at the time of purchase, that he had 'twiddled' it for 'better performance' on his favourite bands. The set works okay on all ranges but when it is compared with a 750 receiver there appear to be stations, a lot of them, where there are none on the 750 ! Stanley says that he has only a minimal knowledge of radio, although his job is in digital electronics. Problem is he would like to know what it is that the previous owner has 'twiddled' ? The stations which he gets are, for example, known and identified DW, BBC, and VOA in the range 5.4 to 5.8, these do not appear on the station schedules which he has received from the station operators. Can any member help out here ? the same thing works on about 6.5 Mc/s. It would seem that this range (3) is the only one affected. Write c/o EUG.

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- Ecstatic Owner ? -

- John Redmond has finally got his 2232A Mimco set working and has written to say how thrilled he was when, having plugged in the UL41 and turned on, the 2232A burst into life. He brings one point to our attention, that of insurance on our Eddystones. Whether you have one or more it could be well worth your while getting some insurance cover on your sets. EUG will do you a letter, FREE, for you to pass to your insurers, if required. Just tell me the model what condition it is in, maybe even serial number, and what you paid for it, will do the necessary.

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- Dial Bulbs.-

- Two recent letters mention difficulty in replacing these, yet another letter comes from Adrian, who says that the 6,3 volt at 0.3 amp bulbs may be replaced with a 6.5v, 0.3 amp type commonly obtainable from bicycle shops, but if your set uses more than one you must replace all at one go. He went 'wild' and swopped all the bulbs on his 4 Eddystones, most of them were badly 'silvered' anyway.

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Eddystone DAB receiver in the offing ? If so how about some info ???

- Who will be the first Eddystone User Group member to receive these DAB transmissions ???

- Seems incredible that there was not a little more advance info on the start up of DAB broadcasting, or that there is nothing in the Radio Times about the frequencies and times.

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- Quick-service for EUG.-

- A mention elsewhere in this issue about the valves and electrolytics that can be supplied from **KenZen.** Well a letter just in mentions that this member received the ordered items just four days after posting his order letter. He had the set up and working again just one week from the day it broke down. A very satisfied customer !

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- Re Free Members Ads.-

- Just a point brought up by one member. YES, if you know somebody who is not in EUG but wants to sell an Eddystone, then by all means send in his ad for the N/letter. It will be of benefit to members and so will be included.

- One writer who had to told NO recently was a non-member who wished to advertise for a set of knobs for his DAC90 receiver. Sorry.

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- The 830/9 Model.-

- A mention here that one member has written in re the 830/9 that he bought cheaply for £65, as the previous owner had been unable to get the set to work. A qualified Electronic engineer too, so he claimed. It does seem that these hollow state sets are like science fiction to the engineers of today.

- After a scrutiny of the manual, obtained from EUG, and a follow-up quick 'shufti' of the innards of the said 830/9, Barry zeroed in on the chassis mounted switch which, on the /9 version only, disables the oscillator so that a fed-in synthesised local oscillator signal can be used for improved frequency stability. Yes, you have got it, the switch was in the osc; off position, which meant no L.O input to the mixer and hence no IF output ! Not a bad set now for the £65 that it cost.

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- Marconi / MIMCO 2232A. -

- Once more some of these sets have appeared on the market, two members have been in touch recently - having bought a 2232A. In each case the problem has been that of getting hold of the schematic and service data. Marconi / Mimco seem completely uninterested in helping out, In so far as I know they are almost identical to the 670C, and that is all I have been able to tell the owners. From the info quoted to me in their letters, the ranges are the same, front panel controls ditto. Valve line-up is identical and chassis layout appears to conform to the 670C, and so I have supplied the booklet and circuit of the 670C. The point I am trying to make is this, EUG cannot supply info or manuals for Marconi / MIMCO sets, excepting - as in this case - where we can definitely identify the equivalent Eddystone model, this we cannot guarantee to do every time. In the case of the 2232A the set does bear a plate on the rear which says 'Manufactured by Stratton for MIMCO' so it was not too hard.

- If anybody can come up with a comparison list of Marconi / MIMCO to Stratton / Eddystone sets then PLEASE do let us have a copy. So many EUG members would be interested in such a list, and one must surely exist somewhere. Come on YOU out there, let us all in on the secret.

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- Solar Panels Again. -

- The inexpensive (£9.95) model as sold by Maplin, rated at 9 volt at 30 mA in full sunlight, will power a model EB35 on a sunny day.

- This is connected direct, no nicads ! Have tried a few tests and find that whilst the one panel will give full volume output in direct sunlight, two panels parallelled up will still power the EB35 in weak indirect sunlight. Of course the addition of NiCads will enable the panels to store power when the set is not in use. This method is very useful for those who take a set such as the EB35/6/7 or the EC10 away on holidays on the boat or in the caravan. A classic case of them paying for themselves in a few months, given the cost today of six 'D' type cells.

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- PCB number 75328/W.-

- Alex Jansen spotted these three mini pcbs at the Birmingham show earlier this year, at 50 pence each he could not resist the temptation and so he took them home. Quite evident that the pcb was a single transistor amplifier stage using a 'tin-can' germanium tranny which was marked OC171. The Printed circuit side was marked Eddystone plus the above quoted number. Size was a mere ½" by 3½".

- When he first mentioned his purchase to me I could not identify it but something nagged at my memory. Sure enough a quick check in the manual for the EB35 showed me that the pcb is in fact the extra - untuned - IF amplifier that it was found necessary to fit for FM reception only, between the tuner and the first dualfrequency tuned IF amplifier. Looks as though his find came from some surplus factory stock which had been disposed of after EB35 production finished.

- DIY servicing help ? -

- Several members have written asking about the possibility of including in future issues some guides to servicing and fault-finding on Eddystones. Suggestions have been on the theme of say, treating one stage each issue. I am looking into this now and will keep you all informed, could be it will begin next year, not treating any one model, but more a general circuit explanation and look at the possible faults on a stage, the causes and how to locate them with minimum test gear. One good thing is that fault-finding and servicing on, say, a 7 valve set is an order of magnitude easier than on one of the black boxes available today. Actually, with a reliable analogue meter in hand, it should be a doddle to service any of the commoner Eddystones.

- EP17R + 770R.-

- A letter from Steve Tibbs to remind members of the advantages of running the above two items together. The panadaptor used with the 770R will enable you to visually scan any one meg portion of the wide range covered by the receiver. The display of the EP17R gives you the actual frequency to which the set is tuned on centre scale, with a 500 Kc/s segment on either side, showing the band occupancy of the one meg you choose to display. In Steve's case he finds it quite useful for spotting VHF broadcast Dx when there is a chance of some exotic propagation condition.

- A Success Story.-

- After almost two years of trying Eric has managed to get hold of a type VS24K valve to put his Eddystone Homelander back on the air.

- At this years NEC Rally he met up with another enthusiast who had, so he claimed just this valve in his stock. Eric made a couple of phone calls before a date was fixed for him to visit. He came away with 2 good VS24K valves for a fiver, one to use and one spare. He also has a list of some 30 other old valves that he can buy if the need should arise.

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- 100 Kc/s calibrator, viz; Issue 20, page 6.-

- Stewart made one of these and having tested it and set it up against WWV, using his 640 to heterodyne the two signals, he has now installed it in a small diecast box, this is mounted on the inside of the lid of the 640 receiver. The 6 volts, well it is about 8 really, comes from a full wave bridge across the heater winding of the mains transfo. It is switched using the standby switch via the auxiliary socket at the rear of the chassis. He does comment that if one of the older FT243 type crystals are used then a 5-47 pF trimmer needs to be fitted across the crystal, in order to get it spot-on to 100 Kc/s.

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- Radio 5 Harmonic, viz; Issue 21, page 10.-

- A letter from Ian on Humberside re this phenomenon. He states that this is still audible, in September -95, from his QTH. BUT only in the evenings, he has listened on various sets, Eddystone and Aliens but it seems not to be there in daytime. Ian also mentions the very strong heterodyne that is audible on about 870 Kc/s medium wave, bad enough to cause QRM to co-channel stations, can anybody identify this ? The M.W band is a mess of heterodynes these days, why is it that the QRMing signals so often appear to be of Spanish origin ???

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- Do you have an S.659 ? -

- If you have an S.659 where the magic eye is either non-operative or where it only partially closes for a strong signal, then read on.

- Ken had this problem, a new valve did nothing to cure the problem. He found that whether he had the new or the old valve in the shadow was hardly changed by an S9 signal. Testing of C57, C43, and C50 showed that all three were to some extent leaky. Replacing all 3 of them brought his magic eye back to normal function. This would of course be applicable to the magic eye circuit of other similar models. (different numbers for the condensers though !)

- I would mention that a low HT to the Magic eye valve, due to a feed resistor going high, could also give a similar fault condition.

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*** MEMBERS FREE ADS ***

- WANTED, to buy any of these models, EC10, EC10 Mk II, EY11, EB35, EB36, EB37, EM34, 31A, 960, 962, 688, 881, 889, MIMCO Cabin feeders, 870, 870A, etc; for cash, dead or alive. or parts only for spares. Ring Peter Lepino, 0374-128170 or Fax 01372-454381, anytime (Surrey).

- WANTED, to buy Eddystone model 1650/2 complete with RF preselector. also Racal 1772 or similar, must be in excellent condx, ring Bill on 0121-308-4526 (Birmingham).

- SELL, 770U Mk II, this is Admiralty pattern 103990 receiver QS, serial number STR163. Manual also available, write to H.W. Jamieson, 38 Brechin Road, Kirriemuir, Scotland, DD8 4DD.

-WANTED, two knurled rear bolts for fixing case to 850/4, also one Terminal part number 6102P, ring Wyn on 0978-756330 (Clwyd).

- WANTED E 898 Eddystone dial and drive system, contact Tony on 01789-750259.

- SELL, Philip Taylor states that he can make available the A2521 valve that is used in the RF stages of the 770S model, price £21 post paid, and the address is 3 Silver Lane, Billingshurst, West Sussex, RH14 9RP.

- WANTED, Model 1830, made in about 1980, please contact Robert Ellis, 3 Derwent Park House, New Road, Darley Abbey, Derby, DE22 1DR.

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- What Is The Connection ??? -

-A long and rambling letter from an SWL, non EUG member, who saw a bit in one of the mags about EUG. Eventually he gets around to the point of his 3 page letter. Can I please help him to resolve one or two problems on his receiver, caused when he opened it up and began twiddling those "little coloured screws in shiny square boxes" (IFTs ?). Anyway the set turns out to be a Grundig Satellite, so what the heck is the connection between Eddystone and Grundig ??? Go on somebody PLEASE do tell me.

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- High Power Hi-Fi.-

- Just reading an item in an old Wireless World by Scroggie, we all know who he was (I hope). Anyway he states that half a watt of audio power is sufficient to provide comfortable listening in the average size living room. All of our Eddystones can exceed that easily by 100% or more. It does however make one wonder about these domestic systems with advertised power outputs of several hundreds of watts. Have watts shrunk ?? Are we all more deaf than in the 40s and 50s ?? Okay I know that the ads refer to those - so called - music power watts and that ads are 99% hyperbole, but just think $\frac{1}{2}$ watt of audio !!! even less if you use the phones in your shack.

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*** ENDIT *** ENDIT ***

- That looks like another issue ready to go, guess that with all the problems of the impending move there could be some delays with this issue getting out to members. If it does arrive a little later than is usual then please understand the difficulties of those at Eddystone. We hope that the move heralds a new era for the Company, Good Luck to them all.

- If you have any article, Eddystone related of course, that you wish to contribute then take a second look at the item in this issue by Graeme Wormald, that is the ideal format. If you cannot do it like this then send it anyway and I shall type it up for the Newsletter.

73,

Ted Moore.