Eddystone User Group

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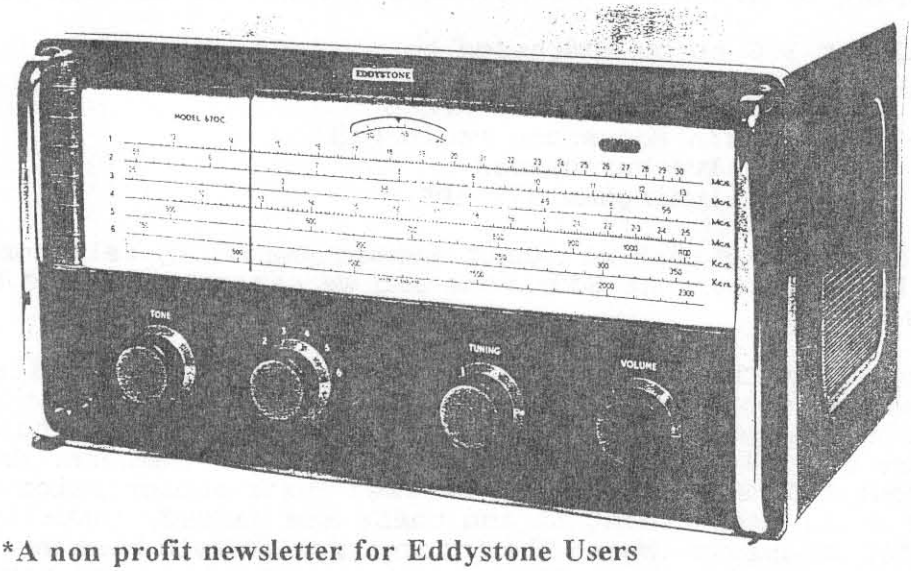
Newsletter

Issue No: 27

Featured Model: 670C Receiver



*A non profit newsletter for Eddystone Users
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*Please address all mail to:

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, 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 third 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

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c/o Eddystone Radio Ltd
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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,

Well no sooner do we send one newsletter out than it seems time to work on the next one. Ted has produced a bumper issue this time and I am sure it will be much appreciated by all our members. We appear to have about 165 members who have renewed their subscription this year. Letters still keep coming in and these are passed, (usually quickly) to Ted for an answer. Where the information is held here we try to send it from here, and I must admit that sometimes this can take a couple of weeks or more depending upon mine and Pat's workload. I am grateful that nearly everybody abides by the request to write in rather than telephone. I still have not finalised the handbook list and prices, although we do seem to be able to satisfy most requests.

I had the opportunity to buy a few things for our museum (bit of grand title really, more a room with radios in) this summer. From Boston Lincs I was able to pick up some boxed spares from the 40-50's and from a little village near Bromsgrove, what I thought was a Metropolitan Police VHF Transmitter. However closer examination revealed that it was HF. So a bit of research established that it was one on several made for the Polish army prior to the second world war. Unfortunately I can find no trace of any circuits or other information, here but I will keep looking.

- Issue 27. -

- Another issue, thanks to you members it has plenty of 'beef' in it. One letter is of interest, Stuart went to the Parent/Teacher meeting at his daughters school and was surprised to see another parent wearing an EUG badge ! Jim Murphy mentions the lack of signals on his newly acquired 770S, but then the 500 - 1000 Mc/s range does need a dedicated aerial, not just the proverbial 'bit of wire'.

- Donald heard of an 888 up for grabs at the local club, the offer was a 'fiver' to charity - but must collect. So he did and had to lug it down from the loft, through a very tight fitting hatchway ! That there was no lighting in the loft was not a help either. Still Donald now has the 888 home, and working. It needed no more than a general clean up and new mains lead. Working with just an indoor 25 foot wire the results are excellent, all for a 'fiver'.

- On the 888 theme, I have heard from an EUG member who is part way through the complete mechanical and electrical restoration of one which has, since new, travelled around most of the world. A spell in the Far-East whilst with the armed forces was followed by a similar period in Europe (Germany and Belgium). The 888 was then used as main station receiver for many years whilst living in South Africa. Latterly short tours have included Canada, Mexico, the Gulf area, and now Scotland. His problem is a new glass for the 'S' meter. A trip to a local glazier is planned for this.

- Some of the old blueprints for the for the 1930s sets that EUG has, originally from Geoff Woodburn, are very interesting and copies have been made for several members. The degree of detail and information provides an insight into just how much the owner/user needed to know in those days. It was never a case of 'plug-in and turn on' - as it is nowadays. The names too are quite evocative, - The Homelander, The Kilodyne Four, The Overseas Four, many of these went for export to the many British expatriates in Africa or South America.

- Letter from David who is still operating in South Wales with his late 40s rig of a '640' plus 6V6M driving a 6L6M, crystal controlled on 40 metres only. All he needs for world wide fun according to David. He does admit to having a more up to date model for living room listening though, this is an EC10 !

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- Heating of the AC/DC models. -

- Many queries come in about this, the case does get warm above where the dropper resistor is mounted. Lets keep this in perspective though, the sets were designed for use in tropical climates, or in small cabins on board ship. The design did allow for dissippation of this heat and so there is no real danger. It is not advisable to block up the holes in the case by putting books or papers over them, leaving a small space above and to each side will certainly help.

- One way of eliminating most of this heat is to run the set on the 110/120 volt tapping via a 240/120 volt isolation transformer. An advantage of this method, besides the cooler operating temperature, is that the transfo does tend to limit the amount of mains borne interference that gets into the set. An 840A that had previously suffered from Tv line time base QRM on all ranges was now greatly improved, with the QRM now having nuisance value only on the Long Wave band. The transfo acts as a mains filter, something for nothing I guess.

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- Screened leads, and Co-ax. -

- The polythene insulation, or even early, rubber insulation which was used for many of the screened leads in the older valve models has by now been affected by the heat generated during normal operation. In the case of the polythene the ends tend to go greenish as copper salts leach into the polythene. In the case of the rubber it will either dry out and become crumbly, or in the presence of some degree of damp it will turn into a sticky 'goo'. Which ever happens there is more than likely some degree of leakage by now, across from the centre conductor to the screen. One set commonly affected is the 958. A number of these that saw service at sea, (MN, RN, RNLI etc;), have been found to have badly corroded joints at the end of the internal connecting screened leads, a sign of this is the greenish hue to the polythene dielectric. The only known cure is to completely renew the leads, luckily the mini co-ax is quite easily obtainable, and cheap. Only attempt this if you have the requisite know-how, or you will end up with a non-working set.

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-SFERICS.-

- An 840C in exchange for a 680 ? well I suppose that it would really depend on the condition of the two sets. Cal seems to be happy with the swop though, says that the 840C is in pristine condition, well looked after, never used in anger he says. The 840C is an AC/DC model of course and he is operating it via an isolating transfo, 240 to 120 volts type. This means that most of the dropper in the 840C is not used, power is saved and the amount of dropper generated heat is reduced. The 840C does all he asks of it, that is Broadcast Listening on medium and short wave.

- Another swop, getting popular, this is James Reilly a longtime member who tells us that his EC10 has gone in exchange for an 840C, (what another 840C ?). James tells me that his newest acquisition, the 840C, is in fine working order and that despite his longwire having blown away in the storms he has had the set working on just the tag end of wire remaining, sounded very promising too, he says.

- From Peter Lepino, who seems to have been thoroughly bitten by the Eddystone Bug, (joke), he had a fault on his EB35, no AM at all on the ranges from 1 to 5, yet FM was okay. Turned out to be the D5 diode in the second detector circuit, a type DA91, or may be he means an OA91, was the cure.

- Ken Lloyd, G3XTP, ia thinking of coming back on the air after being QRT for many years. He is not doing it the easy way by trotting out and buying a super-duper black box rig. He is after a good general coverage Eddystone model (say an 830 or 940 ?) & completing this with a simple QRP transmitter, good for you Ken, any help I can give you, you're welcome. No reason why a simple Tx cannot be fitted inside the case of say a 940 as was done so successfully by many operators in the 50s with their ubiquitous 640, see the September SWM mag for 1951.

- The old 'Q' fiver concept will not die. Sam is just now modding a new and unused BC453 to use with his venerable 740 receiver. The basic idea is to extract a whiff of the 740s IF signal, feed it into the RF end of a BC453, and ignoring the AF end of his 740 to take his AF output from the 12A6 output bottle of the BC453. He will then have a tunable first IF stage folowed by 2 additional IF stages at 85 Kc/s. As good an idea now as it was in the 40s

and 50s era for beating the QRM. Mind you I always fitted an AF gain pot on my BC453s, did not like the idea of running the 12A6 full out. Many however did just that and seemed content to control gain from the station Rx.

- Member in Cornwall, P Trembath has an EA12 and an EC1837/15, this is the same as the Marconi 'Pacific' model. Lucky him to have 2 good sets. The EA12 has always been a favourite of mine and can give a very good account of itself these days, if you take the time to learn how to drive it, notch filter, linear scales of 500 Kc/s each, a delight to use.

- Same member, wants to know approx values of the EA12 and 1837 receivers, same as I always tell members, they are worth what you think they are. I know the lowest price heard of for the EA12 so far is £150, the highest over £400. The 1837 is not often traded but I know of one that was bought for £625, a bit over the top to my mind that. The Tx part of the 1837 set-up as used by Marconi, cannot help there at all, maybe somebody out there can write in and I shall forward the info.

- A plea for help from a non-member and re non Eddystone products too, well just this once I shall make an exception. R C Reilly of Air Traffic Control, Lands End Aerodrome, Penzance is after info on the location of any T1154/R1155 sets for sale. This is a case of Nostalgia with a capital 'N' as he says that retirement is getting close and he would like these as a retirement project. Can you help ? Write him direct.

- WOW, some of you do have faith in EUG, James Reilly of N.I has sent in his subs for NEXT year, also some very nice comments re the newsletter and EUG. Hope you get your longwire up again soon James, make it stronger this time, stormproof even.

- Bert Clark in Balham says that there is no reason why nylon cannot be used to replace steel wire when the drive wire of your set goes kaputt. He has successfully used nylon on his 888A drive system and I do know myself that it is possible.

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- Featured Model, 670C.-

- The last in the 670 series this model was in many ways the best of the three. Whilst still basically a high performance broadcast receiver the large scale with far more linear markings allows the set to be used with good effect on the short wave bands.

- A six valve plus rectifier circuit is the standard RF, Frequency Changer, IF, Det/AVC, AF driver, Output, with the addition of a tuning indicator driven from the AVC line.

- Unlike the previous 670 models the /C has the frequency coverage of 150 Kc/s to 30 Mc/s divided into 6 ranges, use of a linearisation device in the tuning mechanism means that it has been possible to considerably reduce the cramping normally experienced at the HF end of each range.

- Whilst designed primarily for use on board seagoing vessels the AC/DC circuitry allows the set to be used on any domestic mains supply, the built in noise filter in the mains input circuit can be a great help where so much noise comes through on todays electrical wiring. The filter consists of two inline chokes, air cored, and two condensers, the whole arranged in a balanced Pi circuit, basically a 'brute force' hash filter.

- Front panel controls are minimum with just four, a combined Tone & mains On/Off switch, Range switch with six positions, Maintuning which is, as always, flywheel loaded and has a ratio of 140 to 1, and a Volume control which is in the AF driver grid circuit. Both external speaker and Pick-up connectors are on the rear panel as is the usual Eddystone aerial connector panel providing for either a balanced doublet type or the long wire plus earth system.

- All amateur and broadcast bands of the period (1963) are marked in colour on the scales, which are this time all marked in frequency. The original 670 did have the Medium Wave Band marked in metres as was custom in those days.

- Sensitivity is better than 10 microvolts for 50 milliwatts output, more than adequate for SWL use. Actual AF output is of the order of 2 watts when used on 240 volts but drops to near 1.25 watts if the set is used on the 110 volt tapping.

- The still modern looking case and design make this a sought after model even today, although the lack of a BFO does deter some.

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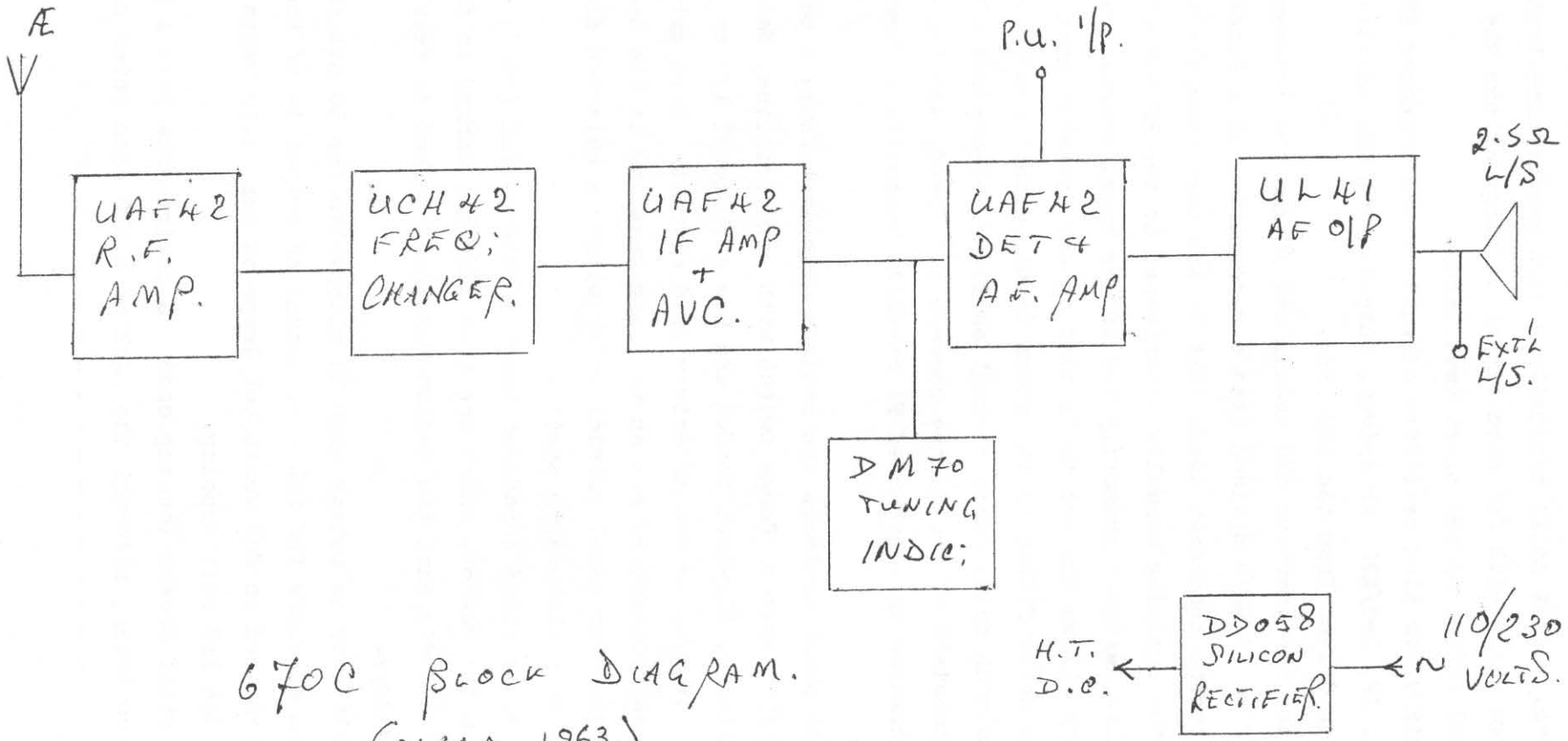

670C Block Diagram.
(circa 1963.)

- A.C Only 670C.-

- Having decided to completely revalve my 670C I was wondering what other jobs would need to be done whilst the set was 'down' - I have a model 840 to use as a spare receiver whilst the 670C was on the bench so the thought of being without it whilst the job was done did not come into question. I have always disliked the AC/DC universal aspect of my two receivers and so the idea was born, go the whole hog and buy 6.3 volt valves, the direct 'E' series to replace the 'U' series, not a lot of difference in price for the set of valves, the power supply was not too difficult as an available transfo gave me 210 volts when put through a full wave rectifier circuit of 2x1N4004 diodes into the C80/CH3 filter circuit. Space on the chassis was adequate when the dropper was removed completely. R35 and R36 are no longer needed, nor is R37 the 16 ohms across the DM70 heater. This valve was a problem, not finding any 6.3 type to replace it I had to do some hard thinking. I thought of an LED type indicator but wanted to retain the original look of the 670C, the final solution was to retain the DM70 but arrange for the heater to be run from the 6.3 supply in a rather novel way. The transfo had a heater winding which was 0 to 6.3 with a tap at 5.0 volts for the operation of a 5 volt rectifier valve. The difference of 1.3 volts was used for the DM70 heater, a 12 ohms 1 watt resistor was wired across the DM70 heater.

- On power up the actual measured volts on the HT line was 205, as close as needbe to the quoted figures, LT on the DM70 went up to 1.75 at switch on but was nearer 1.5 when warmed up so no problems have been found in some 5/6 months of use. The chassis/case isolating condenser was removed and the two are now at earth potential, the mains neutral was, of course, lifted from the chassis. I decided to leave in the two mains filter chokes and C78/79 as they still do serve a useful purpose.

- Having delved into the coil box to rewire the V1, V2 heaters I did a re-check of the alignment of both RF and mixer/oscillator stages, a minor correction was needed on Range 1, this may, or may not, have been there already as I had not re-aligned the set since new.

- Result is a nice 670C which is now 'more safe' than the original version. My last act before putting the set into service was to fix a large sticker on the rear above the mains socket, 'AC Mains Only'.

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Steve Tibbs.

- I.F Re-alignment.-

- Watching a club member recently I was quite astounded to see him begin to 'twiddle' the IFs on a receiver without first disabling the local oscillator or the AVC circuit. These must be put out of action prior to any re-alignment jobs.

- On most Eddystones the simplest way of doing this is by way of two short wire links with mini-croc clips at each end.

- For the local oscillator, I always shunt the stator and rotor of the tuning gang oscillator section. The AVC may be shorted to chassis at any convenient point, I usually find the decoupling condenser and shunt this with the lead, again to chassis. Don Bush.

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- A.F. Output meter.-

- If an output meter is not available then a testmeter, (analogue), on a suitable A.C volts range will do admirably for this job, after all you are not so much interested in the actual power output are you ? all that you need to be able to observe is the fact that you are tuning the RF or IF circuits for maximum output at the speaker terminals.

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- Trimming Tools.-

- Unless you have the correct trim tools there is often a temptation to use the nearest handy metal screwdriver. Resist this at all costs as the slugs just cannot take it, nor will your adjustment be correct once the tool is removed. Actually saw somebody who should know better, take a screwdriver from his jacket pocket at a recent vintage radio meeting, then use it to touch-up the slug in the FM IFs of a domestic model, quite shook me up as I know the guy in question. Mothers old knitting needles are a good item to make your own trim tools, a piece of fine emery cloth can produce any shape of 'end' to suit those slugs. Either the older bakelite or the later plastic types can be used. Of course if you can splash out for a set of purpose made trim tools then so much the better, try the RS catalogue. Stewart Ellis.

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- 1948 Station re-created. -

- Clive used to run a 640 in conjunction with a 20 watt home built transmitter in the usual TU9B case. The only accessory was a BC221 meter to keep within license conditions, this set-up operated into a 7 Mc/s dipole. Having recently retired he has spent the last 15 months re-creating the original station. This involved purchase of a 640, purchase at a Radiophile Rally of the TU9B unit, building in this latter of the 6F6M / 807 transmitter as a crystal oscillator / PA transmitter for CW only, and last but not least the putting up of a 7 Mc/s dipole, using the original tree plus chimney supports. Station is working well on 7015 Kc/s and he is shortly expecting to get his sticky hands on a couple more of the 10X type crystals.

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- Heathkit versus Eddystone.-

- Performance-wise there is 'no contest' here, as I am sure all Eddystone fans will agree, my memory of the RA-1 Heathkit was of tuning backlash and almost impossible to set frequency problems. Still when Stan was offered the chance to have an RA-1 for £10 he jumped. The novelty wore off quickly when he compared this with his 640 and he recently did a swop, no cash involved, the RA-1 for a 750. Is he pleased ? seems chuffed from his letter. I know I would be.

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- EA12 Ham Bands Only Receiver.-

- This set retailed at £185 new in 1965, very expensive then and out of the reach of most people. One seventh of what my Mum paid for her house in the same year. Point is that we have a member who paid the exact same sum for a very nice condition EA12 in January last. He also got the original receipt for the set, when bought from 'SHORT WAVE - G5GX' of Hull in 1965. He has this and the recent receipt framed together on the wall of his shack.

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- SFERICS.-

- When Colin changed the valve rectifier in his 740 over to a couple of silicon diodes he was already coiling up the wires that carried the heater supply from the transfo with the intent of leaving them in situ, when he had a thought, 6.3 volts A.C at a couple of hundred mAmps ? He uses his 740 in conjunction with a solid-state crystal calibrator unit to give him 100 and 10 Kc/s pips for frequency spotting, this is/was powered by a PP3 - 9volt - battery. There was ample room to fit a simple diode and condenser rectifier and smoothing unit inside the case of the calibrator unit, by 'piping' in the 6.3 volt supply from his 740 he now has no more battery bills to pay.

- Eric has been using the wire netting which surrounds his garden on three sides, as an aerial for his 840C. This is a single roll of netting newly put up to keep out a neighbours dog, total length of about 80 feet, the receiver feed is soldered to one end just below the shack window. Using his home made EUG tuning unit he has no trouble loading it to his 840C on any range MF or HF. Compared with his previous 25 feet of wire in the loft performance is up considerably. Funnily he checked the resistance to earth and found it was about 270 ohms only on a damp morning.

- Experiments with wire of even 26 SWG used as random wire aerials have proved to Dennis that thickness as such makes no difference for receiving purposes. Insulators were made from small pieces of plastic and a 66foot aerial is in use at present, bedroom window to bottom of the garden, it is invisible unless you know where to look.

- Computer Birdies ? well we all have them to some extent these days, since some of the models radiate for hundreds of yards. What Ian is trying to tell us is that if you are sure that pick-up is via the aerial/downlead combination and not through the mains, then do try a balanced type aerial, & most important feed it with balanced feeder not co-ax. His combination of 66 foot folded dipole fed with 300 ohm balanced feeder (ex RS catalogue), has significantly reduced the pick-up of locally generated 'hash'. He can notice a reduction on bands for which the dipole is not resonant, i.e Top Band.

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- Convertors Model 939 & 959.-

-Whilst many of these were supplied built into diecast boxes, there was a version supplied which used different type transistors (still PNP though) and which came in a rackmount style. The two transistors in the one that I saw were the GM290 types and some circuit changes appear to have been made. A different cased crystal was utilised in this version. There is also, I am told, a rackmount version which uses more or less the same circuit as the diecast box convertor. This latter is called a 939/1 in rackmount form yet the 'different rack-mount' version has NO suffix. I suspect that the no suffix one is the later version, going by serial numbers.

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- BBC Moorside Edge.-

- Listeners in the North of England may be able to receive this stations Radio 5 transmission on a completely unauthorised frequency ! The main signal on 909 Kc/s would appear to have a strong harmonic on 2727 Kc/s, it is especially noticeable in the evenings. Trials with a number of different receivers, not all Eddystones but a mixture of modern 'black box' types too, prove that it is not a freak attributable to a badly aligned set. Freak mixing could have accounted for this if it had happened on one particular model. In one case the owner of a 40A took the set out portable to the top of a local hill and using a simple frame aerial was able to DF the harmonic to the same direction as the 909 Kc/s signal. I do wonder whether anybody has alerted the Beeb to this ???

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- Much Modded EC10.-

- Harry Tober bought a nice looking EC10 at the local radio club, no chance to try it out on site, there and then. He was disappointed when he got the set home and powered up, as performance was way down and lots of 'birdies' all along the scales.

- Just one look under the chassis showed up the evident problem, all of the 'tincan' type of trannie had been chopped out, leaving short wire legs, to these legs had been grafted some black plastic silicon trannies. Oh sure they did appear to be the PNP types but when checks were made in a data book it was seen that all had much higher gain characteristics than the old germanium types (OC171). And NO changes had been made to the passive components, resistors and condensers. A set of the original OC171 trannies was bought from Birketts in Lincoln and these were fitted in place of the 'aliens'- all worked okay on power up and very little 'touch up' was needed excepting to the local

oscillator trimmers at the 'high' end of the ranges 1 & 2. The birdies and whistles have gone and the set seems none the worse for the attempt made to 'modernise' it.

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- Spares for your Eddystones.-

- Most of those receivers that we EUG members have are at least 20-30 years old, many are 30-40 years old ! It really is just too much to expect Eddystone to still stock spares for these sets, yet some people apparently do expect this. The fact is that Eddystone cannot supply spares for any of the older 'hollow state' models, nor for the early first and second generation semiconductor models. So it is no use writing to them for spares.

- EUG does periodically publish the names of those 'emporiums' where spares and valves (even old transistors) can be obtained. Either a letter or a phone call to these people will usually get you the bits you need, or maybe an idea as to another source. Make sure that you do know just what you are after. No good wasting your time, and that of the supplier by asking for the 'gizmo' at the right hand back of the chassis, he may not know your set.

- A first item for YOU to have would be a copy of the manual/handbook for your set, Eddystone Radio will do you one of these as Chris did mention in issue 26. Letters only please, no phone or fax calls.

- Centre Electronics , ~~Harold~~ HOWARD Turner has again come to the aid of an EUG member by supplying that much needed part. Tony Morton GØDMZ is happy with the service that he got.

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- AFN Europe - The End ! -

- This has been a favourite station of mine since the early 1950s, when it operated a high power station on 548 Kc/s from the Munich area. A good signal even in daylight for UK listeners ! Many are, or were the domestic sets that I had to tweak a bit to get them to cover this frequency right down at the LF end of the MW scale. My own set at the time was often an Eddystone, the 840A did well for this station.

- Later when the other outlets opened up higher in frequency I used a variety of sets. The best signal lately has been the 873 Kc/s Frankfurt outlet. This is due to close at the end of 1994. The 1107 Kc/s has already gone QRT, a part of history will be finished when 873 goes off the air at the year end.

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- HELP * HELP -

- A plea from Clive Ashton to name sources of items recommended for use in the newsletters. He cites oil and switch-cleaning fluid as an example. Well the best oil is that sold for use on electric typewriters or copiers, switch-cleaning fluids can be bought from suppliers such as RS (Electromail Catalogues are full of helpful items). Another is Maplin, again their catalogue contains much that could be helpful.

- The matter of drive-wire for the tuning mechanism on those models with a slide-rule scale. Many prefer not to renew with nylon cord, when wire was in use originally, then again I have myself done just this quite successfully. One member in New Zealand tells me that a suitable diameter of bronze drive wire is still in the current Philips catalogue, I have often seen this in professional R/TV workshops in recent years. Cirkit and Maplin can supply the nylon cord, but then an easier source might be the local hobby shop, or a local fishing tackle shop could produce either the bronze or the nylon variety.

- Grease for the gearing on the tuning mechanism, one of the high melting point 'moly' (molybdenum) greases will do fine here, although many of you write in to say that ordinary vaseline has worked fine for years.

- Dial bulbs, take the old one along to a local bike shop and see what they can do, in the case of an AC only set current value nearly the same or a little lower is best. For the AC/DC sets make sure the current rating is the SAME, aim for voltages the same or a bit higher. I have often used the 'bike' type bulbs when unable to get one from a radio orientated supplier.

- Mains lead, never use a 2 way in lieu of an original 3 way lead, and so what if the original was rubber covered ? best to use modern plastic type than a second hand bit of rubber covered.

- Knobs need cleaning occasionally and the 'fluted' type come up best if brushed hard along the flutes with a toothbrush dipped often in vinegar, the whole then washed in warm water and dried. And those hard to move grubscrews, especially in knobs, try putting a drop of oil in the hole whilst the hole is vertical, leave it overnight to soak down, then use a screwdriver of the CORRECT blade size, or an allan key if that type. Vast amounts of damage can be done to screw heads, or ferrite cores, by using the wrong size of blade. Never use a steel bladed tool on a ferrite core ! Okay Clive ? all queries answered ?

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- 820 AM/FM tuners.-

- From members mail it would seem that a lot of these are in regular daily use, although they can only provide mono reception. Many are used to provide background music in the shack, or even the home, a kind of MUZAK environment. What is surprising, given the age of these units, is just how many letters quote ' never had a thing go wrong, so far'. They did get hot if built into a cabinet style Hi-Fi system, but many where not so treated and these tended to run cool, a classic recipe for long life. They tend to go cheap if sold these days, the mono-only tag is responsible for that. If you do have the chance then buy one, the reception is good on VHF if you can be satisfied with mono. I have seen them advertised for anything between £20 and £ 45 of late.

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- IF breakthrough on the 640.-

- When the 640 was conceived and manufactured the then medium wave band extended to just 1500 Kc/s, there was no problem with a 1600 Kc/s IF. In later years the extension of the MW to 1620 Kc/s and later even further, meant that there were now several high power european signals on 1602 Kc/s. A strong enough signal pickup from one of these could give rise to IF breakthrough on the 640. Only a minimal 'antenna' was enough to feed an interfering signal into the IF strip. What did happen in practice was that the crystal phasing condenser spindle, where it protruded through the front panel, was able to pick up enough of the 1602 Kc/s signal, feed it into the IF, where it mixed with the output from the frequency changer stage to give a beat note of a couple of Kc/s.

- The cure was soon found, it involved reversing the two connections to the phasing condenser, so that the spindle was now at the earthy side of the electrical circuit. In my experience this was always a 100% cure, and I have always tended to do this whenever a 640 passed across my workbench. There was no reduction in efficiency of the 640. Nor was any re-tuning of the crystal filter stage necessary. This mod was first published in the SWM along with many other 640 mods dreamed up in the 50s, unlike many of the others it involved NO irreversible mods, no surgery to chassis or front panel and no extra components.

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- I.F Regeneration for C.W Reception. -

- I have heard of this before, of course, however it was the subject of a recent letter from an old timer, calls himself a 'wrinkly' but seems to be very much with it. He has just recently bought himself an EB37 at a car boot sale, some work was needed to get it working O.K but then arose the question of use. C.W is a favourite mode and this model does not have the necessary BFO. As an ex M.N operator a basic grounding in radio had brought him into touch with many models over the years. One that came to mind was a very basic Heath, so-called 'comms; receiver' where the CW mode was obtained by using I.F regeneration. This also, to some degree, will sharpen up selectivity.

- The idea is to take some small amount of the I.F signal from the pre-detector stage, and to re-inject this into the first I.F stage. A number of methods were considered and some were tried. The problem was that there appeared to be no way of controlling the level of feedback. Too much and the AVC came in and killed the signal, not enough and there was no sidetone. Then again, how to switch on and off from the front panel ?

- The final 'mod' required no connection into the circuit at all ! Just via stray coupling. And the on/off was controlled by what had been the dial light switch. A 14 inch length of 'hook-up' wire, ex BT single strand plastic covered was used. At one end the plastic was stretched to cover completely the conductor, this end was anchored with a blob of adhesive tape so that the end was laying just between the tags on the input of the first I.F transformer. The wire was now led back, along the rear edge of the PCB past the second IFT to the input tags of the last IFT, again it was anchored by a piece of tape. The length of wire was then taken across to the front of the PCB and down to the underside of the chassis, close to the power on/off switch.

- The next step required disconnecting the wiring from the dial light switch, in this case the lights were wired permanently on. The switch was removed and the spring which 'loaded' the switch to OFF was removed one tag of the switch was now taken to chassis (the front panel), the free end of the wire from the IFTs was now connected to the switch, this enabled the wire to be left 'floating' or to be earthed. In the former condition IF regeneration was allowed, when earthed the small 'regen' signal was earthed. A few adjustments had to be made to the wire where it passed over the 1st and last IFTs but it was finally found that when OFF there seemed little or no deterioration in received signal. When ON it was possible to receive C.W and such SSB signals as the Airmet stations, the broad passband of the EB37 did help here. Harry Tober.

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- Simple aerial system for an 830. -

- When Dave acquired his 830/5 last year the first months of operation were with a simple indoor, random wire. As the spring came, and weather permitted he decided to experiment with some outdoor aerials. Not lucky enough to have a long garden it was decided to experiment with vertical wires. Two large 'cuphooks' were screwed into the eaves board at the side of the house, care was needed not to trample the XYLs garden. The cuphooks were spaced about 15 foot apart, near ground level an almost horizontal plastic water pipe was ideal for the bottom attachment point. - A full loop around these points, sides 18 foot and top and bottom of 15 foot gave the magical 66 foot length of wire so beloved of 40 metre enthusiasts. This loop was broken at the bottom and fed via Tv type of coax to the window nearest to his shack position. Using an ATU, of the DIY type results were now found to be many times better than when using the previous 'bit of wire'- although with the house wall just 10 inches away from the wire a certain degree of directivity, away from the wall, was apparent. Being a south facing wall this meant nothing from the north - not a problem for Dave. His advice is to try it and be prepared for a surprise.

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- Exotic Oldies, 50s style. -

- Peter Stein writes about the 50s when he first obtained the 640 he is still using. Some of the QSL cards that he has include AC4RF, the well-known Bob Ford operating from Tibet is a good example, his Tx then was a 6L6 driving two 807s, crystal controlled and usable on 40 or 20 metres only, it is still there in the loft ! Then there was the advent of the first Sputnik, going 'beep-beep' on 20 Mc/s. The later Sputnik with the dog Laika on board. He recalls the uncrowded bands of those days, yet says that his 640 is still easily able to cope on those same congested bands, today.

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- Short Wave Two Info. -

- A request from John Potter for info that EUG has on the SW2 model. His intention is to construct an exact replica of this set. He wants to get as near the original spec; as can be. He now has the info, I just hope he can find the TP22 triode pentode and the L2 triode valves as used in it, the former type may be difficult, I have never seen one. John is but one of several members who have expressed interest in the making of replicas of the older sets.

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- A Botched - up EC10.-

- In the 60s the EC10 was a 'state of the art' receiver, within the limitations imposed by it's price. Some 30 years on it can still give a good account of itself on the Medium and Short wavebands if, and this is it, if it is in good condition.

- The one I got my hands on recently had seen better days, it still looked good from the outside, the one 'odd' knob was easily replaced with a matching one from my junk box of purely Eddystone bits. My problems began when I got it opened up on the bench, the dreaded botch artist had been at work on this set. It looked as though every thing that could be 'twiddled' had been, even some items which should not be had apparently been messed with, there appeared to be some kind of white cream on the pointer guides - and on the mechanical gearing, looked like face cream. All the IF and RF slugs and trimmers had been got at too, several slugs broken in their formers, a nightmare job to replace. There was no slug at all in the IF rejector trap, L1.

- My attention was further drawn to some very amateurish blobbed solder joints around the S1j wafer - the one closest to the front panel - and this being the local oscillator wafer I was beginning to get worried. Applying some basic tests with a DVM I decided there was no reason not to apply power, in such cases I use a 'bench supply' consisting of a PP9, nine volt battery. The set was dead as the proverbial Dodo bird, not even the hiss from an operating AF stage with no signal input. Further checks starting back from the loud speaker showed me that this at least was a simple case of corroded contacts on the break-jack provided for phones use. A clean up and I had a working AF amplifier, as shown when I fed an audio signal in via the RV2 volume control. A square wave input to the base of the last IF stage TR5, showed it was working but certainly much off tune, nothing to do now but to start digging out those slugs. I opted to take them all out and refit new ones before taking my tests any further.

- A lot of frustrating work was needed to get these slugs out, using a mixture of trimtools, PCB drill and some lubricating oil. Eventually though I had a working IF strip of 3 IF transfos and 2 transistors, this was re-aligned to the 465 Kc/s frequency and by swopping a noticeably high resistor in the base of TR4 , should have

been 68 Kohm, was more like 150 Kohm, I got it to function to within the makers spec; that was the easy part of the repair job.

- Tackling the RF stages was next and I now knew why the S1j wafer had been messed with. The local oscillator TR3 was not 'oscing' on any band. These metal cased, four legged, germanium trannies have a nasty habit of growing whiskers with age, normal ? Anyway this was reading a partial short between the outer metal casse which is earthed via the fourth leg, and the collector leg. By just snipping the fourth leg and letting the case 'float' I was able to get the trannie to oscillate again. It had been necessary to resolder the many dry joints on the switch wafer first but it did work now, although all ranges were well off frequency, again it was necessary to replace some slugs in the coil pack but by now I was getting to be an expert at this. It was also necessary to replace several of the fixed condensers in the RF and Mixer-local oscillator stages either due to physical damage or due to a leaky reading being found on test. One of these was C16 in the RF AVC circuit which read between 160 and 200 ohms, not good for a paper dielectric type. Gain was well down on all ranges and remained so until I decided to snip the fourth leg on both TR1 and TR2. Eventually I decided to fit new OC171 types in all the RF & IF positions - for the time being however simply chopping the earth lead brought the gain up quite considerably.

- Last job was the RF re-alignment, an easy task if the manual instructions are followed correctly. Some tooing & froing between the slugs and trimmers eventually gave me a well aligned and sensitive EC10 with just one last remaining task to do. The CW filter is of the LC type and it's operating frequency is adjustable slightly, naturally this too had been 'twiddled' at some time. I injected a locally generated 1000 c/s tone and reset this by adjusting the slug in L18, this can be done from the top of the chassis.

- A lot of work, not helped by the botched attempts made by a former owner, but this set is now working fine and is used when away from home, running either from it's mains PSU or the alternative battery box.

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- Hi-Fi Headphones.-

- A recent advert in one of the hobby magazines by a large dealer, somebody who should know better, showed a very expensive comms; receiver of the 'black-box' type. Some £800 for a receiver and then they advertise it with a cheap and nasty pair of walkman type phones !

- For any SWL or listener to Ham bands to use such Hi-Fi (so-called) phones with his high performance receiver is ludicrous. The comms; receiver will have a tailored audio bandwidth and response to suit reception on the short wave bands, maybe limited from , say, 100c/s to less than 6 Kc/s. This will filter out a lot of the 'hash' that is on the bands today. Then you plug in a pair of phones with a (claimed) audio response of 50c/s to 20 Kc/s ! The result is pure pandemonium in your ears.

- If you cannot get a pair of genuine comms; phones, rare on the market these days, then try my solution, all for 50 pence. I had the headband and 'muffs' plus cord and plug from a very expensive pair of those Hi-Fi phones, both magnetic inserts burnt out long ago. For 25 pence each I got 2 ex BT earphone inserts at a rally, these are designed for best reproduction on phone lines, with a tailored response in the region 200 c/s to about 4 Kc/s, are of the magnetic type and very sensitive. So sensitive that you will be surprised when using them, the AF gain will be way up and you will need to turn the pot down. Reception quality is good enough for SW use where most transmitters have a reduced AF range anyway. Many of those annoying high audio whistles and sqeaks are attenuated to the point where they no longer annoy. Once used they will become addictive ! I have tried them in both parallel and series and find that series is best for use on most Eddystone phone sockets, those Hi-Fi types have a low impedance of maybe 10 to 30 ohms, these ex BT have an impedance in the hundreds of ohms range, a much better match.

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- A Ferrite Aerial for use with an EB36.-

- The EB series of receivers did not have a built in ferrite rod type aerial for the LW and MW ranges. The provision of a low impedance input socket on these models means that it is possible to improvise such an aerial, making for much increased versatility.

- The first need is for the rod and coil from one of those old

cont;-
throw-away Japanese transistor sets. Some kind of box/container needs to be made, it can be solid cardboard or plywood, but not metal.
- The coil and rod are mounted in this box, glue can be used but be sure that the coil is still moveable along the end of the rod. A mini plastic variable condenser can be mounted in the box, with its knob, when this is done the main coil wire ends are connected to the variable condenser. The two ends from the coupling coil are now connected to a length of plastic 'twin' of the kind used for phones. This taken to the low impedance aerial input, usually marked as for a 'doublet'. Tuning of the 'rod aerial' by the variable condenser, together with orientation so that the rod is lengthwise on to the direction of the required station will produce much improved results on the MW (or LW if you use a LW coil). Try it and you will become addicted to your 'rod-aerial'.

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- 830 sets on the market ? -

- One EUG member - who should know ! - mentions that at a recent MOD auction two lots were auctioned off which would be of interest to EUG members. In the first case early this year he saw 8 sets in one lot, 5 off 830/7 and 3 off 830/9, the second lot was of a mixture of 770R and 770U models. Both lots went to the same dealer. He mentions that he was present last year when a batch of 990R sets were auctioned off, and several members have already mentioned that they now have one of these. It does make one wonder which particular Department of the Government has been hoarding these sets up until now. Could it be that they were waiting for that day when EMP made all semicon models 'dead ducks' and the valve sets could again come into their own ! The 830 series are still a very potent receiver today, if you can do without all those 'bells & whistles' that are a part of the modern black box set then the 830, or 940 can do all you want from an HF comms; receiver. And for the older members there is an added advantage, all the controls are 'man-sized' not those diddy little buttons so in favour in the orient.

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- Vertical Wire Aerials.-

- Nothing says that your vertical wire aerial must go 'up' from the receiver feed in point. If your rx is located in a bedroom or maybe you are in an upper storey flat, then it will be far more convenient for your vertical wire to go 'down'. Terminate it, say, 2 or 3 feet from the ground, use old Bic pen holders to space it from the wall. You will be pleasantly surprised at the results. Behaviour, especially on MW & LW can be quite different from that of an 'up' aerial. A check using some 30 feet of insulated hookup wire showed far less fading & distortion on the downward aerial than on an indoor random wire. Using AFN on 873 as a test station there was less QRM with the 'down' aerial. Rain static was a problem in wet weather but this was cured completely by fitting a 0.1 Meg resistor across the receiver aerial and earth terminals.

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- Local Radio.-

- Well, so called, Local Radio anyway ! Anybody with a smattering of radio knowledge could have told the powers that be of the night effect whereby those QRP local signals would cause co-channel interference many miles away. Prime examples have been where one in Fareham, in Hants; has caused QRM to one in Nottingham, throughout the winter period.

- That they should have used VHF or even UHF seems logical to many of us, however !!!

- One thing that has happened has been the emergence of a new kind of Dx-er, the Local Radio Dx-er. Since most of these L.R stations do ID every hour on the hour then Identification is easy.

- For this facet of the hobby the Eddystone with its metal screening case is ideal, when used with either a frame aerial or an external ferrite rod aerial. Both of these are easy to make, and cheap too.

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- MERLIN.-

- When Jodrell Bank first opened there were several 770 R and U sets there. Nowadays of course hollow state has given way to solid state. The latest combined radio telescope system, called a multi-element radio linked interferometer network, Merlin for short, consists of seven radio telescopes across the U.K. These when coupled via a computer system have the gain of a single dish of 230 kilometres diameter.

- Each of the telescopes has its own cryogenically cooled radio receiver, operating at 14° Kelvin, for low noise amplification. Merlin will eventually have a resolution of 0.1 arc/sec; thus putting Radio

Astronomy on a par with Optical Astronomy, sharp enough to show some of the surface detail on the larger, and nearer stars. (so they say !).

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- VALVES.-

- A reminder from one member that whilst re-valving an older set can bring new life to it, this is not the curall that might be imagined.
- He had spent £16 on a new set of valves for his 670A and did a check before and after fitting. The problem had been a noticeable fall off in HF gain. He eventually traced the cause as being a loose ferrite core in the range 1 aerial coil. Vibration had caused it to turn in the thread and so detune the stage.
- This is not to say that new valves cannot be a good idea, some models such as the 770 series do respond almost magically to having new valves in the RF (turret) stages. Again a well used AC/DC set will almost certainly respond to a new frequehcy changer valve. On these also the UL41 ouput valve has had a poor reputation. Do try to get your old valves tested first, the local club is a good place to find somebody with a valve tester. If you are intending to keep that set of yours for a few more years then getting a spare set of valves is a good idea. The prices can only go up, as production now is virtually NIL. If you cannot find the one you want then check out the direct equivalents. Some types do exist under a variety of makers type numbers. The EF91 / CV138 / Z77 / 6F12 / 6AM6 is a good example, I know of nine different type numbers for this one.

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- 990 Series.-

- Whilst it seems difficult to comprehend where these sets have come from, where they have been for so many years, it is a fact that a number of this series has come onto the market during the last few months. It seems clear that they have been 'demobbed' from somewhere. There are both 990R and 990S types. EUG members have written in to me to tell of having bought one or the other version for prices which range from a mere £45 up to £130 for one in original A.M case and with handbook.
- As prices go for this series, the above are not bad at all, not for

one of these fine VHF/UHF sets. Daniel Smithers says that he was offered a choice of three, 2 R and 1 of S type. He chose a virtually mint 990R & was pleased to find that it had crystals in for the Scottish part of air traffic control, a freebie. He is much pleased with the performance but is keeping hold of his 770R as a spare set.

- That they are ex MOD seems to be FACT, whether they had been in use, or in storage is not known, however the original packing with Air Ministry markings came with the sets.

- Allan Davies confirms the origin as his has both A.M packing and an AP handbook, he theorises that they had been held as part of stocks during the 'cold war' and are just now being sold off. If YOU know anything at all about them - please let EUG know, Allan & Daniel are very curious.

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- 740 Memories.-

- When the last issue came through the letterbox, with the 840 on the cover (thanks to Chris Pettitt), the first thought for Malcomb Bates was that it was a 740, his first ever Eddystone set. A closer look showed it for what it was, the 840. However Malcomb remembered that the 740 was still in the garage, by now covered with the rubbish of a decade. He had owned and operated it for almost 12 years until the transformer packed in, and a replacement could not be found. The blame for the O/C mains transfo was always put at the door of the Yorkshire electricity board. His rural QTH had to suffer from vast mains fluctuations during each 24 hour period. Off peak voltages could be as high as 260 for several hours at a time, milking time or peak viewing time meant a drop to about 210. Not even Eddystones can accomodate that for long. He now runs an 830/9 via one of those saturating core regulator transfos that came into vogue for a time in the 50s for use on domestic Tvs, this at least does mean that the 830 can be kept within sensible limits, an Avo model 40 was kept on the output at first to check. There seemed no out of tolerance voltages although the variation did go up by about 10 from the 230 mean and down to 220 some evenings.

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- SFERICS.-

- In 1918 a one Megawatt generator, which produced power output at 30 Kilocycles, was used at Bordeaux for communication with the USA. This was a wavelength of 10,000 metres. The generator was steam engine powered and coal fed. You might say the original 'steam radio'.

- The Bellini-Tosi patent No. 21299 of 1907 describes wireless direction finding for shipboard use, "enabling ships at sea to locate their own position with respect to land based transmitters."

- EUG some 50 years ago ??? - No, not us, but there was in those far off times a listeners club for Eddystone users. It was run by the Eddystone (Stratton) Company.

- ARRL handbook for 1940 describes a superhet using a 6SN7 valve, Yes, just the one ! Did that make it a 1 or 2 valve superhet ?

- Western Electric Co patent of 1915 , number 275, describes the first ever push-pull valve amplifier. Two triodes using transformer input & output.

- Patent No; 15788 of 1914, held by Langmuir, described the first ever tetrode valve. With the addition of a space charge grid by Schottky in 1916 this became the first ever pentode. (patent No; 145421).

- In 1918 a patent by Jordan, No; 149018, used cross connected, anode to grid, triodes for oscillators in a WW I trench set. The wavelength was described as 'environ 2 metres'. - Yes 1918 !

- The 20, 40, and 80 metre bands were first 'issued' and used by amateur stations in 1924. This was in the U.S of A. That same year contacts with Australia became commonplace, also with South Africa and New Zealand, all this on 40 metres with a handful of watts.

- In 1925 the Post Office completed the Rugby long wave transmitter station. Plant was by STC. A public radio-telegraph service began in October 1926 from the UK to the USA. The antenna system was supported on 8 masts, each 820 feet high, and a quarter of a mile apart in the form of an octagon. It had a total capacity to earth of 0.33 of a microfarad. The primary source of oscillation was a tuning fork, maintained in vibration by a triode oscillator. The ninth harmonic of this was selected and amplified to a power of 10 watts. This 16 Kc/s signal was next fed to a bank of triodes and amplified to 2 kilowatts, thence to a higher power bank where it emerged at 30 Kilowatts. The final stage pushed this up to 540 kilowatts which was fed to the antenna. The antenna current was 700 amperes. A frequency tolerance of 7 cycles in 16000 was maintained at all times. Antenna wires were in the form of a cage of 8 wires

and in a circle of 12 feet diameter. The insulators could withstand a 20 ton pull and a voltage of a quarter million volts. Amateurs obtained similar results at the time on 40 metres with 5-10 watt transmitters.

- Incorrect tracking on an 888 was found to be only on range 4 and due to C26, a 40 pF silver mica. Tests showed the 40 pF measured out at 20 pF only. Took seconds to type but Stan spent weeks over the fault finding.

- Two separate 840A sets, instability when tuned to strong signals was traced to C42, a 50mF e'lytic which must have dried out as it made no difference in or out of circuit. Symptom was the anode volts of V4 going up and down with the signal, replacement was a complete cure.

- The second 840A, Art had this with low and distorted output. It was traced to C60, a 0.01 mF paper type. He played it safe and fitted a polycarbonate replacement.

- Panadaptor where the trace could not be centred, and kept drifting. This turned out to be the four paper type condensers that are used to decouple the four X & Y plates to chassis, all had gone leaky, the value of resistance to chassis was changing as the set warmed up. If left long enough the trace just went off the scope altogether. Ivor had some polyester types and fitted these with good results. Do check the working volts first though !

- Steve sends in this hint, he is ex MN R/Op and so knows his onions. Use a 5 turn loop of insulated wire, about three foot diameter will do. This can be coupled directly into such as the 840A and used for directional reception of those difficult stations. Whilst the signal strength was much down on his 66 foot long wire, so was the QRM and it could now be tuned out by turning the loop. In Steves case the loop was supported from the ceiling by a piece of string and turned by hand. A more solid and permanent loop is now to be made and put into the roof space.

- The 640 output stage is prone to faults, if mail is anything to go by. This usually is as a result of overheating. The resistor and condenser types used in this stage are fitted into the small enclosed space under the mini output chassis. Newer type resistors and new e'lytics are a good idea here, higher ratings will allow them to run cooler. The 6V6 is known for reliability so it is not to blame, but the heat that is produced by this valve is conducted away by the mini chassis so that the components beneath do get over hot with long periods of operation.

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- A Good Aerial ? -

- How is this for the aerial 'farm' of your dreams ? Full size, half wave rotary three element beam for 80 metres on a 150 foot tower. Also three other 3 element beams for 40 metres. Plus 20 other beam antennas for 10, 15 & 20 metres. Various mixed towers with beams for 2 metres. A number of wire verticals for all bands up to 160 metres, a total of 19 towers from 60 to 150 foot tall to support the wire antennas. All this was for a Finnish Club team to use in a world wide Dx contest. It seems that there were 55 operators on shifts around the clock and some 40 general factotems ! And I thought that only in California or maybe in Arizona they had them this big ?

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- MW Dxing, the easy way !-

- This part of the hobby seems to be a favourite with many members of EUG. It seems that Colin Farron down in the St Davids area of South Wales has got the right idea. He has a 450 foot long wire running due east-west from his shack, the height varies from about 15 feet at the Rx end to some 45 feet at the distant end. He can get 'stateside' Dx any time from about 10 or 11 p.m onwards, and sometimes right through to breakfast time too. He comments that what is a big help is that whilst in this area the stations are 9 Kc/s apart on M.W. Over in the U.S they are 10 Kc/s apart. Using a narrow filter he can often winkle out the DX from between two european signals. WFAN on 660 Kc/s in the New York area is one regular, another is CJYQ in St Johns, Nova Scotia, on 930 Kc/s. He says that the position of the first one, WFAN, is between Burg in Germany (250Kwatt), with R Wales co-channel using 2 Kwatt, and Bodenseesender Germany using using 300 Kwatt. The first two on 657 K/cs and the last on 666 Kc/s. His 830/9 on narrow selectivity can quite easily resolve the american signal. Patience does help as the signals tend to come up out of the background noise rather suddenly.

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- 770R II Problems.-

- Tony Morton, GØMDZ, seems to be getting the better of the Gremlins that inhabit his 770R II. With the help of Centre Electronics he has got a spare IFT and fitted this, the set works after a fashion now and he is pursueing the remaining faults. A long letter this week telling me of his progress, good to hear that my info was helpful Tony, you should by now have had another letter from me with a bit more gen.

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- Free Members Ads.-

- Wanted, 770R Mark II (not Mark I please). Please ring Tony GØMDZ on Newark, 0636-830005.
- Sell, model 850/4 and model 770R with handbook. The 850/4 is in pristine condx, the 770R in good working order, sensible offers please to Bob on 0242-674027 prefer evenings please, must collect Cheltenham area.
- Sell, Model 770S, very clean and working okay. Complete with manual and circuit. Must collect due to size. £175 ONO. Might do Px for 770U, 770R, EB35II, 960, EA12, 680X. Jim on 0274-615925.
- Wanted, one of the 1000 series as featured in issue 25 newsletter, or would be interested in a 990R. All offers to P Trembath, 4 Penrose Terrace, Penzance, Cornwall. Might do deal for your 1000 with my Marconi Spectrum Analyzer TF 2370/1.
- Sell Collins 390A in GWO, wanted 830/7 or /9 and Panadaptor EP15 or EP20, can you help ??? Ring Ian on Northampton 0604-406247.
- Valves for your Eddystone ??? Contact Philip Taylor on 0403-786250, send an SAE or stamp for a full list.
- Sell, a very good working model 840C, in excellent state and one owner only. Your offer please to G2FTY on 0527-546048.
- Help ! The 720 Yachtsman was reviewed in Wireless World circa 1950, EUG would appreciate a copy of this review, Can you help ??? Send to Ted via EUG, Thanks.
- Wanted, one or two geared pulley wheels for my 888A cord drive, please ring Brian on 071-736-6581.

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

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

- Loss of Bands on an 880/2-

- A recent letter from Dave Hodges queried the possible cause of complete loss of reception on certain ranges of his 880/2, the other ranges worked normally. The condition had come on suddenly one day when he switched to one of the bands, found it dead, checked out all ranges and found he was also missing 3 other bands.

- It transpired that the affected ranges were 8, 9, 20 & 21. These are 7.5 - 8.5, 8.5 - 9.5, 19.5 - 20.5 & 20.5 - 21.5. A look at the 880/2 manual will show that these four ranges are related in that they all derive their local oscillator injection frequency from the one crystal oscillator, which uses a 12 Mc/s crystal. This crystal will be seen to be the one common item to all ranges and must immediately become suspect. In the event it was found that there was no piezo-electric activity at all from this 12 Mc/s crystal, but why it had just died was not known. It was thought best to send it to one of the crystal makers asking for a 'spot-on' plug-in replacement. The delivery of the new crystal took 8 days, not bad really, it cost £6.50, also not bad. When inserted the four 'missing' ranges came back and it was not even necessary to do any re-alignment, checks made on WWV seemed okay so the decision was made to 'let well alone' - as an ex repairer of domestic sets this axiom is always adhered to !

- In the 880/2 a total of 10 crystals, with various multiplication factors, generate the necessary injection frequencies for all 30 bands and so it is simple to check and correlate the crystal frequencies with any missing bands. From the sealing of the screws on the box containing the 10 crystals it is certain that this is the first crystal to need changing since the set was made, circa 1966. Not bad going that for such a fragile item.

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- Gremlins, again.-

- I have been 'told off' by Steve Tibbs for mocking these pestilent things in the recent newsletters. It seems that he had read the newsletter then left it on top of his trusty (?) 940 whilst he answered the phone. When he came back some minutes later his 940 had developed a pronounced frequency drift, still not cured despite several evenings searching. Steve blames my comments re gremlinitis for the problem on his 940 ! Okay Steve but don't send me the bill for repair.

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- Low Emission Valves.-

- A reminder from one member that low emission valves, especially in the first stages of a receiver can seriously limit performance on the HF bands. Ian tells me that whilst the sensitivity of his 840A must have been dropping off slowly during the last three years, the fact was only brought to his notice when it went dead on range 1 above 16 Mc/s. The valves were taken along to the next club meeting and an arrangement made for them to be tested by a fortunate owner of an AVO valve tester. It turned out that none of them were better than 'borderline' - and both the power rectifier (UY41) and the frequency changer (UCH42) were registering way down in the 'red'. It was not too surprising since the set has seen constant daily use since last re-valved in 1991. A full set of new valves was purchased and fitted to the 840A, there was a definite, noticeable improvement and the HF was again okay up to the 30 Mc/s band, used with an ATU and a 60 foot random wire the performance now was such that Ian has begun spending several late evenings a week listening to various Volmet broadcasts around the world, performance on SSB can be quite satisfactory when one knows how to 'drive' the 840A. The full set of valves cost Ian just £14.00 and he considers this well worth paying for another three years listening.

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- The Model 840.-

- The model featured last issue has brought a letter from Derek Elwes, who had one in mothballs in the garage. He was tempted to dig it outand power it up, with some trepidation he tells us. The set came on - rather more slowly than he remembered, and a short length of wire plugged into the aerial socket brought forth signals on all ranges. After some 20 minutes the set went dead and Derek decided to open up the 840. The layer of dust covering the inside of the set had to be vacumed away first but then it was found that corrosion had eaten through the top wire on the 'dropper' resistor. The joint was remade and the set came back on line immediately. Boxing it up was delayed whilst it was 'soak' tested for a few hours, no more problems appeared and the set has now been restored to the garage, not because Derek is no longer interested, he operates an 830/7 on a quasi daily basis and simply has no houseroom for two receivers !

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- Tweaking.-

- I know from experience that many owners of Eddystones have quite specific listening habits, one may be an avid NDB Dx chaser, another may be interested in the Ham bands. Very often the RF stages of the receiver used will have been peaked for maximum gain on the band(s) of interest, to the detriment of the rest of that range. If you do buy an Eddystone and find that general sensitivity is disappointing then maybe the previous owner has 'tweaked' it for his chosen band.

- One member has told me about the 680X which was generally below par on most ranges excepting at certain parts of the scale. He was in the fortunate position of being in touch with the previous owner of the 680X and made some enquiries. He discovered that the 680X had been used as the primary station receiver at the G3 plus 3 QTH until quite recently, some serious 'tweaking' had been done on all ranges so that sensitivity peaked on the Ham bands. An offer was made by the G3 plus 3 to re-trim the set for general listening, the offer was accepted and the set is now giving great satisfaction to its new owner, the moral is 'Don't blame the set' check out the level of sensitivity right across the ranges first. One simple way of doing this would be to power up with NO aerial or earth connected, put the RF/AF gain at about 50%, then check each range by tuning from one end to the other, any large peak in receiver noise at any point on the scale would tend to indicate a peaking of gain there, if it occurs at - say - 3.5, 7, 14, and 21 then you will gather it has been peaked for the Ham bands. I had one 730/4 that showed a quite big peak at around 5.5 Mc/s, a very pronounced drop in gain was also evident at both ends of the range. It transpired that the set had previously been used at a Flying club to monitor Shannon Volmet, and the RF had been peaked for this. I can well recall that the AR88D sets we used in the RAF in the early 50s were all tweaked around the 12-14 Mc/s area when used on a multi-channel RTTY circuit to Colombo, the prime operating frequency, incoming, was 13.880 Mc/s. (There is still a multi-channel VF keyed signal on that frequency, as I have just verified !).

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ENDIT

- That is It for another issue, hope that you get some pleasure from it, many of you will recognise bits from your letters. Some of you are named as contributors, others prefer to remain ANON, I try to respect this wish.
- The promised listing of common faults on the various models is practically complete now and I hope that it will be sent out with your next issue, the Christmas one. This will make issue 28 a real BUMPER issue, with plenty to keep you busy over the holiday period.

- All mail so far has proved to be very positive as regards the new arrangements with EDDYSTONE for copying the newsletter, hopefully those who did express doubts last year will now see just what a big boost the Eddystone contribution has been for EUG.

- Can I repeat re the ads, try to get them to me before the 1st of the month of issue, as that is when I finish my copy and send it off to Chris. Please if you want a reply - send an SAE or a stamp.

73

Ted.

Late Adverts just received.

WANTED - External Signal Meter to fit my 740 also two spare rectangular Eddystone badges. Jim Murphy 0274 615925

SELL - 830/8 Serial No HO 0769, history and copy handbook £180. Also WW2 T1154 transmitter with copy handbook £70. Buyers collect. Ring 0270-67059 evenings. Jack Read, Nantwich, Cheshire.

WANTED - 850/4 Good Condition. Please contact Dave on 0582 840988

With acknowledgements to Wireless World.