

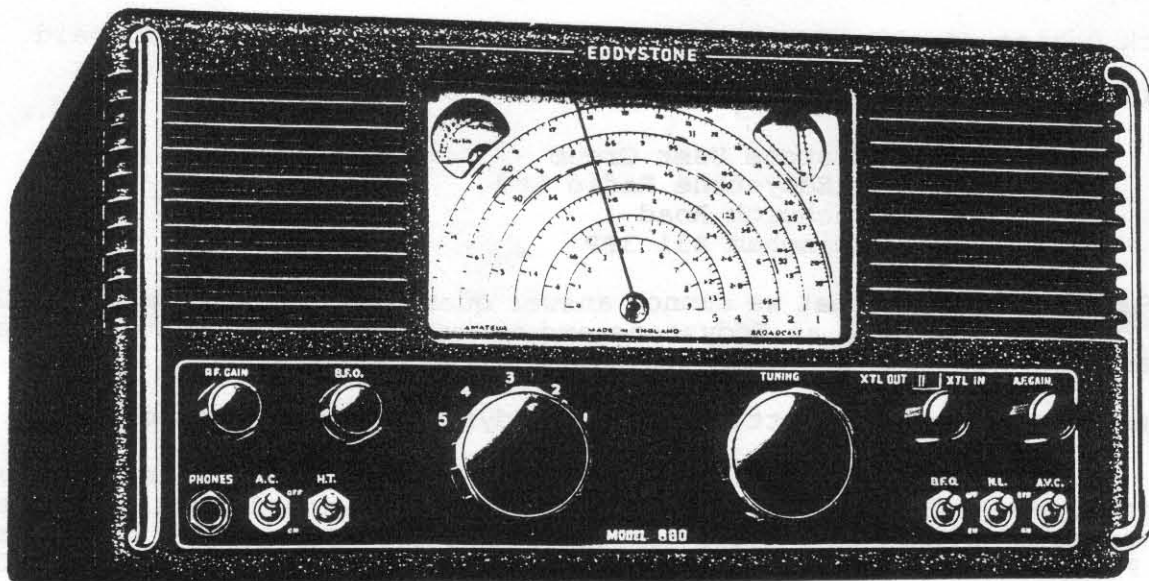
# Eddystone User Group



## E.U.G. Newsletter

Issue No: 29

Featured Model: "The 680 Receiver"



\*A non profit newsletter for Eddystone Users

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

\*Please address all mail to:

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

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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 and send them to Eddystone below. Please DO NOT send cheques to Ted Moore

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 fifth of year 5. There are 6 issues per year and if you join after the annual subscription date "May" then you will get back copies from the first issue of the current year to date. Your subscription will end with the March/April issue.

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

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

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

All mail for EUG to be addressed to

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

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

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

I can see from the correspondence that the Xmas issue (No 28) went down really well with members plus the added bonus of the compilation of faults. We had mention of the EUG in the past two issues of Practical Wireless and this has brought in about 10 new members. EUG will be at the National Vintage Communications Fair on Sunday May 14th at the National Exhibition Centre, Near Birmingham. Look out for the EUG stand and stop by for a chat. Also wear your badges so that we can recognise you.

EUG member Alan Ainslie, is sorting and filing the Eddystone Radio archives. This will make information retrieval much easier in the future. We are getting pretty busy here at Eddystone and this will have had an effect on replying to your letters. Please be patient if you don't get an immediate reply (i.e with 2 weeks). Some requests take longer to sort out.

- Issue 29. -

- Well first off is a big Thank-you for all of the Xmas cards received, plus the many appreciative comments in your mail for the Bumper Xmas Issue. Those thanks must go to the Eddystone Volunteers who worked so hard to get the Issue plus the Fault Listing out to you all on time, they will be happy that this issue is back to 'normal' in size.

- A number of additional faults experienced by members have been made known to EUG as a result of the last issue, these will be put into current Newsletters as I can compile them.

- The 'featured model' this issue is the 680, when this hit the market it received acclaim from all quarters, amateur and professional. At the time my wages were such that a 680 was but a dream for me, I had a 358 & an HRO Senior at the time but would have sold my soul for a 680.

- Ads still seem to be working out, several members have commented on the success achieved, one member having had 17 answers to his ad in issue 27, after all if you are advertising an Eddystone you have a ready waiting EUG membership who are ALL likely to be interested.

- One non-member who wrote recently has acquired a model 840A and says that after several years as an SWL with a Saegan receiver he has just had to relearn all his operating experience to fully use and appreciate the 840A, but that it was well worthwhile. Only now does he realise that so many of those stations he could hear on the Saegan were actually 'images' due to the poor circuit design. The 840A with a tuned RF stage is a real eye-opener and he intends joining EUG. (I should hope so !)

- Nice to see that Elaine Richards in SWM has been advising a reader on how to use his Eddystone, pricewise an 840, /A, or /C, is an ideal model for the beginner, not too many controls and yet good results, inexpensive to compare with those swallows of pennies in black boxes.

- Interesting letter from James re the Lake ATU as featured in the January SWM. He says that he bought all the bits to build a chinese copy whilst at last years Leicester Rally, even the case cost a mere 75 pence (ex a u/s modem). Ian Lassiter built it for him in one evening and his £8.00 ATU is now in daily use atop his 750 receiver, better than paying out £54.00.

- A letter from Germany makes the point that we in the U.K are lucky in that our Eddystones do not break the law ! Seems that ownership of any comms; receiver that covers up to 30 Mc/s is illegal ! I believe that this is so in Norway also.

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- The Folded Dipole. -

- Many of the valve models made by Eddystone have facilities for the connection of a balanced dipole or doublet aerial, fair enough but this has a low impedance feed-point and using a number of SW broadcast stations for comparison purposes I tried both a simple dipole and a full folded dipole with my 840C receiver, the band I chose for convenience was the 15 Mc/s broadcast band since the dipoles for this frequency were easily handled, both single dipole and folded dipole were made up prior to the tests being made on a Saturday afternoon, either one could be raised/lowered and connected in a few minutes by using halyards. I found that the folded dipole certainly gave better matching and higher signal strength with the 840C, it also gave me a reduced level of QRM from a local nuisance source, a neighbours computer. One difference was that the operation on frequencies out of band seemed to be improved. With the simple dipole reception on the 10 metre amateur band was very poor, using the folded dipole several of the international beacons could be heard easily.

- There can be no actual signal gain from the folded dipole over the single dipole so that any improvement in signal must come from the matching being improved between aerial and receiver input.

from Peter Levi.

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- Those Reports of S9 + 40 dbs. -

- Hearing a very strong U.S station on the 15 metre band give out several consecutive reports of S9+40 I realised just how little some operators understood, or cared about, these S reports that they gave out indiscriminately.

- S readings are purely relative values, depending as much on the type of equipment and aerial in use at the receiving end as on the actual band conditions prevailing at the time. Quite apart from that a real S9 + 40 signal voltage would most likely blow the front end of any modern solid state radio. The moral is - take any such report with the proverbial pinch of salt.

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- Featured Model, 680. -

- This is a high grade professional model which came out in 1949, using 15 valves it covers the usual MF/HF range of 480 Kc/s to 30 Mc/s in 5 bands. The 450 Kc/s IF means that it is possible to cover this wide range without any gaps.

- Two tuned RF stages are followed by a mixer and separate local oscillator stage. In the original first production models a type 7S7 was indicated but this was soon replaced by a more easily available 6BE6. This change has no effect on the performance figures of the 680.

- Two double tuned IF stages follow the Frequency changer stage, a single crystal gate filter is included in the input to the first IF amplifier, with variable phasing control on the front panel.

- The BFO is fed into the output of the final IF amplifier stage and a noise limiter, of the series diode type is included at this point prior to the detected signal being fed to the AF stages.

- The AF stages consist of a pre-amplifier to increase the low output of the detector diode stage, this then feeds a phase splitter stage which drives the push-pull audio output. No internal speaker is fitted but rear panel connectors are provided for an external one. A high impedance phone socket is provided on the left hand side of the front panel, this is in the grid circuit of the p/p output stage and when phones are in use the break jack disables the p/p stage.

- An internal 'S' meter is fitted and this is driven from the 1st IF stage, the zero adjust pot is on the rear panel.

- Front panel controls are RF gain, BFO adjust, Range switch, Main tuning, Crystal filter switch, Crystal phasing, AF gain, Standby switch with provision to operate external relay, Mains switch, BFO switch, NL switch, AVC switch, Selectivity switch. The rectangular dial has the 5 scales in half round configuration and a centrally located logging scale with vernier scale in the top right hand corner. The 'S' meter is in the top left hand corner.

- The rear panel contains the external speaker connector, the aerial input connectors with provision for either unbalanced long wire and earth or balanced for twin feeder type. The pots for control of dial illumination and for 'S' meter balance are here too. A two way connector allows an external transmit relay to be connected for use with the standby switch.

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- Unlike the later 680X version this 680 does not have a product detector for SSB use, however by judicious use of the RF pot; and the BFO control it is possible to get good SSB reception.

- Valve complement is all B7G types with the exception of the 5Z4 power rectifier and the VR150/30 stabiliser valve, this latter feeds both the BFO and the local oscillator. The list is as follows,-

Two x RF amps; - 6BA6.	Push-pull O/P, - EL91.
Frequency changer,- 7S7/6BE6.	BFO, - 6BA6.
Local oscillator, - 6AM6.	N.L, - 6AL5.
Two x IF amps; - 6BA6.	Det; & AVC,- 6AL5.
Audio Amp; - 6AU6.	Power rect;- 5Z4.
Phase inverter, - 6AU6.	Voltage regulator, - VR150/30.

- A block schematic of the 680 is contained in this issue.

- Price when first put on the market was £85 with no purchase tax being paid. In March 1950 after some 6 months of sales the price went up to £89-5-0d, again P.T exempt.

- Several version of this model called the 680/2 and the 680/2A were built for sale to the Posts and Telegraph administration of New Zealand and others. Differences were minor and for the most part were limited to differing control knobs and/or rear panel connectors.

Only one major problem arose during the many years that 680 sets were in use at a government owned monitor station, this was a gradual loosening of the grub screws in the mechanical linkage for the variable selectivity control, this was solved the simple expedient of locking the grub screws tight using a centre punch and hammer !!!

\* - FREE MEMBERS ADVERT. - \*

- SELL, HRO-M in clean condition with coils, some are bandsread, with PSU and matching speaker, £100.00

- SELL, HRO-M clean condition with ONE coil, no PSU, £50.00

- SELL, Eddystone 770U with plinth speaker, as new £100.00

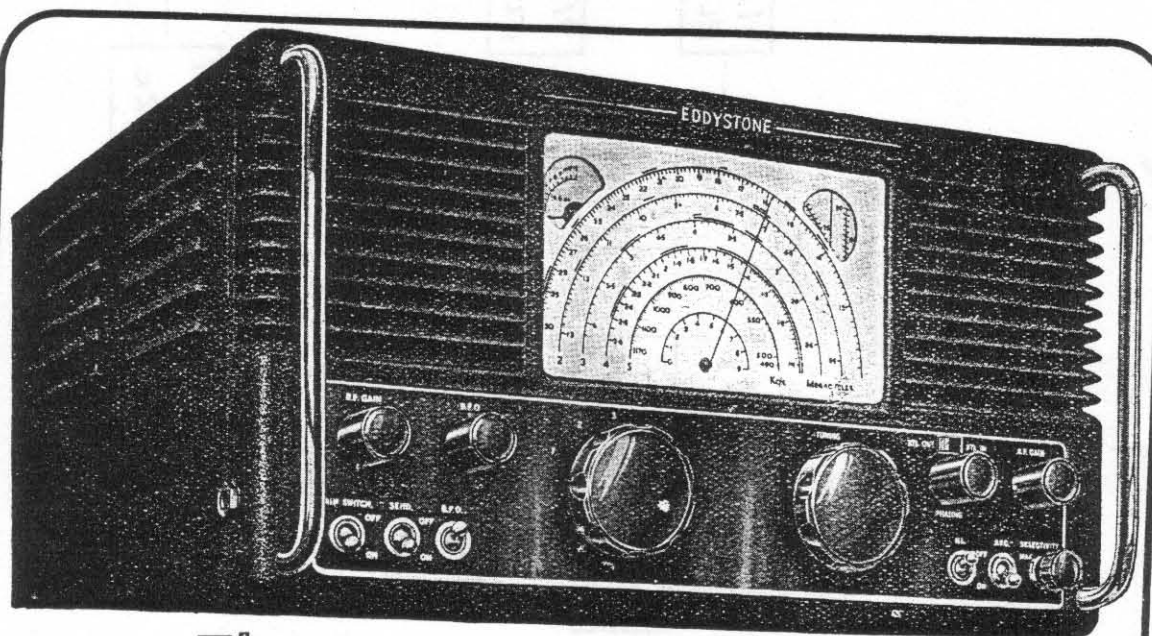
- SELL, EP17 Panadaptor, working okay, £95.00

- SELL, Pye PCR Mk3, working, £15.00

- SELL, WS-C42, No 1, complete with PSU for 24volt, headset & junction box, plus leads, £120.00

- ALL above surplus to needs, or will sell as one lot for £425.00.

Buyer must collect, ring 0922-417471 (Cheslyn Hay, B'ham) in first inst;



## The NEW EDDYSTONE '680' COMMUNICATIONS RECEIVER

*A high-grade instrument with wide frequency coverage  
for PROFESSIONAL COMMUNICATION REQUIREMENTS*

The '680' is a fifteen valve superheterodyne receiver embodying advanced technique. New features in the design add to the outstanding and reliable performance of which the receiver is capable. The appearance is impressive, whilst the construction and general workmanship are of the finest in the industry.

### FEATURES INCLUDE:

- Continuous coverage from 30 Mc/s to 480 Kc/s.
- Two Radio-Frequency stages.
- Two I.F. stages.
- Crystal Filter.
- Beat Frequency Oscillator.
- Push-pull output stage.
- Variable Selectivity.
- "S" Meter.
- Noise Limiter.
- Standby switch.
- Stabilised H.T. voltage to Oscillator, etc.
- Provision for relay operation of transmitter.
- High signal-to-noise ratio and sensitivity.
- Highly attenuated Image response.
- Very effective A.V.C.
- Large accurately calibrated dial.
- Provision for twin feeder and single aerial.
- Variable dial illumination.
- Modern miniature all-glass valves.
- Flywheel loaded tuning device - 140 to 1 reduction ratio.
- Mechanical bandspread logging device.
- Can be supplied for Rack Mounting.
- Robust construction.
- Finished for tropical service.

The complete frequency range—from 30 Mc/s to 480 Kc/s—is covered by five switched coil assemblies with an overlap between each. The gear-driven, flywheel controlled mechanism is positive, free from backlash and very smooth in action. The mechanical bandspread device takes the form of an auxiliary dial and gives a scale length equal to ninety inches per range. The dial can be read to one degree. I.F. transformers are permeability tuned to 450 Kc/s. Operates from A.C. mains, 110 and 200/240 volts, 40/60 cycles. The front panel and tuner unit chassis are aluminium, and the remaining units of stout brass, heavily nickel-plated. Lift-up lid. The cabinet and front panel are finished a handsome ripple black, set off by plated handles. The finger plate is black and silver.

Dimensions:—16 $\frac{1}{2}$ " x 13 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ " high. Weight 41 lbs.

**LIST PRICE IN U.K. £85 (No Purchase Tax)**

*Government Departments, Official bodies and all interested individuals are invited to write for information to:*

**STRATTON & CO. LTD.**

EDDYSTONE WORKS, ALVECHURCH ROAD, WEST HEATH, BIRMINGHAM, 31  
Cables: STRATNOID, BIRMINGHAM

Telephone: PRIORY 2231/4

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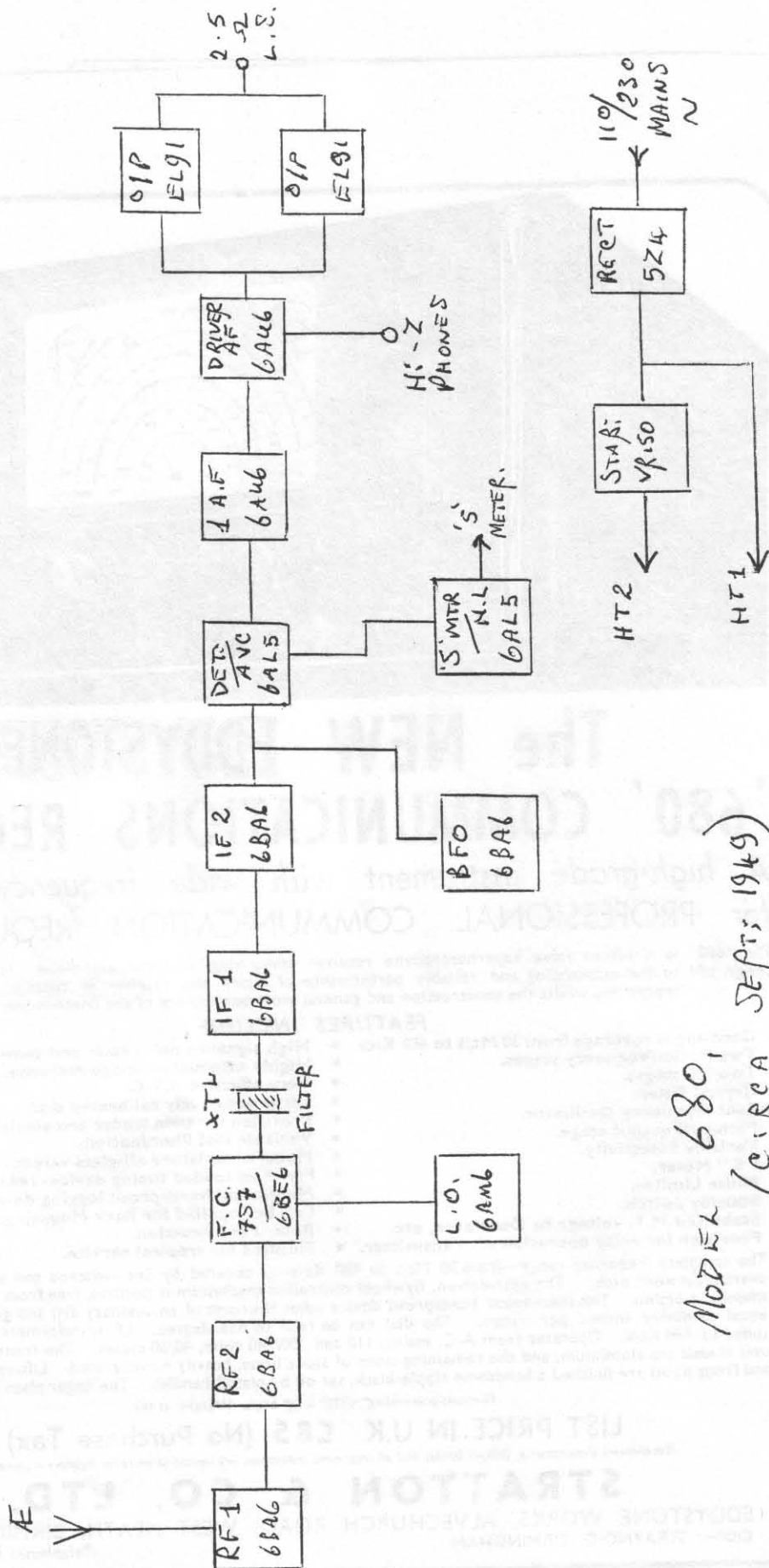
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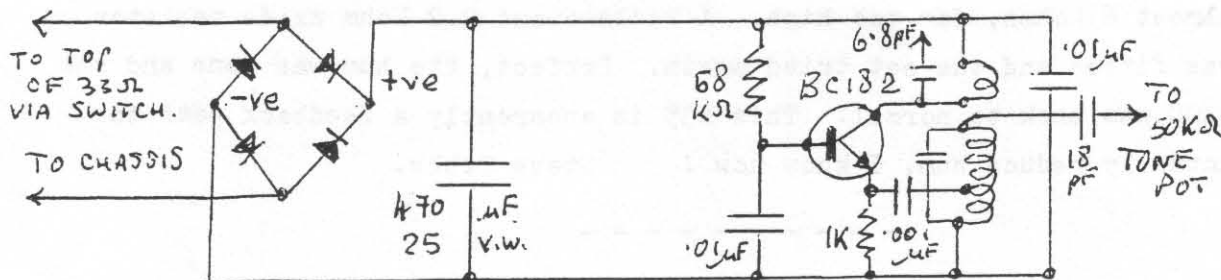


MODEL 680, (circa SEPT: 1949)



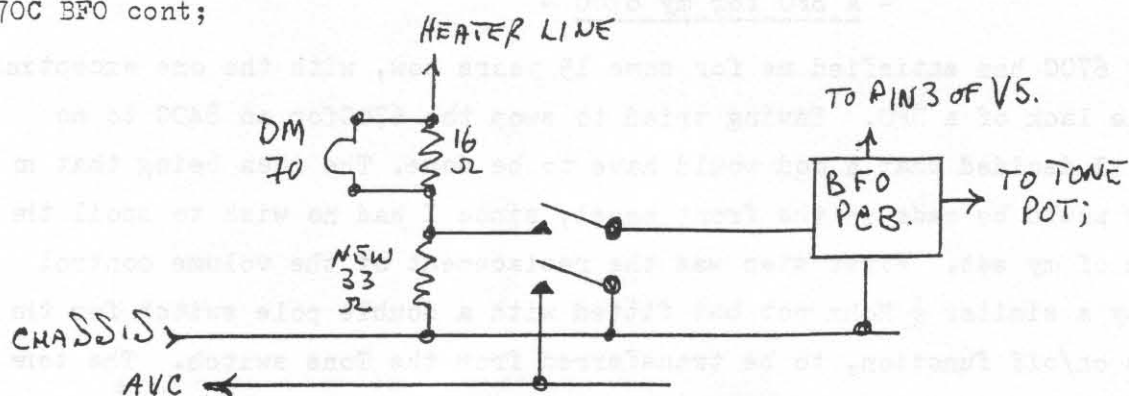
- A BFO for my 670C -

- My 670C has satisfied me for some 15 years now, with the one exception of the lack of a BFO. Having tried to swap the 670C for an 840C to no avail I decided that a mod would have to be done. The idea being that no holes would be made in the front panel, since I had no wish to spoil the looks of my set. First step was the replacement of the volume control pot by a similar  $\frac{1}{2}$  Mohm pot but fitted with a double pole switch for the mains on/off function, to be transferred from the Tone switch. The tone switch is never used by myself and was disconnected from the output transformer - a 0.001 and a fixed 68 Kohm was substituted to provide a suitable tone shaping circuit to my personal taste. The Tone pot and combined double pole switch will now become the BFO tune and BFO/AVC on/off control in conjunction with the following mod. The heater line goes to chassis after feeding the tuning indicator DM70, which is paralleled by a 16 ohm resistor. Disconnect the lead from the DM70/16 ohm which goes to chassis, insert a 33 ohm 5 watt wirewound resistor from the DM70 lead to chassis. Next job is to construct the simple transistorised BFO on a piece of perf board, this when tested outside of the set can be mounted to the inside face of the front panel casting close to the Tone pot. The double pole switch on the Tone pot is now used to earth the AVC line when in the ON position using one pole, and to connect the @ 3 volts from across the new 33 ohm resistor to the diode bridge which supplies the very minimal need of the BFO circuit, just a few milliamps in practice. Tuning of the BFO is the catchy bit. A fixed 18 pF in series with the 50 Kohm Tone pot is used to vary the actual frequency of the BFO circuit slightly, enough at least to be able to zero beat an SSB signal at least. The bits for the BFO cost nothing, an IFT from a scrap tranny PCB, a BC182 from the junk box, but any other general purpose type will do. Whilst not being in any way a 'pro' job this mod does enable me to listen to the many amateur and utility stations which are audible on my 670C. Len Davies.



P.T.O.

670C BFO cont;



- Hum Problems with an 840C. -

- The receiver had been bought recently and over a period of several months the hum had become more noticeable, to the point where it was now a distraction. First thought was the electrolytics in the power supply filter, a dual 32 mF at 350 DC working. This was left in situ but disconnected whilst a replacement was tried, made no difference at all to the hum and so the original was reconnected. Next on my list was a check on all valves for heater/kathode leakage, swopping the UL41 did make a slight improvement but the hum was still too loud for comfort. Using a lead with crocodile clip at one end and a meter probe at the other I went down the valve line-up from output to RF amplifier, in that order, earthing the control grid of each valve. The hum cleared completely when I grounded the pin 6 of V5, but only at this pin and the pin 6 of V7 the UL41. This seemed to locate the cause of hum as being between pin 6 of V5, a UAF42 used as audio driver and detector and the output of V7 the AF output valve. All the DC parameters were as per the list in the manual, I began checking the various passive items. Fixed condensers and resistors. The only item that showed any disparity with its marked value was the 2.2 Mohm - R35 - which goes from UL41 anode to UAF42 anode. This was removed and measured out of circuit at almost 6 Mohms, far too high. A replacement 2.2 Mohm oxide resistor was fitted and the set tried again. Perfect, the hum was gone and the 840C was back to normal. This R35 is apparently a feedback path to actually reduce hum, I know now ! Steve Tibbs.

- SFERICS -

- Gavin has got hold of a very badly 'cannibalised' 870A which he is starting to restore. All external and mechanical is fine, the problems start on the chassis. Somebody has been giving the gremlins a helping hand here, a number of the paper type decoupling condensers have been chopped out, no doubt they were, or were suspected of being, duff. The state of the IF and RF cores was pathetic, looked as though somebody had had a go with a street pneumatic drill. ALL need to be replaced & a source is being sought. The mains filter choke had been bypassed, although it tests out okay and no reason can be seen. The fuses in situ were genuine 13 amp type !!! A case of 26 times overkill ! So  $\frac{1}{2}$  amp types were fitted as per spec; The aerial IF filter on this model is a series LC type put across the aerial input to earth (if used on unbalanced LW aerials). For some reason it had been turned into a parallel LC circuit and put in series with the RF input, won't work this way & so was rewired correctly. The internal speaker had an O/C speech coil but had been left in situ, with a twisted pair led out for an external speaker. A suitable replacement has been fitted but he is hoping to get the original rewound. The 5 volt dial bulbs had been swapped for some 8 volt types (? unusual), these were replaced. A silicon diode type 1N4007 had been wired in place of the 35W4, although this was left in place, with the anode wire dis; The valve was AOK on test so why the mod I know not. R12 the 2.2 Meg which has been the cause for a lot of comment in past newsletters, goes from anode to anode of the AF and O/P valves, had been swapped for a 1 megohm of very low wattage, the PCB type of 1/8th watt resistor !!! Why on earth do these 'dabblers' do such things ??? A lot of tidying up still to be done but the set will soon be on the air again.

- Comments from Dave re his 680X, he has decided to fit all new toggle switches and was worrying over sourcing the beasts. Turned out that he got them all in one go from Electrovalue. His reason was that one of them had gone intermittent, with age. Most likely the 'guaranteed 1 million' operations had expired !

- I like THIS, Allen had an intermittent somewhere in his 840C & finally got fed up with 'thumping' the cabinet each time that the BFO failed to come on line. Being a brave type he got the set opened up on the kitchen table one saturday afternoon when the XYL was out shopping. The problem was immediately visible, V6 the BFO valve, a UAF42, was hardly seated into its socket, whether it had been removed at some time and not pushed fully home, or whether vibration had worked it loose, who knows. Anyway one good working BFO now.

SFERICS cont;

- Bryan wants to know why he has had to replace the two wirewound resistors in the anode feed to the rectifier valve of his 940 ? For a second time in 3 years they were both O/C. Maybe the fact that you have your 'shack in the garden shed' as you say. These are the green vitreous enamelled type are they not ? they ARE prone to attract damp when cooling down, this causes corrosion, if one goes then the other will be overloaded, as will that anode of the bottle ! Try and get a couple of 'sealed' types as often used in 'teles'.

- Another 940, another 'different' fault. Mark says that there was some AF distortion when the set was fired up after a 6 month break. (hospital !) It turned out to be a leaky 0.01 mF which goes from the anode of V11, one of the P/P output valves, to R70/71 thence to the phone socket.

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 \*-Free Members Ads.-\*

- SELL, Eddystone 770U Mk2/2 in Fair/Good condition, £85.00 cash, Ring Alf on 0121-475-8647 in first instance. (B'ham area).

- WANTED, RF/IF knob for model 990U receiver, please ring John Martindale on 0838-200304, or write him at John Martindale, GM8MLH, Alt-na-Feidh, Argyll, PA33 1AA.

- SELL, 830/7 in good condx, £100, Also Navico AMR1000, 2m FM at £120, and Marconi Sig; Gen; TF995A/2 in GWO at £50, contact G3AZW, Alec on 0225-752-655 (Trowbridge area).

- WANTED, anybody in Northern Ireland selling off either a Marconi ATLANTA or an 830/7, contact James Reilly, 9 Churchill Cresc; Ballymacconnell, Bangor, N.I. BT20 5RN.

- SELL, model 1830/1 with manual, in cabinet and as new condition, £295. Ring Mike on 0742-585937, (Sheffield area).

- WANTED, manual for Marconi ATLANTA receiver, buy or borrow, Mike on 0742- 585937.

- WANTED, all models of Eddystone receivers, in particular EC10s, EB35s, 960, 870, 870A, diecast speakers, pillow speakers, edometer, etc; For cash and collection possible. Contact Peter Lepino, 0374-128170 anytime, or FAX on 0372-454381. (Surrey).

- SELL, model EC10 mark 1, battery model with handbook and circuit. Make me an offer please ? K.J.Barry, 3 Whitegate Court, 195 Whitegate Drive, Blackpool, FY3 9EW.

- The Model 400. -

- Queries from one member re this set, 'what is it?'. Well it is basically a version of the S 358 receiver. There is a 400 and a 400X as with the 358 and 358X (with crystal gate filter).

- Externally it can be distinguished from the 358 sets by its lack of the HF ranges on the dial plate. It covers just 130 Kc/s to 2.2 Mc/s using a set of 4 coils. These were an economy version I guess and were for use by coastal shipping when HF radio was never in use. The 358 series being for 'High Seas' vessels.

- No reason to turn up your nose at one though Gary, fact is they are somewhat less 'available' these days than the 358s, mind you even these latter are rare enough today. There are just 7 members who own up to having a 400/400X in their possession so I guess that they are one of the rarer models for EUG members. For £30 you may as well get it and be one of the 8 members, a sort of 'elite' group within a Group.

- The 504. -

- David has asked about this set, it was the general coverage foretunner to the 640. Meant for professional users mainly but some did get into amateur hands. Coverage was from 600 Kc/s to 30 Mc/s in 5 bands using a conventional 10 valve circuit, but with 2 RF amplifiers. It is pretty rare amongst members with but 17 of them known to me, plus a couple of the 556 broadcast version.

- It came out in 1946 first of the general coverage models after WW II. There was also a battery version of the 556 called the 556/B.

- The 680.-

- Although the Company advertised this as an improved version of the 504, it was in fact a completely new receiver and bears little resemblance either internally or externally. Judging by the serial number of yours Mike it was an early one, there were 680/2 and /2A versions for New Zealand P & T but only differences were in sockets and knobs.

- The 940.-

- The 940 HF appears to be just the same as the '940' Donald, at least I know of no variations in this receiver. Am pretty sure that

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cont;

if there are differences then somebody will write in to let us know. So keep an eye open for the next issue.

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- Filter problems with an EC10. -

- Ian has an EC10 which sees frequent use on CW, since his most favoured listening is the 20 metre amateur band. Recently he has noticed some degradation of the performance of the switched filter in the AF stages of his EC10. Not having the necessary savvy to dig into the guts of his much loved receiver he enlisted the aid of a more technical member, luckily living just a bus ride away.

- After some component checks on the area around the filter circuitry it was decided to chop out the C76, a 0.1 mF condenser and to replace it with an equivalent value polystyrene type. At the same time it was found that C78, a 1.25 mF electrolytic type was leaky and so this was swapped for a similar one but rated at 25 volts working. It was important to observe the correct polarity of this last item. The EC10 seemed to be completely rejuvenated and its performance on CW was back to normal. C76 when checked was found to be slightly leaky, but in a high Q circuit like this, even slight leakage was enough to downgrade performance.

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- Silver Mica Condensers. -

- Dave bought some at a recent rally, various values but all apparently new and unused. New is a misnomer since they were probably old stock, the brown waxed type ! On a 'C' meter that was first checked on some recent manufacture ceramic types, he checked out the silver micas, most of them appeared to be a bit on the low side of their rated value and tolerance. Some tests were done for leakage on a tester which produced some 280 volts across as a test voltage. This is where the surprise came, for all showed some slight degree of leakage at this voltage, yet they were all marked as 350 v.w. As an experiment the wax coating was removed and the item tested again. Still a little bit on the low as regards capacity but NO leakage. The only conclusion is that the wax had become hygroscopic with age. They were redipped into boiling wax and a retest showed that they were still okay. Wonder if this is the answer to the problems with all those leaky caps ?

-The EC10, a modification.-

- The AF filter for CW use on this model is fixed to 1000c/s but for many CW operators this is too high for comfort. Many prefer a lower frequency of from 450 to 700c/s. A simple mod can be done to the EC10 filter unit to provide this lower frequency and consists of no more than a suitable fixed condenser put across C76, the original resonating condenser. A 0.15 mF across the original 0.1 mF will give a pass frequency of circa 600 c/s.

- 740 modification.-

- To protect your mains transfo if either C57 or C58, or both of them decide to go down. A 3.5 volt bulb rated at 200 mA wired in the centre tap to earth will act as an HT fuse. A short on the external supply plug can also cause excessive HT current to be drawn, again the bulb will blow.

-670 modification.-

- Disconnect R4 from the AVC line and take it straight to the chassis. On the HF ranges this will reduce distortion on the fading signals. R22 should be 1 Mohm, it can and does go high, on one set it was over 2 Mohms. Check and replace if high, to cure distorted AF output, at the same time check its 'twin' R33.

-Chirpy CW on an EA12.-

- Don't blame the incoming signals. This is always the first tendency with chirps, instead substitute another EC90 in the V5 position. This is a recurring problem on a number of EA12s.

-AM/FM Tuner unit, 820.-

- The Belling type co-ax sockets as used on this model for the AF P/U input and the AF output to amplifier mean making up custom leads & have been known to get noisy with age. A direct replacement 'phono' type socket can be bought at most rallies, this will also enable the use of 'shop' leads.

-The 880/2 model.-

- Low gain or non-operative on one or more ranges, okay on others ? A definite possibility is a low activity crystal, or if you are lucky just green mould on the socket/crystal pins. Open up the crystal box in the 880, pull out crystals one by one, (to avoid getting them back in the wrong socket), clean pins and socket with a brush

and some switchcleaner fluid, but avoid breathing the fumes. If this does not produce an improvement then a new crystal is called for, it might be an idea to build a simple crystal activity checker, a good crystal can show what level is actually needed, a bad one what level is unacceptable, mark the scale at these points. A circuit is shown in this issue. Do only remove one crystal at a time as Gremlins will jump at the chance to 'help' you in replacing the crystals in the wrong sockets afterwards. \_ \_ \_ \_ \_

- EB35 & EB35 II.-

- Distorted AF output, try C83, a 10 mF electrolytic, if leaky this can cause a bias fault on TR7. Known to have happened many times so fit a 25 volt type. Also - SW signals heard when offtuned from an FM station, on FM. This is indicative of the IF rejector circuit being off tune. This 10.7 Mc/s tuned circuit is in the FM aerial input, use a signal gene; to retune to 10.7 Mc/s.

- 680X 'S' meter fault.-

- 'S' meter non-operative ? then go for V13, a 6AL5/EB91/D77 type which for some unknown reason decides to do an 'open-circuit' heater fault. One member has replaced 3 in 5 years. Reminds me of the EB34 which has/had a similar reputation. There must be something in this since so many people report it. \_ \_ \_ \_ \_

- 888A output fault.-

- No/ intermittent AF output on this model ? The phones jack had to be fitted on the side of the front panel casting, lefthand side from the front. Due solely to lack of space on the front panel I imagine. Check whether it is slightly loose in its hole, has it rotated slightly thus shorting to the casting one of the lugs ? Re-orientate and re tighten the fixing nut. Have not had this myself but when I heard from a member I found it easy to simulate on the bench, same goes on those 770 series with jack in the same place.  
\_ \_ \_ \_ \_

- Narrow Selectivity on 830.-

- Must be a couple of letters a month re this 'missing' facility on the 830. Check first to verify that the microswitch, actuator arm and crystal are still there. In many sets there was a special Piccolo filter fitted and this will have been removed before disposal. If all is there does the arm operate the microswitch ? if not re-adjust and tighten the grubscrew. \_ \_ \_ \_ \_



- A Shocking Experience.-

- A recent 'happening' for Tony Ralfe was that shocking experience mentioned above. He had been doing some minor repairs to the station receiver, a nice-looking but venerable 504 model. The telephone had rung downstairs and Tony trotted off dutifully to answer it, leaving the mains on, with the 504 out of its case and upturned on the bench. Having told the importuning telephone ad person what to do and where to go, he came back and stood looking at his 504. Seeing a small piece of 'systoflex' sleeving lying on the terminals of the transformer - not realising that he had left the power on - result was a 220 volts jolt which sent his elbow back with a jerk, knocking over the bench light in the process. DO check that power is off before you put your fingers into a set.

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- The Q-Fiver with a Model 740.-

- If you are an Old Timer, Wrinkly or similar then the term 'Q-Fiver' will be familiar to you. The commonest version was the U.S surplus BC 453 command receiver with a coverage of from 190 to 550Kcs. Used as a tunable add-on I.F/A.F strip this 'goody' was available at prices of from 30 bob to a fiver. In it's original state it was an airborne receiver running from a 14 volts or 28 volts dynamotor which gulped the amps like a gannet gulps fish. The fact that the frequency band covered included the commonly used I.F frequencies, 450 to 470 Kc/s meant that a whiff of I.F taken from the station receiver could be fed into the aerial input of the BC453, the additional six valves being used as the tunable I.F/A.F stages now. I can remember using this with various models of comms receiver in the 40s/50s era, the HRO-M, the 840, the WS18 receive section even.

- Point of the story is that a 740 plus BC453 Q-fiver was recently acquired by one member of EUG. Terry says that the whole station came to him in working order, 740, BC453, ex WD ATU, Class D wavemeter and a 6V6-807 crystal controlled 7 Mc/s CW transmitter. Cost is another surprise - he was asked £25 to charity for the lot. His aim is to get the station on the air again as soon as possible, the receive side is already working.

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- Real D.I.Y in the 1930s !!! Eddystone was in there !!!

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The T. & R. Bulletin.

November, 1935.

## WHEN YOU WANT THE BEST—



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## POPULAR TELEVISION

By  
**H. J. BARTON CHAPPLER, B.Sc.**

**T**HIS book tells you all the most interesting facts about television. The author is a leading expert who knows all that has been going on behind the scenes, and in this book he gives a fascinating account of the televising of talking pictures and many other recent developments. The book contains over 40 illustrations, including photographs of actual work in the

- SFERICS. -

- Why NOT use a 6V6M in the output of my 640 ? Why buy a new 6V6GT to replace the one that had gone soft, when I had 3 perfectly good 6V6Ms in my valve box ? It was a simple matter to remove the components from pin one and leave them floating, the solid wire will be sufficient to hold them in place, pin one is now taken straight to chassis. That is IT, nothing more to do and I can now use my metal valves or, should it be necessary use G or GT types at will. I see no reason why the same cannot be done for the EB34, if you have the 6H6M then use them.

- Just a note from an Eddystone manual, if you do use the type 6K7 to replace the EF39 where specified, then expect some slight reduction in gain, use more than one then double the reduction of course. Similarly I would expect the same to happen when you use an ECH35 for the 6K8 specified. ( some will argue with me on this last one, so suck it and see).

- Noisy BFO when tuned to zero beat can be a leaky coupling condenser, try C61 in the 840C, or C66 in the 640, fit a ceramic or mica type here.

- Wonder if any of the Australian or N.Z agents still exist ? In the 40s and 50s the following sold Eddystones,- Bob, R.H Cunningham, P.O Box 5433, Melbourne, Vic. - Len Arnold, Arnold & Wright, Arnile House, 210 Willis Street, Wellington, NZ.- David Reid Electronics Ltd, 33-35 Ravene Road, Birkenhead, Auckland, NZ. Anybody out there know anything on these ?

- How to cure computer hash (mains borne), in one easy lesson. It was done by feeding the 659 receiver via a double wound isolating transfo, of course it will work with any set IF the QRM IS mains borne.

- Another plus for feeding the AC/DC models from such a transfo is that by running the set on the 110 volt mains tap you halve the power consumption (by cutting out the wasteful mains dropper).

- EUG badges ? have you got yours ? they are still available. Get mail from members regularly saying they have met up by wearing the badges at rallies, even some odd places like the parents meeting at a local school, they live just half a mile apart but never knew both were EUGers.

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- SFERICS. -

- QRM free CW ? try a piezo electric sounder on the phones output of your receiver, tune the BFO for maximum signal (the resonant frequency of the sounder), gives a nice clear signal easy to copy.

- For serious servicing do not rely on your sig gene, they are rarely sufficiently accurate for calibration. A crystal calibrator is a must for this, preferably a 1 Mc/s plus 100 Kc/s type. If you have several sets, one with a calibrator, then this can be used to calibrate the others, probably enough pick up from the aerial socket of the one with the calibrator.

- Dropper resistors, for some reason it always seems to be the top winding that goes, well from memory this seems so. If a spare cannot be found then run your set on the 110 volt winding with a 120 volt 40 watt bulb in series as a desk light, no not my idea this it came from a member who has successfully done just that for several years with no problems.

- A superior 'Q-fiver'. Well it must be, this member uses his 940 fed from the IF into his 850/2 which is tuned to the IF signal of 450 Kc/s. gives him a variable tuned IF strip in effect.

- Hollow state versus Solid state ?? Well one member has had the front end of his 'Frog' blown three times by spikes from the aerial, he does live high up and exposed. He has resurrected his 680X and sold the 'Frog' is now looking for a 940 too. (I would have tried to remove the chance of lightning spikes by shunting the aerial with diodes).

- Kathode voltage measurement is best 'Tell-Tale' for any stage, if it is not as per spec; then something is wrong on that stage, try a spare valve if available before trying passive components.

- 960 model, this first semicon model, a dead ringer externally for the 940, the early versions of the 960 had a different local oscillator circuit, mod was done to increase injection volts on HF ranges. Also later versions had 'select on test' resistors on wafer S1K, also R24 in the emitter of Tr5 is select on test, circa 390 ohms.

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- No Marconi Group. -

- Having heard from the Archivist at Marconi PLC just recently with regard to the compilation of a list of comparative numbers for the badged models sold to them by Eddystone, I can now say that he is looking into this and has promised to report back to EUG. The same letter contained an answer to that question which so many people seem to be asking lately. Roy Rodwell says that to his knowledge there is no such group of enthusiasts/collectors for the Marconi/MIMCO products as we have for Eddystone. From the horses mouth that answer, so now all you need is somebody who is willing to devote 99 per cent of his waking hours to the setting up and running of a Marconi Users Group (MUG ?). I know many of you have collections of Marconi/MIMCO receivers but do please think before you jump in there, I have a couple myself, both domestic Marconi and ex MOD Marconi and so I would become a member myself. No reason why an announcement for such a group cannot go in this newsletter, let me know.

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- 730/4 Product Detector. -

- Just a reminder that the circuit shown recently for this mod can in fact be built and fitted to other models which lack the SSB detector circuitry, one member has been using it in his 640 for many years, with great success. Another has begun to construct the PCB mounted circuit for use with his 750 receiver, and promises an item for the newsletter when the job is done.

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- A 'Re-aligned' EB35 II. -

- Stan bought this set recently, with both battery box and mains PSU, tried it before purchase on 'a bit of wire' and was happy to pay the asking price of £45. It was only after getting it home and trying on the doublet aerial at the QTH that he realised something was very definitely out of alignment somewhere. Whilst the major stations on range 4 and 5 were on calibration near to the centre of the scale, at the extreme ends it was a very different case. And on range 2 there seemed to be low sensitivity throughout the range.

cont;-

cont;-

First checks were done on the AF stages and the gain seemed to be okay, another EB35 II was borrowed as a comparison. The IF was a mess though, both gain and selectivity were way out of spec; the centre IF frequency seemed to be around 445 Kc/s whilst the spread was about 30 Kc/s for -6 dbs. Funnily enough the FM was fine, plenty of gain even at 108 Mc/s where the EB35 can sometimes be a bit deaf.

It was apparent that somebody had been 'twiddling' the IF cores & so a complete re-alignment was done, no doubt that a 'by ear' job had been attempted previously and this was the cause of the spread.

The IFs were calibrated and re-aligned using a 465 Kc/s crystal oscillator with an attenuator, it was easy to get them up to the specified figures and a check over the combined IF and AF stages showed that despite its age the EB35 was still okay.

Next came the RF stages, again it could be seen that the 'demon twiddler' had been at them. The cores had been resealed with some green wax, this had to be removed first so as to get to the hollow cores. Surprise, there was only half a damaged core in the RF coil on range 2, a good reason for the lack of gain. Sensitivity on all ranges tapered off from about the middle of the scale towards both ends, yes, it looked like they had simply been set for maximum signal with the pointer at mid-scale. The RFs were re done from scratch, with range 5 being the first, no problems at all until I got back to range 2, no amount of back and forth adjustment would bring it into calibration. The core was removed from the oscillator coil and it was found that some broken off pieces of core material were loose inside the former. Seems that the original damaged core from the oscillator coil must have been put into the RF coil, possibly with the idea that it would matter less ! When the bits were extracted and calibration was resumed - no further problems.

The FM tuner was found to be untouched and so nothing was done to it, performance being up to spec; anyway. This EB35 II is now working very well on its mains PSU, in daily use and giving much pleasure.

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- Terminology. -

- I suppose that Grandad would have thought that this referred to the subject of the many varied types of screw-on or spring loaded terminals that were so common on the older sets. Makes me think that I am getting obsolete myself though when I read, as I did in a recent hobby magazine, the phrase 'recovered audio spectrum' and 'adjustable primary stage attenuator'. These referring respectively to what we in EUG call A.F output and R.F gain. Reminds me of a homemade plywood box holding a basic 5" speaker for use with a 740 receiver, the owner had carefully stencilled the name 'aural transducer' across the front of the box. I think it is a case of sticking to basics for EUG.

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- Out of Band Signals.-

- One EUG member has acquired a nice looking EB37 receiver, did not cost him a penny as the former owner is a silent key. He had previously been used to a model 670 and says that the EB37 is a delight to use on both the MW and SW bands. One problem he has is that a number of the well known broadcasters, BBC, RCI, Kol Israel etc; appear on the dial in the wrong places. At least they are on frequencies which are not listed in his SW station guide, nor are they in the published 'metre bands'. As an example he quotes the appearance of Kol Israel on about 18.45 Mc/s ( on the dial). Now it would seem that this is a fault in the EB37 caused by incorrect alignment of the RF stages. The local oscillator is higher than the signal frequency by the value of the IF, should the RF and Mixer stages be misaligned it would be possible for the Kol Israel transmission on 17.545 to come through on the dial of the EB37 at about 18.475, ( i.e a difference of 930 Kc/s or twice the I.F.). Only suggestion is a complete re-alignment by somebody who does know how to do the job, and more to the point has the correct test-gear. Any attempt to do the job without the necessary knowledge and gear is liable to make things worse.

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- EAL2 in exalted company.-

- I wonder how many EUG members spotted the EAL2 'dream machine' in those RADCOM photos of the April 1993 issue. Photos showed G2DQU, Lord Brian Rix accepting a cheque for Mencap, with the EAL2 on a shelf in the background. The EAL2 can be seen at Lambda House in the RSGB equipment collection.

- Not enough space for an Aerial ?.-

- When Dave moved from his country QTH to a flat in town there was no question of leaving his 750 receiver behind, there was a question as to what would replace his 132 foot long wire since no garden was available, nor loft. Being on the 3rd floor of a building did mean that he had one of the requisites for a good aerial - height. After several systems were tried out once that he had got himself settled in with the 750 just a few feet from a window. His third attempt brought what appears to be a satisfactory aerial system and this enables him to hear most of the stations that he used to monitor at the previous QTH.

- A 30 foot length of black PVC insulated wire is led out through a small diameter hole drilled in the window frame, this wire is then led down the wall to a tie off point about 6 foot from the ground, actually a water pipe. The wire is held out from the wall by two 'stays' which fitted into handy gaps in the mortar, the 'stays' are actually old Bic pen cases. Nothing fantastic as Dave admits but it has got him back on the air with his 750, the only area where performance is definitely downgraded is on the lowest frequency range, in effect he can no longer hear any of the transatlantic MW signals. QRM was expected to be a problem after all the horror stories heard about town QTHs. There is some hash which comes on in the evenings, but since a lot of listening is done during the day that is no real problem, attempts are going to be made to verify whether the QRM is reduced with a resited aerial but tests with a portable radio show that it appears to be of similar strength all around the QTH.

- Replacement Thermistors for your AC/DC model ??? -

- Maplins sell the them I am told, but if you get the Electromail catalogue you will find the TH3 listed and it is a replacement for the CZ3 !!! These catalogues also have toggle switches, rotary and slide switches too, well worth having in the shack.



- WHY ? WHAT IS IT ? -

- The question, or questions, were asked recently. Why do I like these Eddystones ? What is it about them that makes you so keen ?

- Until then I cannot say that I had stopped to actually consider why I prefer Eddystones to all those other makes of radio out there. I have since then decided that it is something to do with looks and personality, quality also. I doubt that any of you members will deny that an Eddystone, any Eddystone looks good, be it in your own shack or on the stall at a rally waiting for it's lucky new owner. (YOU maybe).

- Personally I prefer the older valve types - a case of having grown up with them, and finding more pleasure in delving into their 'innards' to cure that elusive fault. Oh sure, they do go faulty now and then. More often than not I find that the fault is as a result of some inspired DIY work done by a former owner.

- I like the large, unambiguous dial and clear scale markings, which soon become familiar to the operator. So much better than the small and anonymous digital readouts, with so many bits of information crammed into a few square inches (do you need a digital display to tell you that the BFO is on when you can hear it, see the switch is down, and know you just put it on ?).

- Ease of repair ? Oh yes I love this. So very much easier to fix than say an R2000 which needs an electron microscope to examine. How simple it is to swop a 6K8 or a UL41 for comparison than to have to remove one of those 64 footed bugs, with the 64 soldered joints ! And how nice to be able to follow the colour coded wire from component to component, instead of having to trace minute PCB tracks all around the board, sometimes through plated holes.

- Tolerance ? they are very tolerant of varying input voltages, a 670A will work down to 85 volts of AC or DC - don't believe me ? then try it. At the other extreme I found a 680 which had been left on 120 volts input tapping had survived easily being plugged into a 240 volts supply, no damage and still working years later. Try putting one of your modern Black Boxes set for 12 volts onto a 24 volts supply, the fuse might blow but more than likely some of the 3 legged fuses would go first. How about running it without the speaker connected ? no problem there if you do not go away for a fortnight in Majorca whilst it is left on. Try it on your solid state HiFi and you will likely acquire a hefty bill for new output devices. Input tolerance ? Well did you ever hear of a 940, or any other valve type which had a blown front end from static build-up on the aerial

feed-line ? Those 'bottles' in your Eddystone are practically immune to any EMP coming to it via the mains, the aerial or the atmosphere.

- Sprogs ? Do you know of any black box receiver which doesn't have any sprogs throughout its range ? Very rare indeed even on a, so-called, high quality set. I cannot ever remember finding any of my Eddystones which had an internally generated sprog. (Somebody told me that a sprog was the legal issue of a union between a RAF type and a WAAF).

- Audio Quality ? well you only have to listen to a 750 or a 940, not meant to be HiFi but the sound quality is unmistakable. Try it alongside one of today's plastic beasts, and remember we are talking about Communications receivers.

- Each model has it's own individual personality, each model has its own devotees. I know of members of EUG who have stuck to the same model for many years, no wish to 'update' to a 'later' model. One member is on his third 680X, yet still has the other two tucked away.

- Immunity from QRM ? Well despite what a well-known magazine editor recently said, ' cannot operate my 888 on the same bench as my computer', they are better than many of the plastic cased receivers around today. An Eddystone in its steel case, properly earthed, is better able to deal with locally generated QRM than a modern plastic cased set. For one example of this assertion let me mention my 840C which was able to operate next to an extremely noisy 'Beeb' computer. Apart from a filter in the mains input lead I had to use a separate 'ground' earth in the garden and a co-ax aerial lead-in. Result ? no hash QRM at all.

- Sure, the older Eddystones do lack all those whistles and bells that one pays through the nose for. But do you need 1000 memories ? Do you need it to go 'beep' every time you touch a button ? Most people soon remember their favourite frequencies, and know where to look for their favourite signals. Everybody can tell he has gone up 1 Mc/s without the 'beep' to tell him - the cursor has just gone up one meg ! Nuff Sed !

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- Solar Power is Here ! -

- Having recently acquired a 9 volt, 50 mA (in full sunlight), solar panel from Manlin, at a cost of just £9.95. I decided to test it with my EB37 which is normally run from dry batteries (6 x 'D' cells). The day was one of only fair, warm sun, with no back-up nicads the EB37 gave as much output as did the 9 volt battery supply, excepting when a cloud crossed in front of the sun. Very nice, next thing was to monitor the charge fed into an 8.4 volts nicad pack, the pack was partly discharged when tested but a full 20 mA was being fed into it, quite adequate after a day of charging to run the EB37 all evening. I now have got into the habit of leaving the solar panel in a south facing window during the day, the nicad pack is quite happy to run my EB37 all evening from this free power supply, no fuel pollution and no polluting batteries to buy and then throw away. A 30 watt, 2 tranny DC to AC convertor can supply enough power to run an 840A (tapped on 120 volts), from a 12 volt battery, which can be charged from a somewhat larger solar panel ? GREEN POWER and EDDYSTONES together.

- Computer Hash -

- So much of members mail mentions this bane of present day life. I believe that this is one situation where the regulatory authorities have turned a blind eye for the sake of economy (more in the pocket of the manufacturer). The hash is always a wideband QRM generated in either the PSU or the digital circuitry of the computer. In some cases the QRM comes through the mains, in other cases it is directly radiated. Which-ever is the case the signal can radiate for a surprising distance, many hundreds of yards even. The Hash is usually composed of square waveform signals, themselves built up from many harmonics of a sine wave. They may - in the case of a PSU hash - start from a 20 or 30 Kc/s square wave which will provide you with QRM from Long Wave right up through the 2 metre amateur band. In other cases the signal coming from the microprocessor part of the computer may be either a low frequency digital signal or a high frequency crystal originated signal. Both will give you 'bands' of QRM throughout the LF HF and VHF ranges. What to do ? That is the big question. Well a first step is to locate - if unknown - the source of the QRM. All QRM is more easily suppressed at source, so do remember that. If local and 'personal' then the problem is yours and easy to deal with. If outside of your control then apart from an appeal to the good nature of the owner, you must consider ways of combatting the QRM at the receiver. If YOU are the owner then find out how the hash is being propagated, one of three routes, mains wiring, intercoupling signal leads, or by radiation

either direct or into the aerial system. You must find out which route, it may be a combination of two or more, so much harder to cure. Let us start with mains carried Hash, cure it by installing a mains filter at the source, and maybe also at the receiver end. The filter will be most effective if it is installed right at the computer end of the mains lead, and at the receiver end of the mains lead, either a complete ready made filter can be bought or you can make one up from RF chokes and parallel condensers (suitable voltage rated and of the 'X' or 'Y' type). Intercoupling leads carrying either DC or AF signals from the computer to the receiver or vice-versa can be filtered in a similar manner, lower voltages being used here the components used can be miniature PCB types. Earthed screen leads MUST be used here, and the screen should be earthed at only one end to prevent earth loops. Lastly we have radiation, by far the hardest to eliminate this since so few of the computers on the market have internally screened cases, you can try the nickel content aerosols which allow you to spray the inner side of the plastic case, it must then be earthed of course. This should make a big reduction in the level of received signal and so next stop is the receiver. Eddystones have one big advantage over many modern sets, they are completely screened in a metal case so that no circuit pickup can be made through the case. This leaves us the aerial and earth system, don't ever hope to cure this kind of QRM without a good separate earth on the receiver, you cannot. The aerial, no matter what type needs to be situated as far as possible from the source of QRM, preferably out of doors. It must also be fed to the receiver via either a screened download or be a balanced type with a twin balanced download, which may or may not be screened. The screen and the case of the receiver should be taken to a genuine 'ground' earth and not to the mains earth system, (usually the neutral lead in most mains supply systems today, and a prolific source of QRM). You will find that if all the above steps are taken, then your problem will have been considerably reduced to a workable level. If you are very lucky it will have disappeared.

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 - Index to the Newsletters ??? -

- A suggestion from member Peter Walker that he might produce an index of all past Issues of the EUG Newsletter, I know that I would appreciate a copy myself as it would save me a lot of time looking up items. Further on this matter when I hear again from Peter, WATCH THIS SPACE !

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- The Faults Listing.-

- Very nice to hear from so many of you're this, and to know it has been and will be appreciated. From your mail it seems that many of you have had problems such as outlined in the List. An update can always be sent out next year, or when ever, so if you come up with other faults and other cures please do let us know !

- Unpaid Subscriptions.-

- It had to happen, a few letters from ex members, asking why no more issues of the Newsletter have come their way lately. SIMPLE enough is it not ? HAVE YOU PAID YOUR SUBS THIS YEAR ???

- Model 680, Different Versions.-

- YES, there were two versions of the 680, no outside identifying suffix to tell you though. The early sets had a fairly hard to get 7S7 valve used as the local oscillator, later versions used the B7G type 6BE6 in the local oscillator position. No circuit parameters were changed by the swop, same sensitivity/selectivity etc; on both.

- There did also exist a 680/2 and a /2A model but both apparently were specials for the New Zealand P.T.T. ( okay now Bill ? )

- I.F Pick-up on Comms; Receivers.-

- Mention of pick-up of radiation from the local oscillator of nearby, cheap and nasty domestic sets in the last issue has brought a letter from Stan to the effect that this problem is very widespread, he has heard of a number of cases and has handled several himself. One point he makes is that it occurs only on the sets where a discrete trannie is used as the FM local oscillator, when the LO is part of an IC and using 'flea power' it does not happen - to his knowledge at least. He further says "do not suspect your well-screened Eddystone as the culprit ! It never is."

- I don't get how the LO can give you a signal on the IF though Stan ? there would be more likely a signal on the L $\bar{O}$  frequency at 100 Mc/s + !

- Various Causes of Mechanical 'Drift! -

- The analogue drive systems using either gears or cord drives, sometimes a mixture of both, could often cause drifting or jumping so that the tuned signal apparently went off frequency. What happened of course is that the signal stayed put but the tuned circuits of the receiver moved off the transmitted frequency. The 3 possible factors were a change in capacity, or of inductance in the tuned circuits of the local oscillator of the receiver, or a change in the physical dimensions in the mechanical parts of the tuning drive system.

- I have found several cases where tuning from the LF end to the HF end of the scale on such as a model 840C could actually tend to pull the whole variable condenser unit to one side, this was enough to change the local oscillator circuit capacity sufficient to produce variations of several hundred Kc/s on range 1, re stringing the cord drive with a correct length of drive cord cured this, the tension was much too high.

- Again capacity values were being changed on an EC10 when tuning from one end to another because the bearing on the end of the VC block was too slack, a jolt at the HF end could make a big change in frequency.

- As mentioned in issue 28, on this subject, misalignment of the point of attachment of the pointer itself could be the cause, this seemed more to be a cause when metal drive wire was used than when nylon was used.

- Inductance changes can occur when the rubber cord used to hold ferrite cores in place, have rotted away, a jolt to the case or simply the vibration caused by band changing can cause frequency jumps here. In several cases where physical damage had been caused to the cores when the wrong tool had been used for trimming, it was found that small pieces of the core had been broken off and allowed to remain loose in the former. The simple act of turning the set upright after re-alignment was enough to cause a big change in frequency, or alignment of the Rf stage.

- One point which is often ignored is the fact that rubber grommets or washers may be used to mount the VC block. Over the years this rubber may have rotted and the alignment of the block may be out of true, in an extreme case this was found to be causing microphony on one receiver.

- When the problem arises on the 'allgear' models it can often be traced to hardened grease which is causing friction, removal of as much as possible of the old grease, using paraffin or some other softening agent, and then re-greasing the drive gears with a silicone based high temperature grease will effect a cure.

- The best of the Valve Receivers ? -

- I get this in the mail from time to time, which was the best that Eddystone made. It is a bit like asking me what your set is worth. Mostly a matter of personal preferences. To many of us the 880 series come out tops with their linear, 1 meg scale and very low noise. Others swear by the 940 or the EAL2 - for amateur band only - or the 830 series. Really it is hard to be dogmatic about this and say this one, or that one was/is the best. For amateur bands only no doubt that the EAL2 wins hands down over the previous 888 or 888A. For GC work I lean a little towards the 880/2, yet have to admit that my 830/8 gets more than its fair share of use. This is the sort of discussion which could degenerate into a months long argument.

- The 358 in Australasia.-

- Some time back one of the EUG members mentioned that there was a dearth of the 358/400 series down under, that he believed this to be due the fact that none were ever used there by the armed forces. A recent letter from Simon Parson in NZ tells me that he actually did servicing on these models during the latter part of WW II and that in fact he can recall several hundreds being sold off as surplus in the late 50s, he got one with all coil packs which he still uses occasionally, when he gets fed up with trying to push all the mini buttons on his Yaesu with his rather large fingers.

- Mains borne QRM.-

- Having put up with this power line qrm for some years it was a delight to find that the fitting of an isolating, screened, transfo used to drop the 240 to 120 when his mains dropper resistance packed in, effected a complete cure of the computer hash, or whatever. The 670A now has a new lease of life and he is wondering whether the same thing might not cure the interference problem on his domestic radio ??? Worth trying.

- ENDIT -

- That is IT for another Issue of your Newsletter, if YOU would like to contribute please do, it can be handwritten and I will type it up, or it may be typed up in this A4 format. Many of you dislike having your name in print, understandable, okay then just say so and it will go in as 'Anon' or no attribute at all.

- One member has offered to help out other 'non-tech;' members in his area, a very good idea this. If YOU are knowledgeable about Valve type receivers then why not offer to help out others via the Newsletter ??? If I get any offers I shall start to include them in the next issue.

- Remember your next year (1995-6) subs will be due in JUNE so start to save your pennies, all subs must go to Eddystone, made out to EUG and not, PLEASE, to me personally. Practically all handbooks and circuits for Eddystone models are available, prices go from £3.00 for the thinner manuals to £12.00 for the 'thickies'.

73,

Ted.

IMPORTANT ANNOUNCEMENT

## THE HISTORY OF EDDYSTONE RADIO

THE DEFINITIVE HISTORY OF THE EDDYSTONE COMPANY IS CURRENTLY BEING WRITTEN BY ALAN AINSLIE.

A SERIES OF BOOKS WILL PROVIDE AN INSIGHT INTO THE FOUNDING AND EVOLUTION OF THE EDDYSTONE COMPANY, TOGETHER WITH THE VAST RANGE OF PRODUCTS; FROM THE WORLD FAMOUS SHORT WAVE RECEIVERS, THROUGH SHORT WAVE COMPONENTS AND KITS, TO COMMERCIAL AND MILITARY TRANSMITTER AND COMMUNICATIONS INSTALLATIONS.

SOURCE MATERIAL IS BEING DRAWN FROM THE COMPANY ARCHIVES, COURTESY OF CHRIS PETTIT, EDDYSTONE STAFF MEMBERS, AND FROM AN EXTENSIVE PRIVATE COLLECTION OF SETS AND LITERATURE.

HOWEVER, THE AUTHOR WOULD LIKE TO APPEAL FOR ASSISTANCE FROM ANYONE CONNECTED WITH THE EDDYSTONE COMPANY IN THE PAST AS THEIR REMINISCENCES WILL PROVIDE INVALUABLE MATERIAL, AND WOULD ALSO LIKE TO HEAR FROM OWNERS OF UNUSUAL EDDYSTONE EQUIPMENT OR LITERATURE.

IF YOU CAN HELP IN ANY WAY, OR KNOW OF THE WHEREABOUTS OF MORE UNUSUAL SETS, PLEASE CONTACT THE AUTHOR DIRECTLY.

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