

EC 958

14

Eddystone User Group

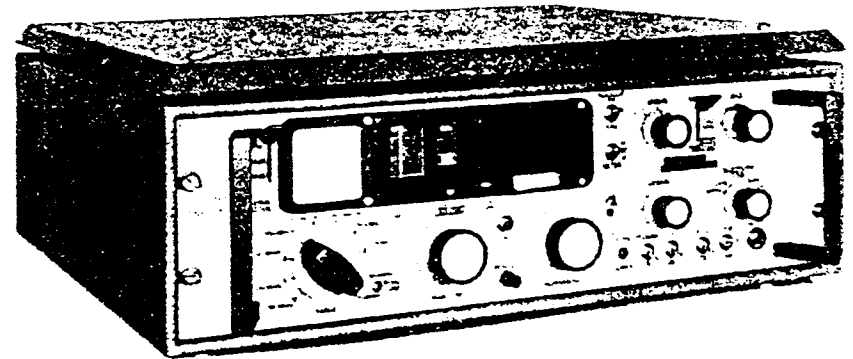
EC10-13



Newsletter

Issue No.-14

Featured Model,- EC958.



- A NON PROFIT NEWSLETTER FOR EDDYSTONE USERS.
- INFORMATION QUOTED FROM EDDYSTONE LITERATURE BY KIND PERMISSION OF CHRIS PETTIT, MANAGING DIRECTOR OF EDDYSTONE RADIC LIMITED,.
- PLEASE ADDRESS ALL MAIL:- W.E.Noore. Moore Cottage.
112 Edgeside Lane. Waterfoot.
ROSSDALE. Lancs; BB4 5TR.

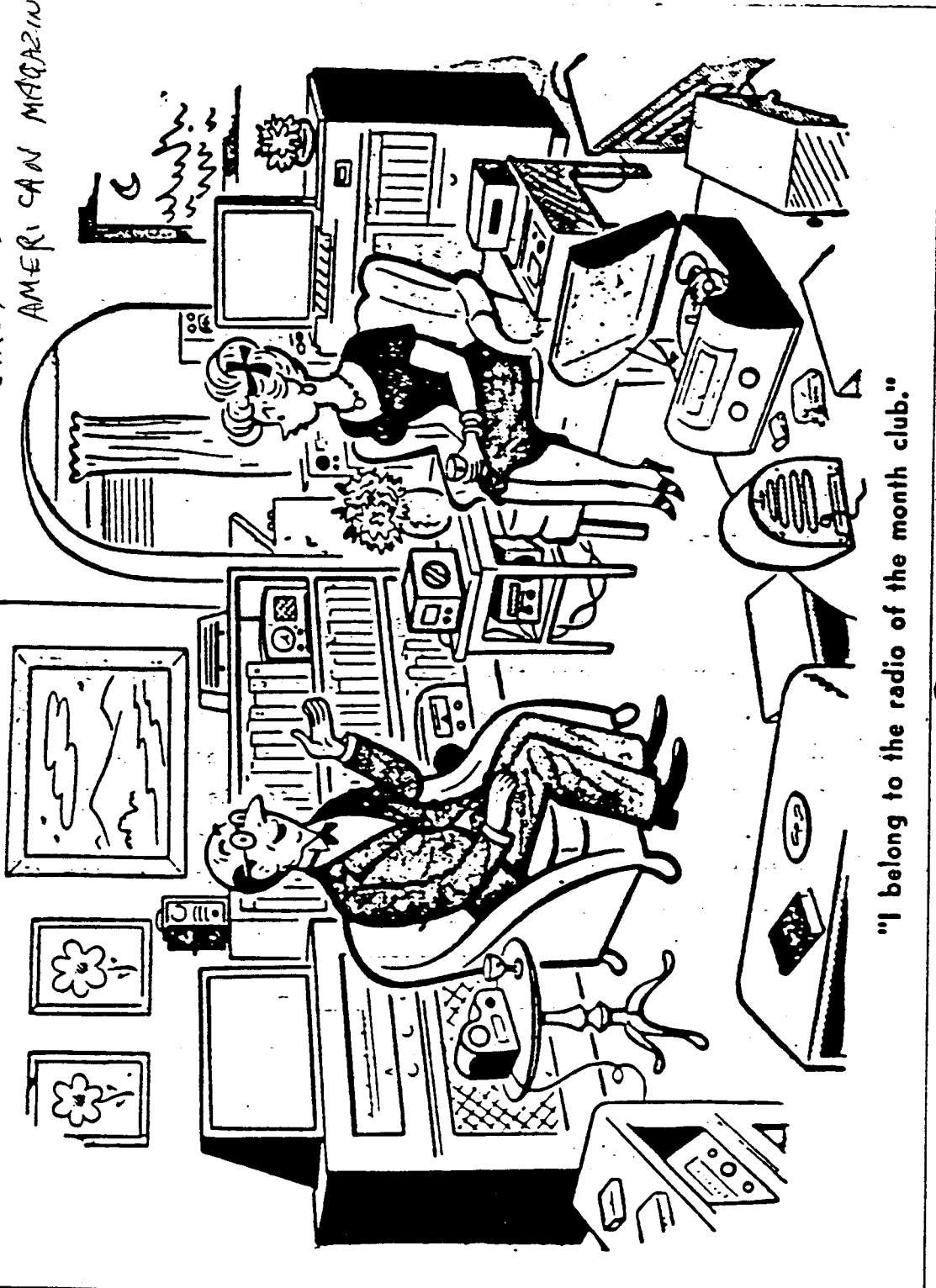
- For some reason last issue seemed to provoke a larger than usual amount of mail, most of it mentioned the 'vintage' model that was reviewed, the All World 8, which I will persist in calling the All Wave 8. Well in this issue we go to the other extreme with the EC958. This semiconductor model is quite a good buy if you can find it. As most members who have one (or two as in the case of SamRees) will say, it beats the imported black boxes easily. Those letters referring to the All World 8 quite often ask for 'more' like Oliver. In fact that is the problem, all of you want more ! There is no lack of available material both in the files here at EUG and coming in from members by each postal delivery. One thing that EUG does not lack is enthusiastic contributing members. The item sent in might be no more than a one sentence mention or it might be a full A4 sheet account of the members repair or restoration done on his Eddystone. If yours has not appeared yet do not despair, it will eventually. Several have commented on the new front cover, many mention the planned 'open day' at the Bath Tub. Keep your letters coming in but please if you want a direct reply then do enclose a stamp or an SAE. If writing from overseas then an IRC will help for surface mail but two are necessary for airmail.

- The item on 'defunct Eddystone Receivers', well at EUG we do keep a file of 'bits' needed or 'offered' by members so why not help others ?

- If you see or hear of any Eddystones for sale why not let EUG know about this, the info can be passed on to other members and you can make somebody happy.

- The item 'Restoration of a 940', this came in from a member who whilst not wanting his name in the newsletter does not mind us saying that he now has eight Eddystone receivers, all but one bought in the last two years. His 'urge' came he admits from the time he joined EUG, and found that he was not the only Eddystone 'NUT', as his wife calls him !

CIRCA 1950s
AMERICAN MAGAZINE.



"I belong to the radio of the month club."

AND NOT AN EDDYSTONE IN SIGHT.

3/
- Unusual Valve Types.-

- One member queries a valve type EAA91, a B7G based valve which is in the V7 position on his 938 receiver, the position is normally occupied by a D77/EB91. Well it is a bit unusual to find one of these but not a problem since the EAA91 is a D77, which is an EB91, which is a 6AL5, which is a CV140, etc; Different valve makers gave this signal type double diode their own type number, Mullard had several versions of it for normal domestic use, for military use and for laboratory use. The 'E' signifies a 6.3 volt indirectly heated type, 'AA' or 'B' both show it is a double diode signal valve, the '9' tells us that it has a B7G base.

- Carbon Rod Resistors.-

- These commonly go high resistance during their lifetime, never in my experience do they go low. Most of those used in our valve models were 10 or 20 percent types with the 'rounded' values, viz; 250,000 ohm and 30,000 kilohm, as opposed to the modern preferred values of 270 k and 33 k. the nearest value preferred value can be fitted with no ill effects since the closer tolerance of the newer resistors will almost always put them within the tolerance range of the older types. If you are a purist as one of our members is then you can buy small pots of acrylic paints from a model shop and paint the new resistors up in the old colour code of 'body, end, dot.

- Tubular paper condensers.-

- The infamous reputation that certain makes of these commonly used decoupling, or coupling components have earned is hardly deserved. It was hardly to be expected that these items would be still in daily use 40 or 50 years after being made. Nothing lasts forever, so why should we be surprised if these do go 'leaky' with age? These are usually in the range of 0.001 to 0.25 μ F, with a working voltage of between 250 and 450 . Supposing that they do go down, and that you do locate the correct replacement, what are the chances that these replacements too are 'old stock? The only way out is to test any proposed item for replacement before wiring it in circuit. What seems to happen is an ingress of moisture, a puncturing of the waxed paper dielectric, or as one member has found, the external wax protective coating turns into a high resistance leakage path. Modern tubular polyester types tend to be slightly smaller and so it is usually feasible to fit them into the tubular cardboard cases of the older defunct condensers. This does give that 'authentic' look that some members want, but I never go to this length myself.

- 680 Variants. - 4/

- The original 680 with the square dial and the later 680X with the full length slide rule dial are quite well known to most EUG members in the UK. From New Zealand comes word of two other variants located out there by a member. The 680/2 and 680/2A have been documented for us by Bryan Marsh of the New Zealand Vintage Radio Society. He has so far got four serial numbers for these model variants. One UK member tells me that he thinks the /2 had a built in 'S' meter, from the /2 schematic, or part of it sent me by Bryan it seems that the /2 does have an 'S' meter, but then so does my 680 ! Have you actually got a 680 without an 'S' meter Billie ? I am Curious now ! Another member has put forward the theory that there may have been some difference in the range of input voltages ? Maybe when Bryan reads this he will do some sleuthing with schematic in hand, and let us know. So far no /2 or /2A have been located over here despite my adding to the BT profits by canvassing members in the know.

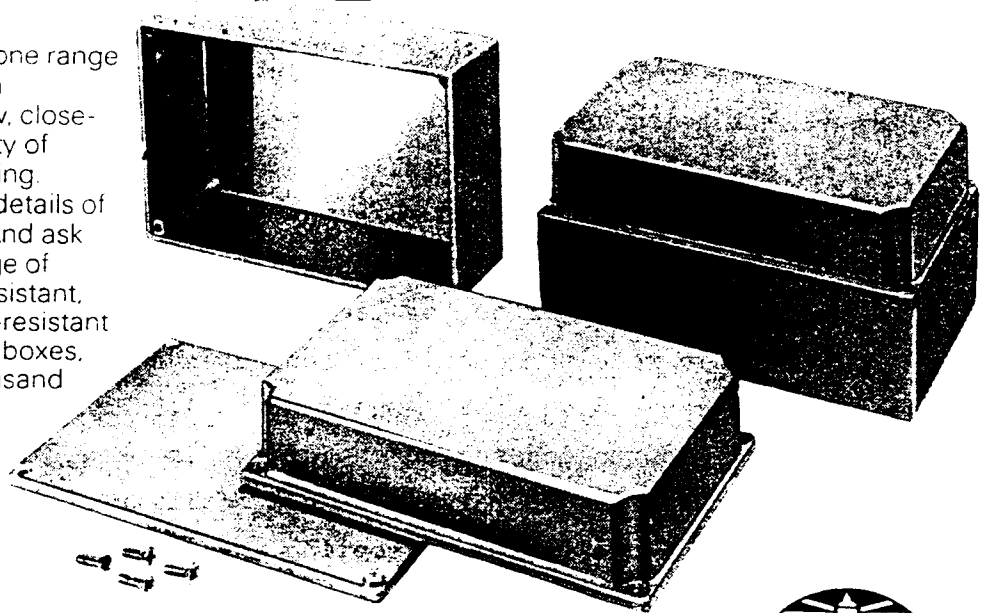
- Defunct Eddystone Receivers. -

- Do you have a partly stripped, beyond repair Eddystone ? Let EUG know so that we can pass the word around. We can maybe put you in touch with a member, or members who will be only too happy to part with hard earned pennies to buy that elusive part for his receiver. Many an incomplete 770 or 830 lying in one corner of your shack can yield the very part that another member has been chasing all over England looking for. We have a list of parts wanted by members of EUG, and one of parts on offer by other members, we can quite often marry up these haves & have not but want, letters without the need for an ad in the newsletter. Recently one member was able to get his 670A back on the air with a scale offered by another member, an 840A is working happily again after 18 months off the air, a member came up with a replacement dropper for this. As of now we have needs for spares for 640, 840C & 940 models, we have offers of 750 coil unit, 770 type case, almost complete, but for IF transfos, 830, and a much cannibalised 770 good for ^{the} scale, the tuning drive, front panel and all AF stages. If you help somebody now, maybe when you want a part then somebody else will help you. If you are not wanting your address in print, understandable these days, then do it through EUG. That is one of the reasons for having the group.

Double Top

This new addition to the Eddystone range of diecast boxes is supplied with interchangeable deep or shallow, close-fitting flanged lids giving flexibility of application with minimum stocking.

Please write or telephone for details of the new, versatile 10758P box. And ask about the whole Eddystone range of strong, lightweight, corrosion-resistant, diecast aluminium boxes, water-resistant boxes and moulded ABS plastic boxes, in a range of sizes to meet a thousand applications.



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WW - 082 FOR FURTHER DETAILS

ADV 030

ADV 025

Model No.	ADV 030	ADV 025
Output Current	5 Amp	10 Amp
Output Volts	2.30 DC	0.25 DC
Input Volts	115-230.250 A.C	115-230-250 A.C
Tolerated Mains Variation	15%	15%
Ripple On Load	0.5%	0.5%
Load Regulation	5%	5%
Better Than Protection	Both Models Internal short circuit Protected	Fold Back Overload Thermal and
Guarantee	Both Models. 2 years	
Dimensions	Height: 130 M/M mm	177 mm
	Width: 250 M/M mm	335 mm including
	Depth: 170 M/M mm	294 mm handles

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<p>Decade Resistance Box 8000 £99</p> <ul style="list-style-type: none"> 0.1% ACCURACY 1Ω TO 100MΩ COLOUR CODED DIGITS 	<p>NEW</p> <p>Low Ohm Resistance Box 1051 £108</p> <ul style="list-style-type: none"> 0.0Ω TO 1M IN LINE READ-OUT 1 WATT POWER RATING 	<p>Decade Resistance Boxes Type 1061/1062 £58</p> <ul style="list-style-type: none"> IN LINE READ-OUT PRECISE MECHANICALLY AND ELECTRICALLY ROBUST STABLE - (METAL FILM RESISTORS) FULLY SCREENED 2 VERSIONS: 1Ω to 1.2MΩ (1061) 10Ω to 12MΩ (1062) <p>The 1061/1062 Decade Resistance boxes are designed to meet the standard required in both educational and industrial applications. Metal film resistors, with the advantages of stability and low temperature coefficient, are used throughout. The case provides complete electrostatic screening.</p>
<p>NEW</p> <p>Decade Capacitance Box 1071 £127</p> <ul style="list-style-type: none"> 1% ACCURACY 10 pF-100 μF COLOUR CODED DIGITS <p>A compact 7 decade capacitance box. Coloured digits give nF in white, pF in yellow and μF in red. All contacts are gold plated.</p>	<p>NEW</p> <p>Microcal 1030 £93</p> <ul style="list-style-type: none"> VOLTAGE/CURRENT RANGES BATTERY OPERATION 0.1% ACCURACY <p>A compact low cost voltage and current source for general use. Outputs are 10 μV to 1 V and 10 μA to 100 mA.</p>	

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WW - 069 FOR FURTHER DETAILS

61
- Featured Receiver, - EC959. -

- This is a solid state high stability general coverage model which was produced in the late sixties/ early seventies era. It is a complete departure from previous , standard , Eddystone designs. Not chassis built but all on printed circuit boards and plugin modules. The front panel whilst being very functional, some might even say user friendly, bears no resemblance to the earlier models.

- Coverage is from 10 Kc/s to 30 Mc/s and facilities are provided for CW, MCW, SSB, & FSX. Operation is normally from AC mains however an add on external convertor for low voltage DC use can be supplied.

- Basic receiver configuration depends on the band in use and goes from single conversion at LF and MF up to 1.6 Mc/s , double conversion if the crystal controlled second oscillator is used, to triple conversion at HF where the extra IF permits an RIT facility.

- The signal frequency section uses FET type transistors in the RF & mixer stages with double tuned band pass circuits providing a high degree of selectivity for good image protection. AVC is permanently applied to this RF amplifier and a switchable attenuator is fitted, this is in effect a stepped RF gain control. Adequate input protection & muting are thus provided for operation in the vicinity of , or or with, a transmitter.

- The three IF amplifier stages operate at 1335 Kc/s , 250 Kc/s , and 100 Kc/s . The 1335 Kc/s if is tunable from 1235 to 1335 as an incremental tuning facility and is in operation above 1.6 Mc/s. Mosfet devices and I.Cs are used for the various IF stages.

- Separate AVC systems operate on the RF and IF systems, it is permanently applied to the RF circuits but the IF system is variable and is switched to suit the mode in use. This AVC supply is also available at a socket on the rear panel to permit diversity working.

- The BFO uses an 'N' channel junction FET and is tunable plus / minus 5 Kc/s. It is a very similar circuit to that used in the incremental oscillator.

- Two separate and wholly independant audio channels are provided, one is a high level channel using three transistors and feeds a three ohm internal or external speaker. Provision is made to disconnect the speaker when phones are in use. The other low level AF channel is a circuit using two transistors and feeds a transformer giving a 600 ohm centre tapped output to line, line level can be checked by switching the front panel meter.

- The built in meter can be switched to read either carrier level or line output level. It can also be used as a centre zero FSK tuning meter.

- The power supply in the 959 provides an 18 and a 12 volt line for the receiver proper, a 12.5 volt supply feeds the crystal oven and a 6 volts supply feeds the dial lamps.

958 cont;

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- The coverage is split into 10 bands of which the four HF are triple conversion. The other six are either double or single conversion. On AM the quoted sensitivity is better than 3 microvolt for 10 db signal to noise, on CW the sensitivity is given as better than 1 microvolt, this applies also to SSB.

- Four IF bandwidths are available, 400 c/s , 1.3 Kc/s , 3 Kc/s , & 8 Kc/s at 6 db down. An IF output socket is provided at the rear for use with the EP 961 panadaptor.

- Two separate aerial inputs of 75 ohm unbalanced for coax feed and 600 ohms , the latter for use on LF and MF .

- Front panel controls comprise, Range switch , Main tune , Incremental tune , RF attenuator , Meter switch , IF gain , AF gain , Mode switch , BFO tune , Selectivity, USB/LSB , AVC switch , Speaker switch , Phones jack , Supply switch , Aerial trim , Calibrator , Meter , two tuning scales main and RIT are provided and the internal IS is on the front panel too.

- In all 41 transistors and 10 ICs are used in this model, for this reason no block schematic has been attempted. The full manual runs to over 100 pages !

- To help answer members queries EUG has built up a collection of manuals and instruction sheets for many of the more common and some of the exotic models. If you need help it is sometimes possible to do this by mail, many of the more usual faults are documented here and an S.A.E will get you a quick reply. Some of the receivers we can help you with are as follows;- 940,640,504,556,659,670,670A,670C,680,680X,710,730,740,750,770R,770U,820,830 series,840,840A,840C,850,870,870A,880II,890R,990S,770S,888,888A,960,953,ERA,358,400,EB35,EB35II,EB35III,EC10,EC10II, Allworld Eight,EP17R, & EP20. For the 40A we have both the operating & the workshop manuals (thick ones too !)

- S 358 on VHF ? -

- A recent find for one member was a set of coils for the 358 series receiver which extends the coverage up to 30 Mc/s. Must be rare since I have never seen them myself. There is reference to such a coil set in a period advert but no more. I would be interested to know what kind of performance these coils give on the higher frequencies, how about you telling us Neill ? Six meters for instance ? Maybe even on 4 meters ? I would imagine that at those frequencies the 358 circuitry is running out of steam. Do any other members have any info on these coils ?

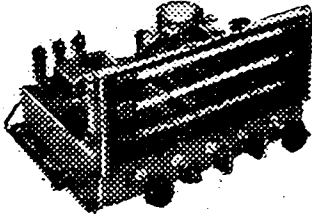
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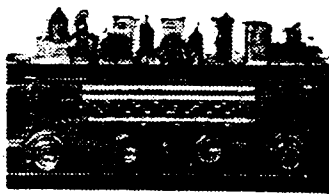
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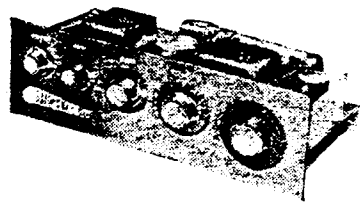
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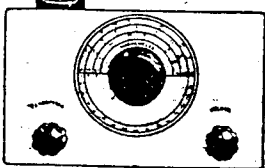
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NEW EDDYSTONE DIAL

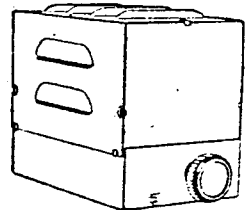


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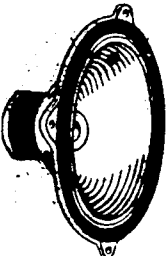


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 Send 6d. stamp for full specifications or call for demonstration.



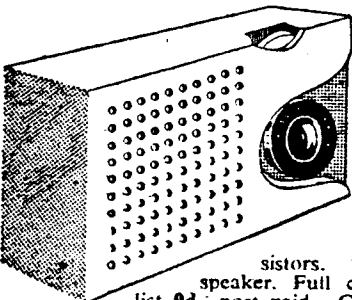
Bring out the realism with a WB tweeter. Frequency response up to 17,000 cycles. Impedance 5 or 15 ohms. MODEL T359. PRICE 35/-, 1/- post. Cross-over network 30/-, 9d. post.

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20,000 ohms per volt. 20 megohms. 20 ranges. New high sensitivity pocket sized multi-meter. Large easy to read scale and robust centre pole movement. Ideal for all radio and television servicing work. Full specification sent on receipt of s.a.e. PRICE £10 0/0. Terms: Deposit £2 10/0 and six monthly payments of £1 7/6. Add 2/- post and packing.



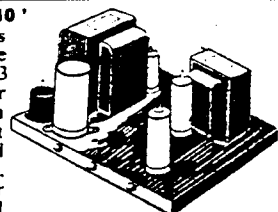
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Write to us for a price list of the parts for a new battery short wave kit in next month's issue. Will be posted to you as soon as published.

9/
- Digital Readout for your Eddystone ? -

- To many this must be the most desirable add-on accessory for your favourite Eddystone. One member of EUC offers his own solution to the problem as done on his 730/6. Possibly usable also on many other models such as the 820 series. The 730 series have an IF output socket on the rear panel for use with a nanadaptor or an FSK unit. This is fed from a kathode follower stage using a 6AU6 pentode. The input grid of this valve is fed from the junction of the $\frac{1}{2}$ 6AL5 detector anode and the secondary tap on the T4, the final IFT via a 6pF ceramic condenser. A check on this V11 stage using a scope and signal generator showed that it had a fairly flat response with good wide band characteristics, with output only dropping over the 20 to 30 meg range, still sufficient however for our needs. The recently added item in the Cirkit range is a complete LED frequency readout module. Mounted in a small plastic accessory box from the same catalogue and stood atop the 730/6 this can be connected to the rear IF out socket via a short coax lead. Painted black it matches up the receiver. One change was necessary internally on the 730/6 to enable this set-up. The 6pF condenser was disconnected from it's point of contact with T4 and tied to a spare tag, a 20 inch length of lightweight, slimline co-ax was attached to it here and fed around to V3 pin 1. The coax is cut to length when it has been fed around. It is earthed at both ends. The local oscillator trimmers will need to be reset at this point with an accurate frequency source, although very little retouching was found necessary on this model, and then only on range 1 & 2. Readouts are now available on all ranges although I am pleasantly surprised at how little notice I take of the actual frequency when doing my listening. My brain has over the four years of owning the 730/6 become adept at interpreting the scale readings to such an extent that I can do almost as well as the LED readout. On models lacking the Kathode follower stage the LED unit may be fed direct or possibly a small FET stage can be built and incorporated in the box housing the readout. The programmable IF offset on the Cirkit module will need to be set for the IF of your receiver. A P.W home brew counter with readout or a C.M Howes model will no doubt function just as well. Don Bushe.

-SPERICS- At a recent car boot sale an immaculate 820 model AM/FM tuner was purchased for a fiver. Dating from 1955 this was then a state of the art HiFi tuner and can still be a good buy, for mono use only of course. No cabinet ever came with them to my knowledge but I have a nice case for it now, made up from five cut to size pieces of double sided copper PCB. soldered together, sanded down at the corners to round them off, and then spray painted to match,

- A plaintive letter from one member as to why Edlystone put the 100 mA type valves in series parallel on the AC / DC models such as 670 & 640 ? Well have you tried adding up the heater volts on some of these models & then wondered how you could possibly use them on shipboard DC supplies of 110 to 120 volts ? On the 640 for instance the total in a straight series chain will come to 140 volts ! Since these models, especially the 670, were designed as 'cabin receivers' they would be under running the heaters by a large percentage if in a straight series chain.

- Another asks why the large bulky turret tuner on the 770 series & not the more normal wave change switch and coil box ? Well at the VHF & UHF frequencies covered by these popular models normal bandswitching as used on HF & MF would introduce so much stray and variable capacity that normal scale calibration markings would need constant recalibration. As it is the turret system used is quite unique in that virtually no RF wiring is needed in the whole unit ! Positioning of the main components is such that the interconnecting points fall so close together that the tags form the wiring. This is the main reason for the phenomenal and much acclaimed stability of calibration. In their heyday there was no other commercially marketed VHF or UHF fully tunable receiver to match the 770 series. Some may still be in use commercially as I do know from a letter off one member that one was only recently taken out of service at Austin - Rover .

- A letter asking what can this member listen to on his 770R Mark II ? This will depend not so much on the set but more on such factors as his QTH, his aerial system, height A.S.I is a primary factor. However the six bands from 19 to 165 Mc/s cover all of the following services,-

SW Broadcast, Amateur, Marine, Aero Nav aids, Yeteo research, Television sound (Band I), F.M broadcast, Police, Ambulance, Fire service, Land mobile services and their base stations, Airband, Satellites, Military, and various other services such as Beepers , Baby alarms , Intercomms, Cordless phones, Garage door openers and short range digital radio links. You wont hear all of these of course it will be a matter of deciding if your choice is for a single or several narrow bands or all round coverage. Then comes the difficult bit, choosing the aerial system, whether to believe all the hype in the adverts or not. I myself have an ARA 500 and several dedicated yagis for specific bands and find no problem in hearing anything within range.

- An EB35 was brought in with no output and the comment was made 'that a new phones socket had recently been fitted.' Pause for me to put that in context. I queried the reason for this replacement and whether the set had worked prior to the repair. Apparently it had worked okay before but did not after ! A visual check on the wiring showed up no faults even when a comparison was made with my EB35. After some checks with the meter I removed the socket & saw that unlike my EB35 there were no insulating washers to isolate the socket from chassis. Two large fibre washers were quickly fitted and the set was powered up, a simple , quick , cure.

- 888A with no output but heaters lit up okay. A blown fuse in the centre tap of the HT secondary winding was blown. After the replacement had been fitted and found to work a check was made for the cause of the blown fuse, contrary to common opinion fuses do not blow for no reason. Some whitish deposits on the rubber top of C100 made me go for that. It was replaced with a 450 v.w rated condenser and the 888A was left on soak test for several hours , no problems.

- 888A, same one , some months previously R29 a 47 ohm in the V8 anode circuit had gone O/C and was replaced with a 1 watt type.

- 870. C16 a 0.05 mF paper type had gone leaky and was causing low gain, replaced it with a ceramic type. It goes from T1 tag to chassis. (1st IFT).

- 840 with excessive hum and apparently more so with the aerial and earth connected ! Swopping C2 from a 0.01 to a 0.1 mF as was recommended by the factory in their literature effected a complete cure.

- 840A, output okay on phones , nil on speaker. It was an easy one this as it is such a common one. The break contacts on the phones socket had corroded whilst the phones had been left plugged in over a period of weeks. Burnishing with crocus paper was the cure here.

- 659 recently bought was okay at first power up, went dead after several hours. V8 the magic eye was still green so LT and HT must be okay , out with the Avo and some voltage checks as per the manual. It was eventually found that R13 which should have been a 47 kilohm was reading over 100 kilohm when warm. A new 1 watt 47 kilohm was fitted and the set is performing normally again.

- 770R with low gain above 40 Mc/s. V1, V2, & V3 were all put on the valve tester and showed lowish emission, new valves brought gain back up to normal. These must be new, high emission types on this model for the set to give good results on VHF.

- EB37 with tinny and distorted output. Past experience told me where to look, C77 a 200 mF electrolytic in series with the speaker was the problem. Apparently dried up with age, a new 35 v.w type was fitted, care being taken to observe the correct polarity and normal operation resulted.

- 888A was brought in with complaint that output was okay at first warm up but faded out after some time, variable minutes to hours. This was not so easy and many component checks and voltage checks were made before it was found that R24 a 10 kilohm in the anode of the triode 2nd local oscillator was reading between 13 & 28 kilohm depending on its temperature. I suspected that it was heating up due to another dud item, it was in fact the S.M 100 pF C64 which was almost a full short when a voltage was put across it. A replacement ceramic type was fitted. It was now necessary to trim in the 2nd local oscillator again now.

- An EA12 where the reported fault was that the pak RF control did not work. It did after a fashion but not correctly, this was simply a loose grub screw. The mains on/off switch was intermittent open circuit too and a new one was fitted.

- A 659 with faulty on/off switch, this is part of the dual pot and so the only cure was to replace the dual pot cum switch. A dual pole one was chosen as I have never completely trusted those single pole in the neutral line circuits.

- EB37 with a tendency to motorboat when gain was turned up. C61 was replaced for a cure but it was noticed that L1 the wavetrap had been twiddled, this was retuned following the manual procedure.

- 870 where the AF stage was okay but no RF coming through. It turned out to be T2 the 2nd IFT had been 'adjusted' and was screwed right down to the bottom of the former. A complete re-alignment was done as it looked as though somebody had twiddled other cores in both IF and RF.

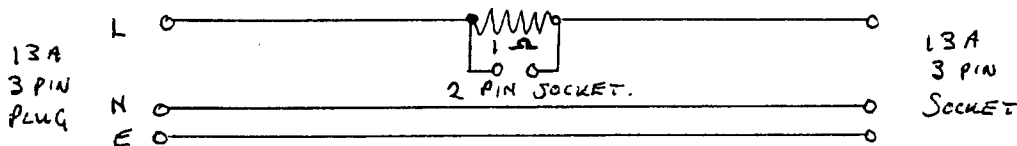
- 670C with a noisy RF gain pot, was opened up and cleaned with RS switch cleaner to cure the noise problem, the same switch cleaner was used on various other items, switch wafers, variable condenser bearings, valve bases and AF pot as the set had in fact been stored in a dusty garage for several years.

- Fitting a Calibrator to an EC10. -

- Since my EC10 dial lamps are rarely used anyway, I began to consider ways of using the dial lamp switch on the front panel. An internal calibrator was the obvious choice. I began by removing the two dial lamps, these were replaced by two Hi-intensity Green LEDs wired in series and fed by a 150 ohms resistor. These are wired to be on permanently when the receiver is on. The push-on switch is now free to be used as an 'ON' switch for a calibrator. A 100 Kc/s calibrator circuit using a single BC212 transistor has been built on a $1\frac{1}{2}$ by 1 inch piece of perf board, fed through the switch this is now available as a check 'pin' and enables much closer frequency setting, especially on the higher ranges.

- Bargain Buy ? -

- An R.S. metal clad resistor, 1 Ohm rated at 50 watts, the mind boggles ! Why buy it at a rally, even for the bargain price of 20c ? Well look at the circuit below and all will be clear:-

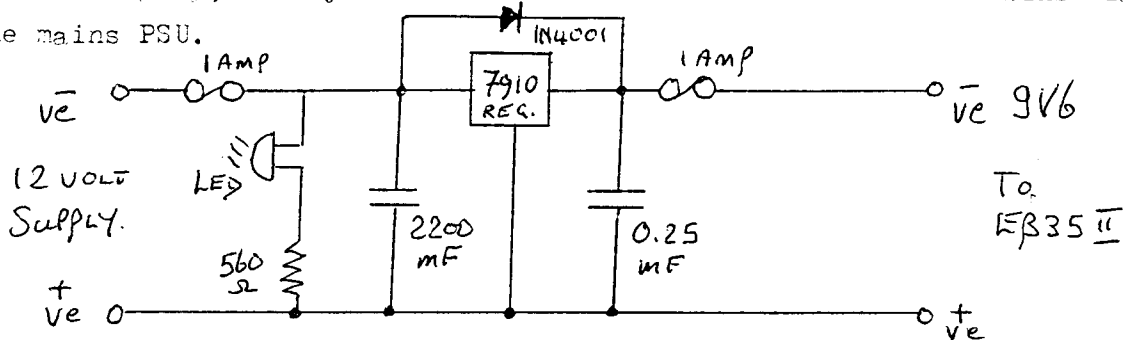


On a piece of bakelite 6 x4 inches and $\frac{1}{4}$ inch thick I have mounted a standard 13 amp mains socket, a now obsolete 2 pin, 2 amp socket and an enclosed terminal block. plus my 'bargain' resistor. Wired up as shown and with a 3 foot length of 3 core mains lead terminated by a standard 13 amp mains plug. Without any fancy fiddling around with the probes of my avo I can now measure directly the A.C. current being drawn by any item of equipment on test. Normal operation is possible since the 1 ohm resistor drops a negligible voltage across itself. To measure the current drawn it is simply a matter of switching my avo to low A.C. volts, put the probes into the 2 pin socket read off the voltage, which by Ohms law is also the current ! i.e. 1 volt = 1 amp, 2 volt = 2 amp, etc; I would not advise its use for more than 5 amps and in fact have put a 5 amp fuse in the 13 amp mains plug. The 1 ohm resistor is insulated for safety by an inverted diecast box.

- Mobile with an EB35. -

- If the original Eddystone PSU number 945 is not available to permit operation from 12/24 volts D.C. then the following unit may be made up to operate from your 12 volt car or caravan supply. It will depend on the model EB35, EB35II or EB35III as to whether you

need a positive or negative earth supply, the first two are positive earth and the Mark III is negative earth. Mine is a Mark II so I used positive earth. The whole unit is built in what was the battery box, designed to hold 6 x U2 cells. This is far too expensive a way to run an EC10 anyway, on dry cells. At home my receiver is run on mains via the mains PSU.



All components are mounted onto a 6 x 15 cms piece of Pcb which is mounted in the former battery box. The 7910 is a 1 amp rated device and with the current drawn in this use no heat sink is necessary.

 - ANCHOR SURPLUS. -

- Was it ESP, was it serendipity or what? As Issue 8 was being posted lo and behold the featured receiver, 990S, was being advertised by Anchor Surplus at £135.00 along with the 730/1 at £150.00. This is a bargain price for what must be considered the solid state successor to the 770U. Several happy members have written to say that they now have an 'S' and that they are finding it a pleasure to use. Anchor Surplus go to many of the bigger rallies and even if no Eddystones are on display on their stall it is always worth asking if they do have any in stock. Same goes for if you visit their site on the old Cattle market at Nottingham. If you do not see any on the shelves, then ask. I do know of several occasions when by asking I have been shown models which were on the shelves in the back store room.

 - Saga of a 770RII. -

- Keith Greenwell has been writing to tell us of his refurbishment job on his 770 which involved that, unliked by all, juggling act, the replacement of the drive cord. Everybody dreads this job but it is quite straightforward if the instructions are followed. Apart from resistor replacement he had the task of replacing C63, a 100uf of 750 volts working. A look at the circuit will show that such a highly rated condenser is not warranted. In fact I have in the past been using ceramic types rated at 350 or 400 volts. He also queries The CEX34 diodes. My suggestion for all these was to contact Birkett's of The Strait, Lincoln.

- Restoration of a 940.-

- The only recognisable feature of this 940 was the slide rule dial, at a local club junk sale the receiver had been 'on offer' at about £10.00. It had at some time been painted by hand with white gloss & was now minus all knobs. It turned out that the dial glass was still sound and the scale was undamaged. As it was still all screwed up I had to take his word that it was 'all - there'. I got it for £12.00 and carried it home knowing that for that sum it would at least supply me with spares. Opening up on the bench was a surprise, 3 valves still in their sockets, most large components were there excepting the AF output transfo, the 'S' meter, both electrolytics and the dial lamp carrier assembly. Although the pointer was still there no dial cord was fitted. (Do you hate restringing these as much as I do?). The fiendish white paint wielder had not spared the 'innards' as whilst splashing his goo over the cabinet a quantity had penetrated through the end grills and spots were all over the chassis. A few checks out in the open air showed that petrol did remove the white stuff if some elbow grease was also applied. This job took up most of a weekend & included many breaks to get breaths of fresh fume free air, The result after an application of silicone furniture polish is quite good. No trace of white paint is left, even that on the innards came off. The next job was a thorough clean up of the chassis both top and bottom, lubrication of the moving parts and switch cleaner on the pots and switch contacts. One wafer on the range switch was slightly damaged cracked but not broken, careful use of superglue and a clamp gave me a good functioning wafer again. A careful check was made on the meshing of the variable condenser plates no problems were found, a cleaning with a long bristled brush dipped in switch cleaner was done more as a precaution than in need. Whilst cleaning the valve sockets some small shards of glass were found and removed with a long darning needle. The last step was the under chassis area, this was quite chaotic, wire ends showed where components had been chopped out, or cannibalised. Using an A4 size blow up photo copy of the underchassis view from the 940 manual as supplied to the Ministry of Civil Aviation, I was able to locate and list the missing items, a total of 17 resistors and condensers plus the phone jack and the AF gain pot. By now my junk box plus various other chassis kept for spares had turned up all the needed bits except the 'S' meter. These were fitted and those existing were tested and replaced as necessary. The AF pot had to be later removed and replaced with another when I realised that I had first fitted a linear one in lieu of the required logarithmic type. My luckiest find was that the contents of the coil box seemed to be untouched. Not so the

IF transfos as I later discovered. The glass and scale were now cleaned and fitted to the front panel which was attached to the chassis section. Care being taken that pots and switches went back in the right holes and were correctly orientated. It was at this point that some wires were found to be missing, that from the audio in sockets at the rear to the CW/AM switch and C101. Also the lead from pin 2 of V9a to the AF gain pot, and that for the dial lamp supply. At a later date C81 was replaced as suspect although on a static test it appeared okay, this is in the AVC circuit. Several hours were then spent checking and re-checking the wiring and component placement. This did locate one or two silly mistakes & find that C45 the 30 pF mica between pin 6 of the local oscillator and pins 7 & 9 of the mixer valve was cracked across, a case of rough handling. Taping off the ends of the wires for the 'S' meter was next whilst a check was made with power on. A full set of new valves were bought from 'Wilson's' and fitted. Checks for resistance readings were made at various parts of the circuit and since all seemed well the Avo was connected across C109 and power was applied to the 940. A preliminary reading of 242 volts was a bit low but after about 10 minutes it was up to 255 volts, as the electrolytics 'formed' up after storage. That the 940 was alive was shown by the hum and associated noise. A finger touched to the AF in socket gave out that typical burble but when a random piece of wire was put in the aerial socket, nothing! No signal anywhere, a disappointing result since all up to now had been straightforward. Here standard servicing procedure was resorted to and a sig gen was used to feed in an IF signal. Some output was obtained with the sig gen fed in to the grid of V6, none on V5 input. Some investigation revealed that T4 had but one ferrite core, T3 had two but both were damaged beyond use, these were extracted with some difficulty and swearing and new cores fitted. This gave a boost to the IF gain but something was wrong with T3, it was removed and opened up to disclose a dry joint on the primary winding, this was resoldered and the gain was now up to a more normal level. The IF strip was re-aligned with the selectivity switch set to narrow as recommended. An aerial test was now successful on all ranges and the RF stages were next 'set up'. A full set of knobs had by now been collected and fitted & all that remained was the final tidying up, it took several months to locate an 'S' meter but this has now been fitted and the 940 is now back in daily use. It took me almost 5 months but the set is now performing as it should.

- Bought in January 1951, from Webbs Radio, for the -then- kings ransom of £35, the price was the equivalent of ten weeks wages for me at that time. As an avid SWL I now had just about the best receiver on the market at that time. It was a big step forward since my receiver at that time had been an R1155N purchased in Clydesdale's Surplus Store in Glasgow. This bore the white stencilled number LA721 on the top of the case, the number of the Lancaster in which it had been fitted so I was told by my ex Bomber Command brother. My new 680 was put to work immediately, my choice of an east-west 100 foot long wire & a north-south 40 foot wire gave me good coverage. The vast improvement in both sensitivity and in selectivity over my 1155 helped not only to fill my log book but also to get me the reputation of being a dedicated DXer. My logbooks serve also a secondary purpose since from 1951 to the present day all the faults & repairs to my 680 are recorded there. A potted history of a faithful 680 which is still today a delight to use. Three years of trouble free ownership and then I record that the 6D3 local oscillator was changed since it appeared to be temperamental on range 1. Sometimes not wanting to oscillate at the HF end of the range. An EF91, Mullard type was bought as replacement, I can remember walking along the Tottenham Court Road in the depths of winter window shopping, and eventually buying the EF91. At the same time a silvered over dial bulb was replaced, this was easier to locate since my father at that time ran a bicycle accessories shop. I did then follow a tip gleaned from a Camms Comic, under run the bulbs for longer life, accordingly the brightness pot at the rear was turned down a little. Do all bulbs suffer from this silvering? both AC & DC run. My next recorded problem was noise when operating the range switch, it cleared up after a liberal application of switchcleaning fluid. Whilst the 680 was opened up all grub screws on the various switch and control mechanisms were tightened up. Calibration was checked using the then available WWV signals, no discrepancies were found. The 680 now began it's world travel, starting with a two year stint in Gibraltar. Despite operating from wildly varying mains no problems arose. Not so however when whilst in Rome from 1959 to 1961. During this period several mains fuses succumbed and had to be replaced. The 5Z4G rectifier and the VR150 stabiliser had to be replaced too during the Rome stay. I honestly do believe that the power supply variations there are the worst ever, from a high of 270 volts at off peak times to about 190 at peak demand time. Most TV receivers were operated off a saturated core type AC mains stabiliser transfo. The makers of these must have made fortunes in Italy. Nothing much to record now until back home in 1960 when it

was decided to do a complete re-valve job. The replacements were wherever possible Mullard types, with just two Brimar valves as a second choice as I was not able to locate a Mullard. The valves removed were put away carefully as spares and a check some years ago showed that in fact most were still in the 'green' on a valve tester. Of these the two 7D9 output valves which still give the same readings in the green sector as a new & unused 7D9 in my stock. Again the calibration was checked but this time a crystal 1 Mc/s marker was utilised. No points were outside the makers specified tolerance and so no touching up was done. I am a big believer in leaving well alone. In 1975 a falling off in performance was noticed and after some investigation several TCC made paper insulated condensers were replaced. It was a funny situation where gain was normal at & after switch on but would drop after several hours of use, so that whilst listening to a station it would be necessary to periodically turn up the gain controls to keep audio output at a comfortable level, until a point came where no more 'turning up' was possible. The main problem was located in the screen circuit of the first IF amplifier where a gradually reducing voltage was found, ergo one leaky, very leaky decoupling condenser. Since the AF gain pot had also become slightly noisy at a point about one third up it's travel I obtained and fitted a replacement pot. The 5Z4G rectifier went in March this year and since the electrolytics showed signs of being responsible they were replaced at the same time. At this time a set of new valves was priced, I found that by shopping around and using several different dealers I got the full set for £38. These are being replaced now as each stage from loudspeaker socket back to aerial socket is checked out. Not that those in the receiver are all duff, the heater of the 6AL5/EB91 which serves as noise limiter and 'S' meter diode was open circuit, and at this point it was decided that a 40 year old was entitled to some pampering, hence the layout of hard earned pennies on fifteen new bottles. Nothing else has shown up so far and I envisage that my 680 will be back on the air quite soon doing it's usual nightly stint on the air. Quite a credit to the craftsmen who designed and built it all those years ago. I have no desire to swap to a modern black box even if my pension would stretch that far. Ellis Taylor.

- E.U.G has twice as many members now in Australasia (not just Australia this,) than in Scotland. Why can this be, do we need to have a special membership drive up there I wonder.

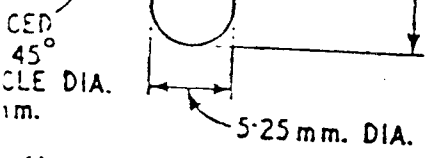
- Several members query as to why the HT on/off switch on the 730/4 was fitted internally, on the chassis - seems to defy all logic especially since many of these were rackmounted? How about one of you ex military users letting us in on the reason?

- Well thats it for another newsletter, I know that I cannot please all of you , just hope that there is something for everybody here in this issue. Those who ask for more vintage ads, well try to bear with me, there are also those who do not want old ads ! Those who have large stocks of old magazines sometimes say that they can find the ads there if they want them, I know that not all members do have back copies though. The booklets that EUG has been able to offer for members, as on the other side of this page, are quite popular , so much so that we are going to do others and will shortly put a list in the newsletter of those available.

- Time now to start on the next issue, from Kathy & myself,
CU all,

73,

Kathy & Ted.

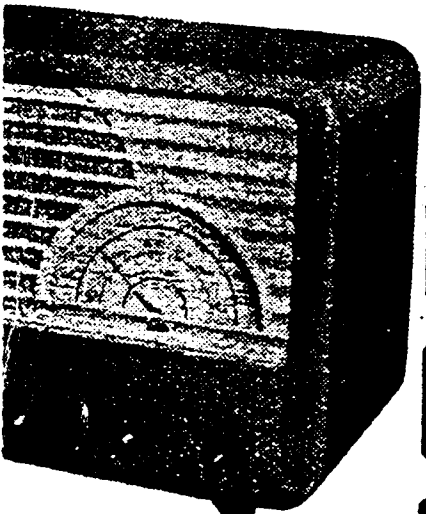


dimensions of the new standard B.V.A. valve base.

by the British Radio Manufacturers' Association. At the same time a sufficient measure of agreement has been reached on all dimensions of the bases to be used for some details has been reached. The B.V.A. emblem that the proposals are

B.V.A. valves it would appear that existing conventions have been followed. 2e/
Tentative base allocations for the proposed B.V.A. standard valves are as follows:

Type	Base
Variable-mu R.F. pentode ...	B8A
High-slope R.F. pentode (wide band amplifiers) ...	B8A
Self-oscillating frequency changer(s) ...	B8A
Double diode triode ...	B8A
Output pentode(s) ...	B8A and B8B (according to type)
Rectifier(s) ...	B8A and B8B (according to type)
Oscillator triode (television) ...	B8A
Double diode, separate cathodes ...	B8A



VALVE, plus rectifier, for A.C. mains (Model ... has been introduced by ... Plantation ... Persham, Bucks. It is a usual short, medium ... averages and has an ... watts. The price is ... tax £4 10 4. An ... version will also be ... price, £21, plus tax ... £4 14 10.

SHORT WAVE CONSTRUCTORS' MANUAL

THE reappearance of the Eddystone Short Wave Manual is a welcome sign of the better availability of new components for the construction of amateur transmitting and receiving equipment.

While the designs given are modern in conception, the circuit technique is of necessity on strictly economical lines. A well-planned 28 Mc/s crystal-controlled transmitter is included, as well as one for 58 Mc/s, but this relies on a master oscillator for its frequency stability.

Other equipment includes a frequency meter covering 56 to 60 Mc/s, a 3-valve 5- and 10-metre convertor and a 4-valve T.R.F. versatile short-wave receiver. base connections for the post-war special types of short-wave valves of particular interest to the amateur.

The manual is issued by Stratton and Co., Ltd., West Heath, Birmingham, 31, and the price is 2s 6d.



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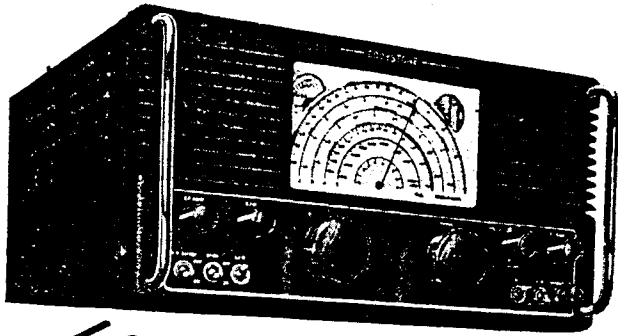
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Issue 14 Readers Ads.-

- S.358 serial FS234 with psu S.389 & 4 coil packs. Also S.358 serial GS352 & one coil pack. Sold together as one lot with original manuals., both need some work doing so best offers. Wanted Psu 687 - six volts model for 740 & round matching speaker, must be collected N.Yorks. John on 09443-298.
 - Wanted valve transmitter @ 60 watts in fair condition, working ring Bill on 041-649-4345.
 - Wanted 940 or 740, David on 0223-843-408 after 6.0 P.M.
 - Wanted 888A Or 750 in good order, Graham on 081-669-8722.
 - Wanted for 750, scale plate & fingerplate, L.P Albert, 9 Augusta Street, Warners Bay, Australia, 2282. Can you help ?
 - Sell 990R in good working order with original packing case & manual, offers to J.G.Carroll on 0624-034472, Isle of Man, after end of August due to holidays.
 - Wanted BFO unit or coil for 888A, J.A.C.St Leger, GBVDL, GTHR.
 - Sell EA12 serial FSC222 in very good working condition, buyer must collect though so price £125. GAIOT.GTHR. Folkestone 276063.
 - 880 receiver help, in working order but needs some repairs can you help ? John French, Kent area. 0303-872554.
 - Wanted 770R in good working condition, no mods though. Paul on 081-310-0371.
 - Wanted late model marine type HF/MF receiver, anything by Marconi Eddystone Redifon or IMR, your price for right one, Donald on 0292-45200. AYR.
 - Wanted 680X in good condition. Mr B.Wallis. P.O Box7159. Boroko TCE. Papua New Guinea.
 - Wanted LF smoothing choke for 370/370A also sell S.640 one owner from new.Ring Peter Lepino 0372-454381 anytime.
 - Wanted EC10,770R,830,958,960 or other general coverage receiver A.E.Trayling, Hannoversche Str 6, 3003 Ronnenberg, 4, Germany. phone- 010-49-51093982.
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