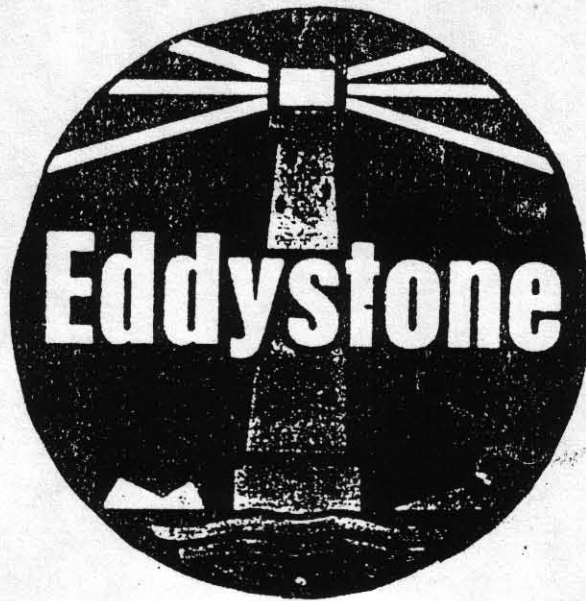
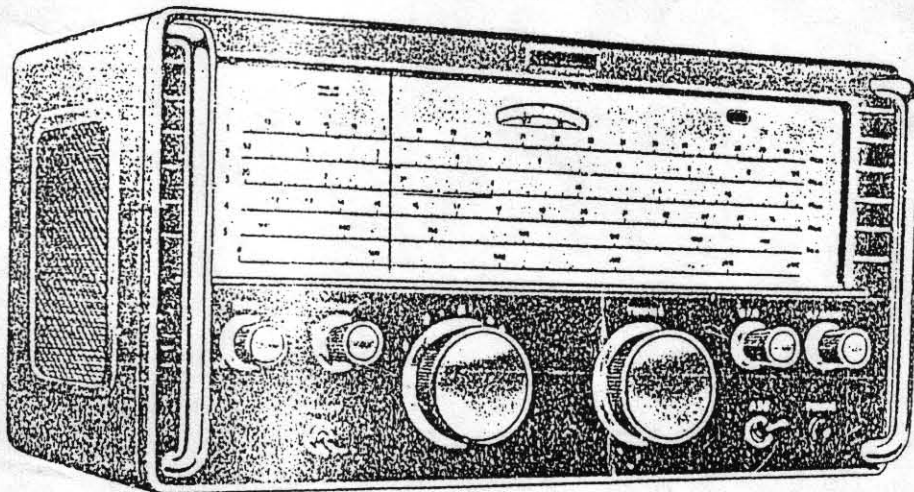


7

840c



Eddystone  
Users  
Group



ISSUE NO. 7  
MAY/JUNE 1991

Information quoted from Eddystone Co. Manuals by kind permission of Chris Pettit, Managing Director, Eddystone Radio Ltd.

Featured Model in this issue - 840c

A non-profit making newsletter for Eddystone users. Address all mail:-

W. E. Moore, Moore Cottage, 112 Edgeside Lane,  
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Well, second year of our newsletter, it must be serving a purpose since letters coming in are complimentary, even from Chris Pettitt, the Managing Director of Eddystone! Chris has given his go-ahead for us to use the logo on an E.U.G. lapel badge, more of that later, he has also sent some more of the fascinating history of the company "way back". Some of this will be in your newsletters to come. Most members from last year have rejoined, from their comments they do seem satisfied with the A4 layout, switching to A5 size seems to be unpopular with everybody. Members' ads do seem to work, as letters from several who have used them successfully prove - like ads anywhere the price must be right.

Another plus is the story included in this issue, we have received several others and they will be in future newsletters. Do not despair - your repair or restoration odyssey will be published.

Since E.U.G. membership covers fourteen countries now, if I may count Diego Garcia Isle as a country, and membership goes up almost daily, the workload is such that Kathy is doing most of the newsletter paperwork. She is coping very well and learning quite a lot about Eddystones. If you do send in any article or info for the newsletter then it would help if typed and A4 size.

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SFERICS - An 840A bought recently at a rally was giving less than normal reception on ranges 3 and 4. It was found that the link between A2 and E was missing. In effect the bottom, common end of all 4 aerial input coils was left up in the air, floating, instead of going down to earth. This can apply to any model having provision for a "doublet" aerial input.

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SFERICS - Early 840 models, and 670 models had UAF41 and UCH41 valves fitted ex-factory. Later models used UAF42 and UCH42. These can be fitted to early models, with no circuit changes being necessary. The original UAF41 and UCH41 are virtually unobtainable nowadays.

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SFERICS - Remember! Most Eddystones are tapped for 230 volt mains. If your supply is 240 it can go up to 256 volts, given the tolerances to which the electricity supply board operate. You are overloading your receiver and components suffer. In a built-up or even rural area, peak to low demand voltage swings can cause heater failure, dropper resistance burnt out or blown electrolytics. It is worth checking the actual AC voltage input to your receiver at various times of the day, morning, noon, evening. Prepare for a shock, both figuratively and literally speaking! (256 mains equates to 7 volts on the heaters).

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SFERICS - With this issue is a list, not complete unfortunately, of Eddystone models from the 1920 era through to late 1970s. If any member can add to this list please let E.U.G. know. Can I repeat that we need old Stratton or Eddystone literature, adverts or technical info for this newsletter.

HINTS - On the 940 a spare L.T.2 winding has been put to good use by one member. Making up a small 2 x 2 inch PCB with a 500 KC/s calibrator and full wave diode rectifier he feeds this via the standby switch, from the LT2 winding. S3 the St/by switch does have a spare contact, with a small wire "pick-up" probe and a 10K shunt across R.32, it is now possible to get "pips" throughout all ranges up to 30 MC/s.

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HINTS - The "41A" model in buff coloured fibreglass case, as made for the Post Office "Interference Squads" is very versatile, used as a mains/battery portable communications receiver or, as has been reported by several members for direct comparison of aerial system gain performance. It has a two decade calibrated attenuator, level meter, internal noise generator for level calibration. Birkett's did have some last year and I see that A.J.H. are now advertising them. I am still suprised by how few people know it is an Eddystone product.

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SFERICS - The "1491" mentioned in last issue, well 1.4.91 was an April spoof. To those who wrote in - Thanks. To "ex-R.A.F. Mike, No you're not the only one who never met up with an "R1491". Surprise!

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SFERICS - Where do Eddystones get to? Well, let's see -

- 680 on D.F.D.S. coastal steamer or Norway Coast Shipping Line
- 670A Tromcs Norway (D.C. powered via batteries and wind gene)
- 670 Eastern Norway vintage collection of E.U.G. member
- 830/4 Fishing trawler Reykjavik, Iceland
- 940 2 of, rack mounted, Icelandic broadcast service, recording of BBC W/S, V.O.A. for re-broadcast.
- 770R Plus panadaptor in S.Africa for P.M.R. servicing.
- 680X Used until recently by P.O. (B.T.) for spurious signal checks at their "carrier" repeater stations.
- 710 "All world six" still in use as domestic broadcast receiver in Keswick.
- 770R Met. Office for weather sonde tracking and monitoring.
- EA12 By well known amateur aerial manufacturer for performance checks
- 958H On board Danish cargo ship as standby main receiver.
- 680X Originally at GB23M science museum in 1955.
- 990R In Australia for telemetry reception on the abortive "Blue streak" missile program.
- 358 and 400 W.W.II use shipboard on most type of R.N. vessels.

HINTS - Do go to any locally advertised club rallies, pay especial attention to the "Bring and Buy" stand for Eddystone products. Prices are lower than for "dealers" stands, but do examine your purchase for mods; those which involve front panel holes will reduce the value.

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#### HOLLOW STATE VERSUS SOLID STATE

A letter from Brian Donovan queries if we cater only to owners of valve receivers? If they're Eddystone, Brian, we deal with them. My own collection contains both, members letters do however indicate a preference for the valve type although they also collect both types. Most popular collected items of solid-state type are EC10, EB35, 41A, 958 or 1830. My own preference is unashamedly for hollow-state. The newsletter will feature "profiles" on solid-state models later this year. However, it must be remembered that you the members decide on which receivers are featured by writing and asking.

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HINTS -- If you use an "L" or Marconi aerial fed into a simple L.C. aerial tuner, then depending upon length or aerial and frequency in use, it can be advantageous to reverse couple your A.T.U. If your aerial is too short for the frequency you are tuned to then you need the inductance on the aerial side and the condenser on the receiver side, so says Peter Lewis, E.U.G. member. I must add though that this is not always true and a switch on the A.T.U. to reverse connect can be useful. And if you are still operating your receiver "Barefoot" with no A.T.U. then you must be missing a lot of good DX. Seeing the needle on the 'S' meter flip across the scale as you tune an A.T.U. is something once seen, never forgotten.

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#### EDDYSTONE LIGHTHOUSE

A recent subscriber's query - No, there is no N.D.B. there. Having verified this in the 1988 "pilot's guide" I can say what is ~~there on the~~ Eddystone Light - A Racon For X Band, 3 CMS Radar. -

This is a transponder beacon which sweeps the 3 CMS band. It has a 90 second sweep time over a 360° sector, with a range of ten nautical miles. The lighthouse is situated at latitude 50° 10' 8" north and longitude 4° 15' 9" west. Sorry, no Eddystone model I know of covers the 3 CMS, 10.000 MC/S Band. Even my 770S only goes to 500-1000 MC/S.

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MY SMALL COLLECTION

Two years ago I had but one Eddystone, an 830/7. It worked but did need some work done on it, for most of my listening I used a "frog" the FRG7700, with an FRT7700 A.T.U. Since joining the users group my interest and knowledge have increased. Seeing a 740 last year at the Norbreck bring and buy sale I decided to lay out the asked for £45. Now with two I was a collector! Having obtained manuals for both 740 and 830/7 I began by revising what I had learned of valve theory, many years back in the R.A.F. as a G.W.M. or Ground Wireless Mechanic. I was already aware that tools and test equipment would be needed, this called for another buying spree at the next few, nearby rallies. By the time that I felt confident of my renewed knowledge I had become owner of a model 7 AVO and a Taylor Signal Generator - The two for £35, by waiting until just before closing time at the rallies, and making an offer.

Since the 740 was without a doubt the most simple circuit of the two I began with that, a few evenings spent learning the circuit and the top and bottom chassis layout meant that I almost knew each component before actually touching the set. A service record card was made up, listing for each stage of the 740 the voltages as specified in the manual and along-side the actual voltage I had measured before doing any work on the set. Several were not within the specified tolerance limits as laid down by the manufacturer. A visual check at the start had already shown that the chassis both top and bottom appeared to be untouched, and as it had left the factory. Therefore some component values must have altered. A spare set of valves had been bought and these were fitted. Minimal differences were found and so the original valves were refitted whilst the locations of the incorrect voltages were listed. This with a view to checking from the circuit diagram which component might be responsible.

There were three specific points where an incorrect reading gave cause for investigation. Two in the V4, detector - A.F. amplifier stage, an EAF 42 valve. One other in the V1 R. Amplifier stage, another EAF42 valve. The V1 stage was tackled first. The screen voltage was only 60 volts much below that specified. It was decided from a study of the schematic diagram that since V4 was O.K. then either R1 or C10 respectively a 100 Kohm dropper resistor and a 0.1mF decoupling condenser must be the cause. A check on R1 showed that it was actually reading 230 Kohm, it was replaced of course but before fitting the new component a check was made on C10 for leakage. It was leaky! So in fact both components were replaced. This gave me sufficient reason to suspect other paper type condensers. Seven were showing signs of leakage and so it was decided that all thirteen merited replacement - Polystyrene 450 V.W. types were used.

V4 was next, both incorrect voltages could have been caused by one faulty item. Since incorrect anode volts would give incorrect kathode volts. This was not so as, after testing R5 and R6 in the anode, finding them both O.K. it was discovered that C39 an 8MF, 350 Volt electrolytic which decouples from the junction of these two resistors to chassis, was reading a very leaky 8 Kohm, this after it had been fully shorted for a full half minute to remove any trace of charge left on it. C39 was replaced and a repeat check made on the valve stage under power. Kathode volts at 12 volts was still too high and so the resistance of R25 was measured. At nearly 2.2 Kohm it was too high and so was replaced by a 1.4 Kohm 1 watt.

All readings now were inside makers specified tolerances and were noted on the service record card which also contained information such as model type, serial number, all components which had been replaced, the fact that all valves were O.K. these had, since beginning the repair, been checked out on an AVO valve tester belonging to a friendly amateur. A start had now to be made on performance checks.

The "analogue" Taylor signal generator was left on for an hour to warm up and stabilise, it was set to 450 KC/S by using an LCD readout on an R600 receiver. The I.F. cores looked to be untouched and in fact were "spot on" so a move was made to check the R.F. circuits. Here again both cores and trimmers appeared to be untouched but checks were made on oscillator, mixer, and R.F. circuits. Again, the digital LCD readout was used to set frequencies, as per the manual, at L.F. and at H.F. ends of the bands *only* a minute adjustment necessary. Sensitivity checks on the receiver could only be approximative with the test gear I have, but a later "on air" check of the 740 showed it to be far more lively than previously.

Externally there are no blemishes whatever and the set really is now in "mint" condition. A source of self-satisfaction too whenever used. Next job - someday - will be my 830/7, this is a far more complicated receiver and a lot more forethought and more preparation will be needed.

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HINTS - A member having renovated his 940 lists the trouble spots he found as follows:-

1. R74 - 140 OHMS 6 Watts wire-wound was open circuit giving low H.T. plus, some hum in the speaker and causing R75 - an equal to R74 - to overheat. Both were replaced with modern 150 OHMS 10 watt resistors.
2. C82 - A 0.47 mF condenser was leaky so that Pin 6 of V6 was reading 20 volts (Screen). The "S" meter was not reading correctly.
3. Distorted speaker output - but okay when checked with phones at the output of the A.F. amplifier. This was found to be an open circuit 470 kohm resistor in the grid of V10, Pin 1 on the valve base.
4. HT3 - the stabilised line was about 10 volts high - an easy one this! Changing V13 was an "instant cure".
5. Noise limiter was inoperative - this proved to be a diode D1 across SW.5 which read short circuit when checked in circuit and when chopped out of circuit could be measured at about 60 OHMS each direction.

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HINT - On a recently repaired 840A audio distortion and instability was traced to a dried out electrolytic condenser - C42, a 50 MF.

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HINT - A740 with no output, valves and dial lamps lit. A check inside showed no H.T. volts and was traced to R36. A 400 OHM wirewound in the smoothing circuit.

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HINT - "Motorboating" on a member's S.358 was traced to missing metallised coating which with age had peeled off the EBC33 valve. (This was a large piece 1½ x ½ inch). Using a "nickel loaded" screening aerosol, two coats were sprayed on the valve and the trouble was cured.

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HINT - On a 750 - instability at full volume was caused by a corroded through screening "pigtail" which should have gone to chassis at R37 - The A.F. gain pot. The other end went to grid of V6-A DH77.

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HINT - If suffering QRM from one nearby station, rather than using an attenuator try a wavetrap. A simple parallel connected condenser and inductance resonated at the frequency of the interfering station. This is good for H.F. or V.H.F. use!

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HINTS - One economy minded reader says that running AC/DC models i.e. 670A and 840A, from 120V supply makes sense. Since consumption is only about 35 watts (cf.66 watts at 240v) the dropper resistor consumes the difference and in so doing produces excess heat.

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HINTS - See Maplin catalogue they are advertising a 250-0-250V + 6.3V mains transformer for replacement use in valve radios.

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HINTS - For N.D.B. chasers an out of date "nautical almanac" is worth having. It is also a mine of information on M.F. and H.F. ship to shore channels, not to mention V.H.F.

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#### 770R and 770U

So many members who do have either one or both these models complain of lack of signals, low gain or sensitivity. Although I have mentioned this in Issue 2 I shall recap. Unless the receiver has been tampered with, all it is likely to need is replacement of V1 and V2. These models in Government use were probably operated on a 24 hour basis over their lifetime and emission on these two, all important valves, is likely to be low. Use an aerial for the band in use, be it wire, whip or beam, the signals are there if you know where to look. Decide what bands you will want to listen on, 27 MC/S C.B., 28 MC/S - 50 MC/S - 70 MC/S or 144 MC/S amateur Band, 120 MC/S Air Band, 150 MC/S utility or 156 Marine Band are all there. A wire type dipole or folded dipole cut to your favourite band is usually sufficient. On 2 metres a pre-amp can help, find the circuit in an old A.R.R.L. handbook, build it and power it from your 770. If you are using an active aerial or a discone with wide-band pre-amp then an attenuator is advisable. Use of a dressler ARA900 will give good signals on all ranges of either a 770R or 770U (even on a 770S if you have one of these rare birds!) Do try replacing V1 and V2 before digging in and twiddling anything, £5.00 will buy you both these valves and transform your receiver.

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HINTS - do not rely on colour coded values, always measure resistors in use - the older carbon composition type went high in value, possibly through slight long term overheating, new resistors bought at rallies or in bargain packs may be wrongly coded. I had some last year where all the brown-black-red, 1K, were measured at 10K. Again, recently where some 120K colour coded brown-red-yellow measured at 12K. I saw and checked a roll of 10,000 diodes, 1 N4004 type, not so long ago. The entire roll was incorrectly marked with reverse polarity! The moral is check before using.

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HINTS - Fry's, the solder people, not the cocoa variety, say that most solder on sale today is low melting point - for P.C.B. and semiconductor use. It is not suitable for use on valve equipment. High melting point solder is made and sold. It does find use on T.V.P.S.U. components.

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#### A FREE 870A

Recent changes in frequency usage at the "Beeb", the advent of Radio 5 and banishing of Radio 2 to F.M. means that many devotees of Radio 2 have had to buy new domestic radios with F.M. A friend recently offered me an 870A which had for many years been her late husband's bedside listening, it has now been replaced by a shiny plastic "tranny". Since her only listening consisted of Radio 2 and Radio 4 the 870A was redundant. I took it away and having decided that 1957 was a long-time ago, long enough to warrant a thorough pre-use check I opened the mini-Eddystone upon on my Workbench. Some interesting spiders' webs with long dried-up inmates, dead midges etc. had to be removed from above and below chassis before any checks could be made. This done my first, always on an AC/DC model, check was chassis to ground insulation. No problems here and so voltages were checked against the makers list. There were some out of spec. readings and these were tackled by checking resistor values, actual against circuit value. All of these were inside makers tolerance and so my attention went to the condensers, most of the waxed paper decouplers were T.C.C. always a doubtful quality after 30 plus years. Two were found to be leaky and replaced by dubilier types. This brought all readings into line with the spec. All valves looked to be original and yet all were up in the green band on emission testing with my AVO valve tester. A check on the serial number did show this to be of much later manufacture than my other "early" 870A. It also showed several slight circuit differences. A low value .001MF condenser was wired across the Det/A.F. amplifier heater, on the valve base. An 82K resistor was across the output transformer primary and a 12 OHM grid stopper was in the grid circuit of the output valve. None of these show on the manufacturer's circuit diagram and yet they were original, not later mods. This is unusual for Eddystone who were, in most cases, quite meticulous about updating manuals and schematics. The 870A is now in "as new" condition and frequently used.

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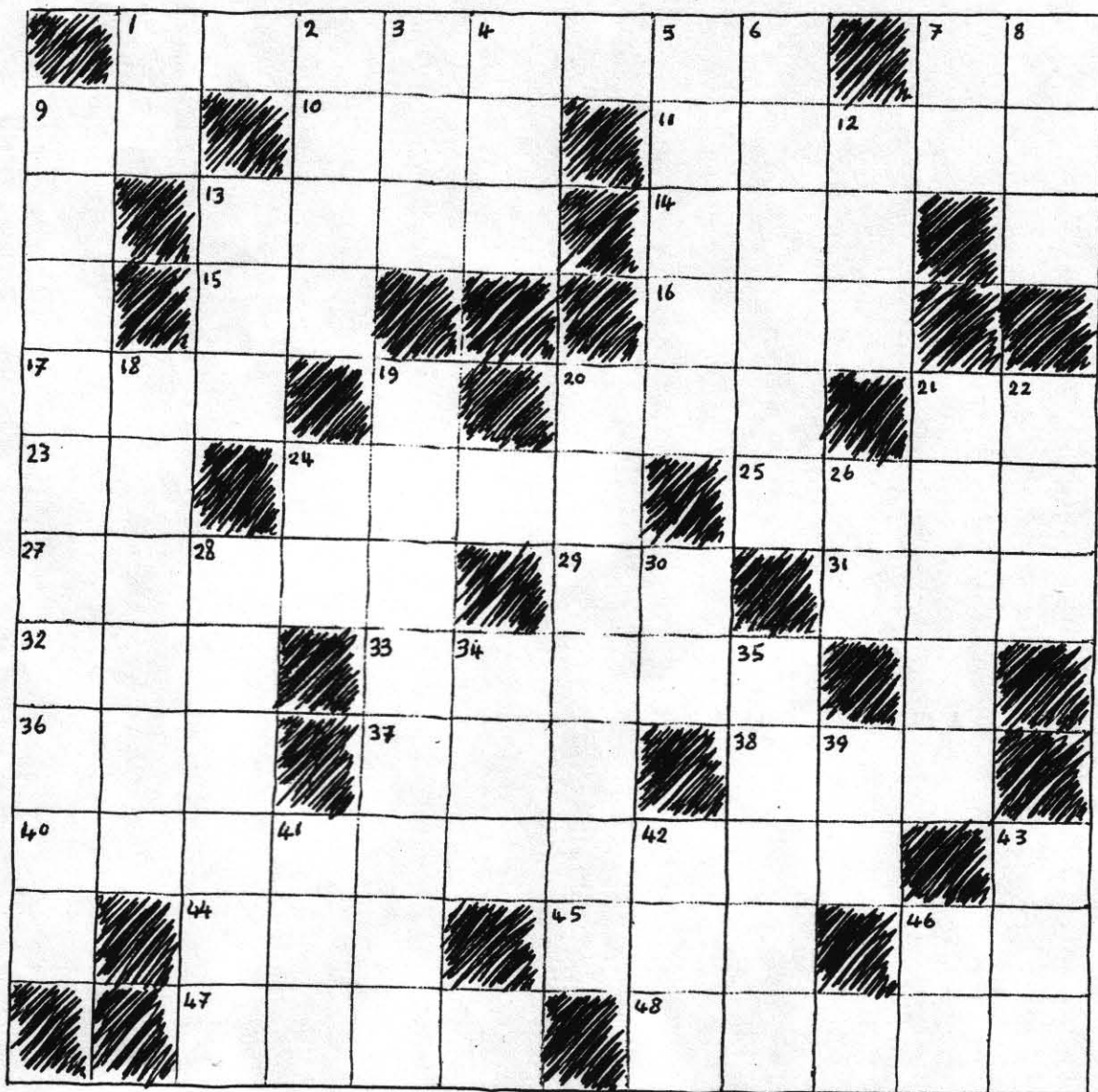
USING MY 770R

Since joining E.U.G. I have become more aware of the possibilities of my 770R. At first I simply had a 5/8, 2 metre whip and was quite dissatisfied with the results. One local repeater, some nearby "public service" signals and occasional airband was the total. From reading the newsletters I now know quite differently. Using a coax lead from my 770R to a perspex dipole centre-piece I have cut folded dipoles for 29 MC/S, 51 MC/S, 145MC/S, and 155MC/S. These are all extended with nylon line to the length of the longest one, just over 16 foot. Supported from the chimney bracket of a Band II aerial and at the bottom by a nylon line tied to a water pipe. This system appears to work very well, I now have two and occasionally three, 2 metre repeaters, can frequently hear 50 MC/S QSOs and have heard 10 metre signals. On the 156 MC/S marine band I can monitor signals from the coast at a distance of 25-30 miles. This "nest" of dipoles has put new life into my 770R.

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FEATURED RECEIVER 840C

This is an updated version of the 840A, some circuit changes but still an AC/DC model. The new, larger cabinet allows better heat dissipation. The scales are more linear since "ratio-tuning" is used on the gearing of the flywheel tuning system. The same 480 KC/S to 30MC/S is spread over five bands now instead of four on the 840A. With eight valves of the B8A series it is a conventional design of single superhet. with A.V.C. and a magic eye tuning indicator. The usual aerial socket arrangements permit long-wire or doublet types to be used. It must be remembered that whilst chassis is at mains neutral, the cabinet is at earth potential. The R.F. amplifier V1 is a usual pentode stage with R.F. gain control in the cathode line. V2 is a triode-hexode frequency changer, this stage is controlled by A.V.C. only on ranges 3, 4 and 5. On Range 1 and 2 it is disconnected from A.V.C. to prevent local oscillator pulling, leaving A.V.C. on V1 and V3 only. V3 the I.F. amplifier operates on 450 KC/S with HI-Q I.F. transformers, which give excellent selectivity. The diode in V3 is used for delayed A.V.C. which is switched off when the B.F.O. is switched on. Optimum A.V.C. is only available when the R.F. gain is at maximum. V4 the magic eye tuning is fed by the diode in V5 and this operates with or without A.V.C. V5 is the combined A.F. amplifier and second detector followed by V7 the A.F. output stage which with negative feed-back gives a good quality signal to the built-in loudspeaker. V6 is the B.F.O. a conventional oscillator circuit fed to the V5 input. Standby de-sensitisation is obtained by taking a high bias to R.F. and I.F. stages from the H.T. line. As with many of the Eddystone models the all steel construction and doublet input allow the 840C to be used with a loop for D.F. purposes. The magic eye is some help here. The factory spec; of 10 UV for 15db S/N always seems a bit pessimistic to me. This can always be bettered by careful alignment. Front panel controls consist of mains on/off, tone, R.F. gain, bandswitch tuning, B.F.O. tune, A.F. gain, Standby Switch, A.V.C./B.F.O. switch and high resistance phone jack. There do seem to have been two separate production runs of this model, they can be identified by different make of condensers and by preferred values of resistor in the later receivers i.e. 0.05 mf becomes 0.047 mf, and 500 K becomes 470 K, performance is not affected. Since I first made acquaintance with this set I have only come up with one valid criticism, the excessive swing of the B.F.O. tune. Two ways of dealing with this, chop off the wire to the stator of the B.F.O. tuning condenser and insert a series 10PF condenser or "tweak" off one stator plate with a pair of long nosed pliers. Either way the normal 3-11 PF swing is reduced giving reduced frequency swing above and below zero beat. It will be necessary to peak the B.F.O. coil back to give zero beat.



**ACROSS:** 1, AMATEUR BANDS ONLY. 7, SENT BY "8 DOWN". 9, CUTS CRACKLES. 10, SAVES A LOT OF TWIDDLING. 11, END PRODUCT. 13, YEARS BEFORE PAL. 14, NOT ANALOGUE. 15, ONE UP ON "28 DOWN". 16, ABSOLUTE ZERO? 17, HARD OR SOFT CURRENCY. 20, ELECTRONIC CONGLOMERATE. 21, UPPER OR LOWER. 23, NEGATIVE. 24, LONG TIME. 25, OVERCAST. 27, AFTER MIXER. 29, BETWEEN AERIAL + RECEIVER. 31, BUD'S PARTNER ON STEAM RADIO. 32, AGRICULTURAL ORGANISATION. 33, EXPERT. 36, HEART-PRINT. 37, S. HEMISPHERE MARINES. 38, AC/DC MIXER. 40, DONE BY "28 DOWN". 44, FINE-TUNING. 45, ONE PIP. 46, GAS. 47, POINTS OUT OF ORDER. 48, SHE'S ALCOHOLIC.

**DOWN:** 1, 6VOLT PENTODE. 2, TUNED IN + OUT. 3, WW II LADIES ORGANISATION. 4, 6VOLT DOUBLE TRIODE. 5, ONE WAY DEVICE. 6, GEOMETRICIAN. 7, ACRONYM FOR MIS. 8, THEY SEND "7 ACROSS". 9, UHF MODEL. 12, FOR DEBUGGING USE. 13, VINTAGE CAR MAKER. 18, WHERE YOU KEEP YOUR PENNIES. 19, WHAT CRYSTAL FILTER DOES. 20, AERIAL. 21, HAS THREE TOES. 22, FRENCH S.S.B. 24, USUALLY BOTH "21 ACROSS". 26, AC/DC PENTODE. 28, DOES "40 ACROSS". 30, PRESS AGENCY. 34, POWERFUL SHIP/SHORE STATION. 35, SELECTS. 39, BETWEEN KATHODE & SCREEN. 41, ORIGINAL STRATTON PRODUCT. 42, COOLER. 43, BACKWARD UNIT. 46, FILLS A BOMB.

PRICES TODAY

Increases in valve type equipment prices are an unfortunate fact of life, increases in the prices for "second user" Eddystones are an important factor for E.U.G. members. I cannot see the logic in one "wheeler dealer" asking £100 for a run of the mill 770R when not twenty yards away another more reputable stall has two of that model at £45 each! As a guide, I would be satisfied with £45/60 for a 770R or 770U, with £85/90 for a Mark II model in very good condition.

At another rally recently I saw an 840A, admittedly in very nice condition, but £95 is way over the top. An 840C would be more appropriate at that price! The same day a 358X on the bring and buy was a "good buy" at £30, especially so since it had a full set of coil packs.

The EA12 amateur bands only model, cost £205 new in 1971, I saw one advertised and sold for £350. This was a bit much to my mind and yet the buyer had been looking for one nearly six years! He obviously thought it was worth that sum to him.

Some of the more rare and exotic models, as for instance the 770S, you can more or less ask any price you like, a hungry collector will sooner or later be tempted. This goes also for the various models of panadaptor on the market i.e. EP17 or EP20. I have seen these at anything from £50 to £200. The cheapest on the "bring and buy" - the expensive at the N.E.C.

HOLLOW STATE VERSUS SOLID STATE

Look into one of "our" valves-only models and compare the ease of servicing with the sub-micro innards of a modern communications receiver. Both theory and practice of hollow-state models is so much easier, most manuals have all the necessary alignment information and the job is very straightforward, just a case of step by step instructions. With a little care and patience D.I.Y. servicing is possible.

SFERICS - On a double superhet (as the 750 model) it is very necessary to verify the accuracy of the signal generator when re-aligning the I.F. circuits. A digital read out receiver can be used if no frequency meter is available.

SFERICS - Mention has been made of the folly of using modern digital multimeters on valve equipment, look at the following examples -

1. Anode of A.F. amplifier triode
 

Digital voltmeter	=	85 volts
Taylor 1000 OHM/V	=	65 "
AVO 333 OHM/V	=	13 "
  
2. Junction of R49 and R50 -
 

Digital voltmeter	=	5.8 volts
Taylor 1000 OHM/V	=	2 "
AVO 333 OHM/V	=	0.9 "

These were taken on a 750 model !

11/

SFERICS - Michael O'Beirne G8MOB, writes with info on both Collins and Racal Groups - both defunct apparently. He uses his receivers for general H.F listening not just broadcast stations, but also amateur and utility RTTY signals. He offers to send E.U.G. an article soon re his receivers.

SFERICS - Geoff Dickman is at C. & W, station on Diego Garcia Island in the Indian Ocean. He has used Eddystone receivers for 15 years in his job and is now putting together a small private collection. He is our most remote E.U.G. member so far. A nice listening post out there I would imagine.

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#### WHAT IS AN "EDOMETER"?

The Eddystone Edometer was a multifunction test instrument which could function as any of the following - Dip-Oscillator - Absorption Wavemeter - Heterodyne Wavemeter - Modulated or Unmodulated Signal Generator - Modulation Monitor - Audio Tone Signal Source. Being completely portable with internal battery it is a standard circuit using one F.E.T. oscillator and one bi-polar meter amp; transistor. Frequency coverages as Dip-Oscillator are 1.25 MC/S to 115 MC/S with plug in coils. Two additional coils covering .380 - 1.25 MC/S are also available for signal generation between T.F. and M.W.

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#### THE EC.10 MKII

The Mark II version of the popular battery operated, transistorised communications receiver had the following added features, mainly as a result of the suggestions received from owners of the successful original EC.10. A built-in carrier level meter, limited range fine tuner, desensitising facility, standby switch, a newly re-styled cabinet and front panel made this a quality buy, even in the early 1970's, at £74.50.

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#### "THE BEST EVER"

The 830/7 high grade commercial communications receiver for MF/HF use was acclaimed by many Eddystone customers as simply the best ever. If its success as a professional model is any criteria then this must be so. Covering 300 KC/S to 30 MC/S in 9 ranges and with tunable I.F. o. + 100 KC/S it is still a formidable receiver 20 years after its arrival on the scene. Whilst having none of the "bells and whistles" of today's oriental black box it can nevertheless easily match them, even beat many for sensitivity, selectivity and stability. I use one daily for F.E.C. and S.I.T.O.R. reception. Stability after warm-up is excellent. The calibrator allows frequency setting to within less than one KC/S.

WEBBS RADIO

C. Webb Ltd. was formed as a retail marketing outlet for Stratton & Co., Radio Products, as early as 1924. G.A. Laughton took over the lease of a shop in Stephenson Street, Birmingham and informed his son G. Stratton-Laughton that, since manufacture of radios and components had been his idea, then he had better get busy and open it as a retail outlet. The original idea had been for this to be the first of a chain of shops countrywide. In the event 5 branches of "Webbs Radio" were opened but due to the approaching war, many other business developments and the departure of G. S. Laughton to Australia, the project went no further. It was finally decided to retain only the London premises at 14 Soho Street, off Oxford Street.

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HINTS - One member, Keith Raven, reports that low gain on the H.F. bands on his EA12 was traced to two resistors, R6 and R7, both of which had gone very high resistance, way out of prescribed tolerance. As stated previously this is a common occurrence with carbon composition type resistors. It can be a cumulative effect and one theory is that if an associated decoupling paper condenser goes leaky, usually through ingress of moisture, and this allows the passage of extra current, when the total current exceeds the rating for the series resistor this overheats and goes high in resistance, limiting the current flow and altering the voltage at the junction of the two components.

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SFERICS - Andrew Redding has written re the use of period adverts or cartoons, as in Issue 6. He suggests that they are out of place in an E.U.G. newsletter. They are in context if you consider that T.C.C. condensers have been used in the majority of Eddystone Models, Marconi Valves were used in many, as to the cartoon - my two valve 1920 Eddystone can, if the reaction is too far advanced, cause howls on every radio in our village! That said, E.U.G. is trying to cater for all enthusiasts and this year we should be in a position to increase the textual content of the newsletter. As the dailies say "Watch this Space".

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SFERICS - As members write in with their new subscriptions, several have offered to help other members either in their own area or city, or else members having the same model of Eddystone. If you need help or you can offer to help, let E.U.G. know, it can go in the next newsletter or we'll contact you direct. Here is one such offer to start the ball rolling - D. J. Bryan G8IQK is willing to help members in difficulty with their Eddystone receiver and suggests that they can contact him direct. If you do, please make sure, before doing so, that you have noted down all relevant facts or details so as to be able to put your case in a precise manner, like everybody these days, I am sure that his leisure time is limited! And don't call at meal-times, I found this out myself - the hard way. Address is 58 Woodgate Road, East Leake, Loughborough Leics. LE12 6PY.

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SFERICS - Nigel Head is not technically minded and came to be an SWL, later passing the amateur radio exam, via C.B. His interest in C.B. waned and he began listening to foreign broadcast stations on the domestic receiver. Selling his unwanted C.B. gear he bought a 730/4 and is learning to use it. He would like to contact somebody with a 730/4 to discuss some problems with his receiver. He is at 16 Glorymead, Goodwyns Estate, Dorking, Surrey. RM4 2NQ

SFERICS - Re earlier hint for crystal calibrator on the 940. Alan Travers now suggests using the triode of V3 (unused at present) as a crystal calibrator in a pierce circuit using only 4 extra components plus crystal! To be switched by the "Standby" with a possible reduction in value of R32. This will keep your 940 a pure valve job and not affect re-sale value, I have not tried this, am indeed doubtful as to its efficacy. If any member has comments or has tried this let us know please.

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OVERSEAS MEMBERS?

Tor Marthinsen in Norway is a good example of one of our overseas members. A very interesting letter from him which describes his attempts to renovate a 670 and the difficulties he encountered. For instance he has discovered, as we have over here, that T.C.C. condensers of say, 0.1 mF or 0.01 mF are usually leaky after 20-30 years, whereas dubilier go on for ever!!! Trying to get and fit replacements when these are old stock and frequently as leaky as the originals, problem is that they are hygroscopic and in a humid atmosphere for any time they attract moisture much as a fly-paper attracts flies. He also has a 680X and other vintage models, including Tandberg tape recorders and Radionette portables. He helps run the Norwegian vintage radio association, a copy of his newsletter, in Norwegian, has been received here, anybody interested can get the address from E.U.G.

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SFERICS - Some further historic information on Eddystone/Stratton has been received from Chris Pettitt and will appear in a future issue. Thanks Chris, on behalf of all those who do keep asking for more on the company history. (You, the members of E.U.G. do get what you ask for, eventually!)

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SFERICS - Dave, the VT94 in your S.358X (or is it an S.358?) is nothing more than a 6J5GT. The "VT" identifies it as an Amercian military valve, WWII era. Funny to find it in an Eddystone and it cannot be original. It was used on some of the battery versions to reduce drain on the supply caused by excessive consumption of the usual 6V6GT.

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SFERICS - Two members now in Brisbane, Australia, unknown to each other, I guess! Two more in New Zealand! Do any E.U.G. members wish to be put in touch with others in their area? Use the free ads to do it.

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SFERICS - Member Doug Byrne of the Communications and Electronics Museum Trust asks me about the 958, one of which is in their collection. Well, wait for it, twenty different versions of this were made. There may even have been more. They are all 958/... and the suffix, if a figure, denotes various levels of production, a letter suffix indicates Government Department or private company types.

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SFERICS - I stand corrected re the Eddystone lighthouse transmissions! There is also a V.L.F. transmission, one pulse per minute is sent out on a frequency of 450 C/S. Range is up to 8 nautical miles!

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HINT - The N78 output pentode costs from £8 to £10 depending on where you buy. A 10P13 can be substituted directly. On some models a change of bias resistor may be necessary.

HINT - If doing R.F. alignment do not rely on signal generator calibration, always check with a crystal calibrator.

SFERICS - Model 990R seems to be coming on the market in small batches from some source, a semiconductor replacement for the 770R this is a good buy. If you see one snap it up.

HINT - Drifting on F.M. on an EB35 is usually due to low volts input, not high enough to operate the zener which stabilises the F.M. tuner supply. This is applicable mainly when battery operated.

HINT - Valve rectifier replacement by semiconductor diodes of IN4007 type, do fit series resistor, 150 OHMS at 5 watts wire-wound and a .001 M.F. Mica or Polycap of 600 V.W. across the diode.

HINT - if you're troubled by continuous interference on all H.F. bands, try turning off any fluorescent lamps in the area, they are prolific QRM generators. Another little known QRM causer is that very handy dimmer switch so often fitted in place of room on/off switch. If you have got QRM, go around the house turning on/off all items you consider possible suspects.

SFERICS - QRM from the local oscillator of an H.R.O. of W.W.II vintage can be picked up at my Qth, the H.R.O. fed by a L.wire is several hundred yards away and produces S6 signals on my R.2000.

SFERICS - An EB35A has just been added to the E.U.G. collection, the F.M. band covers 155-175 MC/S instead of 88-108 MC/S! It is the first I have ever encountered.

HINT - If your Eddystone mains transformer is burned out or other-wise faulty why waste time and money advertising for a replacement. Get the "dud" transformer rewound - many companies offer rewind services. Try the yellow pages. You will need to supply some information, H.T. and L.T. volts and current, primary tappings etc.

SFERICS - Attempts are being made by E.U.G. to get Eddystone 688A diecastings reproduced for the familiar matching speakers. More later.

SFERICS - If you think some of these new broadcast stations with a stated power of 500 or 1,000 Kwatt are powerful "big guns", try converting this to horse-power, a Ford Cosworth or Indy 500 race car is about equal in power.

S.O.S. - Member emigrating soon to New Zealand would like to contact members living there, write to Ray Devereux at 14 Keephatch Road, Wokingham, Berks.RG11 1QL Also wishes to sell two 880 receivers, serial numbers LL0012 and LL0013. Wanted to buy 880/2 or 880/4.

S.O.S. Sell 807 and 1625 (12 volt 807) valves, offers please to F. Penny, 78A Hearnville Road, Balham, London, SW12 8RR

RE REPAIRS AND RE-ALIGNMENT

We have heard from satisfied members that E.U.G. member R.C. Gilbert as mentioned in Issue 4 does good work! Address is in Issue 4.

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That's it for this issue, let us have your comments, contributions and complaints for next issue. You'll only get it if your subscription has been renewed, remember! C.U.

73

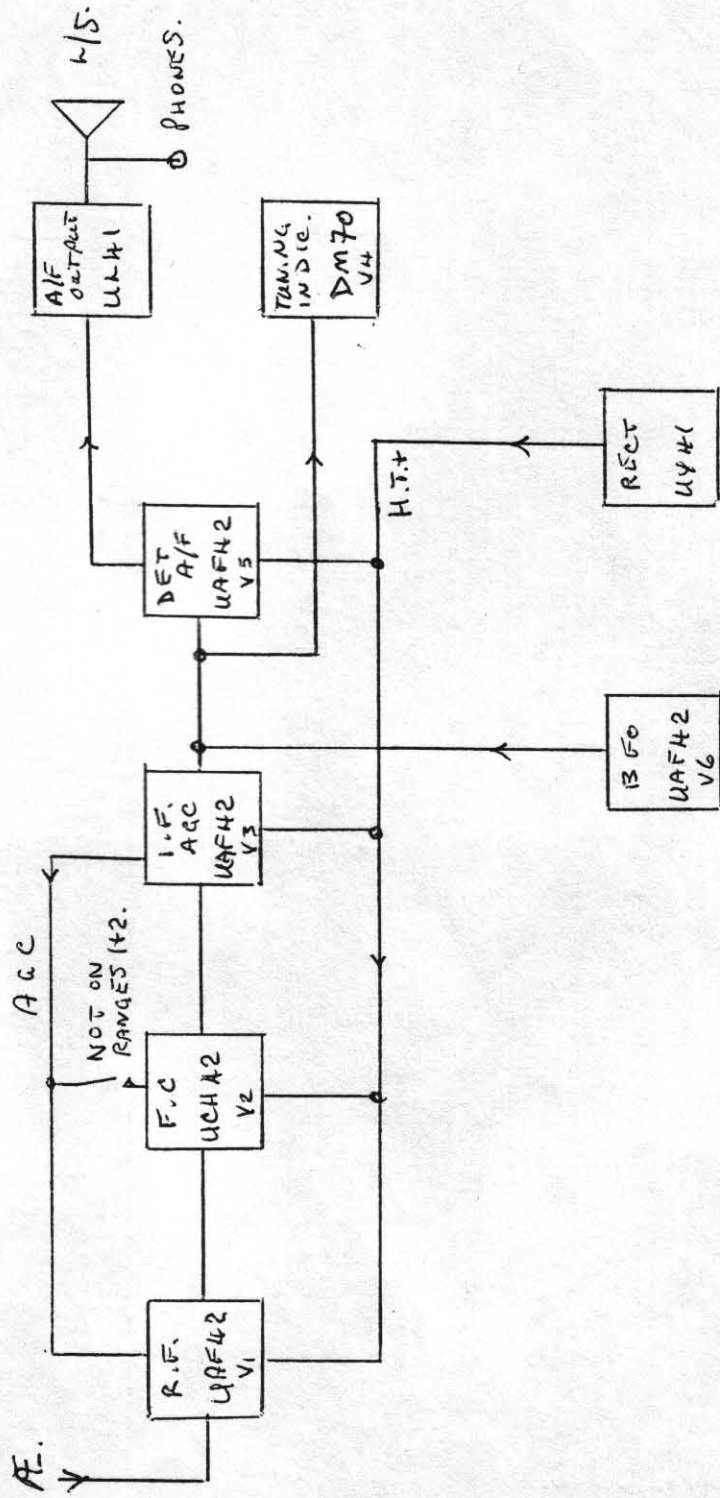
Kath and Ted

P.S. A sudden surge of interest in and queries about 990R. Have some of this model been recently demobbed from someplace I wonder?

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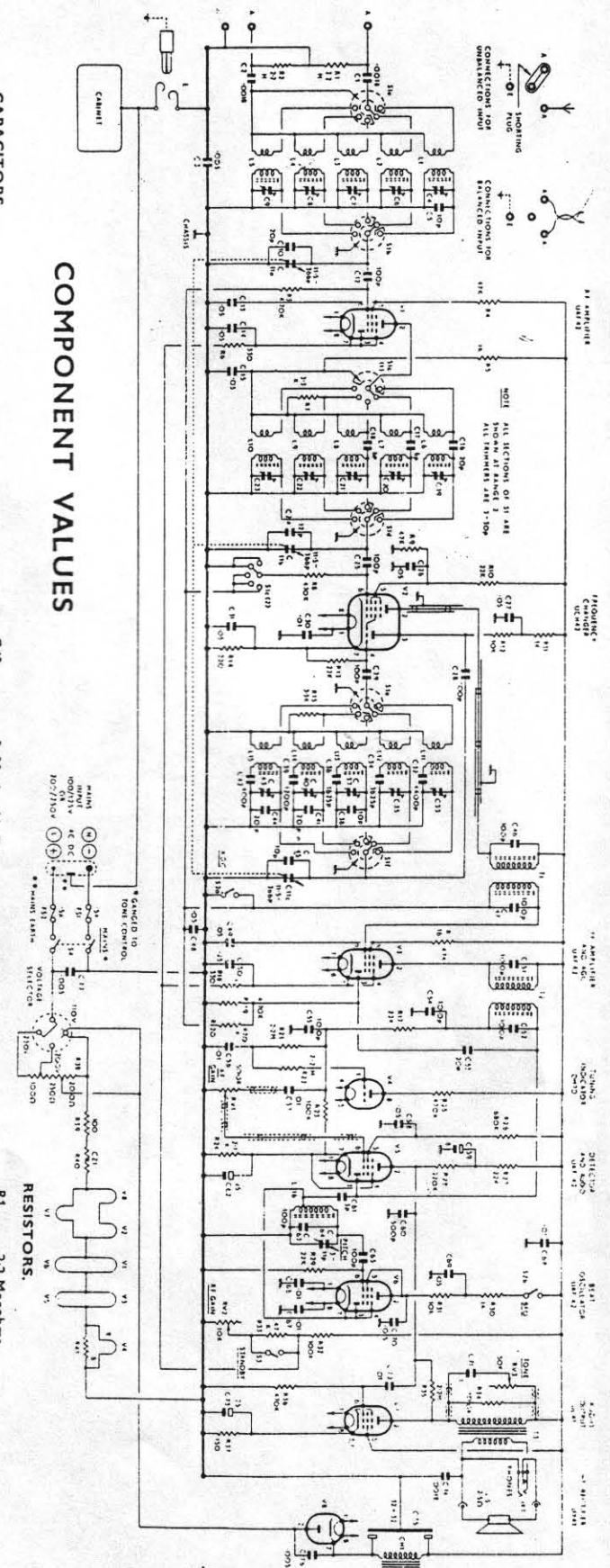
\* STOP PRESS - E.U.G. BADGES WILL BE AVAILABLE TO MEMBERS AS OF MID-AUGUST. THE BADGE IS A SOLID CAST BRASS WITH WHITE ENAMEL LIGHTHOUSE ON BLUE BACKGROUND, "EDDYSTONE USER GROUP" IS PRINTED OVER THIS COMPANY LOGO. THANKS TO THE KINDNESS OF CHRIS PETTIT THE MANAGING DIRECTOR THESE ARE SUBSIDISED BY EDDYSTONE RADIO! COST TO MEMBERS IS £2.00 INCLUSIVE OF P+P.





480 kc/s - 30 mds. AC/DC 125 - 230V

840C BLOCK SCHEMATIC.



### COMPONENT VALUES

**CAPACITORS.**

C1	1800 pf.	Disc Ceramic Isolator.
C2	0.005 mfd.	Disc Ceramic Isolator.
C3	0.005 mfd.	Disc Ceramic 900V. DC w.k.g.
C4	3-30 pf.	Air Trimmer.
C5	10 pf.	Silvered Mica ±10% 350V. DC w.k.g.
C6	3-30 pf.	Air Trimmer.
C7	3-30 pf.	Air Trimmer.
C8	3-30 pf.	Air Trimmer.
C9	3-30 pf.	Air Trimmer.
C10	11.5-366 pf.	Silvered Mica ±10% 350V. DC w.k.g.
C11	100 pf.	Three Gang Tuning Capacitor.
C12	0.005 mfd.	Tubular Ceramic ±10% 350V. DC w.k.g.
C13	0.03 mfd.	Metalized Paper ±20% 250V. DC w.k.g.
C14	0.03 mfd.	Metalized Paper ±20% 250V. DC w.k.g.
C15	0.05 mfd.	Metalized Paper ±20% 250V. DC w.k.g.
C16	0.05 mfd.	Metalized Paper ±20% 250V. DC w.k.g.
C17	6 pf.	Tubular Ceramic ±10% 350V. DC w.k.g.
C18	6 pf.	Tubular Ceramic ±10% 350V. DC w.k.g.
C19	3-30 pf.	Air Trimmer.
C20	3-30 pf.	Air Trimmer.
C21	3-30 pf.	Air Trimmer.
C22	3-30 pf.	Air Trimmer.
C23	3-30 pf.	Air Trimmer.
C24	100 pf.	Tubular Ceramic ±10% 350V. DC w.k.g.
C25	100 pf.	Tubular Ceramic ±10% 350V. DC w.k.g.
C26	0.05 mfd.	Metalized Paper ±20% 250V. DC w.k.g.
C27	0.05 mfd.	Metalized Paper ±20% 250V. DC w.k.g.
C28	0.01 mfd.	Tubular Ceramic ±10% 350V. DC w.k.g.
C29	100 pf.	Tubular Ceramic ±10% 350V. DC w.k.g.
C30	0.01 mfd.	Tubular Ceramic ±10% 350V. DC w.k.g.
C31	0.05 mfd.	Metalized Paper ±20% 250V. DC w.k.g.
C32	4400 pf.	Metalized Paper ±20% 250V. DC w.k.g.
C33	3-30 pf.	Air Trimmer.
C34	3-30 pf.	Air Trimmer.
C35	3-30 pf.	Air Trimmer.
C36	1.625 pf.	Silvered Mica ±1% 350V. DC w.k.g.
C37	3-30 pf.	Air Trimmer.
C38	10 pf.	Silvered Mica ±10% 350V. DC w.k.g.
C39	1200 pf.	Silvered Mica ±1% 350V. DC w.k.g.
C40	3-30 pf.	Air Trimmer.
C41	20 pf.	Silvered Mica ±10% 350V. DC w.k.g.
C42	400 pf.	Silvered Mica ±1% 350V. DC w.k.g.

**POTENTIOMETERS.**

PV1	0.5 Megohm carbon.
PV2	10,000 ohms carbon.
PV3	50,000 ohms carbon with double pole switch.

**RESISTORS.**

R1	2.2 Megohms.
R2	2.2 Megohms.
R3	0.47 Megohms.
R4	47,000 ohms.
R5	1,000 ohms.
R6	300 ohms. ±5%.
R7	300 ohms.
R8	47 Megohms.
R9	27,000 ohms.
R10	1,000 ohms.
R11	1,000 ohms.
R12	22,000 ohms.
R13	22,000 ohms.
R14	22,000 ohms.
R15	3,300 ohms.
R16	47,000 ohms.
R17	22,000 ohms.
R18	530 ohms. ±5%.
R19	0.47 Megohm.
R20	2.2 Megohms.
R21	2.2 Megohms.
R22	2.2 Megohms.
R23	0.1 Megohm.
R24	2,700 ohms.
R25	0.47 Megohm.
R26	0.68 Megohm.
R27	22,000 ohms.
R28	0.22 Megohm.
R29	22,000 ohms.
R30	1,000 ohms.
R31	10,000 ohms.
R32	0.1 Megohm.
R33	47,000 ohms.
R34	0.1 Megohm. 1 watt.
R35	2.2 Megohms.
R36	0.47 Megohm.
R37	150 ohms.
R38	550 ohms. tapped at 100 ohms.
R39	and 350 ohms. 0.2 watts.
R40	100 ohms. ±5% 4 watts.
R41	CZ1 Thermistor.
R42	8 ohms. 3 watts.

NOTE: All resistors are 10% ± watt unless stated otherwise.

For a number of years the Eddystone "840" series of communications receivers has proved extremely popular and as sound, straightforward, well-engineered instruments, they have done a remarkably good job of work throughout the World.

This brochure describes in detail the "840C", which is basically similar to its forerunners. The circuit is of the same type, but a number of technical improvements have been made with the result that the performance of the current model is exceptionally good.

A special feature of the "840C" is the extended bandwidth combined with greater ease of tuning and station logging. This has been achieved by spreading the coverage over additional ranges and introducing ratio-tuning which improves the linearity of the calibrated scale.

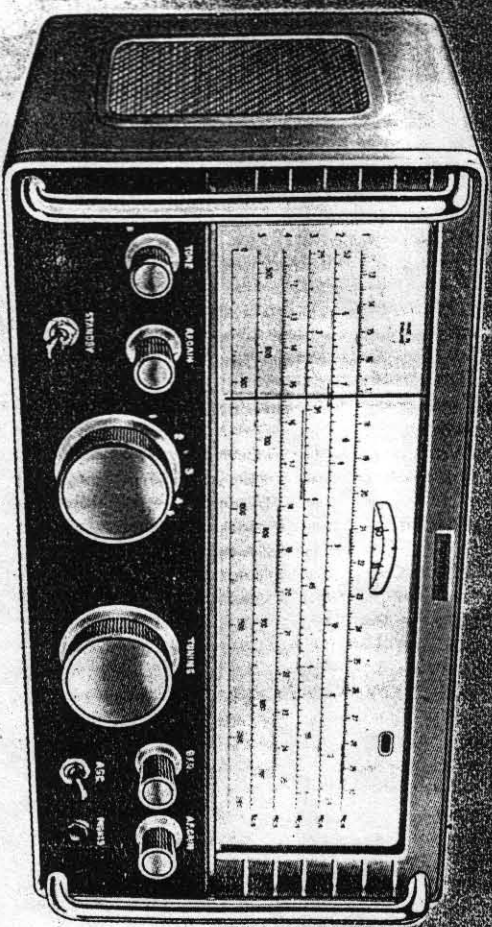
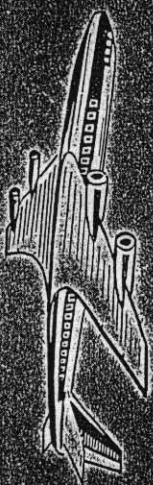
The "840C" incorporates the wealth of Eddystone experience and "know-how" acquired over a period of many years in the design and production of communications receivers covering a wide range of frequencies. Materials of the highest quality only are incorporated and many of the components are designed specially for this model.

Construction is extremely robust; the workmanship is unexcelled and altogether the receiver represents a sound engineering product, offered at a figure which reflects very good value.

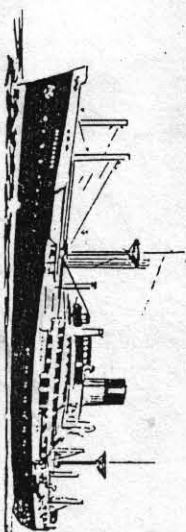
The full technical specification is given elsewhere, but two features we would mention here are the silky yet wholly positive tuning control, due to the very fine gear drive mechanism. The excellence of this control — a notable feature of all Eddystone receivers — can only be fully appreciated by actually handling it. The other point is the wide, open scale — again a standard Eddystone design feature — enabling the operator to select or read off a frequency with ease.

The "840C" is designed for optimum performance and constructed in the well-known Eddystone engineering tradition, the front panel, knobs and general presentation conforming to modern standards. Outwardly the "840C" has a completely "new look" and we are confident it will appeal strongly on all counts to all classes of user.

EDDYSTONE models. The aluminum castings used on the front panel and coil unit make for great rigidity without adding excess weight. The former is strongly made from cast-processed steel and the receiver will withstand considerable rough handling without damage. The "840C" is rigidly constructed and at the same time has a pleasing modern appearance. The basic drive system used is the same as that found in practically all EDDYSTONE receivers. It is accepted as the ultimate drive unit against which others are judged. The fine silky action is known the World over and the effective tuning ratio of approximately 150:1 adds precision to accurate tuning.



**MODEL  
840C**



**An EDDYSTONE receiver ensues high**

	<sup>1</sup> E	A	<sup>2</sup> T	<sup>3</sup> W	<sup>4</sup> E	L	<sup>5</sup> V	<sup>6</sup> E		<sup>7</sup> C	<sup>8</sup> W
<sup>9</sup> N	L		<sup>10</sup> A	V	C		<sup>11</sup> A	U	<sup>12</sup> D	I	O
I		<sup>13</sup> N	T	S	C		<sup>14</sup> L	C	D		P
N		<sup>15</sup> S	G				<sup>16</sup> V	L	T		
<sup>17</sup> E	<sup>18</sup> C	U		<sup>19</sup> S		<sup>20</sup> A	E	I		<sup>21</sup> S	<sup>22</sup> B
<sup>23</sup> N	O		<sup>24</sup> A	E	O	N		<sup>25</sup> D	<sup>26</sup> U	L	L
<sup>27</sup> I	F	<sup>28</sup> A	M	P		<sup>29</sup> T	<sup>30</sup> U		<sup>31</sup> L	O	U
<sup>32</sup> N	F	U		<sup>33</sup> A	<sup>34</sup> D	E	P	<sup>35</sup> T		T	
<sup>36</sup> E	C	G		<sup>37</sup> R	A	N		<sup>38</sup> U	<sup>39</sup>	H	
<sup>40</sup> T	R	E	<sup>41</sup> P	A	N	N	<sup>42</sup> I	N	G		<sup>43</sup> M
Y		<sup>44</sup> R	I	T		<sup>45</sup> A	C	E		<sup>46</sup> H	E
		<sup>47</sup> S	N	E	W		<sup>48</sup> E	S	T	E	R

## POST OFFICE NOTICE.

### USE OF UNLICENSED WIRELESS RECEIVING SETS.

The Postmaster-General calls attention to the new arrangements announced in the Press for the issue of wireless licences.

Many persons are known to be using wireless receiving sets without a licence, owing to the fact that no licence has hitherto been available for home-made sets. A new form of licence known as an "Interim Licence" has now been introduced to meet the case of persons who are already in possession of unlicensed sets. It imposes no condition as to the make of existing apparatus.

This licence will be issued at an annual fee of 15s. to persons who apply before the 15th October. No charge will be made for past user, and no proceedings will be taken in respect of past user if the licence is applied for before the 15th October. Any person who uses unlicensed apparatus after that date will render himself liable to heavy penalties under the Wireless Telegraphy Act, 1904.

The "B.B.C." Licence at 10s. still remains on sale, and a second new form of licence, known as a "Constructor's Licence," which will meet the case of persons who intend to make their own sets but have not yet done so, is also issued at 15s.

The new licences are on sale at all Head and Branch Post Offices and certain Sub Offices. Forms of application can be obtained at any of these offices and also at any Sub Office at which Money Orders are issued.