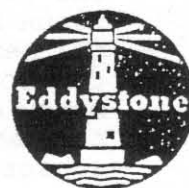


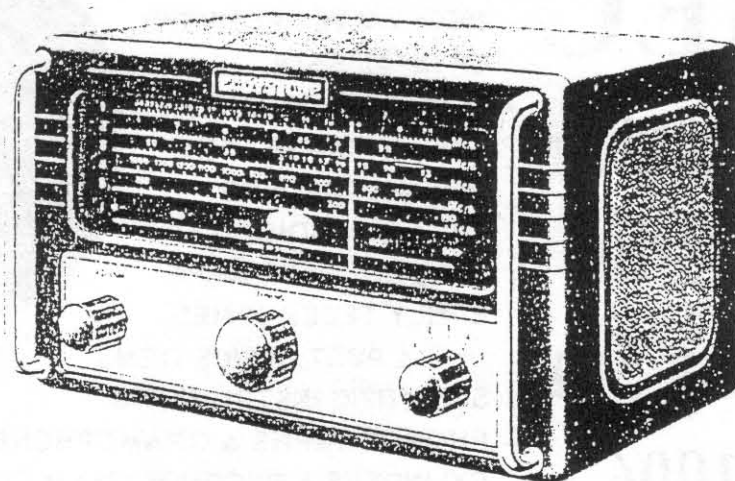
Eddystone User Group Newsletter

Issue No: 36

April 1996



Featured Model: Model 870A General Purpose 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

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This is issue 36 of the newsletter and is the last of six issues for the year 1995/96. If you join after this issue you will get the next issue No 37 up to issue No 42. Subscriptions are £10 per year UK and £11 per year overseas. Metals EUG badges are available at £2 each. Any remittances for subscriptions, badges or manuals must be by cheque or money order and in sterling. We cannot cope with foreign currency as the bank charges for conversion are more than the value of the subscription. Make your cheques payable to Eddystone User Group.

Copies of manuals and circuits are available for most Eddystone receivers through the EUG with discounts for EUG members. Manuals cost between £3 and £10 depending on size, and whether original or a copy. Most manuals are now copies. Back copies of all newsletters are available at £2 each post paid.

The NATIONAL VINTAGE COMMUNICATIONS FAIR

• The UK's biggest antiques & collectables fair specialising only in early technology •

NEC

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1996

10.30am - 5pm

£5

(Under-14s FREE)

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CLASSIC VALVE AMPS
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FILM/CINE & CINEMA
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ANTIQUES & COLLECTABLES
EARLY TYPEWRITERS & SEWING MACHINES
BAKELITE OBJECTS
BOOKS & MAGAZINES
SPECIALIST COLLECTORS' CLUBS *etc. etc.*



Details: NVCF'96, 2-4 Brook St., Bampton, Devon EX16 9LY

- Issue 36. -

- Last issue of EUG's sixth year, and as the year ends for EUG we have the new administration arrangements in force. Some of you have already begun to channel your mail through to Graeme and to Jim as requested, believe me this will get you quicker replies to your wants and your queries.

- A plug here for the EUG badges, these are high quality, metal, lapel badges which thanks to Chris Pettitt bear the Eddystone Lighthouse logo and superimposed upon this the words 'Eddystone User Group'. Cost of these to members is £2.00 inclusive of postage & packing. Wear your badge at rallies or at the National Vintage and Communications Fair at the NEC on May 5th, EUG will have a stand there with some Eddystone models on display. Come prepared as you can re-subscribe for next year at our stand. Thanks to the kindness and generosity of Chris the subs will be the same at £10.00 for UK, 11.00 for Europe and, overseas, well it is best to write and ask as it depends on where you are located.

- Chas Cook is restoring a rather battered and much modded S.640 back to it's original condition, he has a number of needs - missing or damaged parts - if any member has a scrap 640 then please check out his advert in this issue.

- George Handbury Grassick has been retired from the Merchant Navy for many years now but since becoming aware of EUG he has been having thoughts of the several Eddystone receivers that he had on board ship. This has led to him acquiring a nice EB35 from Peter Lepino, as George says, "it is almost like being back at sea again".

- Another member to acquire a 'new' set is Jim Murphy. And according to Jim it really does look 'NEW'. This is an pristine example of the EC10, which makes a nice pair with his EB35 II, whilst perfect externally there was an internal fault and the set went to Graeme for some TLC. Jim tells me that Graeme himself is quite agreeably surprised at the wonderful condition of the EC10, so much so that he has asked to hang on to it for a few days, 'to play with' I believe he said!

- Does any member have a stock of surplus to requirements 888A receivers? I have had 3 ads for these as Wanted this last month, the first wanted ad tied up with a For Sale ad and so I simply put the two members in touch, hope you are both happy with the deal, Colin and Sam? If you have one for sale look in the Wanted ads this issue.

- Several members have mentioned the plug-in module mods to liven up the front end of some older models, this may require some experimentation as to component values and valves used. I hear that Graeme Wormald is going to try this out on his 770R so look out for an article in the near future.

- Please ! re the item on page 21 of the last issue, 'Useful EF92'. I was NOT advocating that anybody try using this 'lash-up' on their set. That it worked at all is somewhat of a miracle, I would not have believed it had I not been told by Peter that it worked (after a fashion). Besides the probability that there could be damage caused to your set, there is always a possibility of shocks from any type of unauthorised mods to these 'Universal' AC/DC sets. My personal advice is DON'T DO IT!

- This months featured model is the 870A, one of the most basic, mini models that Eddystone put out in the 50s, it was described then as an enhanced broadcast model, I think that even today it can do better than many of the alien plastic jobs that cost much more, the crowded bands of today mean that the modern sets with wide open front ends cannot cope with so many closely spaced stations. The tuned front end of the 870A can, and does cope very well. Use it for NDB chasing too, with a good outside aerial.

- Those Pots; !!! -

- Keith Seddon writes in re the 640 that he recently acquired, when it arrived the set had a 'quirky' RF gain control. As the pot; was noisy it was decided to fit a replacement pot; - this was after he had fitted the internal speaker as per the article in a previous N/L.

- When the duff pot; was taken out it was found to be marked 10,000 ohm INV LOG and so, naturally, Keith bought and fitted a similar component only to find that operation of the RF gain control was not improved at all. A letter to me (Ted) & he was put right as to the necessary type of pot; needed. This is a 10Kohm, LINEAR wire wound component, not Inverse Logarithmic Law.

- The performance is now 'amazing' - Keith's word, and he is very happy with his 640 now that the RF gain control works normally.

- A few words on these pots; that are used as gain controls, and this usually will apply to all Eddystone sets and most other comms receivers. Where the pot; is in a DC circuit (kathode for example) then you will need to use a wire-wound (as opposed to carbon track) LINEAR law pot; - it actually varies the DC potential on the valve electrodes.

- Where you are varying a signal level, an actual audio level as with the AF gain control in almost all receivers, then you need to use a LOG; law type and these are usually around the $\frac{1}{2}$ Meg mark so they will naturally be carbon track types. These do not like DC passing through them and this usually contributes to early failure, noisy tracks and sometimes even a diss track.

- IF gain pots, if separate from the RF gain will be DC carriers, usually in the kathode circuits, these will also be of the wirewound LINEAR type.

- If you are not sure then ask, just the cost of a stamp away and I will usually reply by return.

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- MONO, as opposed to STEREO phones.-

- Apart the 'surplus' variety that are to be found at many rallies, and from some dealers who advertise in the hobby mags, does any member know of a source for these Mono headphones with the required $\frac{1}{4}$ " jack plug fitted? So many of the Stereo types that members buy just do not work when used with our mono type phone sockets and the Non-Tech; members of EUG are always writing in for info on what to do. When the plug is one of today's type of moulded on type then I can only suggest cutting it off and fitting a mono plug, but then some folk do not know how!

- If you know of a source then do please let EUG know and I shall spread the word via your N/L.

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- Your Newsletter.-

- I just said it !!! - In the last item I said that it was/is YOURS, so please use it for your ads, use it to spread the word to other members. They are always eager to hear those tips that you have, re using, repairing, even modding your Eddystone. Do you have any radio related article that could be of interest to other EUGers ??? Then share it with us all via the Newsletter, write to me (TED) via Jim Murphy.

- If you can do the item on your computer or typewriter so that it is ready for insertion and copying, then so much the better. If not then just use an old-fashioned pen and I shall type it up for the N/L. The articles in this, and past issues by Graeme are a very good example of the required format, but just do it your way.

- Graeme's item for this issue will bring back memories to the 'wrinklies' out there, none of these multi-choice questions then. When I took my C &Gs in Radio and Telecomms; back in the 40s we had to WRITE out our answers and draw the accompanying diagrams, nor did we have any help from calculators - a slide rule was

very much 'de rigueur' in those days, or else one used a book of Log; tables. To go without these to an exam was to fail before one started.

- Useful bit of Surplus ? -

- Several members have mentioned to me the availability of a very useful item on the surplus market. A bit big and cumbersome for some shacks really, but if you have the space, and have no fear of hernias then by all means get your hands on one.

- The item is the Pre-Selector Unit part of the D11/R234 Radio Installation, it is an Acceptor Unit. For the uninitiated this is basically an ATU with built in amplifier. It covers from 2 to 27 Mc/s in 4 ranges, off tune you can get as much as -37 db reduction in unwanted signals. Possibly the one feature that may endear it to EUGers is that it utilises an Eddystone slo-mo dial with a 10:1 reduction ratio. Have a look in the magazine ads for this useful item.

- 1/4 wave versus longer 'sticks'.-

- From one member there is this bit of useful info, do you use a quarter wave aerial with low (circa 50-75) ohm impedance ?

- Then do you know that a 5/8th wave aerial, be it wire or stick type, will have the same matching impedance to your set but will not need a groundplane/counterpoise ? FACT !

- What Steve points out is this, suppose you have a quarter wave long whip on your receiver or a quarter wave long wire even. By fitting a five eighths long whip or wire you will have two and a half times as much 'pick-up' length of aerial and hence much higher input signals, than with the quarter wave, yet the matching will be the same (especially so for receivers this, may need slight trimming on transmit).

- Steve suggests that EUGers obtain one of the books that deal with aerial installations, if you cannot afford to buy them ask at the local library, they are usually eager to help.

- Standard Frequency Stations.-

- These are useful to us for calibration purposes, and perhaps the most used is that on 10 Mc/s, but all is not so easy as it seems. In the UK perhaps the most powerful signal in that area of the band is not on 10 Mc/s, it is on 9996 Kc/s, just 4 Kc/s down from the wanted '10'. This is the SFT from a Russian station 'RWM' listed as at/near Moscow. Useful in its own right if you know it is not on '10'. The Id is in slowish morse as are the Ids of the other SFT station that are on 10 Mc/s exactly. Stations with an 's' at the end ? Yes as there are actually 8 listed stations on that frequency, and spread across the globe. Not all will be audible at one time but it is often possible to hear two or more superimposed upon each other. RWM is audible throughout the UK at a reasonable strength, throughout the 24 hours so as long as you know it is a bit lower in frequency then by all means use it.

- Incidentally the International Short Wave League have a very good booklet that lists all the world-wide SFT transmissions from VLF to VHF, full details of the transmissions are given and some EUGers have a mini-hobby of collecting the QSL cards that most of these stations send out, IF YOU SEND THE AIRMAIL postage as many have very reduced budgets.

- SPROGS, see issue 34.-

- A letter from one EUGer as to this item, he mentions that he has had some such sprogs in the past on his EC10, only happens on the HF band and then only

when/if the batteries are getting a bit low. He runs the EC10 from 6 of the LR20 energiser batteries which last some 5 - 6 weeks. As the voltage level drops it seems the set becomes a bit unstable, possible the local oscillator itself is generating the 'sprogs'. They sound like a very rough AC carrier and are at various points on the Range 1 scale, mostly at the high end. Something to remember when your EB35 or EC10 does run on batteries, or maybe when the psu develops a fault and puts out less than the requisite nine volts.

- Pickford's Pantehnicons, and EUG ? -

- If any eagle-eyed EUGers have spotted a large pantehnicon travelling along the corridor to the south east of Birmingham, said vehicle carrying an EUG logo and words to the effect "Graeme's Freight Service" and looking a bit weighted at the rear end. Well the answer is that thanks to the kindness of Chris Pettitt, we in EUG have been given many hundreds of Eddystone Brochures dating from the 80s into the mid 90s. Graeme undertook to 'liberate' about 500 each of these from the Bath-tub and transport them to his home QTH. The plan is to start sending them out to EUGers with each issue of the N/L, Graeme says that there are enough to last a couple of years at that rate - you ought to get the first with this issue, we hope.

- Now the bad news, the distribution of these by EUG does not imply that Eddystone Radio are in a position to supply any of these models to YOU or anybody else ! So don't go asking them to sell you a model 1706 transmitter because they cannot ! NUFF SED !

- New 'Old' Model ??? -

- Daniel from Cornwall tells me that as a child he can recall they had a battery set which was labelled as an Eddystone. He thinks it was called the 'Colonial' and had 4 valves. This was at a time when the family lived in West Africa and the set was their only means of getting news from home via the Empire Service. He has discussed the matter with his sisters and whilst they agree as to the name Eddystone they cannot recall any further details.

- I have no trace of such a set in my files, and would appreciate whatever info can be provided. Do any of you remember such a set ? Can anybody locate a picture of it ? Please let me know c/o Jim.

- FREE MEMBERS ADS. -

WANTED - 770R II in complete and unmodded condition, Please ring evenings and ask for Jack Read. Nantwich 01270-67059, Thanks.

FOR SALE - 770R working with manual, carriage extra or collect, with Isolation transfo 240 volt 150 watts, Best Offer Please, F Penny, London, 0181-675-4622.

WANTED - EP17R panadeptor to suit 770R II, please contact Jack Hussey, Malvern, Worcs; phone MALVERN 4968.

WANTED - for my S 358X, the coils for ranges B, C, & D. Please phone J. Buckley on 01944-738476, North Yorks; Thanks.

WANTED - Model 730 and 940 in very good condition, Phone Terry Edwards, Megasys, on 0171-624-7174 and say for Jose Cangas EA4JL.

WANTED - Model 850/4 LF receiver in good working order. Please ring Dave on 01582-840988 after 3.00 p.m. Thanks.

WANTED - Dial plate for model S.504, or good photocopy to make plate up. Also FOR SALE - Eddystone model S.689 Tear Drop shape key, would swop for Military radio items, or W.H.Y. Phone Ben on 01562-743253.

- I have been able to read some back issues of the BVWS Bulletin recently, not that I am a member, just had them sent to me by Graeme Wormald.

- In the June 1995 issue on page 44 there is a list of receivers and due to a rather interesting typo - merely lack of a comma - it looks as though the AR77 is being listed as an Eddystone Model !!! Somehow I think that the real manufacturers of the AR77 would be distressed to find that another Company had been given the credit.

- This is only my personal idea but I have always thought that the larger scale of the Eddystone sets, first the rectangular scale opening with the semi-circular scales, then the later slide rule type, are far preferable to the tiny scale of the RCA or Hammerlund models.

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- An Introduction to Eddystone.-

- Whilst still at school I became interested in the short wave band, and listened to the many foreign stations that could be heard on my parent's old Etronic radio. Living next door to a G2+3 meant that I could further my interests, with his willing guidance.

- Jamie worked as a fault control engineer in the local telephone exchange and spent every minute of his spare time in his 'shack'. This was a half-buried Anderson shelter in the garden at the rear of his home. The only external sign of the use to which the shelter was now put consisted of a largish white porcelain insulator, of the feedthrough type, which now protruded through a hole in the roof of the shelter. From this a wire went up to join the aerial proper, making a 'T' type of aerial. One end was attached via another insulator to the eaves board just under the roof, the other end went down the length of the garden and was attached just below the cross bar of a telegraph pole located just outside of the garden. This was in the days when it was 'verboden' to fasten anything, not even a clothes line, to GPO poles ! The aerial had been there as long as I could remember, except for one day when some officious linesman had disconnected the pole end, rolled up the wire and chucked it into the garden. Jamie's wrath at this act was frightening, and he later told me that there had been a confrontation at work and that the miscreant had since then been getting all the rough and dirty jobs in the area. The aerial went back up next day, I had been sent down to borrow the window-cleaners ladders for a half-crown, whilst I stood on the bottom rung Jamie went up and fastened the aerial even higher than it had been.

- The 'shack' was warm and comfortable, no doubt this was partly due to the fact that it contained a TR 1154/55 used by Jamie for all his contacts. It was usual for him to use phone for 'ragchews' with local pals, but CW for any of the Dx that he was always after. On occasions he used MCW where he had QSOs with a pal whose receiver had no BFO, but this was rare.

- The 1155 receiver was not the best of sets, have you ever tried the tuning on one of the early versions ? Eventually Jamie came home with a prize, a whole Saturday of bargaining had ended with his acquiring an S.358x for the princely sum of £5, that was a lot in those days, when his weekly wage was about £7. Louise his XYL did not mind so much as, she often said this, that others spent more time and money in the boozier !

- With the 358 installed alongside the 1155 an immediate comparison showed up the differences, and this was the start of my fascination for all things Eddystone. The 358 was in almost mint condition and my enquiries as to where it had come from were turned aside, although one admission was that it had been 'liberated' - a term that I did not fully understand in those days. As I became more and more interested in listening I was allowed to use the shack after school, I got home at about 4.00 whilst Jamie arrived at around 6.00 p.m. Since Louise worked also I was entrusted with the hidey-hole where the key was kept. This was necessary so that I could go into their kitchen
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to turn on the mains supply to the shack. This was a completely unauthorised lead that went out through the kitchen wall via a length of iron water pipe, travelled just underground for 15 feet before going down into the shack. Being a wise lad for my age I soon got the idea that it was a good thing to keep in with the XYL, it became a habit to fill the kettle and put it on a low gas to boil for the pot of tea that Louise craved when she got home.

- Once in the shack, with power on, I headed for the 358, having been warned to keep away from the T.1154, I left the 1155 alone also. Happy to use the Eddystone that I already coveted. I learnt all there was to know about that set, taking the manual home and learning it off by heart, whilst in bed. It was amazingly sensitive compared with the Etronic domestic set that my parents had, made more so by the high and long 'T' aerial that was now switched between the 1154 and the 358 by a knife switch mounted on the roof alongside the feed-in. No ATU was used yet I was able to listen to most countries that had their own broadcast stations. My Mum and Dad were both schoolteachers and so I already had some slight knowledge of both German and French, plus plenty of books to look up for unknown words.

- The best thing about the 358 was the 'S' meter cum current meter, which could be switched to read the anode current in each stage, for fault finding purposes, the 'S' meter position was a delight for me, knowing just how strong the signals were and then finding where they came from, I soon had my own listeners log book, which even today makes interesting reading. I had begun to learn morse some time back and whilst sending held little interest for me the decoding of incoming signals did! Who can remember AC4RF from Tibet? Bob Ford was a well known signal on the bands in those days and I even had a QSL card from him, for hearing the full QSO that he had with a Belgian station.

- It must have been some two years later that Jamie obtained an ex Gov't HRO and its full set of coils, neatly stored in their wooden containers. By now the shack was a bit full, especially when the mutt, Sammy, came in to stretch out in the warmth generated by the 1154 and a receiver. Jamie did not want to split up the 1154/55 combination as he held that it would some day be worth quite a lot, having such historic value. In the end he suggested that for the 358 he would be prepared to accept a fiver from me, this was more than I had ever owned, or expected to own. But he explained that as we were pals I could pay him back when I started work and could afford to do so - for a 13 year old this meant another 3-4 years at least but I accepted, after having discussed the matter with my parents.

- The 358 was carried home and duly installed on top of the dressing table in my room, there being no power plug I had to operate it from a 2 way adaptor that plugged into the light socket. Fine, but what about an aerial? I tried it out with just a few feet of old mains lead hanging out of the window, it worked after a fashion, but!

- A few days later Jamie came home with a roll of old, dirty, wire that looked as though it had been recovered from a coal mine, maybe it had. By sitting on the ledge of the open window he was able to attach a thin rope to a jutting out part of the roof eaves, the other end of the aerial went at a downwards angle to the top of the garden shed, not as long as Jamie's aerial but a good 50 feet of wire, and reception on the 358 perked up, enough to satisfy me.

- That set was my introduction to Eddystone, I kept it for many years, until the day that I got my hands on a secondhand 640, a swop plus cash for the 358 ensued and I still have the 640! some 30 years later. The Fiver that I owed Jamie? well when I did eventually have it to offer he turned my offer down saying that it would be better spent on other 'goodies'.

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- I really thought that by including so many extra period ads in the Xmas Issue I was doing everybody a favour. After all Xmas is a time for Nostalgia, period ads are Nostalgic, and they are so often requested by members.

- In this instance I was taken to task by one member in Scotland who claims that they were simply used as 'filler' or 'padding' - and that the Xmas issue was 'skimpy'. My apologies to any of you who thought the same, this really was my worst yet letter of complaint since EUG began 5½ years ago. Ian, it is difficult to please every member, but I am sorry that you thought so little of the Xmas issue. I shall try harder !

- The question of period ads though, members do - on the whole - like them and ask for them. They are all a part of the Eddystone Story which EUG tries to tell. And they are Nostalgic, a memory of the days when Comms; Receivers were really built to last, manufactured carefully by craftsmen, masterpieces that were meant to be used by professionals and enthusiasts.

- E.U.G to sell spares ??? -

- Sorry this is a big NO-NO. A number of members letters recently have made this suggestion. Quite apart that there is no source of such required spare parts, well E.U.G simply has not got the 'means' to do this. Neither funds, storage space, nor staff. This is not to say but that some day ----. Who knows what the future may bring. But don't wait to hear it soon.

- Those S.440 / S.450 VHF Units.-

- To any EUGers who subscribe to Radio Bygones the unit on the inner front cover of the Xmas -95 issue ought to be familiar. This is the VHF part of the 440/450 series and it is one of those historic models that played such an important part in World War II. Using various mains or battery power supply units the 440/450 was originally designed for use by the Metropolitan Police, on the theory that in case of war when telephone lines could be expected to be 'down', this transmitter/receiver unit would enable the many police stations and mobile units to keep in touch. Production of early sets was rushed through in the days just before the start of the war, and together with the base station version the S.214/215 units were installed by the Met; in the London area.

- With the start of hostilities an order was placed by the MoD for a Navy version and the whole set, including ancillaries was called the Admiralty Type S.5147. Eventually all three Services used versions of the 440/450 and there were 3 frequency ranges produced to accomodate the various service requirements, plus the civil, police, version.

- The 440/450 (no suffix) covered the full range of 50 to 100 Mc/s, the 440/450B version covered 85-95 Mc/s, and the 440/450C version covered 65-85 Mc/s. An RAF version appeared which covered up to 120 Mc/s but there is no trace of an Eddystone suffix type for this.

- In about mid-1942 a number of these sets were supplied to the Canadian Gov't, ready crystallised for around 75 Mc/s they were supposedly used by Immigration authorities for Border Patrol duties.

- Perhaps the most historic recorded use was when they were fitted to D Day landing craft, as a means of keeping reliable comms; between the vessels of the invasion fleet. The approximate 7-10 watts of RF output proved adequate for this purpose, and for ship/shore use when the forces had landed.

- In postwar years, the heyday of Government Surplus, these units were to be seen advertised in SWM and PW, WW and The Bulletin, decommissioned by removal of crystals and coils, they were sold by many dealers such as Clydesdales, prices ranged up from about £2 per unit.

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- Many EUGers have examples of these units in their collections, copies of the full manual and circuits for both the civil and MoD versions can be supplied by EUG, courtesy of Eddystone Radio. There are complete set-ups complete with the GPC Telephone type 232, Eddystone Catalogue number S.488, some of which are still able to be powered up for use on 2 metres. Amateur band QSOs on AM have been made recently for demo purposes by EUGers. In one case the units are crystallised for 70 Mc/s and used regularly with a power output of about 6 watts. Long Live the 440/450 !!

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- Original condition, For and Against.-

- Real collectors say that any changes whatever to the original model are anathema. Others like myself will accept mods of the type that can be reversed, to put the set back to original condition.

- Just about any real fan(atic) of things Eddystone will reject out of hand those mods that call for extra drilled holes, especially on the front panel or escutcheon, pure sacrilege I call it.

- When it is simply the case of fitting chrome handles to, say, a model 640 that had none originally, then things are not so bad - I could live with such an 'improvement' myself. The 740 too would have benefited from such a mod. An aesthetic improvement that brings them into line with other models of the era.

- Where it is a case of fitting, say, a phones jack onto the rear panel of a 670 series set, possibly okay if done properly - and precautions taken to isolate the jack from the possibly live case and chassis.

- What I cannot ever accept is the drilling of holes on the front panel or escutcheon for the addition of extra switches, pots, or whatever. If the model in question does not have the facilities that you need - i.e. a BFO on a 670, - then swop the set for an 840 !

- These non-reversible mods not only detract from the looks of any Eddystone receiver but they detract considerably from its re-sale value. Remember that there are no NEW escutcheons to fit should you wish to sell your 'modded' set at a later date.

- One mod I can accept, some might disagree here, is where the rather odd 'chunky' knobs of the early postwar sets have been swapped for the later 'rounded' version - but do keep the old knobs as a buyer may prefer them for their 'originality'.

- Internal mods where plug-in updates for valves are used are also okay in my mind, I refer to those plug-in Rectifier modules using silicon diodes, even the double-diode plug-in units for the 6H6/EB34 replacements. No real problem here as a valve can always be fitted if required. Same goes for those plug-in modules where a double triode is used in place of a pentode to give a cascode RF stage for low noise - as featured in EUG Newsletters. Cases where all the valves and bases have been removed so that B7G types may be fitted in lieu of the original Octal types are just out of the question, why not simply make up Octal to B7G adaptors to plug in ???

- Add on stabiliser valves, these can be fitted as external plug-in units for those sets with an octal socket on the rearpanel for DC supplies, this is an easy job and well worth while as it needs no real changes to the set itself.

- If you want to do a slight re-wire mod, such as taking the AVC off the frequency changer stage, for better local oscillator stability, that is okay, but how about a tie-on label at the rear to remind you and tell future owners who could be puzzled at a change in operating characteristics? I can even accept the case of a standby switch being rewired for use as an on/off for a built in calibrator - so long as the calibrator does not necessitate any severe mods to the innards.

- In those sets where a strip of filament bulbs act as range indicators, i.e. the 770 series, or the 730 series, then I can also accept that these bulbs be replaced by LEDs to cut down current consumption and reduce load

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on the mains transfo, again an easily reversible mod - add this to use of silicon diodes for HT rectification and you do get a beneficial reduction in power consumption.

- This last one really is the best, completely reversible and it gives a real reduction in power consumption of 10 - 15 watts. If you have ever felt the case of a 730 or 770 mains transfo after prolonged use in mid-summer then you will know what I mean.

- A Station Listing For Eddystone Owners.-

List of Principal European Stations.

Metres.	Kc/s.	Place Name.	Call.	Power.
2650	113	Paris, Eiffel Tower.	FL	-
2000	150	Kovno, Lithuania.	-	15 Kw.
1750	171	Paris, Radio Paris.	CFR	-
1604.3	187	Daventry.	5XX	-
1450	207	Moscow, Old Comintern.	RAI	20 Kw.
1320	227	Motala, Sweden.	-	30 Kw.
1250	240	Berlin.	AFT	8 Kw.
1111.1	270	Warsaw, Poland.	-	10 Kw.
1060	283	Hilversum, Holland.	ANRO	5 Kw.
555.6	540	Budapest, Hungary.	-	2 Kw.
535.7	560	Munich, Germany.	-	4 Kw.
517.2	580	Vienna, Austria.	-	5 Kw.
508.5	590	Brussels, Belgium.	-	1.5 Kw.
500	600	Aberdeen.	2BD	1.5 Kw.
491.5	610	Daventry Exper'tal.	5GB	30 Kw.
483.9	620	Berlin, Witzleben.	-	4 Kw.
476.2	630	Lyons, La Doua.	-	1 Kw.
468.8	640	Langenburg, Germany.	-	25 Kw.
462	649	Barcelona, R.Catalan.	EAJ13	2 Kw.
461.5	650	Oslo, Norway.	-	1.5 Kw.
454.5	660	Stockholm, Sweden.	-	1.5 Kw.
450	666	Rome, Italy.	1RO	3 Kw.
428.6	700	Frankf't on Main.	-	4 Kw.
418	708	Bilbao, Spain.	EAJ11	2 Kw.
405.4	740	Glasgow.	5SC	1.5 Kw.
400	750	Cork, Irish Free St.	6CK	1.5 Kw.
394.7	760	Hamburg, Germany.	HA (in morse)	4 Kw.
392	765	Toulouse, R du Midi.	-	3 Kw.
384.6	780	Manchester.	2ZY	1.5 Kw.
379.7	790	Stuttgart, Germany.	-	4 Kw.
375	800	Madrid, Union Radio.	EAJ7	3 Kw.
370.4	810	Bergen, Norway.	-	1.5 Kw.
370	811	Paris, Radio LL.	-	0.5 Kw.
365.8	820	Leipzig, Germany.	-	4 Kw.
361.4	830	London.	2LO	3 Kw.
353	850	Cardiff.	5AW	1.5 Kw.
348.9	860	Prague, Czech-Slov;	-	5 Kw.
344.8	870	Barcelona, Spain.	EAJ1	2 Kw.
340.9	880	Paris, Petit Parisian	-	0.5 Kw.
326.1	920	Bournemouth.	6BM	1.5 Kw.
322.6	930	Breslau, Germany.	-	4 Kw.
319.1	940	Dublin. Irish F.St.	2RN	1.5 Kw.
315.3	950	Milan, Italy.	1MI	1.5 Kw.
312.5	960	Newcastle.	5NO	1.5 Kw.
306.1	980	Belfast, N Ireland.	2BE	1.5 Kw.

cont;-

cont;-

Metres.	Kc/s.	Place Name.	Call.	Power.
303	990	Nurembourg, G'many.	-	4 Kw.
291.3	1030	Lyons, R. Lyon.	-	1.5 Kw.
283	1060	Dortmund, Germany.	-	1.5 Kw.
275.2	1090	Nottingham.	5NG	0.2 Kw.
260	1154	Toulouse, PTT.	-	0.5 Kw.

- No, don't bother trying to pick them up, this list was published by Eddystone Radio in 1927 in the Handbook of Constructional Details for the very popular 'Scientific Four' radio kit. But it just shows you what one of the period sets was capable of, being expected to pick up the majority of the above low power stations as listed above. Mind you, it was the norm in those days to have a 30 foot pole at the bottom of the garden and about a 100 foot of aerial wire - plus a GOOD ground system.

- The Scientific Four Booklet is in very good condition and it is to be hoped that we can come up with photo-copies of it for members who are interested. One member is already building a replica Sci-4 receiver !

- Eddystone Tv Sets. -

- A recent letter to EUG comments that the writer saw an Eddystone Tv set in the old 405 line era, and where are they all, please ???

- Well join the club James as I too would like to know where they all have got to, at least you have seen one. All I have is the word of an ex Eddystone employee and a line or two in a Models List that I got from Richard Baker in the late 80s. Has anybody out there seen one of these rare beasts please ? Is there still one extant somewhere - in a collection possibly ?? How about the existence of a 'Traders' sheet for the models, can anybody help there ? If you are able to help out then EUG will be happy to refund all your costs for copying and postage, we can copy if you cannot. Just send to Jim Murphy who will do the necessary and return your goodies.

- Broadband Aerials for SWLers.-

- Basically the thicker the conductor used the broader the working bandwidth of an aerial. For wire aerials to be used on the MF or HF bands this can be equated with a multiple conductor aerial system. Simplest is the folded dipole where there are two parallel wires, but this can be improved upon by having not two but three parallel wires, still a folded dipole but a 3 element version. These used to be quite common in the 30s and I well remember the one that my Grandfather had installed. Two tall flagpoles at top and bottom of the garden, 3 horizontal wires coupled together at each end, with the centre wire being centre-fed by open wire feeders that led down to the garden shed that served as a shack - and complete with pot belly coke fired stove. The aerial was led in through 2 holes drilled in the window pane itself.

- Such an aerial will still give first class results for anybody who is able to put one up, the main necessity being a big enough garden. Good, friendly neighbours might also be a help. Whether the local council take an interest or not depends on where you live. Some are remarkably severe over such things as tall poles, others are completely dis-interested.

- So what do we need after that bit of advice ? Multiple wire top and open wire feeders, Yes. Two tall poles or one pole and the house roof, or maybe even a couple of big trees (big as in tall !). Last being the longest garden you manage, or an adjacent, friendly, farmers field. The top spreaders can be made of rod or tube plastic, the feeder spreaders may be ditto and a 4 - 6 inch spread for the feeder will be okay. Top spread could be some-

cont;-

thing in the region of 9 - 12 inches, say $4\frac{1}{2}$ " between each of the 3 wires. The wire to be used will have to be of the multi strand type as used for mains installations, size to depend on the length of the aerial, really.

- If you want more info consult one of the booklets that Eddystone put out with their sets in the 40s and 50s. These booklets contain a variety of aerials for all situations. EUG can do you a copy at £2 post inclusive.

- Jones Plugs & Sockets, etc; -

- Those EUGers with models which utilise the multi-pin Jones type of plug and socket should note that these are available from Methodical Engineers, Manor Trading Estate, 4/6 Armstrong Rd, Benfleet, Essex, SS7 4PW.

- Don't just say 'I want a jones plug for my xxx model' and expect them to know what you need, not being Eddystone fanatics like us. Best is both a drawing and a verbal description, main points being number of pins and the position of the locating pin! They advertise as being an 'Ex-WW II Aladdins Cave so guess that they will have other 'bits' that we are likely to need.

- Start off with a phone call as they do say Visitors By Appointment Only. The number is 01268-792681, or Fax on 01268-795375.

- Prices of Older Equipment.-

- Whenever the subject turns to equivalent costs of today's 'stuff' against the 1940s or 50s prices I tend to use the common first class postage stamp as a quick yardstick. In those far off days a letter cost you $2\frac{1}{2}$ d - old pennies, and yes it always got there next day! Now that is just one-96th of an old Pound! The same letter today will cost you 25P (and they never get there next day, or the day after.). Well that 25P works out at one quarter of the Pound of today. That makes the Old money about 24 times more valuable, if you get my point. Colin.

- Interference and Economy Lamps.-

- There have been a few letters recently which mention an increase in QRM in the shack after the light bulbs have been replaced with those new-fangled Low Energy Lamps, or Compact Fluorescent Lamps.

- This is hardly surprising as they utilise RF oscillators to operate. The switching circuits use frequencies around 30 - 60 Kc/s, having a house full of these is a sure way to increase the QRM levels on your receivers. Why the manufacturers are allowed to get away with producing and marketing all these prolific RF generators is a question for the Government, either the one in Westminster or the Big-Brother in Brussels. But then they aren't trying to listen on Short Wave are they? Okay they are supposed to comply with those European Directives (!) but they still cause interference, and when you have them all over the house, and the neighbours ditto, well then you can imagine the noise they make on SW. Alan says that they produce noise not unlike the old 405 Tv line time base noise and that it goes way up beyond 30 Mc/s on his 730/6. Bringing a 2 metre handheld up to the bulb of one of these will trip the squelch easily, his XYL has bought a dozen of them so the house is now a V.L.N.G. (very large noise generator).

- Listening on both 160 and 80 metres has become impossible, tests show that noise is both radiated into space by the bulb and is fed back through the mains supply wiring, using the mains earth makes it worse and even the use of the outside ground system is little help. SO BE WARNED.

- Panadaptors. -

- There are four of them usually encountered on the second hand market at present. The EP14, EP15, EP17R and EP20. By far the most common are the last two, the EP17R is for use with receivers having a 5.2 Mc/s IF, the VHF range of 770 and 990 sets can go with this model. The EP20 is for use with those sets having a 100 Kc/s IF and the EA12 or 830 sets come into this category.

- The EP14 was an early version of the EP17R for 5.2 Mc/s IF but was also fully tunable over a much wider range. Likewise the EP15 was an early version of the EP20 with 100 Kc/s IF input but fully tunable for other IFs.

- Later Panadaptors were the EP 961 of which almost all sales went abroad to Korea. This was followed by the EP1061 which is amazingly still in use by some professional users!

- Of those mentioned above you will normally only find the EP17R and EP20 offered for sale, they are still useful, the tube is pretty much under-run and should present no problems. Heat build-up in the confined case is considerable and the fan is of little help when the filter is clogged up - as it is on any panadaptor I have seen! If you have one, or you get one, then the first job is to clean off the fluff and muck that will almost certainly be clogging the fan filter. The internal heat buildup will have had some effect on the paper insulated condensers and they should all be checked out for a degree of leakage. Inability to centre the spot can be anything from a duff valve, resistors gone high, condensers gone 'down' - especially the 'duomold' type that is used to decouple the 'X' or 'Y' plates to chassis. If there is a crack in the case, then swap it.

- Most of the valves that are used in these are fairly cheap on today's market, some of the double-triode types are available 'ex-equipment' from dealers.

- What many do not realise is that these units can be used as wobblers to set up the IFs of the receiver that they are used with, giving you a visual graph of the shape of the IF passband, an accessory well worth having.

- Re the Above. -

- A letter from one EUGer reminds me that the EP20 with its 100 Kc/s IF input is not only usable on those sets with this IF. In fact the EP20 may be used as a wobbler for alignment of any set with an IF in the range of 400 to 500 Kc/s, this of course covers most of the HF range of Eddystone and other makes. Full info on this usage can be found in the EP20 manual.

- Eddystone Oddities. -

- In the files here at EUG I have many bits and pieces of paper with just partial data on various models from the early 1920s to about the mid 1940s.
- Just a few of the examples are detailed here, if any member has anything to add to what I have then please let me have your info, I will refund copying and postage costs with pleasure.
- 1, A photocopy of circuit called the Eddystone 1937/8, 6 valve, 5 metre, USW/VHF superhet receiver. Component values and some catalogue numbered parts are alsoprinted on but no valve type numbers. It uses screen grid types for RF, LO, Mixer, and IF. Then a double diode triode for AF and det + AVC, with a triode output valve. Operation was apparently from batteries. - Nothing more is known except that this is a genuine copy of an Eddystone blueprint number BP 33? and dated 5-4-37.
- 2, A component layout drawing for the Eddystone 1937 5 valve, A.C, Superhet Receiver. Blueprint number is BP 315 of date July 1936. Nothing more is known.
- 3, A Wireless World article for the 5 metre Radio-Telephone, by D.R. Parsons of Stratton and Co Ltd. This is a 2 valve set using Mazda P220 and Pen 220 type valves plus many Eddystone components. Apart from the fact that it was used for tests from the Strattons amateur station G6SL to other amateurs such as G6XX & G6DL nothing else is known. There are photos of the set and a schematic.
- 4, A copy of blueprint BP 116A for the Eddystone 1932-3, A.C, AW-4, All Wave Four model. Component values are marked as are valve types, actual date is for August 1932. Nothing more is known.
- 5, A copy of Blueprint BP252 dated 10-4-35, for the Eddystone Super-Six Receiver. Schematic plus component values plus valve types. Nothing more is known.
- There you are, enough to start you budding Sherlock Holmes types going. If anybody can come up with any additional gen then please do let EUG know as there really are many EUGers out there avid for info on such sets as these.

- Biggin Hill and the Eddystone S.215 VHF Transmitter. -

- EUG member Terry tells me that as late as August 1981 there was an S.215 transmitter on display at Biggin Hill RAF Camp. It had been in use for ATC work until the advent of the T.1131 transmitters in the early 40s.
- This 100 watt VHF transmitter was originally designed in a bit of a hurry for the Metropolitan Police Flying Squad and supplied to them in 1939 just prior to the outbreak of WW II. It had a frequency operating range of from 100 to 125 Mc/s using crystal control only. No VFOs in those days. The idea of the rush for production according to mail that I have from Geoff Woodward was so that in the event of war, if the telephone lines went down, police communications could be maintained by VHF radio.
- As so happened the Air Ministry had a need for reliable VHF voice communications between ground control and aircraft, when Eddystone were approached they had the ideal solution already in production. It eventually became the RAF main VHF ATC transmitter under the A.M designation of Type 7AL.APW7943A. I have got both the pictorial diagram of the S.215, BP473 and the actual schematic diagram BP777 in the files here.
- Terry wonders what happened to the S.215 from Biggin Hill ? Was it junked, did it end up in private hands, or is it still there in storage ? Can any EUG member help him out with info ???

- FREE MEMBERS ADS. -

WANTED - Model 1570 as first seen at Communications 80 at the NEC, needed to replace a dying domestic set with my favourite brand. Details to Bob Ellis, 3 Derwent Park House, New Rd, Darley Abbey, DE22 1DR or phone 01332-226506 days, 01332-551398 eves.

- 770 Series Range-change Mechanism.-

- As a long time owner and user of a Mark II 770U, Peter has never had any previous need to work on the turret switching mechanism. It became necessary recently when range changing became harder, and harder. The turret was even locking solid in mid-position, brute force became necessary to turn the knob.

- Whilst the actual electrical contacts are self cleaning, they could do with an occasional drop of switch lube, or a squirt from an aerosol of the same stuff. The mechanical part needs more than this to remain free and to operate normally.

- After taking advice from EUG and from a knowing mechanical engineer it was decided to utilise a molybdenum disulphide based automobile grease. However before this could be applied it was found necessary to remove the hardened deposits of the original grease, apparently untouched since the set left the factory. A brass bristled brush dipped in 'trichlo' (trichlorethane cleaning fluid) was used and the parts of the turret change mechanism were soon clean.

- Application of the 'moly' grease was by means of an artists paint brush, easy to do if you can manoeuvre the chassis about a bit on the bench.

- Several full turns of the turret switching through the full 360° will spread the 'moly' grease over the contacting surfaces and operation will once more become easy on the muscles.

- Okay I know that the manual says that light mineral oil should be used, it also calls the factory lubrication 'permanent' - nobody expected the set to be still in use 25 years later. Light mineral oil, of the 3 in 1 type is not very effective for situations like this, you really do need a heavy duty grease for these turret mechanisms.

- WARNINGS ABOUT 'TRICHLO'.-

- The fumes from this cleansing solvent are TOXIC, they should not be inhaled and care should be taken that this substance only be used where there is adequate ventilation. Both Trichlorethane and Carbon Tetrachloride have been implicated in the studies done to ascertain the causes of Liver Cancer !!!

- There are other non-toxic cleaning liquids available, try one of the automobile parts dealers or have a look in the RS or Maplin catalogues. Ted.

- Frequency Deviation and the 990 Series.-

- As with the 770 valve type sets the 990 series caters for either reception of Broadcast type signals with wide (75 Kc/s) deviation or for the communications type of signals with narrow (circa 15 Kc/s) deviation characteristics.

- It is a fact that many people who have a 990 (or a 770) which has a narrow band discriminator find that reception of the wide band broadcast stations a disappointment. The same holds in reverse when you have a wideband set and try to receive comms; type signals on say the 2 metre band.

- It does help if you get to know the actual designed frequency deviation figures for the various versions of 990 (or 770). A list of some of the known - to EUG - variants has been prepared and is now included in this issue, possibly you may know of others? If so let EUG know and we can publish them in the Newsletter to help other members.

- The R.101, Type C Receiver.-

- This was a Royal Navy version of the All World Eight and it was being supplied to the RN in 1939, at the beginning of WW II. One of the changes was that a BFO stage was added for CW operation, most of the RN ship communications in those days were by hand morse. It also has the dubious honour of being the only Eddystone model that I know of where a switch was fitted for changeover from hi-Z to lo-Z phones! Very strange.

- This delightful term which makes me always think of dragonflies and other such summer 'additions' to our countryside, is also used to describe the many pieces of paper which are collected by such as EUG members. I'm talking about those period adverts, flyers, catalogues, sales booklets etc; that all companies produce and disseminate far and wide.

- Eddystone, and Strattons, have always been prolific providers of such 'bumf' (as many members call it). There are distinctions to be made though in the eyes of the serious collector. Some are avid collectors of anything that refers to, or bears the name of EDDYSTONE, I think you come under that heading Tor? There are others who are more specific and collect just the many catalogues and sales brochures that came from Eddystone/Strattons, they ignore the ads or reviews that appeared in periodicals of the time such as Wireless World, The Bulletin, PW, or SWM.

- To my mind some of the most interesting are the various Guarantee and Warranty forms, together with their attendant Packing and Quality Control slips. Every receiver bought from Eddystone Radio, or their dealers such as Webbs, or Imhoffs, or HP Radio, came with these necessary documents, plus various plugs and leads that would be needed to get 'on the air'. Eddystone also supplied a booklet variously entitled 'BETTER RADIO RECEPTION' or maybe 'GETTING THE BEST FROM YOUR RADIO'. Sometimes there would also be a list of other publishers books that would be of interest to, and help the new owner of an Eddystone receiver.

- During the 'hollow-state' or 'thermionic' era the sets had of course plug-in valves that could be changed by the owner should they become faulty. None of this 64 leg integrated circuit stuff where it is easier and cheaper to junk a whole PCB containing many hundreds of components! Thank God say I. What is not known to many of the present generation is that the valves themselves were not included in the Eddystone Guarantee but were covered by a separate guarantee, and had their own Guarantee Form issued by the British Valve Manufacturers Association. A bit cheap this one though as whilst the Eddystone receiver Guarantee gave an unqualified 12 months of peace of mind, the BVA document quite clearly stated only 3 months of cover!

- I have a feeling that this all stemmed from the early practice of having to sell receivers minus their complement of valves, which the user bought separately - and paid through the nose for the Marconi patent royalty.

- Eddystone Guarantee forms, with the attendant BVA Guarantee form, came accompanied by a very comprehensive Packing and Quality Control slip, which apart from showing the customer that the set had been checked, tested and given a final inspection, also listed the small items that were included in the package containing the receiver.

- An Instruction manual, which usually contained not just setting up and operating info but also a schematic diagram and re-alignment instructions was on this list. The above mentioned 'Better Radio Reception' booklet came too with its wealth of info on the various possible aerial configurations, from a simple long-wire to a doublet. The many possible locations of such aerials ranged from use on board a Tug-Boat to installation on a private yacht, plus the more anodyne (how did that creep in ???) rooftop vertical whip and the tree supported random-wire.

- For the sets that had a 'phono' socket provision there would be the correctly coloured plugs, 'banana' plugs for the aerial and earth and with co-ax plugs of the Belling-Lee type for those sets that used them. Very little was left to chance, on the assumption that some - at least - of the sets would be going to far flung corners of the British Empire, or to ex-Pats in other distant parts of the world where such bits and pieces would be unobtainable.

- The following pages show examples of both the Eddystone Guarantee and the BVA Guarantee forms, also a replica of the Packing/Quality Control slip, which enabled each set to be traced back to the individuals who did the quality control inspection and who packed the set for dispatch.

- Good photocopies of any such Ephemera are wanted by EUG for our files, all postage and costs will be refunded, Thankyou.

British Radio Valve Manufacturers'
Association

Guarantee

The B.V.A. Valves used in this receiver are guaranteed by the valve manufacturer for a period of three calendar months from the date of purchase. This guarantee is only given in respect of faulty workmanship and material and does not cover misuse or consequential damage. Claims under this guarantee will only be considered if the valve is returned to the valve manufacturer, preferably through the radio distributor from whom the receiver was purchased, supported by proof of the date of purchase of the receiver, as issued by Eddystone Radio Ltd.

To ensure proper examination, the right is reserved to break open any valve, if necessary, without obligation to return or replace.

Please quote Serial No. when writing.

EDDYSTONE RECEIVER MODEL *F.B. 35.*

SERIAL NUMBER *659.*

Date of Purchase *January 27th 1967.*

Name and Address of Distributor
IMHOF'S (RETAIL) LTD.

112-116, NEW OXFORD STREET,

LONDON, W.C.1.

This section should be retained by the purchaser for reference

PLEASE DETATCH THIS PORTION AND RETAIN

EDDYSTONE

Guarantee

This Receiver is conditionally guaranteed by us for a period of twelve months from date of purchase by the actual user. In the event of any failure during this period, due to faulty workmanship or material, the distributor from whom the receiver was purchased should be notified. Usually he will be able to rectify the fault.

The distributor reserves the right to make a reasonable charge for labour, obtaining from us any necessary part for replacement free under this guarantee.

A receiver should not be returned to us direct without prior arrangements having been made. Receivers returned must be sent carriage paid by the sender and well packed. If rail transport is used, the package should be consigned at Railway Company's Risk rate. We also reserve the right to make a charge for labour, handling expenses and return carriage.

Any interference or alteration to a receiver, without our consent, renders this guarantee void. The guarantee does not apply to receivers purchased second-hand or at less than our standard list price. The guarantee is not transferable.

Valves are guaranteed for 90 days. See overleaf for British Radio Valve Manufacturers' valve guarantee.

EDDYSTONE RADIO LTD.

EDDYSTONE WORKS

BIRMINGHAM 31

- Reproduction of the packing slip as enclosed with an EB35 that was the property of EUGer George Handbury-Grassick when he was in the Merchant Navy during the 60s. Thanks George for the loan of your documents and I hope that you succeed in getting your hands on another EB35 soon.

<u>Packing Note:-</u>	
Model,-	<u>EB35</u>
Serial No;-	<u>0659</u>
Guarantee Card,-	<u>✓</u>
Instruction Manual,-	<u>✓</u>
Coax Connector(BellingLee),-	<u>✓</u>
3 - Plugs P41,-	<u>✓</u>
1 - In-line coax attenuator,-	<u>✓</u>
1 - Black phono plug,-	<u>✓</u>
1 - Whi phono plug,-	<u>✓</u>
Better Radio Reception,-	<u>✓</u>
Packers Signature,-	<u>DW</u>
Final Inspector,-	<u>plc</u>
Date,-	<u>Jan⁴ 1967</u>

* For those of you with sharp eyes for detail. You will have noted that the EB35, one of the First Generation of solid-state receivers comes accompanied by a BVA valve guarantee, this is not a mistake as the transistors utilised in the EB35 and its stable mates were manufactured by that giant of all Valve Makers, MULLARDS ! It shows a remarkable lack of faith in their semi-conductors that they too only got a 90 day (3 month) guarantee, had they but known that so many would still be functioning more than 30 years on would they have increased the guarantee period ?

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 - FREE MEMBERS ADS. -

WANTED - Calibration crystal for my 730/1A, this is a 500 Kc/s, B7G based type made usually by ST & C. Also would like to contact any member with 1155 spares for sale, this is my latest project, Write to Geoffrey Whitlock, at 13 Ingestre Rd; Stafford, ST17 4DJ.

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- Accessories. -

- In this second part of a review of the various accessories that were made to 'go' with their receivers we will be looking at the well-known 'S' meter and its equally well-known diecast case.

- Whilst almost every EUGer will recognise the familiar silhouette of the 'S' meter and its semi-circular case, not everybody will know that this same diecast aluminium case was used to house various other accessories that were of inestimable use to the listener, the amateur, and the experimenter/constructor. Yes, back in the distant past enthusiasts DID make their own equipment! None of this "have credit card will buy a black-box" syndrome for the enthusiast of the 30s, 40s or 50s.

- The model 669 Signal Strength Meter was housed in a free standing half-moon diecast case, finished in 'ripple black' and was designed to match up with various models of receiver, i.e. the 640 and the 750. These sets had an octal socket mounted on the rear panel connecting the 'S' meter to the necessary bridge circuitry in the receiver.

- The model 669 case held a standard square meter on the front panel, slightly sloped back to aid easy reading of the scale, marked from left to right, and from S3 to S9, then +4 and +8 dbs. Each S unit was effectively an increase of 4 db above the last. The meter had a 200 uA movement and the case contained the zero-adjusting pot and other resistors to match the unit to its receiver.

- As stated above the model 669 came originally in black ripple, however as the range of receivers increased and various colour schemes became available to customers, both amateur and professional, then the model 669/E was produced which, whilst electrically identical was now painted in 'Oyster Grey Hammer Finish'. This matched up with the later professional models which used this finish.

- Prices over the years varied, as inflation in those early post-war years was rampant. Period ads that I have show early prices at 5 Guineas (£5-5-0d or £5.25 at today's currency. Later ads go as high as £7-0-0d at the time when both versions were available.

- The very same diecast case was also used for other items/accessories such as the model number 678 modulation level indicator, for amateur operators. To my knowledge this only ever came in black ripple finish, it covered the HF bands and was a stand alone unit, with a similar meter to that of the S meter unit, only marked in units of % of modulation, i.e. 20, 40, 60, 80 and 100%. The meter was again of 200 uA sensitivity for FSD. Apart the different scale unit markings the one outside feature that differentiated this from the S meter was the small telescopic rod aerial that protruded from the top, centre of the diecast case.

- The internal circuitry consisted of two of the 'new' (for then) Germanium rectifiers, the aerial plugged into a socket on top, there was a rear mounted socket for the coil required to match the band in use and a phones socket. In effect the unit could also be used as a phones monitor of transmitted signal quality. It could also be used as a comparative check of field strength for the alignment of beam aeriels, verification of radiation patterns, matching and coupling adjustments, etc; the unit was 'stand alone' needing no connection to the equipment in use, it was effective up to the 28 Mc/s band.

- Prices on the ads that I have vary from early at £7-15-0d to later at £8-15-0d. (£8.75). Not a bad price in those days for what was almost literally a 'Jack of all Trades' unit.

- In today's amateur radio world the unit would still perform its useful, multiple functions, albeit the coils supplied in 1954 covered only the then active and authorised 6 HF bands. (160, 80, 40, 20, 15, 10 metres).

- In conclusion, it has been claimed that there was a version of the model 696 Absorption Wavemeter made using the same diecast case, however I have never seen one and fail to see how the necessary slo-mo tuning dial and meter could have both been mounted on the case - if anybody has info on this or other units using the same diecast case please let EUG know.

- Early 680 Models -

- The standard model 680 is the 15 valve set using the 'deep chassis/cabinet' as used by the later 680X. Having said this there was an early pre-production version of the model 680 which was housed in the smaller, in depth, case such as is used for models like the 840 and 670.

- An example of the early version is in the factory museum and it has been featured in magazine photos both recently, in PW for Feb; -94, and way back in the Wireless world, in Oct; -47.

- This early set was described then as a 9 valve superhet with 2 RF and 2 IF stages, plus a close crystal filter giving 45 db of attenuation off resonance by only 1 Kc/s. Coverage was stated as being 0.6 to 30 Mc/s in 5 bands.

- Pictures show that this early version differed externally by having one less toggle switch on the front panel, in the lower left position. This position is occupied by the phones socket, which is - of course - on the left side of the front casting on the standard production 680s.

- Despite many enquiries I have been able to locate no schematic diagram for this early version of the 680, which was described in the 1947 Wireless World as 'being an updated version of the model 504'. Since the 504 case and chassis is almost 50% deeper than this early 680 this statement must be taken with the proverbial pinch of salt.

- When Graeme gets his hands on the museum sets then I am hoping that he will be able to provide some more info on the early 680 set that is in the collection, merely the valve line-up would help at this stage.

- Meanwhile if anybody out there can provide us with some info on this Eddystone Aberration - then please do write me c/o Jim Murphy, 63 Wrose Rd, Bradford, West Yorks; BD2 1LN.

- Swopping Valves -

- Quite apart the comments from Peter Lepino re the use of an EF92 in place of the 12BA6 in his 870A, which worked after a fashion, there is news of another such 'swop' where the set had been working for some time before the swopover was noticed by the new owner.

- Ian had bought the 840A from a local club member for £20, not buying a pig in a poke he had tried it out at the club with a bit of wire as aerial. Results had not been impressive but it was all there and worked after a fashion, so he parted with the hard-earned pennies and took his trophy home. It worked even better on the home QTH aerial of about 50 foot of wire, but some experience with previous Eddystones told him that it was not up to par, time was eventually found for a complete inspection of the set.

- Opening up on the kitchen table and some cleaning came first, then a visual check all around, both top and bottom of the chassis. Everything looked quite original, no mods or repairs being evident. The valves were carefully removed from their sockets, care was needed as the springs retaining these B8A types tend to lock solid and when the valve is removed either the glass base cracks, or in a worse case scenario the bottom half of the valve and its innards remains in situ whilst you are left holding the top half of the glass envelope ! Seriously it has happened this way !

- All the valves as removed were layered in grime and they all got a wipe down with a cloth damped in soapy water. Good job too as it was found that V1 was not the expected UAF42 - it was in fact found to be a UCH42. So what was in the V2 socket ? Another UCH42 no less. And yet the set had been performing after a fashion, hard to believe when one looks at the so very different pinouts of these two valve types, the small difference in heater volts would not have had any effect as the 1.4 volts would have been swallowed up in the series heater chain.

- Look at the pinouts below,-

	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8
UAF42 - h	a	ad	g3	g2	g1	k	h	
UCH42 - h	aH	aT	g3gT	g2g4	gT	K	h	

cont;-

cont; Valve Swops.

- For the life of me I cannot see how the thing worked, at all ! Yet it did pass signals through to the mixer/local oscillator stage.
- I have seen many cases in the past where such RF pentodes as 6SK7 were simply swopped for 6SH7 or 6SG7 with no changes to circuitry - but these were all pentodes with similar base pinouts. I have also seen such as the 6V6 just unplugged and replaced by a 6F6 no circuit changes no ill effects.
- Once whilst on a field day expedition to Westmoreland I had a heater go in the 6v6 output of the 640 that we used. The set carried on famously for the rest of the day and night with a 6J5 plugged into the output socket, but once again the pin outs for the electrodes were compatible. So much for the reputation of valves as being fragile and delicate, you try using a Mosfet or an IC wired, or plugged in wrongly and watch the puff of smoke and smell the Iodine odour that you get, instant destruction !

- - - - -
- Valves Again, and Again -

- A member has recently bought a much used BC453 'Command' receiver which has spent the last 20 years or so in storage. His idea is to use the set as a tunable 'Q-Fiver', or tunable extra IF and output stages to his model 740 receiver. The idea was sparked off by reading an article in a 1950s copy of SWM.
- The BC453 had been made more user-friendly by the addition of a mains psu mounted at the rear where the original dynamotor had been, and it was quite a neat installation too, with a C-L-C type of Pi filter which gave out a nice cool 210 volts of HT. The original 12 volt heater valves were used and other mods consisted of a Belling-Lee coax socket for the aerial, a pot in the space for the front socket and two mini toggle switches for BFO on/off and power on/off. All in all a nice set, if rather grubby and tatty on the outside. When powered up it worked okay, bringing in R4 on 198 Kc/s plus numerous Europeans and then further along came a host of NDBs, even some CW on the 500 Kc/s distress channel ! Didn't know they still used it.
- Now, this set is at least 55 years old as is proved by the March, 1941 stamp on the bottom plate, it has evidently had a great deal of use, some maybe in its intended role, more still in amateur hands. The valves look as if they are the original ones - going by the stamps on them. Latterly it has had some 20 years in storage, just dumped in a junk box. Despite all of this the set worked first time that it was powered up, it has since been fed many, many ergs and still works without complaint being now coupled to the IF of the 740 for use as a Q-Fiver.
- Do you get my point ? Fragile and delicate valves they say ? Just don't you believe it pal. None of the much mentioned valve kathode poisoning is evident here, all valves show in the 'green' on an AVO valve tester, especo for the 12K8 which is as good as a new boxed version I have in stock, so says the member.
- Valves are in fact TOUGH and RELIABLE, also if the Hi-Fi Buffs are correct they give better audio quality signals than their solid-state successors. Mind you this reputation for quality has its price, a figure of £2,700 for a parallel/push-pull KT88 Hi-Fi amplifier is a bit on the high side.

- - - - -
- FREE MEMBERS ADS. -

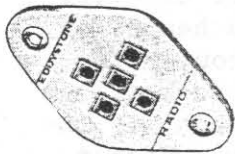
WANTED - Cabinet for model 1830/1 also cabinet for model 1837/2. Condition not too important and will travel to collect, please phone Dave on 01235-512660 in Oxfordshire.

- - - - -

SOCKETS

LOW LOSS FREQUENTITE VALVEHOLDERS.

EDDYSTONE.



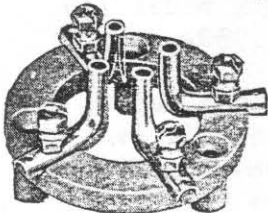
These Valveholders are of genuine low loss construction, the Frequentite insulating material being the finest that can be obtained for high frequency use. The Clix patent one-piece semi-floating resilient sockets ensure absolute alignment and maximum contact with valve pins.

The special metal inserts protect the Frequentite base from breakage when mounting on chassis.

- The sockets have specially shaped ends to facilitate soldering.
- Cat. No. 1073. 4-pin Price 9d. each
 - Cat. No. 1074. 5-pin Price 10d. each
 - Cat. No. 1075. 7-pin Price 1/- each
 - Octal Price 1/3 each

S.W. BASEBOARD MOUNTING VALVEHOLDER.

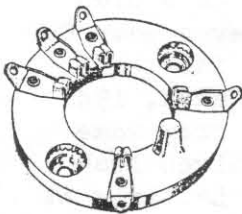
EDDYSTONE.



This valveholder is of low loss construction, the insulating ring being made from Frequentite. The holder is raised by small pillars from the baseboard and the metal sockets are of one piece construction so that all chance of noise through separate pieces being joined together is obviated.

- Cat. No. 949. 4-pin Price 1/5
- Cat. No. 950. 5-pin Price 1/8

"S-900" ACORN SOCKETS.

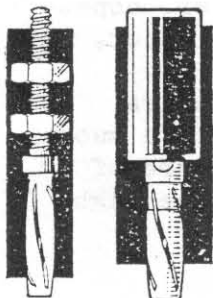


HAMMARLUND acorn sockets for ultra-high frequency acorn type tubes, 954 and 955, are a real low loss achievement. Isolantite base with alignment stud. Top, sides and stud are glazed for highest surface resistivity. Five double grip, silver plated phosphor-bronze spring clips eyeletted and lipped to base guarantee perfect

contact. The prongs cannot twist or shift. Size is 1 7/8 in. diameter. Bottom of socket is recessed to insulate contacts and permit flush base mounting. Two mounting holes on 1 3/8 in. centres. Price 5/-

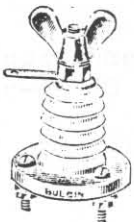
CLIX CERAMIC ACORN SOCKET.

- British and American Fitting Price 2/-



CLIX HEAVY DUTY POWER PLUG.

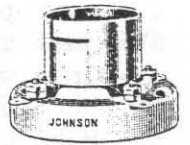
- Helically slotted, resilient type. 2 1/2 d. each
- Power Socket. For use with the above plug. 2d. each
- Safety insulated bush for above. 1 1/2 d. each



BULGIN Midget stand-off insulator in white porcelain. Fitted with three screws for baseboard fixing. Overall height 1 1/2 in. Price 10d.

TRANSMITTING TUBE SOCKETS.

JOHNSON transmitting tube sockets have been for years the accepted standard. All have heavy side-wiping spring phosphor bronze contacts, extended to form an integral soldering terminal and cadmium plated. The No. 211 filament springs are double, to handle heavy filament currents as in rectifiers. All have heavy nicked brass shells, supporting the tube by its base rather than the prongs. Porcelain bases are of excellent quality low absorption material in white glaze.



Note in particular the No. 216 socket, for "giant" 5 prong bases such as on RCA803 and RK28 tubes.

Cat. No.	Type of Base	Diameter	Height	List Price
210	"UX"	2 1/2"	1 7/8"	3/6
211	"50 watt"	3 7/8"	2 5/8"	5/6
216	5 prong	3 3/4"	2 3/8"	8/6

NATIONAL TUBE SOCKETS.

A new socket of Isolantite, modern in every detail, from the contact that grips the tube prong for its full length to the metal ring for six-position mounting. **The sockets for the glass type tubes are supplied with a stand-off insulator that allows centre mounting for bread board layouts.** This line also includes an 8 prong socket (for metal tubes), which is supplied with two metal stand-offs.

Type 4 prong, 5 prong, 6 prong, 7 prong (small), 7 prong (large), 8 prong (octal), CIR Series. List Price 1/6

A fifty watt socket with sturdy side wipe contacts and employs the conventional bayonet-lock metal shell.

Type XM-50. List Price 6/-

An Isolantite socket for the Triode Acorn tube. The socket contacts are of a new design providing very short leads and have a current path nearly independent of tube position.

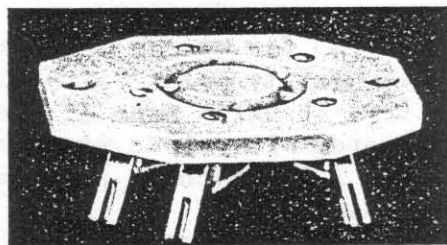
Type XCA. List Price 5/6

A socket, similar in construction to the XM-50, designed for those tubes using the type UX base (210's, etc.).

Type XM-10. List Price 4/9

Complete line of National Isolantite Receiving Sockets that fit all standard receiving tubes. Types 4 prong, 5 prong, 6 prong, 7 prong—small, 7 prong—large. List Price 2/- each

"S" ISOLANTITE SOCKETS.



An ideal low loss socket affording improved high frequency reception. Constant resistivity and perfect contact eliminate noise. Made of Isolantite, glazed on top and sides and "Ceresin" treated underneath, guaranteeing highest surface resistivity. Long leakage paths between rust-proofed positive side gripping contacts. Due to a square inset anchorage, **HAMMARLUND** contacts cannot twist, loosen, or shift position with age or changes in temperature or humidity. A circular "guide groove" makes insertion of tubes easier. Subpanel or base mounting. Size is 2 1/2 in. long x 1 1/2 in. wide. Standard 1 3/8 in. mounting centres.

- 4, 5, 6, 7 (large base) and 7B (small base) ... 2/6 each
- S.8 for all Octal Tubes 2/9 each

CLIX NEW CERAMIC OCTAL VALVEHOLDER.

A very excellent new product, which will shortly be available from Webb's. Resilient sockets, firm contacts. Price 1/3

- Thanks a Lot ! -

- A very nice card from Philip Screen commenting on the help that he has received from Graeme. Seems that in all Graeme made 5 or 6 trips down to Philip's QTH to get the 730/4 and the 640 working okay, but that since his dose of TLC both sets are now performing excellently. 'best two Eddystones in existance' says Philip ! But don't all rush over there as they are not for sale. Thanks for contribution to EUG funds Philip. Hope that you are getting plenty of listening time in these days, both these models are good for the SWLer - none of those fancy bells and whistles that one gets with todays black boxes. None of that threshold background noise that is so prevalent on the black boxes either, usually this is caused by the built in digital readout or the synthesised local oscillator, try one at full gain with no aerial, compared to say an 880/2.

- An Interesting Idea -

- EUGer David suggests that it ought to be possible to cut the power consumption, and hence the heat generated in the AC/DC models by running them on the 110/120 volts range but with a series chain of silicon diodes in the live lead from the mains. Sounds a good idea if you know what you are doing, and if the diodes are suitably (over) rated. His idea is that they provide what is called 'powerless' voltage dropping and could be used in place of the dropper resistor, maybe even wired across this with one leg of the dropper diss. I can see his reasoning BUT PLEASE DON'T TRY IT UNLESS YOU KNOW WHAT YOU ARE DOING ! IT IS DANGEROUS TO MESS WITH MAINS VOLTS !

- If anybody does have experience of this then okay go ahead and please let me know. Reminds me of several sets that I have seen where the dropper when o/c has been replaced by a paper or oil filled condenser - it does make the set run cooler and cuts down power consumption but you have to know the theory behind it to make a success of it.

- Noise Generators, Built-in -

"I have had this comment before, several times in fact. Many of the solid state receivers that are on the market today are so poorly designed that the digital part of the circuitry, and sometimes the diode switching circuits produce quite substantial amounts of noise. When you think that a square wave, such as is found in a digital circuit, is simply a multitude of sine waves combined together, that there are many harmonics produced in circuitry of this type, then no wonder that the ambient noise level in these modern sets is so much higher than in the older valve type sets."

- No not me, (Ted). I have just copied this from a letter sent in by an EUGer, and he was commenting on a query by a customer who uses his EA12 for QSOs on 20 and 10 metres rather than his Kenwood 5000. Makes you think about 'progress' does it not ?

- I know just how he feels as my experience of the modern black boxes has been that they DO work well with good signals on crowded bands, but if you are trying to 'winkle' out a poor signal that is way down in 'S' points, then try a good valve set.

- FREE MEMBERS ADS. -

WANTED - models 1570, EC10, EB35, EM34, 960, 890, 930, 870, 870A and any others considered. Also any scrap sets for spares. Some doubles for sale. Please phone Peter on 0374-128170 anytime, Surrey area. Thanks.

EDDYSTONE 'ALL WORLD TWO'

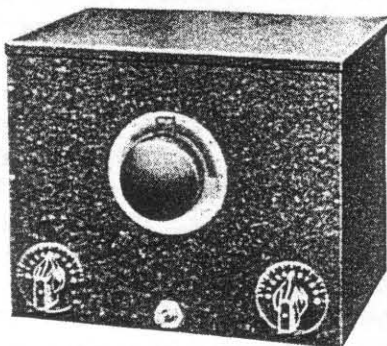
A POWERFUL 2 VALVE SHORT WAVE RECEIVER WITH BANDSPREAD TUNING.
FOR BATTERY OPERATION.

SPECIFICATION FEATURES.

- "Eddystone" Slow Motion Bandspread Tuning Unit allows each section of Tank Condenser to be spread over the full scale of dial. Permits widest calibration and tremendously improved selectivity.
 - CALIBRATED BANDSETTING. Using patented "Eddystone" 10 x 14 m.mfd. Tank Condenser. Ten predetermined settings each covering capacity of 14 m.mfd.
 - HIGH SENSITIVITY—LOW NOISE LEVEL. Many receivers suffer from high noise level and consequent inaudibility of weak signals.
 - PRE-SET REACTION WITH POTENTIOMETER GAIN CONTROL. No backlash; negligible effect on tuning.
 - DIECAST ALUMINIUM CHASSIS. For extreme rigidity.
 - CABINET. Strongly built steel in brown crinkle finish.
 - WAVE RANGE. 15.5 to 52 metres with two coils provided. Calibration scales included with instruction Manual. Adaptable by extra coils to 200 metres.
 - VALVES. A screened grid detector Mazda SP210 and Tetrode output Osram KT2 form an ideal combination.
 - NO GRID BIAS BATTERY.
 - LOW CURRENT CONSUMPTION. 5 mA at 120 volts high tension and .3 amps. at 2 volts low tension current.
 - POWER CABLE. Heavy duty 4 way leads supplied.
- Complete with valves, coils and calibration charts. Aerial tested and ready for immediate use.

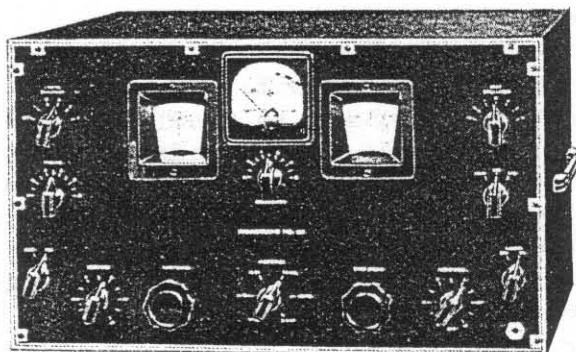
PRICE: **£3.17.6**

Hire purchase terms on
A.W.2 COMPLETE with
Valves, B.T.H. Phones
and Batteries (£5.11.0
list), 20/- deposit and
6 payments of 16/4
monthly.



**WEBB'S CARRY EVERY
EDDYSTONE RECEIVER
AND COMPONENT IN
STOCK.**

NEW HAMMARLUND MODEL HQ 120



Hammarlund's New "HQ-120" amateur communications receiver includes many outstanding features. 12 tubes cover a range from 31 to .54 megacycles. New and revolutionary crystal filter circuit; special R.F. and detector circuits providing uniform gain throughout the amateur bands; entirely new design in tuning condensers providing extreme accuracy; calibrated band-spread dial as well as main tuning dial; new vacuum tube voltmeter circuit for accurate logging—meter is

calibrated in "S" units up to "S-9" and also up to 40 db above "S-9."

This receiver is entirely different—Conventional ideas have been put aside in the design and engineering, which incidentally, required over two years. The crystal filter circuit used in the new "HQ-120" has six ranges of selectivity ranging from broad right through to "single signal" reception. It is now possible, by a flip of the switch, to employ the crystal filter for the reception of voice or music. The six degrees of selectivity remain constant regardless of the phasing control position. There is no interlocking. This crystal filter is so flexible that even in the first position, excellent music can be recorded minus the usual heterodynes that exist in crowded bands. The phasing control will remove heterodynes without altering the quality of the received signal. The special R.F. circuit, with its antenna compensator, permitting the use of various types of antennas with maximum efficiency, together with the three stages of high gain intermediate frequency application, provide ultra sensitivity.

Price complete for 230 volt operation ... **£38.10.0**

OUTSTANDING FEATURES

- Continuous range from 31 to .54 mc.—12 tubes.
- Antenna compensating control for maximum signal-to-noise ratio and image rejection.
- Variable band width crystal filter for
- 310 degrees band-spread on all amateur bands.
- Noise limiter follows A.V.C. for quiet reception.
- phone reception.
- Calibrated "S" meter on all models.

- Featured Model, The 870A. -

- If you are familiar with the original 870 model then the 870A will have little in the way of surprises. The circuit is little changed apart from the addition of a fifth HF band. This extends the top frequency to 24 Mc/s as opposed to the 18 Mc/s of the 870. The main gain from the extra band is that the 3 HF ranges are more spread out on the scales, with the major Broadcast bands better located, for ease of tuning.

- Valve line-up is the same, with 5 of the AC/DC 0.15 amp series, 2 dial lamps and 2 thermistors plus the dropper resistor wired to allow of operation on all standard supplies between 100 and 250 volts. In fact, as is, the set will work on as low a supply as 85 volts ! I have handled a set where the dial lamps had been shorted out and the set was run from a 75 volts supply, DC, obtained from 6 series connected 12 volt batteries, they were put in parallel for charging and series for listening ! The set worked very well too.

- The addition of the extra band means some re-arrangement under the chassis for the extra coils but apart that most items are in the same place as with the 870. Later versions of this 870A have had an additional circuit fitted to enable the set to be used with a gram pickup, a suitably isolated socket has been fitted on the rear of the set.

- The basic superhet circuit consists of a 12BE6 frequency changer transformer coupled to the IF amplifier operating at 465 Kc/s, this feeds the double diode triode which is a combined Af amplifier, 2nd detector, and AVC. The AF is fed to the tetrode AF output valve which feeds the internal speaker. HT is supplied from the usual half-wave rectifier valve, in this case the ubiquitous 35W4. The incoming AC/DC is well 'choked' to remove the usual mains hash that was so often encountered on board ship, the usual place for a model like this.

- As with all of the so-called Universal sets the metal case has been well insulated from the chassis and mains supply, this means that the rear panel earth socket goes directly to the case, and is connected to the chassis via a high voltage condenser for an RF earth. The aerial sockets too are isolated by means of hi-volts condensers. In the case of the aerial sockets the condensers are rated at 1250 volts AC peak working and are of the ceramic type, this is because the operation of an 870A aboard ship could put it in the vicinity of the ships transmitter where very high induced voltages could be encountered. Likewise the chassis insulating condenser is a 600 volt Peak AC working type.

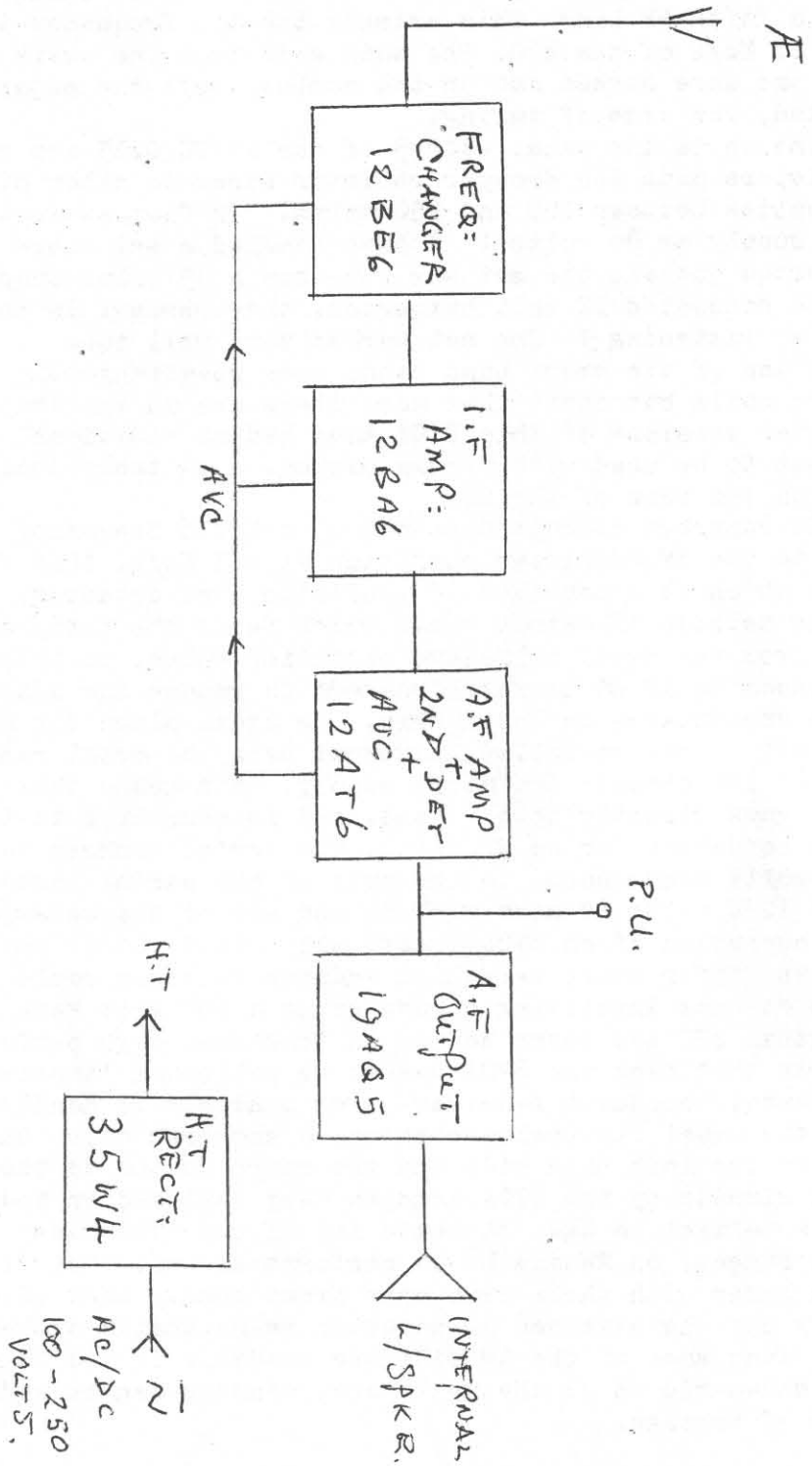
- The original 870 was described as an 'enhanced high performance broadcast receiver' - in that case the 870A has to be called an 'improved, enhanced, high performance, broadcast receiver. Few controls to handle, just the main tuning with the usual flywheel mechanics, a combined mains On/Off switch and volume pot; on the left hand side and the range switch to the right. Despite its apparent simplicity the 870A handles very well and on today's crowded bands it is a delight to use. It beats any of the 'trannies' for picking out Dx on the Sw ranges, on MW and LW it performs so well that it puts to shame the modern black boxes with their wide open front ends. Lack of a BFO does limit it to AM only but the extended LW coverage means that a number of beacons can be resolved, even some of the CW NDBs are readable if you tune with care.

- A block schematic is on the next page, manuals can be had from EUG for £3 inclusive of postage.

- FREE MEMBERS ADS. -

WANTED - Model 888A, Must be in good condition and working order. Will pay good cash price for such a good set. Can Collect, Please ring John on 01495-307189 (Sth Wales).

WANTED - model 888A & 'S' meter & Speaker, phone B. Tibbert, 01332-883035 or write 66 Hursley Rd, Kilburn, Derby, DE56 ONE.



MODEL 870A.

MODEL 640 : FITTING OF HT FUSE

The mains transformer and the smoothing choke of the receiver are liable to damage in the event of a short circuit on the HT line. Protection is simply arranged by fitting a fuse in the centre-tap lead of the transformer secondary. This modification is easy to implement and is equally easy to reverse without trace. It uses an existing hole in the chassis wall as a fixing point for the fuse holder.

Components required:

20 mm chassis-mounting fuse holder. Maplin KC01B.	1 off.
20 mm fuse, 125mA	Maplin UJ75S. 1 off.
Wire	6 inches
3 mm or 6 BA screw, nut and washer.	1 off each.

Modification:

Figure 1 shows the underside of the chassis. The wiring is easy to trace. If you wish to check that you have the correct wires lift the wire from the chassis earth lug and make continuity checks between this wire and pins 5 and 3 of V7. Note that the resistances of the half-windings will not be identical because the outer half has more wire due to the increasing diameter of the turns.

Solder about six inches of wire to one of the fuse holder terminals and sleeve the connection. Fit the holder to the chassis sidewall using the existing hole below the capacitor clip (Fig. 2) with the wired connection under the capacitor. Note that the screw must not protrude beyond the nut or it might foul the fuse body or the receiver case depending on which way round the screw is fitted. The holder is quite close to the capacitor clip and it might be wise to wrap insulating tape around the holder or the clip. Run the fuse holder wire behind C72 and solder it to the chassis earth lug. Solder the lead of the transformer centre-tap to the other terminal of the fuse holder. The connection should be sleeved. Don't forget to fit the fuse before replacing the case.

If a heavy-duty soldering iron is not available you could cut the centre-tap wire at the chassis earth lug. Fit a solder tag to the wire on the fuse holder and fasten the tag to chassis by the holder fixing screw or by a separate screw in the other existing hole in the chassis wall.

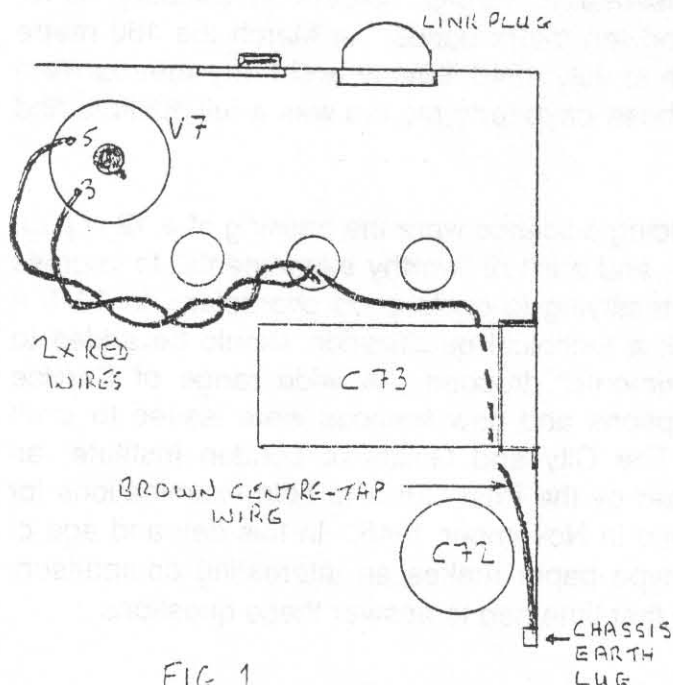


FIG. 1

EXISTING WIRING ARRANGEMENT

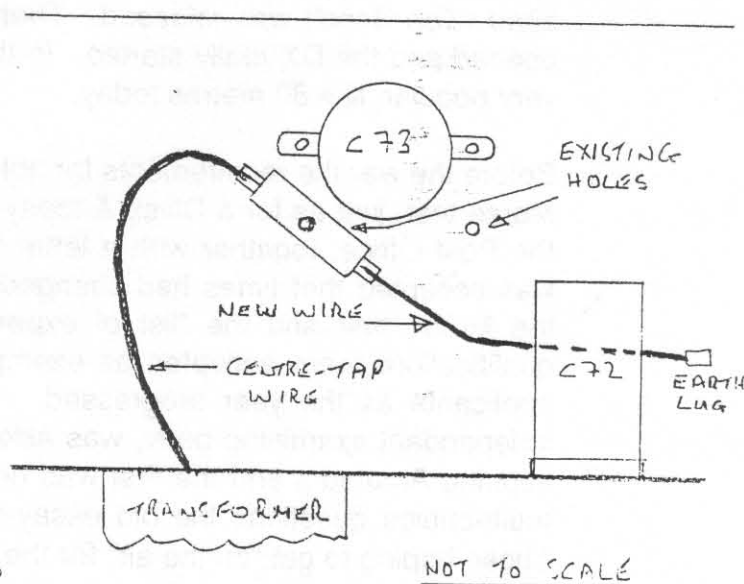


FIG. 2

FUSE POSITION AND RE-WIRING

FIFTY YEARS AGO

Amateur Radio starts again after Six Years of War.

Graeme - G3GGL - stretches his memory

On the Nine O'clock News of Thursday evening, 31st August 1939, the BBC announced that all Amateur Radio Transmitting Licences were cancelled forthwith, and that all transmitting equipment was to be impounded by the Post Office. The next morning Nazi Germany marched into Poland. World War II had started. For the next six years British radio amateurs used their skills in the National Interest.



— **SEE YOU ON FORTY
AFTER THE WAR!**

When peace returned on 14th August 1945 many callsigns were missing, but the magic of shortwaves had reached new boundaries. During the war the Radio Society of Great Britain had sold almost 200,000 copies of its Amateur Radio Handbook. It had become the standard Service textbook of wireless communication.

The first post-war licences were re-issued to former holders in January 1946, operation being restricted to the five and ten metre-bands. In March the 160 metre band ('Top Band') was released. Then in July 1946 Twenty and Forty metres were opened and the DX really started. In those days forty metres was a full 300kc/s and very popular, like 80 metres today.

Before the war the requirements for holding a licence were the passing of a 12 w.p.m. Morse test, just as for a Class A today, and a list of "worthy experiments" to impress the Post Office, together with a letter testifying to one's good character. In 1946 it was accepted that times had changed; a technical qualification should be added to the Morse test and the "list of experiments" dropped. A wide range of Service qualifications were accepted as exemptions and new licences were issued to such applicants as the year progressed. The City and Guilds of London Institute, an independant examining body, was asked by the Post Office to hold examinations for aspiring Amateurs and the first was held in November 1946. In this day and age of multi-choice questions the old essay-type paper makes an interesting comparison. Those hoping to get "on the air" for the first time had to answer these questions . . .

1946

RADIO AMATEURS' EXAMINATION

Friday, November 15th, 7 to 10 p.m.

Candidates should attempt as many questions as possible. Use should be made of diagrams where applicable. The maximum possible marks for each question are shown in brackets.

1. Why are frequency multipliers sometimes employed in radio transmitters? Describe, with diagram, a frequency-multiplying stage for a low-power transmitter. (10 marks.)

2. What is "fading", and how is it caused? (10 marks.)

3. Describe briefly the principles of operation of a superheterodyne receiver, illustrating your answer with a block schematic diagram of a typical receiver. (10 marks.)

4. The d.c. feed to the last stage of a transmitter is 250 volts, 60 ma. It is found that the h.f. current flowing in a load resistance of 500 ohms is 0.1 ampere. Calculate:-

(a) the power input;

(b) the power output;

(c) the efficiency of the stage. (10 marks.)

5. What are the advantages and disadvantages of directional aerials for transmission and reception?

Describe, with diagrams, a simple directional aerial and explain its method of operation. (10 marks.)

6. Describe the principle of the heterodyne frequency-meter and explain how you would use it to determine the frequency of a received signal.

(10 marks.)

7. (a) What is the purpose of key-click filters, and of what do they consist?

(b) An amateur transmitter on the 14 Mc/s band was found to interfere with television reception on 41-45 Mc/s. How was the interference probably caused and what steps could have been taken to minimise it?

(20 marks.)

8. (a) What is the procedure laid down by the Postmaster-General for the use of call-signs when making and answering calls?

(b) One condition imposed by the Postmaster-General as regards "Non-interference" is as follows:-

"When telephony is used, the system of modulation must be such as to prevent the carrier-wave being modulated more than 100%."

What are the objections to over-modulation, and how would you minimise the risk of over-modulating? (20 marks.)

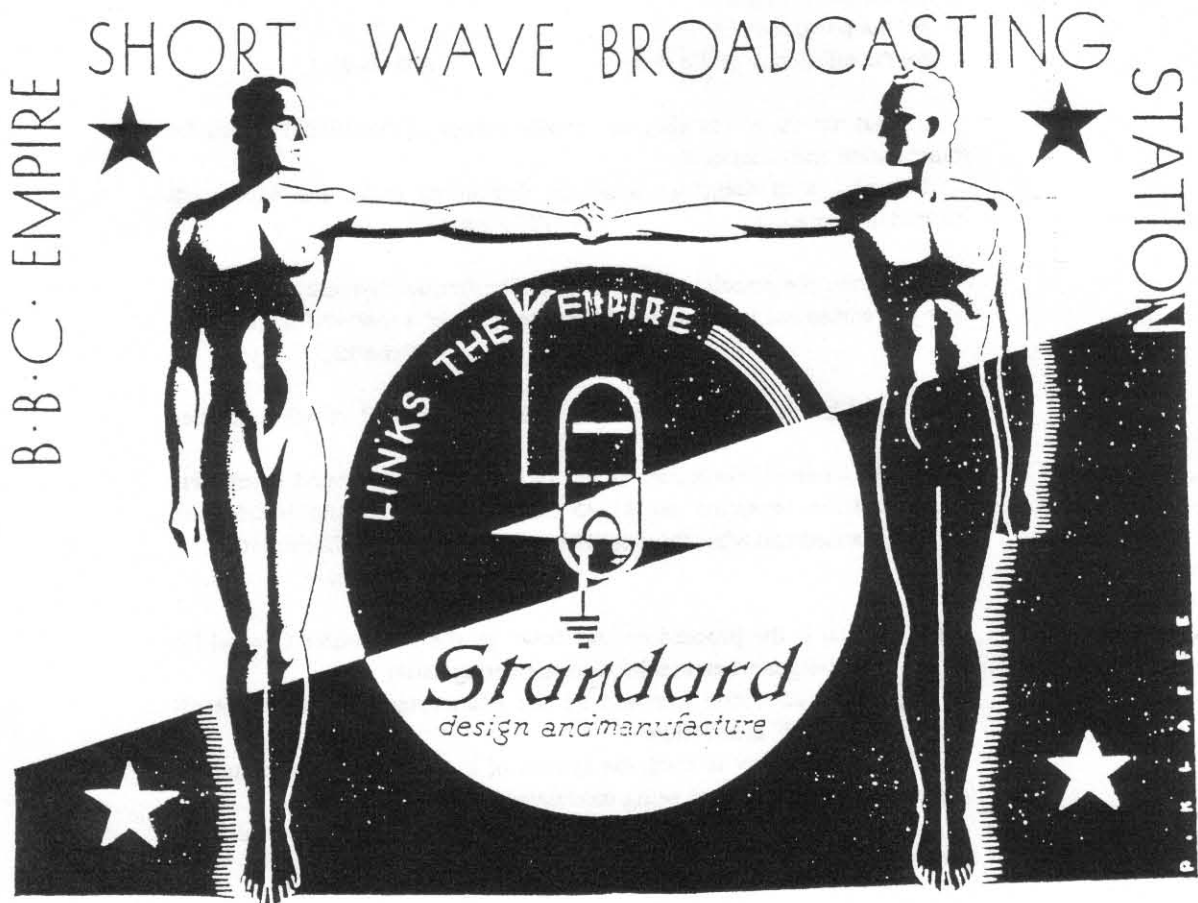
SHEDDING LIGHT ON THE BEACONS

Many of you read the article on Non-Directional Beacon-Hunting, published in the last Newsletter, with great interest. But several readers are still trying to work out just where these beacons are. Search no more, dear reader, for help is at hand...

Robert Connolly, the leading exponent of beacon-hunting, has just published the third edition of his "Non Directional Beacons of Europe". It contains callsign, frequency, and location of over 2,100 aero and marine beacons, from the Arctic to North Africa. Together with a chapter on the latest beacon situation it enables you to find a beacon in minutes rather than hours or days (or never!). Here are the ordering details:-

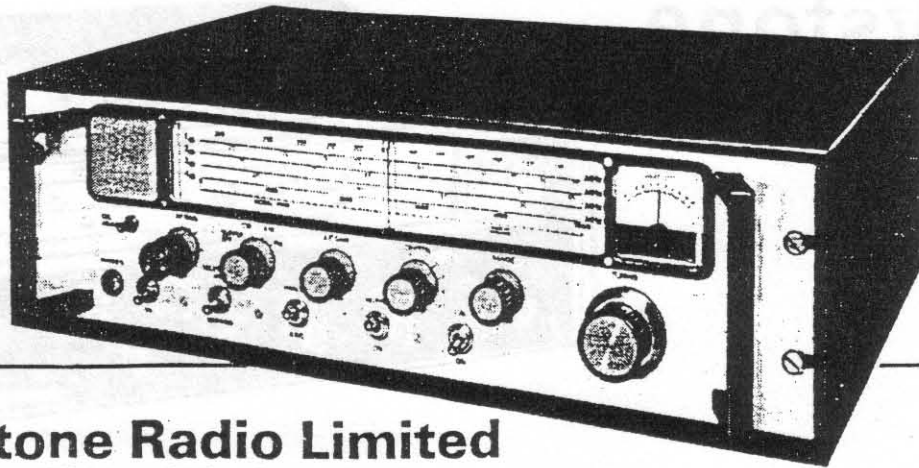
The price is £4.75 plus P & P, 75p for UK, £1.25 Airmail for EEC, £1.50 Airmail for non-EEC. Payment can be made using UK Sterling cheque/UK Postal Order/cash (via registered post)/ Eurocheque made payable in Sterling with card number on the back of the cheque/ foreign banknotes to the total value of the order plus 10% minimum handling charge (any change involved will be issued as IRCs)/ foreign bankers cheques made payable in Sterling drawn on a UK clearing bank. Make cheques payable to R.A.CONNOLLY. Give your full name and address and send to:-

MR. R.A.CONNOLLY, Gi7IVX, 21, ELEASTAN PARK
KILKEEL, CO. DOWN, N. IRELAND BT34 4DA



Standard Telephones and Cables Limited, Connaught House, Aldwych, London, W.C.2. Telephone: Holborn 3765 (24 lines)

This wonderful *Art Deco* advertisement appeared in the 1933 BBC Year Book celebrating the opening of the new Empire Service from Daventry the previous year. The station closed down in 1992 after 60 years service.



Eddystone Radio Limited

Member of Marconi Communication Systems Limited

Alvechurch Road, Birmingham B31 3PP, England

Telephone: 021-475 2231 Telex: 337081

A GEC-Marconi Electronics Company

Model 990R

Designed for fixed or mobile point-to-point service or for broadcast monitoring, this solid-state single-conversion VHF receiver is finding increasing use in other professional applications such as the meteorological service, radio astronomy, aerial investigations, civil aviation and in radio laboratories.

Continuous coverage is provided from 27 MHz to 240 MHz for CW, AM and FM reception, with exceptional stability and sensitivity. A crystal filter to suit 12.5 kHz, 25 kHz or 50 kHz channel spacing can be supplied to suit customer requirements; and output is available for panoramic display.

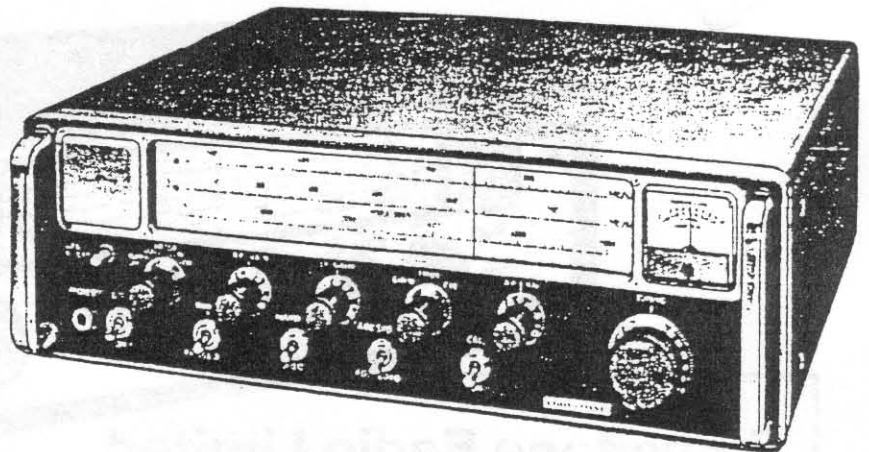
- The standard 'civvy' version of the 990R had Narrow/Wideband switching whereby the normal 200 Kc/s wideband could be switched to 30 Kc/s using a crystal filter.
- The MoD versions could be supplied for use with 12.5, 25.0 or 50.0 Kc/s bandwidths as required.
- The 990R/2 was issued for use by the Met Office and this was supplied as standard to them with a 40 Kc/s filter.
- The MoD version usually had the chrome handles whilst the 'civvy' version was fitted with the angled out painted handles.
- Thanks to Jim Murphy for 'treating' the above photo for our use. Ted.

- FREE MEMBERS ADS. -

WANTED - for model 640, original potted mains transfo 0,110,200,230 volts input, ALSO original potted smoothing choke, ALSO original coil box cover plate, or template to make myself such a cover plate, i.e. dimensions and hole position and sizes, also any markings. Also want 2 x octal sockets as fitted early Eddystones moulded valve pin holes are rectangular and have letter 'A' on moulding between pins 3 & 4. Original aerial@earth terminal strip or dimensions of same to enable one to be made up. Finger plate for 640 or whereabouts of supplier.

ALSO WANTED - original SEI style E 450 Kc/s crystal in B7G base part no; 6240P
C.A.R Cook, G30TH, 16 Netherton Lane, Bedlington, Northumberland, NE22 6DR.

Eddystone



990S vhf/uhf communications receiver

Cleaned up for use by
Jim Murphy.



The Eddystone model '990S' is a fully transistorized single conversion receiver for reception of a.m. and f.m. signals over the range 230 Mc/s to 870 Mc/s. Two separate r.f. heads are used incorporating trough-line circuits, the range switch energizing one or other unit according to the range selected.

The use of a high intermediate frequency (36.5 Mc/s) ensures good image protection and the alternative bandwidths provided permit reception of signals carrying amplitude, video or frequency modulation. A low impedance output at the intermediate frequency is available for driving ancillary equipment.

The audio frequency response is excellent, and a built-in monitor speaker is fitted, together with outputs for external speaker, telephone headset, and remote lines.

Operation is from standard a.c. mains 100/125 or 200/250 volts (40 to 60 c/s), which is transformed and rectified to 12 volts d.c. A socket is provided for direct input at 12 volts d.c., the current consumption being 0.3 to 0.5 amperes.

Other noteworthy features include the standard Eddystone precision gear-driven slow-motion tuning assembly; clear tuning scales; crystal calibrator; panel tuning meter; independent r.f. and i.f. gain controls; compact size; and light weight.

Eddystone Radio Limited

Eddystone Works, Alvechurch Road, Birmingham 31
Telephone: Priory 2231 Cables: Eddystone Birmingham Telex: 33708

- The normal model was supplied with switched Narrow/Wideband of 1 Mc/s & 6 Mc/s for AM use and of 1 Mc/s only for FM use.
- The later 990S/1 was essentially similar except that it had a video output socket provided on the rear panel.
- The 990/T was essentially for Tv reception and had wideband 6 Mc/s IF strip and output for Tv signals on the rear panel.
- From July 1971 a new type of RF unit was fitted and this used different transistor types, performance spec; was similar though.

- ATTENTION NEW MEMBERS !!! -

- A Full listing of all known Eddystone Models, and brief description, can be obtained from EUG. This was originally published with the Newsletter issue number 20, in 1993 - you can have a copy for £2.00 if you write to EUG c/o Graeme Wormald, Sabrina Drive, Bewdley, Worcs, DY12 2RJ.

- Also there is a full listing of all the reported faults on the more popular receivers made by Stratton/Eddystone, this was published with the Xmas 1994 issue, again send £2.00 to Graeme.

- How about a photocopy of the booklet 'How to use your Radio' also known as Better Radio Reception. This was a booklet issued over many years with each and every Eddystone receiver that left the factory. Whilst somewhat dated now it is still useful as it lists the many varieties of wire aerials that can be made and used with your favourite receiver, also gives earthing info for reduction of interference, aerial wire lengths for various bands, again just write Graeme and send him £2.00. All prices include p & p.

- - - - -
- Model Listing as Featured in N/letters.-

- Thanks to Anthony Richards for the index overleaf, helps to keep track of those we have featured, saves me a bit of time when a member does this for me ! Next issue we will feature the model 910, this also appeared as the Marconi model HR 101, under the suffix number /1 (910/1).

- - - - -
- Centre Electronics. -

- Only fair to mention that a number of members have written in since last issue to say that they have had very good service from Howard Turner at the above mentioned Emporium. Howard can supply a good range of valves at very fair prices for EUG members and has also a small stock of Eddystone parts, both new and second user. Give him a call on 0121-706-0261, (B'ham).

- - - - -
- Restoration Projects.-

- G3 OTH, Chas Cook is involved in the rebuild, almost from scratch, of a model 640 receiver, his ad elsewhere in this N/L will give you an idea of the state of the set as is. Should you have a scrap 640 to sell or even one of the listed items then please do contact Chas at the address given, he will be delighted. He also needs the calibrator crystal and the mains plug and lead for an Eddystone, Centre Electronics have provided him with some parts already, but he is still waiting for the others.

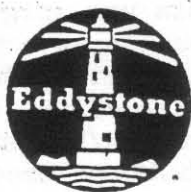
- - - - -
- "Best Eddystones in the Country" -

- From Phil Screen in Codsall, Wolverhampton a letter of appreciation for the help received from Graeme Wormald. Phil says that since Graeme has been down to 'operate' on his sets they are the best in the country ! Nice to have such praise for somebody who is deeply involved in EUG admin these days. It must leave Graeme with little time for his own collection, but I did warn him ! Ted.

- - - - -
- Finger Plates, Scale Plates. -

- From Rod Fryatt comes a suggestion re the supply of the above much asked for items. Rod is getting his tame clock dial restorer to reproduce a dial plate for his S.556 receiver, good idea !

Eddystone User Group



index to models featured in each issue

issue 1	840A	issue 19	All World Six (710B)
2	940	20	820 AM/FM Tuner
3	740	21	S 504
4	670	22	E.C.R.
5	680	23	888A
6	640	24	870
7	840C	25	1000 Series
8	990S	26	840
9	770R	27	670C
10	EC10	28	All World Two
11	EB35	29	680
12	750	30	E.R.A.
13	All World Eight	31	909A
14	EC 958	32	31A (noise measuring)
15	Sphinx	33	670A
16	960	34	EB35 Mk III
17	730/4	35	1570
18	Kilodyne Four	36	870A

- The AC only 670C, see last issue.-

- Member F. Penny writes in to state that in his opinion the mod to make the AC/DC set into an AC only model is a very worth while idea, for the sake of safety and peace of mind. His experience of radio goes back to the 1930s era and he has an intense distrust of those 'Universal sets'. He mentions that use of a mains transfo will often get rid of mains borne interference, so prevalent these days due to the use of so many computers.

- BBC Monitoring, Caversham Park.-

- Member Ian Liston-Smith works at the above establishment and has sent in quite a lot of info for use in the N/L. This issue being already chock full I shall have to leave it for next issue, likewise with the long letter from Chas Cook, also containing info for the N/L. Still something to look forward to !

- VALVES, and MORE VALVES.-

- Member J.H.H. Buckley recommends Langrex for valves, he has had very good service from them, try a call to 0181-684-1166.

Ditto, Jim Murphy suggests a call to Wilson Valves in Huddersfield if you want quick service to get your Eddystone back on the air, try 01484-654650.

- Komplete Kures !!! -

- A bit of polite Mickey taking here from Rod Fryatt ! His 840A sounded okay but he was not able to turn it down completely with the AF gain, Rod claims that by replacing the o/c Kathode decoupler he cured the fault, this was C51 in the Kathode of V4, okay point taken Rod but I am too old to change my spelling of Kathode now so you are all stuck with the K K K.

- EB35 Audio Distortion.-

- Rod also mentions that he had distortion and instability as the gain was turned down on his EB35, this was operating on mains via the built in psu (924) and he discovered that the 9 volt supply was varying with the audio signal. He discovered that the 100mA mains fuse had been interchanged with the 500mA battery supply fuse. Putting them back correctly cured the fault. Well I do know that the low current fuses have a highish resistance, necessary if you think for a moment to enable them to blow. I had not realised that the swopping over of the fusues would have caused this problem, we live and learn.

- ENDIT -

- That's it for another Newsletter, if you have anything to put in the next issue please make sure I get it before the end of March, don't wait until the last minute and then hope that Royal Mail have suddenly become efficient ! A letter to Jim Murphy EUG, 63 Wrose Rd; Bradford, West Yorks; BD2 1LN, will be in my hands soon after he gets it. If it is meant for the Factory he will send it on to them, if for Graeme then you can write via Jim or send direct to Graeme.

- There is a Subs; form on the bottom half of this page, last issue of the year for evrybody is *this one*. Sending it early means that EUG are able to spread out the workload associated with annual subs a bit, easier on those concerned with EUG admin; matters. If you don't send it then you are not likely to get a Newsletter in August !

- Some items from your mail have had to be held over for next issue, space does finally run out ! I could have done 50 pages easily but then costs go up with the increase in pages, so sorry. Enjoy what you have here and keep your mail coming in, try to comply with the requests for mail to Graeme & to Jim, makes it easier for us all. See if you can get to the NEC on 5th May.

73,

Ted.

- EDDYSTONE USER GROUP -

- Subscriptions form for Year 1996 - 7, =6 Issues of the Newsletter -
Membership number (if known),- _____ (UK = £10, Europe = £11.)

Name (callsign, if any),- _____

Address and Postcode,- _____

Subscription Amount Enclosed,- _____ U.K - _____ Overseas.

Method of Payment,- Cheque / Money Order. (Please make payable to Eddystone
User Group, and send to;-

Graeme Wormald, G3 GGL.

Eddystone User Group.

15 Sabrina Drive.

Bewdley.

Worcs; DY12 2RJ.

- - - DON'T LEAVE IT TOO LATE !!! - - -

(Subs; can be renewed at the NEC on the 5th May at the E.U.G Stand.)