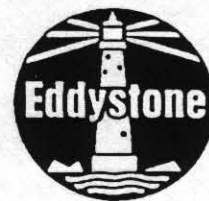


Eddystone User Group Newsletter



Issue No: 54

April 1999



Eddystone Radio 1923 to 1999 Or just maybe.....?

- A non profit newsletter for Eddystone Users
 - Compiled and edited by Ted Moore
- Information quoted from Eddystone Literature by kind permission of Eddystone Radio Limited
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FRONTIS

As I write this, on a wet Easter Sunday, the situation at the Eddystone factory seems to be entering a final phase. Marconi are on the face of it going through a closure programme, people are either taking redundancy or being transferred to other jobs in the group. However, the company is still taking orders and it is still possible that 'phoenix-like' a new company can rise from the ashes. What ever happens we wish all concerned the very best of luck for the future.

The retirement of Christine, our main contact at Eddystone, is reported on in the newsletter. Graeme made a presentation to her on behalf of the EUG members. Our heartfelt thanks, Christine, for all your unstinting work for EUG during the past nine years. We are very grateful for all you have done for us. During her time, Christine built up a huge library of vintage Eddystone handbooks and information. Many thanks also to Matt Parkes, the General Manager of Eddystone, for presenting EUG with Christine's entire archive, so that it may be available to historians and collectors. We appreciate you giving your time to letting us have these when you no doubt have much greater issues weighing on your mind. The archive of hundreds of documents and manuals is now safely in the possession of EUG member David Simmonds who has the facilities to take over from Christine. His time-scale may not be quite as snappy as hers, he doesn't start so early in the morning! Continue to order material from Graeme at the address shown on the front cover.

Response from Members tracking down the original holder of call-sign G3EUG has produced a resounding silence! Not many detectives in Essex it seems. But Graeme has discovered from the Royal Academy of Music that he was called Bernard (known name) David Francis Hutchings, and qualified in performance on the piano in 1949, the same year his call-sign was issued. A 'Radcom Helpline' has produced an offer from a non-EUG member who knows the town well and will trawl Thundersley for his ghost. Fingers crossed.

Howard Turner at Centre Electronics has finally retired from what was undoubtedly the world's most comprehensive Eddystone spare parts emporium. Our very best wishes go to Howard and his wife Maureen for a full and active life in the deep-south. See this Newsletter for details of the new arrangements.

And finally see you all on our EUG stand at the Vintage Communications Fair at the NEC on Sunday, 9th May. (Full details in the Newsletter). Just look for the Lighthouse!

All the very best

73's

Chris Pettitt - Patron
G0EYO
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**RENEWAL
REQUESTED**



Issue 54

Not often that I am short of things to say, but I am just lately. The whole matter of the closure of Eddystone has left me profoundly frustrated. For a company with the reputation for quality which Eddystone have, to just simply be SWITCHED OFF, well it all seems so wrong. The Newsletter Cover this month says it all.

My own thoughts at present are along the lines of, well we at EUG must carry on, we at EUG must keep the lighthouse beams going out. It may well be that we have to bear some of the onus that was carried by the Factory in that we may get more in the way of enquiries for data for some of the more recent models. This is in fact already borne out by the way that new members are coming to EUG faster than before the announcement of the closure.

The featured model, well it is the model 1940. Never did get into production this set, our only info is contained in an engineering spec; sheet. Did they make any prototypes ? Hard to know at this distance down the years.

Time once more to remind ALL OF YOU, put your hands into your pockets and bring forth the dinero, send in your subs; for the coming year, as Graeme will not be chasing after you. We cannot afford to keep on sending N/Ls to non-payers and so No Subs - No EUG.

More changes, always one crisis after the other for us. I shall be moving soon and may have some difficulties with access to my word processor. It may mean more work for Graeme to begin with, but we shall come out of it stronger, as we have in the past.

Several letters re that mysterious Transistor Portable which came to light recently and was described by Bill last issue. One EUGer asking if this was an April Fools Joke published a bit early. I can assure you all that it was NOT so. Also Pete, you have NO CHANCE of locating one of the two made. Similarly please note - to save unnecessary mail - the 1940 specification as featured in this issue IS NOT AN A.F.J.

A letter from Sweden re the restoration of a 909. Strange set to us this one, as it was not marketed over here. The owner may have his own idiosyncratic ideas about repair and restoration, but then so do many of us collectors.

The humble 840C is a pretty well known set to all of us, pretty simple circuit too, but when it goes wrong ! The repair can be every bit as difficult as for an 830. In this case Arthur's problem was a lack of test-gear and TIME.

Enjoy this Newsletter, despite the awful news as portrayed by the cover. Just a little tale to tell first. The Telegraph article was all about the awarding of a contract to a "certain large conglomerate" about which we know a thing or two. The contract - so the article read - was awarded for the construction of an oil fired power generating station in Malaysia, value of the contract was £170 million. The stated output of the generating station was quoted as being some 500 mWatts. This being equal to a mere HALF watt the electricity generated must be about the most expensive, per Watt, in the history of power generating.

Why do not these people get their prefixes correct ? a small 'm' means milli and a big 'M' means Mega. Should we write kj for Kilojoule, etc; ?

Restoring a Model 909.

This set had been in use for many years in a shore station, after a long life at sea. Whilst looking to be in fair condition externally, the set was becoming both deaf and noisy.

First job was to check out the valves and, - surprise, - they were all below or near the central 'white' part of the Red-White-Green scale on the valve tester. This appears to be a fairly common happening with those "Universal" or AC/DC sets. A new set of seven valves was easily bought, they are all popular broadcast types and still inexpensive. No problem was found with the WX3 Westector nor with the HT rectifier diode and so they were left in situ.

The thermistors, type CZ3, marked as R38, and R40, were looking a bit weary and so two new CZ3s were bought from the UK, old stock but new and unused. This meant the purchase of some high melting point solder as my only stock was meant for PCB usage. My experience is that as they heat and cool the end wires become intermittent and hence noisy.

A big problem was the very noisy volume pot; RV1, it did not appear to appreciate being squirted with switch cleaner. When several doses of this made no change a prolonged hunt was made for a replacement. In the end it was necessary to use a 1 Megohm shunted by 1 Megohm in fixed resistance. The actual method was to use two half meg across each outer and the common inner wiper tag.

Possibly the hardest problem was locating a replacement dial bulb. This is simply called a 'standard swedish 0.2 amp bulb' but what was standard swedish to Eddystone is not to us in Sweden. Mine came from Denmark !

I sent away the stripped front panel and case for re-spraying to a local car body shop and am impressed by their standards of quality and colour match. The escutcheon (I dislike the term 'fingerplate') was not too badly marked but as no new parts are available it would do. Knobs were cleaned up by the XYL using vinegar and soapy water applied with a toothbrush. A badly worn speaker switch was replaced with an exact equivalent supplied by a friend from his junk box. Both of the chrome 'grab handles' and the NL switch lever were sent off to be re-chromed by a local factory.

A lot of time was spent on component checking and this paid off when it was found that many of the paper type condensers were leaky, or thought to be. It was discovered that many of them soon returned to normal when removed and dried out over a few days in the cupboard with the central heating boiler. Some six months on they still test okay so this must be a case of hygroscopic wax as mentioned in a previous newsletter article.

Resistors did have to be replaced as nothing would bring them down to within the normal tolerances. Several were over 100% above stated values. Finally 14 of them had to be swapped for modern low noise oxide types.

The last problem area was the range switch, noisy but responsive to some switch cleaner and delicate tweaking of the contacts. But do not tackle such tweaking unless you have steady hands and know what you are doing.

Rust on the laminations of the smoothing choke was brushed off, some rust deterrent liquid was applied and later the laminations were given a coat of varnish to silence some mechanical hum.

The dropper resistor seemed to be okay and just needed some tightening of the contact strips and a dust off. Dust from above and below the chassis was dealt with by careful use of one of those smaller than usual car vacuum cleaners.

One last job was the clean up of the scale plate. Previous experience said that this was probably the hardest cleaning job of all. Getting all those years of grime off without removing the scale markings meant very delicate work with tepid soapy water and facial tissues. The glass was an easy job after doing the scale plate !

Some six weeks after the restoration was begun the set was ready to be switched on and fired up. It came on immediately, none of the previously marked problems now existed and the last job was to re-align the RF and IF stage transformers. The IFs are aligned to the centre of the actual crystal frequency and NOT TO THE EXACT LF FREQUENCY AS STATED IN THE MANUAL. Crystals do age and move off centre.

In every way this 909A is now 'as good as new', it is now in almost daily use and despite the limited ranges (1.6 to 4.7 Mc/s in two bands) it provides some pleasurable listening here. UK Top Band stations on AM have been heard frequently, European BC stations in the 3.9 Mc/s band are heard daily.

In G.W.O.

If you pay a fair price for what is described as an 840C in Good Working Order, from somebody who does regularly advertise stuff for sale in the hobby mags; - then the least you expect is that the set will WORK.

If, when the carrier calls at your door and hands you a well packed parcel containing the aforesaid receiver - you find that the set looks almost like new. That it certainly appears to have come through its journey undamaged, since the packing looked to have been done by an expert. Surely then you can plug it in and expect some good results ?

This may have been an exception, but it certainly shows that you must also be aware that there are 'cowboys' out there in the wireless trade. Cowboys whose work can be dangerous, even lethal, for the unwary.

First off the set looked good, seemed okay as it did not rattle, had a 13 amp plug on the lead, so why not plug it in ? Why not indeed ? The 840C was put onto the operating bench alongside the station 940, a close fit as the working space is simply a large table which holds receiver, separate speaker, and other ancillaries. Plug in and lean on the set with one arm whilst reaching across the 940 to the mains sockets. Maybe the paint on the receiver cases helped reduce the full 240 volts but it was still very painful, not to mention the skin scraped

off the fingers as the reflex action caused me to pull my hand out from between the 940 and the wall.

The 840C was unplugged, the case removed and some checks made, both visually and with a meter. In the 13 amp plug there was a 13 amp fuse, when this set could have coped easily with a mere 1 amp fuse. In the 840C some checks revealed that the two way mains lead was a replacement plastic type with blue and brown leads. The brown went to the fat pin of the chassis plug and the blue to the thin pin. The opposite of the way it should have gone, both joints looked to be suspiciously 'dry' as if done with a partly hot iron.

This alone would only have put the internal chassis at full 240 volts potential but worse was to come. The set showed several signs that some 'repair' work had been carried out on it. A test with the meter showed that C3 was missing and that a mini-ceramic disc condenser of the type found in 'trannies' had been fitted in its place. C3 was a 900 V.W condenser of 0.005 muffs provided to allow an RF signal path from chassis to case. These are normally isolated so that the set can be used on AC/DC supplies without any hazards. The mini-ceramic must have had a working voltage rating of some 25 to 50 VDC. At being exposed to 240 VAC it simply expired. Reading a full short on the Taylor meter ohms scale.

Once all of the above had been put right the 840C did work, but not as well as it should, with whistles on most signals on all ranges. The I.F transformer cores could be seen to have been 'twiddled' as the slots were badly scored, the I.F was more like 420 Kc/s when measured. This was put right easily enough and the cores were sealed with a few drops of hot wax.

From what could be seen neither the RF cores nor the trimmers had been touched, and when a check was done all appeared okay except the trimmer on range 1 RF and range 3 mixer. These were set up and the 840C was finally performing as it ought to have done when received "in G.W.O."

I suppose that I ought to have complained to the seller but chickened out, preferring to put the whole thing down to 'experience'.

Calibrator Units

There appears to be some misconception as to the adjustment of these units, such as are fitted to the 888A and other Communications models.

The two valve sockets contain the one pentode valve and the B7G based crystal, in the case of the 888A a 100 Kc/s bar type.

The calibrator is contained in a small diecast box - made by Eddystone of course - and it is mounted on top of the cover over the condenser gang. The power is supplied from the receiver supplies.

Way back when, in the Good Old Days, it was usual to set these calibrators to zero beat with the 200 Kc/s BBC as tuned in on another receiver. Then those faceless folk in authority moved the BBC down 2 Kc/s. Now we have to find either the 2.5 or the 5.0 Mc/s Standard frequency transmissions - making very sure that we are not listening to the very similar transmission on 4.995 Mc/s !

The actual trimming of the calibrator consists of two separate adjustments. The frequency is trimmed to zero-beat by careful adjustment of the 3-23pF trimmer condenser as seen and reached through a small hole in the top of the diecast box. The next step is to adjust the output of the calibrator to provide a sufficiently strong mix of pips at the higher end of the frequency range (30Mc/s). The frequency trimmer should once more be checked and if necessary it should be re-adjusted to zero-beat with the SFT signal. A check throughout the full range of the receiver should now be made to verify the strength of the pips.

One problem which may sometimes occur is that when the calibrator is in use there may be a 'rustling' noise on top of the 'pip'. This has always been traced to a leaky signal coupling condenser between the output of the calibrator and the input to the receiver RF stage. Typically a 1pF condenser is used here and replacement is not onerous.

940 & an 'S' Meter

We have all heard of, maybe even experienced, the 'tired carbon resistor syndrome' where already high value resistors go much - much - higher in value. Typically a 100 Kilohm may go up to something like a half Megohm, or more.

When the 'S' meter on the trusty 940 was seen to be way out of balance such that it normally read an S2 for what was evidently a much stronger signal, then this was at first suspected to be a resistor problem.

The chassis out on the bench and the required resistors checked and found normal, this was when the brain cells began to whirl around in distress. Nothing, but nothing, had gone wrong with the 940 for many years and so there had been no contact with hollow-state technology during those years. The ARRL Handbook had to be consulted to re-learn some of the requisite theory. The bridge circuit was drawn out on a sheet of paper and it was found that whilst one branch consisted of two fixed and one variable resistor, the other branch contained two fixed resistors, a polyester type condenser, and the screen circuit of the final IF amplifier valve.

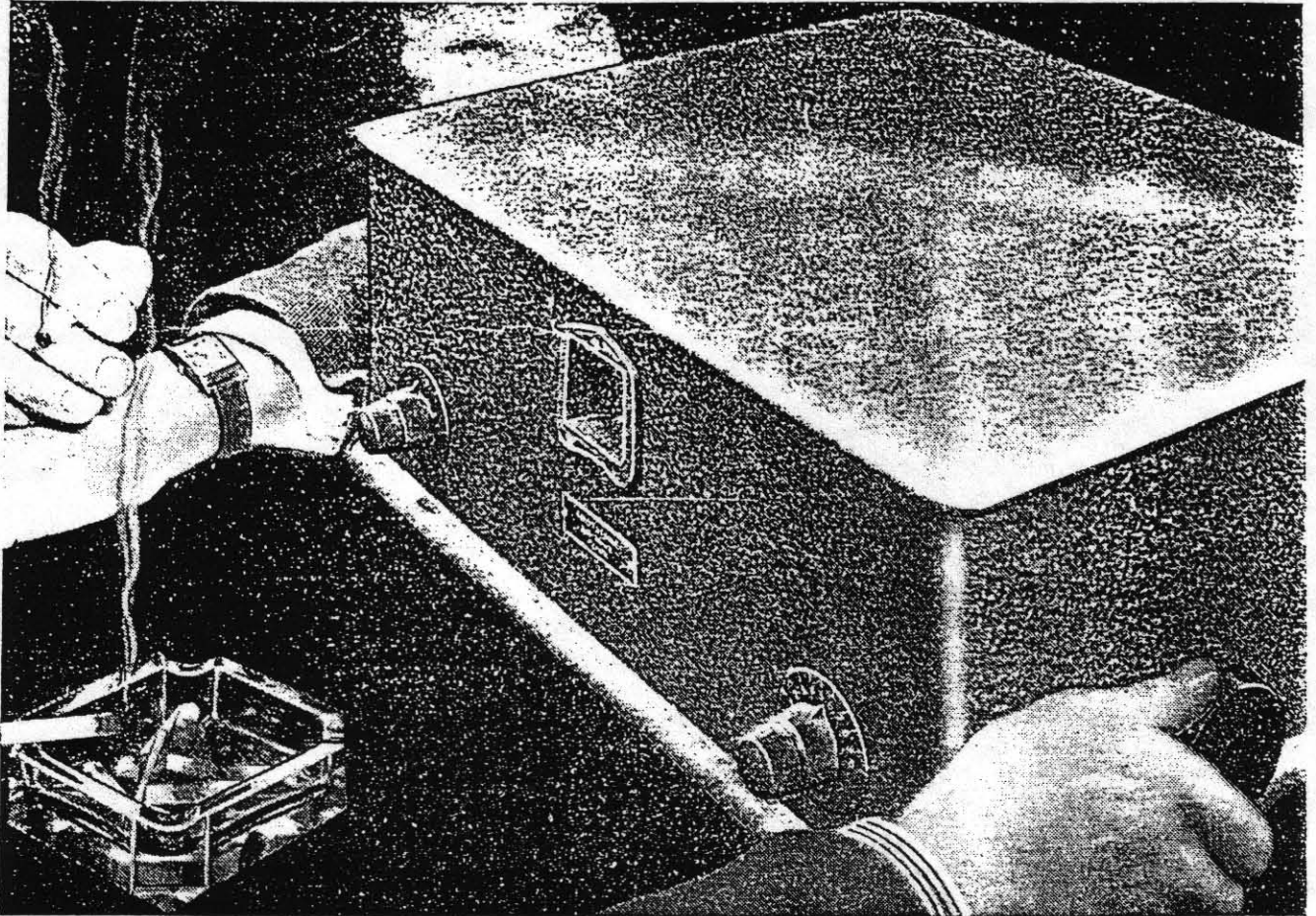
The valve was removed and checked on the ex-WD valve test meter, it was a bit low in emission but not so low as to show up as a weak signal amplifier. A swop with the first IF valve, another 6BA6 which showed up as 'well in the green' on the test meter, gave back the normal, 'S' meter readings which could once more be 'set' by the preset resistor for 'zero' signal. The small loss in emission would have been masked by the AVC no doubt but the change in screen current must have been sufficient to unbalance the meter. Q.E.D.

Unter See Boot !

No silly, not waders for fishermen. The WW II U boats must have had similar Long Wave, LF, transmitters back in the Fatherland which sent signals to the U Boats, as did our QRO Rugby Station for our Submarines. Tom is asking if any EUGers know anything about the transmitters used and the frequencies in use at the time ? Send info to Ted please.

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The 850 receiver would have been ideal to listen to these signals had it been available at the time. The coverage down to 10 Kc/s means that it will pick up the very lowest of RF signals such as the naturally generated whistles and cracks from distant thunder storms.

An 830/7 - No Output

Whilst QAP-ing Radio Canada one Saturday afternoon the 830 audio just simply died, not a quick OFF, but more of a fade-out. Nothing at all on speaker or phones, not even a whiff of mains hum with the AF turned full up.

Not being versed in service work it was necessary to await the return of the XYL. Honest injun! Janey did servicing back in her WAAF days, has kept up her skills with the gun, solder gun that is. Her present hobby is the restoration of old broadcast receivers. Nothing exotic but simply whatever comes her way.

I left the 830 to her tender mercies and was astounded to be called back upstairs within about one hour. Just when I had become interested in the Rugby on the goggle-box. Janey had the 830 opened up on 'her' bench and it was working again. She prodded the wire from the centre-tap of the mains transformer secondary and the signal went off, slowly fading to nil audio. Another jab and back it came. The explanation was that the soldered joint had deteriorated, had corroded, and was now intermittently open circuit. A quick dab of fluxed solder to the heated joint and the problem had gone away. Janey confessed that when she first heard my description she had expected an open-circuit valve heater and dreaded having to rob her stock of carefully hoarded valves. All four of the D006 silicon rectifier units in the full wave HT circuit had slight cracks in their resin cases, yet still worked okay. It was decided to junk the four D006s and fit four new 1N4007 types, at a cost of pennies each and being in plentiful supply she did not begrudge me the new rectifiers. That same afternoon the 830 was back in use and the total cost to me was a large bunch of flowers and a few compliments on her skills, learned back in 1941.

Last Issues Featured Rx

When John read the article he was tempted to open up his own 680X and have a look at the 'innards'. This has never been done in the five years since he bought the set, simply because it has not been necessary.

He checked out that his set conformed to what was said in the N/L and in the manual copy which has lain on the shelf in his shack untouched.

First surprise was that the 5Z4 had been replaced by a 5Y3, okay so it worked, so leave it. Both 6AL5s were marked as D77 but they appear to be (near) equivalents so leave them be. Further close checks showed both the fuses in the mains input were 35 amp rated! These were swapped for 'proper' fuses, correctly rated. Evidently replacements from a local garage or car-parts shop. The couplers on the selectivity control spindle had evidently been causing some slippage of the selectivity adjustment and the couplers had been epoxied to the rod. Fair enough - frequent operation of this control can loosen the screws in the couplers, so leave it. The set was eventually boxed up again with no further

changes. Curiosity had been satisfied after reading the N/L article. What is more the set is now correctly protected. those 35 amp fuses were useless as protective devices.

Golden Dragons ?

Well sort of ! This was an advert in the Hi-Fi magazine which I have been reading lately in an attempt to glean all possible gen on modern manufacturing of valves/tubes/bottles or whatever you call them.

This advert was a full page touting the "leading valve technology into the 21st Century". The ad was for a new range of KT66-R valves manufactured under the brand-name of 'Golden Dragon'.

The blurb which accompanies a photo of the KT66-R contained the spec for this 'new' valve and stated that it conformed exactly to the spec of the original GEC and M-O valve types. It stated furthermore that the measured electrical performance matches or exceeds that of these original types.

These valves are available NOW from PM Components Ltd; Springhead Enterprise Park, Springhead Rd, Gravesend, Kent, DA11 8HD.

Whilst we do not need KT66s for our Eddystones this may well be a sign of the times. Someday we may be able to buy really NEW valves to re-valve our old sets. I have seen recently manufactured ECC81, 82, and 83 types advertised elsewhere. Keep your eyes open for news of the Mullard 'E' series or the US types such as 6K8, 6V6 etc; Ted.

The Best Things In Life

When David was offered the contents of a junk box, which a Silent Key had not been able to take with him, there was no expectation of any REAL treasure trove. Maybe components which might come in useful for the odd repair jobs, sometime !

The 'junk box' turned out to be very definitely a box, the contents far from being junk. A first find was a potted mains transfo which turned out to be ex an early Eddystone. Then came several Eddystone 5.2 Mc/s IF transformers. The valve contents included several new boxed types as used in 680X, 770R, and the 940.

Yes there were many components which I had expected such as 'newish' metal-oxide resistors on sheets of ten each value. There were also very many old stock but apparently not leaky paper condensers, mostly of the 0.1 and 0.01 muf type at 350 v.w. One surprise item snapped up by a fellow club member was the slo-mo dial for an 1155H, apparently these are rarer than live dinosaurs.

I suppose that the moral is, never, never say NO, not until you have seen what is in the offered goody box.

Featured Model, The 1940.

Cheating a bit this one ! This was not asked for by members, could not be since it has never existed even as a prototype - at least not to my knowledge.

The 1940 information which I hold is nothing more than a Factory produced Specification Sheet with the handwritten note appended "not put into production".

It does look as if it was to be a successor to the 940 given the model number, but this got caught in a time-warp by the sudden expansion in the HF capability of those first generation tranny devices. Possibly this is where the 1830 took over.

With no schematic to go by (did one ever exist ?) it is only possible to theorise as to the possible circuitry that it was intended to utilise.

The date for the projected 1940 is 19 - 1 - 70, the information given is as follows:-

WJS/TM

19-1-70

1940 Communications Receiver (S.968)

1940/1 Basic Receiver, Desk Mount.

1940/2 Basic Receiver, Rack Mount. (19" Standard Post Office Rack).

Frequency Ranges:-

<i>Range 1</i>	<i>15.5 - 31 Mc/s</i>
<i>Range 2</i>	<i>8.5 - 17 Mc/s</i>
<i>Range 3</i>	<i>4.5 - 9 Mc/s</i>
<i>Range 4</i>	<i>2.5 - 5 Mc/s</i>
<i>Range 5</i>	<i>1.5 - 3 Mc/s</i>
<i>Range 6</i>	<i>.92 - 1.8 Mc/s</i>
<i>Range 7</i>	<i>.48 - 1 Mc/s</i>

The design would have been based on the same front panel size as the 1000 series of receiver with similar switched scales which have always reminded me of the old WW II Marconi CR100, CR150, CR300, CR500 series. The circuitry would have been state of the art for the time, a resin type PCB with both separate transistors and some first generation integrated circuits.

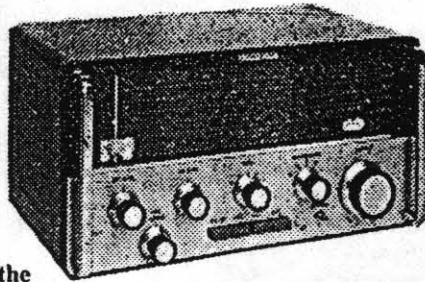
Operation would have been from mains or 12 volts DC supplies with audio output to a small forward facing speaker.

Not a lot to go on but there you have it, a project that was probably aborted before even a prototype could be built. The initials at the top are probably those of the project engineers. If they call to mind any ex Factory employees then maybe you can let us know.

- SENT BY
RON GURU.

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Marconi H.5011 FSK Adaptor.

An EUGer in Canada has one of these with a suffix number which makes it a model H.5011/05. The enigma comes from the Eddystone plate at the rear of the chassis which calls it an S.925/1. A case of dual identity ?

The H.5011 came out in many differing versions from the original basic single channel desk model to the last version, a /11 model.

Manufactured at the Bath Tub under contract for Marconi this was a frequency shift keying terminal unit which was produced in eleven variants to suit the users requirements.

The original spec number given by Eddystone was S.925 and as stated by our EUGer the S.925/1 was the Marconi /05 version. It had one predominant feature and this was that it was manufactured with a shortened front to back, or depth, measurement to allow of compatibility with the Marconi receiving equipment that was mounted on the same rack.

For interest sake the various suffixes allotted were as follows:-

-/01	Table model	Single Channel FSK operation.
-/02	Table model	Diversity operation.
-/03	Rack mount	Single Channel operation.
-/04	Rack mount	Diversity operation.
-/05	Rack mount	Single Channel, shortened front/back dimensions.
-/06	Not allocated.	
-/07	Rack mount	2 Kc/s input/single channel otherwise as /03.
-/08	Rack mount	Single Channel but switched 2 Kc/s or 2.55 Kc/s I/P.
-/09	Rack mount	As /08 but Diversity operation.
-/10	Rack mount	As /08 but more rugged meter and AF terminals in lieu of BNC socket.
-/11	Table model	Otherwise as /10.

It is assumed from personal knowledge that the Diversity system utilised was the Space diversity system whereby 2 aerials located at some distance one from the other were fed to an equal number of receivers, the resultant signals from these receivers would be fed to the input of the Diversity model H.5011 units. The H.5011 would select the best one of the two signals being fed in and process this for operation of the receiving teleprinter. Okay pal ? Ted.

Origins of the 830 series.

A letter from one EUGer who wants to have his 830/7 resprayed, both front panel and the case. His plaintive request is for the British Standard number for the original colour paints as used on this model. Did the BS paint codes exist then ??? Maybe David Simmons can enlighten us on this ?

The only literature I have on this subject gives NAMES to the colours used on the 830 series. In the case of the 830/7 they are named as Radio-Grey and Mid-Graphite (two tone).

The 830 was originally to a design for a Swedish order and the first version

was the 830 with no suffix number. This was called the "1st Standard Swedish Receiver" and in this version the colours were given as Swedish light and dark Grey. (two tone).

Some of the many versions had quite minimal differences and may have been nothing more than the change from chromed levers for selectivity changing to control knobs. This was a specific change as asked for by the Swedish company Radiobyran. This company also asked for attached mains leads in lieu of mains connectors.

Marconi / Eddystone Models.

A number of those models supplied to Marconi were never marketed as Eddystone models, others were - viz; the 670C. Of those not marketed by Eddystone there was always an S.xxx number which allowed identification via the Drawing Office specs and schematics.

Some recent queries have referred to examples of the Marconi models and have asked for any known Eddystone equivalent.

The following will answer those queries received recently. it is by no means a complete list !

S.810	BP864	Prototype only - Not produced.		
S.881	BP843	"	"	
S.881/1	BP865	MIMCO Model Number	2232A	
S.881/2	BP880	"	"	2245A
S.881/3	BP890	"	"	2273A
S. ?	BP1078	"	"	2232B
S.889	BP815	"	"	2244B
S.889/1	BP898	"	"	2244A

If you know any more then please let me know. Ted.

S.770S Variants.

A letter from Carl to tell me that he has two slightly different versions of that rare beast the 770S. This model covered from 500 Mc/s to 1000 Mc/s in one band and was a triumph of the plumbers art. Tuning was by means of variable cavity resonators for both oscillator and RF stages.

Both of these receivers have been bought as scrap from a well known University Science Department, total cost to Carl was £50 and these bring his collection to a grand total of 11 Eddystones. Whilst his other sets are all in use these two have yet to be installed. Lack of aerial systems is the major hurdle but plans are for utilising UHF Tv type amplifiers fed from a suitable discone, the QTH is about 500 feet ASL and so there ought to be some signals out there.

The differences in the two versions are that whilst the earliest serial number of the two is table mount and has no BFO fitted the later model is standard P.O. 19" rack mount and has no case but it does have a crystal controlled BFO fitted.

There are no markings such as suffix numbers or letters to denote any variants just the plain old 770S model number.

NATO Stock Numbers.

Several letters recently querying those multiple digit numbers usually found on the fingerplate - dead centre - on several models.

These numbers are NATO nomenclature and whilst the first group of four digits classes the equipment as RADIO, I am not too sure of the function of all of the other groups. The full number may be four groups of four, two, three, and four digits such as 5820-99-102-9696. This particular combination is for the Mod version of the S.770R Mark II.

Later versions of this set with suffix numbers were also known as the R.213 by 'them' (Ministry of Aviation). and they all had differing four digit groups at the end. i.e.-

S.770R Mk II/1	Admiralty receiver	Nato designation	5820-99-971-8329.
S770R Mk II/3	R213 MkII M of A,	- " -	5820-99-102-7464.
S770R Mk II/4	R213/1	"-	5820-99-102-7492.

Other Nato numbers exist for such as the EB35 Mk II and the 940, also for the later VHF series the 990 and 1990 models.

940 Variants.

More version of this basic model have been unearthed and to answer a letter from Steven here is the sum total of my information at present. If any EUGer can add to this then please do.

940	Basic Standard Receiver.
940/1	Crystal Control.
940/2	As Standard plus dual impedance output transfo 50 and 600 ohms.
940HF	As Standard but with MUSA type coax plug/socket for aerial input.

Another Marconi Badge ?

A query from a non-EUGer in Germany re the Marconi type H.2310 receiver which he has recently been given. It came from a scrapped merchant ship and was to have been dumped, so cost him zilch !

This is a version of the Eddystone 958 and whilst almost an exact UK standard 958 it was designated the 958/4 and was badged as a Marconi H.2310. My records show only that it was a "marine version" of the First Standard UK Model.



GRAEME G3GGL CONGRATULATES CHRIS ON HER RETIREMENT
 (DIGITAL PHOTO BY SIMON ROBINSON, G8POO)

WELL DONE, CHRIS.

User Group history was made recently when Graeme Wormald G3GGL, on behalf of all the members of E.U.G., presented Chris Surman with an engraved silver rose bowl on the occasion of her retirement from Eddystone Radio. For the past ten years Chris has been in charge of the Technical Library and Reprographics, first of all at the Bath Tub and then at the new premises in Selly Oak, Birmingham. Her skill in presenting old valve Handbooks is so accomplished that members have commented that they were better than the originals!

During the past nine years she has become so enthused with the history of Eddystone and its products (something approaching 400 different receivers, including variants, since 1923) that she has left no stone unturned to collect the Company's handbooks, the older the better. If you look beyond Chris's shoulder, through the open door, you will see a large cabinet (with box-files on top). The label upon it says "EUG KEEP OUT", and it houses her unique collection. We are grateful that it now rests in the care of E.U.G. Archivist, David Simmons. Well Done, Chris!

990S Production Totals ?

Whilst researching some gen on this set for an EUGer I came across some cryptic handwritten comments on an original spec sheet that came from the pile of goodies which were donated to EUG by the widow of the late Geoff Woodburn.

Not a great deal of info but for some of us it means a lot. The comments are as follows:-

990S model Last Production Serial Number was S/N 0677. This brought total manufactured to 680 examples with the addition of the three prototypes.

Last set off the Production Line was in March 1975. This was basically a 990S/1 but the last twenty were called 990T as they had wide bandwidth IFs and an AM video output.

The N.E.C. !!!

Don't forget that EUG will be at the NEC Show again this Year. The stand will be manned by the usual gang of pirates Chris, Graeme, Simon and Dave.

There is EVERY REASON for you to turn up to support EUG, the demise of the Company is not a reason for not supporting EUG. Come along and sign the EUG Members Visitors Book. (Make Graeme Happy !).

The EC10M ?

A recent letter from one fortunate EUGer tells me that he has five different versions of the EC10 receiver, and will not be content until he has all of the nine known variants (?). Get nine Peter and another will turn up out of the woodwork, you ought to know how it goes by now.

His letter queries the designation EC10M, both Peter and I have always taken the suffix 'M' as indicating Marine but then as he points out the Swedish versions (A/1, A2/1 etc;) were also Marine receivers.

What Peter is now suggesting is that this suffix letter designates a Marconi or MIMCO version.

The EC10M has slightly different frequency ranges, exactly as per the EB37 if you care to check them out. My records also do show that it was modified to a specification issued by MIMCO to Eddystone, Spec; No; 1037.

The EC10M was a variant of the Basic Standard (Mk I) EC10 and NOT the EC10 Mark II. A variant of this was also manufactured for MIMCO, it was called the S.907 Mk II by Eddystone and the MIMCO Model Number 6689A. Gets a bit confusing doesn't it ?

EA12 Meters ???

An SOS from one EUGer who urgently needs a replacement meter for his EA12. The movement is open circuit and the estimated cost of a repair is - wait for it - £65 !!!

If anybody has either a replacement meter or knows of a firm who does meter repairs for considerably less than the above sum, then please, info to Ted first.

Elettra Model.

Down through the years there have been several models called either the Elettra or the Electra. The one which concerns us here is the Eddystone made but MIMCO badged EM34.

Styled much like the 840A series this valve type receiver was called the 3873A by MIMCO. There are stories that it was made by Eddystone to a contract given to Marconi by MIMCO. Now this sort of story has come up before and been hotly denied by sources at Eddystone, the order came direct to Eddystone says my latest Mole. (James).

The model was called the S.954 by the Eddystone Company and was a basic marine type receiver with six ranges covering from 150 Kc/s to 30 Mc3s with the usual, obligatory, gap around the 450 Kc/s IF. It was unusual in that it featured a 10 watts audio output stage and so would have been used for reception of broadcast programmes which were fed to a large speaker for saloon use on board passenger liners.

I have only ever seen one of these animals myself so they are pretty rare. Needless to say that if you spot one then BUY IT.

An Arctic Receiver ???

Tony writes to say that he has acquired an 1830 receiver which has a three letter suffix stamped after the model number on the rear panel of the set.

The full model designation goes like this EC1830/ICE. But there is no serial number anywhere either inside or outside, so "what gives" asks Tony ?

I have only ever heard of this version from an ex BathTub engineer and apparently just a few were made - says he. The set is a standard 1830 but it has provision for crystal channel control on the LF bands. This was the final model of the 1830 that left the production lines says Tommy, but even he is at a loss to explain the meaning of ICE.

If you think that you can help with an explanation for ICE then by all means do write me, or to Graeme. All such information is welcome and will be passed on. Ted.

Formers, 1-1 and 25 1/2.

MAINS Transformers.—350-0-350v. 60 m.a., 4v. 4v. 25 amps., 12/-; 425-0-425v. 120 m.a., 4v. 4v. 1 amp., 4v. 7 amps., 4v. 2.5 amps., for Quality Amplifier, 26/-; L.T. transformers, with volt 3a. C.T. windings, or 2.5v. 8a., 5v. 2.5a., 8.

VOLUME Controls, with or without switch, by Rohm, Centralab and other good makers, any v. 2/6; steel chassis, "Wireless World" Quality Amplifier, 8/6; Partridge 32-watt amplifier, 11/-.

WE Stock All Parts for "Wireless World" Quality Amplifier. Quality Amplifier Receiver, Imperial Short Wave Six, and 1936 Monodial.

EUROPA Continental Valves, all types in stock; A.C. or A.C./D.C. (20 volts, 0.18 amps.), variable-mu, output triodes, detectors, etc., 4/6 each; output pentodes, 5/6; 500-volt rectifiers, indirectly heated or otherwise, 7/-; we can also supply a correct replacement for any British type of valve, including side-contact universals, and 60-watt output triodes; price upon request.

CARRIAGE Paid, cash with order or c.o.d.; send for list.

VARLEY 3-gang: Coil Sets, type BP13 and BP19, superhet or straight; 13/6.

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BIRMINGHAM RADIOMART G5N1.—Everything a constructor requires, lowest prices, no junk; catalogue, 1 1/2d., shows thousands bargains; during summer few only shown below.

RADIOMART.—Utility 2-gang uniknob and dial, 3/11; 1,500-volt tubular condensers, 6d.; Helsby electrolytics, 8 mf. 500, 2/11; 4x4 mf., 1/6; 25 mf. 25 volt, 1/-; etc.

RADIOMART.—Smoothing chokes, 20 hy. 120 m.a., 3/11; 100 m.a. 2/11, 40 m.a. 1/11; Telsen Ace transformers, 1/11; Radiograndes, RG4S, 2/9; B.T.H. speaker, 2/11.

RADIOMART.—Varley 10/6 bifocal iron-cored dual range coils, very selective, 2/11; matched pair 5/3.

RADIOMART.—Pushback wire, 6 yds. 6d.; heavy 9d.; 2 gross solder tags, 6d.; resin-cored solder, 9ft. 6d.

RADIOMART.—Centralab pots, all sizes, 1/6; switched 2/-; tubular glass fuses, 2d.

RADIOMART.—Igranic midget jacks, 3d.; milliameters, 25 m.a. upwards, 5/9; super 6/9.

RADIOMART.—Telsen H.F. chokes, 1/11; screened 1/11; Utility 1936 S.L. wavelength dials, 3/11.

RADIOMART.—Lissen 3-gang superhet kit coils, two I.F.s, ganged condenser, ditto bandpass, ditto 2-gang all-wave, 10/- kit.

RADIOMART.—Traders' monster bargain parcels, value £4/10, for 10/-; also 5/- parcels.

RADIOMART.—Famous Continental A.C. valves, 4/6; American Duotron, etc., all types, 3/6; battery from 2/3.

RADIOMART.—Utility 8/6, microdisc dials, 3/11; Radiophone, 0.00016 short wave condensers, 3/6; series gap, twin, 3/9.

RADIOMART.—Ceramic all brass microvariables, 15 mmfd., 1/4; 40 mmfd. 1/7; 100 mmfd. 1/10; short wave H.F.C., 9d.

RADIOMART.—Order 5/- post free; get our bargain catalogues; General 1 1/2d., Short wave 1 1/2d.—44, Holloway Head, Birmingham. Tel.: Mid. 3254. [0507]

CINEMA EQUIPMENT

MOVIE Cameras, projectors, screens, films; inspection invited.—Illustra Enterprises, 159, Wardour St., London. [0486]

MISCELLANEOUS

1h.p. Motors, A.C., brand new, 200-240v., 1,425 revs.; £2/9/9; lists free.—Easco, 18, Brixton Rd., S.W.9. [0455]

NEW Theory, Experiments, Inventions, Circuits, 44 pages; post free 1/1.—D'Arcy Ford, 15, Gandy St., Exeter. [2467]

ELECTRIC CLOCKS

SMITHS and Ferranti Electric Clocks, Waltham and Russell watches and clocks; traders enquiries invited.—Leonard Heys, 36, Henry St., Blackpool. [0526]

SPECIAL Offer.—Superior A.C. mains electric clock movements, 200-250v., 50 cycle, drive up to 10-inch hands; 16/6, post 6d.—Write details, Ebury Bridge Radio Co., 33, Ebury Bridge Rd., S.W.1. Phone: Sloane 8407. [0448]

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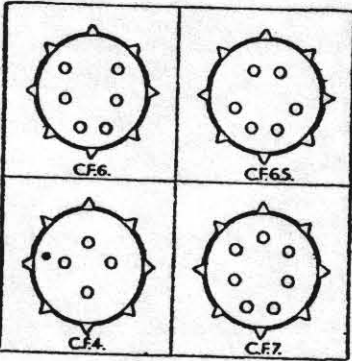
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- CF4 (4 pin) ... 1/6
- CF6 (6 pin) ... 1/9
- CF6S (Standard 6 pin) 1/9
- CF7 (7 pin) ... 1/10
- CT4 threaded 1/8
- CT6 " 1/11
- CT6S " 1/11
- CT7 " 2/-

(7 pin type allows bandsread tap to be fitted.)

2nd grade (bakelite former), not recommended, but better than competitive types.
2C4 (4 pin) ... 1/- **2T4** 1/2
2C6 (6 pin) ... 1/1 **2T6** 1/3

RAYMART SHORT-WAVE CATALOGUE, 1 1/2d. POST FREE.

Distributors:

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Telephone: MID 3254

Raymart Coil Forms

A couple of adverts for these coils on pages 17 and 19 were sent in recently by Tor from Norway and as he points out the six pin variety is the same as the Eddystone 6 pin former. Given the Birmingham Address for Raymart I am left wondering whether this was a source for the Eddystone items ??? Heretical thoughts Ted ? Again, take a gander at the low loss aerial insulator and feeder spreader, so very similar to the items in the Eddystone Catalogue of the period.

Tor mentions his having obtained another 710 or All World Six and says that after reforming the electrolytics the set worked okay on its original vibrator. My personal experience is that over many years the contacts in the vibrator units have corroded solidly together and all that happens is a series of blown fuses. A bit of luck there for Tor.

He also mentions the several variants of this model. I know of three myself but will never be surprised to hear of another.

Thanks Tor, for the information and for your long and continued support of EUG.

Model Dating Lists.

Since we cannot go back in time - H.G.Wells never did leave me those plans for time travel machines which he promised ! - we are always reduced to either believing, or disbelieving,--the printed lists which we obtain from manufacturers of equipment. Eddystone were no different to any other Company and left behind a plethora of paperwork detailing every aspect of their business.

When Alan wrote to me asking if I could date for him, approximately would do he said, the S.740 which he has owned for many years. Well of course I turned to my lists which all originated in the Bath Tub.

Going by the serial letters/number I told him it was from 1952, I also added that the model in question had only been in production during the period from 1950 to 1954. This last bit of gen came from a factory typewritten list which I still have in the original, but which I have also put onto floppy for ease of use.

Alan wrote back quite a long letter saying that he doubted my information as he had been able to contact the original owner who swore that he had not bought the 740 in question until 1956 and it was NEW then.

Now my info re the date of MANUFACTURE in no way contradicts the info which Alan has been given by the original owner. Who states that he BOUGHT the 740 new in 1956, not that it had been made in that year ! It is perfectly normal for sets out of production to be retailed as new after having been in the retailers stock for a year or two. So, I stand by my original information re the model 740. Pages 20 and 21 were/are my source for dating models and are used whenever I get such queries in the mail.

Maybe the inclusion of these lists in the N/L will help Alan and others to date Eddystone models which they have in their collections.

Facts & Figures

COMPONENTS TESTED IN OUR LABORATORY

362 Valves

THE full characteristics of the super-power valve which was mentioned on this page last week are as follows:—

Filament Volts	6
Filament Amps	2.0
Anode Volts	500
Anode Current	100 mA
Bias Resistance	700 ohms
Amplification Factor	6
Mutual Conductance	8
Output	13 watts

The price of this valve is 40s. The ME25 is a directly-heated output pentode, which is also of novel construction, and this has the following characteristics:—

Filament Volts	4
Filament Amps	2.0
Anode Volts	250
Screen Volts	250
Anode Current	60 mA
Bias resistance	700 ohms
Mutual conductance	4
Anode load	6,000 ohms
Output	9 watts

This valve costs 30s.

Raymart Accessories

THE group below shows some of the Raymart short-wave components, sketched by our artist. The items shown are an aerial insulator, a transposition block and a group of short-wave coils, which, as may be seen, are of the 4-pin variety, requiring an ordinary valve-holder for mounting purposes. To maintain efficiency and reduce losses this should preferably be of the special short-wave type with a minimum of dielectric material. Only the three coils which are shown are

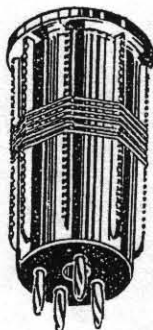
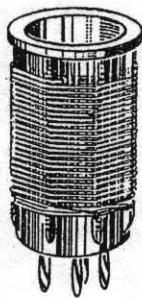
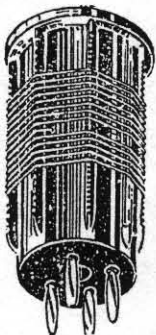
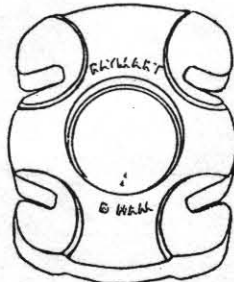
made by Messrs. Raymart, and thus, by concentrating on a small number in this manner, it has been found possible to reduce price to a very low limit and yet cover the most useful range. The smallest coil is designed for a band from 11 to 25 metres; the next coil for the 20- to 45-metre band; and the largest for use between 44 and 100 metres. The parallel capacity is .00015 mfd., and the winding is intended for use with the simple detector circuit employing grid coil with reaction. If desired, they may, of course, be used in oscillator circuits or for transformer-coupling. The price of the two smaller coils is 2s. 6d., and the largest of the set costs 2s. 9d.

The aerial insulator costs 4d., and is made from a special flintglass material, whilst the transposition block is made from a special ceramic material, and costs 6d. each, or 4s. 6d. for a set of ten.

Kabi Potentiometers

OWING to a great demand for a carbon type potentiometer, Messrs. F. W. Lechner and Co. announce a substantial reduction in the price of the Kabi components which they handle. The following types and prices came into effect on November 1st last:—

- No. 1700 linear, 4s. 6d. each.
- No. 1703 log. law, 4s. 6d. each.
- No. 1710 linear, with single-pole Q.M.B. switch, 6s. 6d. each.
- No. 1713 log. law, with single-pole Q.M.B. switch, 6s. 6d. each.
- No. 1720 linear, with double-pole Q.M.B. switch, 7s. 6d. each.
- No. 1723 log. law, with double-pole Q.M.B. switch, 7s. 6d. each.



A group of Raymart short-wave components. The three coils represent the entire Raymart range of tuning coils and cover from 11 to 100 metres, with a .00015 mfd. tuning condenser.

EASY TERMS

We specialise in the supply of all good quality Radio sets, components, and accessories. Send list of requirements and keen quotation will be sent promptly.

Cash and C.O.D. orders despatched by return of post.

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NEW LISSEN SHORT-WAVE 3 KIT

(world-wide reception)

Cash price £3.9.6. or 6/4 with order and 11 monthly payments of 6/4.

SPEAKER UNITS

	Cash Price	with order	Number of Months	Monthly Instalment
W.B. Stentorian 36S	42/-	2/6	11	4/-
W.B. Stentorian 36J	32/6	2/6	11	3/-
Blue Spot Senior	29/6	2/6	7	4/2

Note Units and extension speakers supplied similar terms.

ELIMINATOR

Atlas T10/30 H.T. unit and trickle charger combined .. 69/6 5/- 12 5/11

PICK-UPS

Blue Spot (with volume control)	27/6	2/6	6	4/6
B.T.H. Piezo Electric	42/-	2/6	11	4/-
Marconiphone 25	32/6	2/6	11	3/-

All makes of pick-ups supplied. Illustrated price lists available.

VALVES (every type supplied)

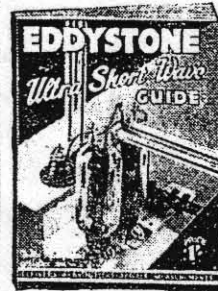
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EDDYSTONE RECEIVERS AND YEAR OF MANUFACTURE.

Copied from poor quality list obtained from the Bath-Tub, 1996.

<u>MODEL.</u>	<u>YEAR.</u>	<u>MODEL.</u>	<u>YEAR.</u>	
HOMELANDER	pre 1936.	830.	1963-73	***
4 valve.		840.	1953-54.	
All World 4.	1936.	840A.	1955-61.	
All World 6. +	1937.	840C.	1961-68.	
All World 8.	1938.	850.	1961-69.	
35EX/B34. *	1941.	870.	1956-59.	
504.	1946.	870A.	1960-64.	
640.	1947-49.	880.	1959-61.	
659/670.	1948-54.	880/2.	1961-69.	++++
670A.	1954-62.	881/2.	1955-61.	=====
670C.	1962-64.	888.	1956-61.	==
680X.	1951-61.	889.	1954-56.	===
680/2. ++	1947-52.	890.	1956-57.	
720.	1950 only.	902.	1965-67.	=
730.	1954 only.	902 MkII.	1967-72.	
730/1A.	1955-57.	909.	1959-60.	
730/4. **	1957-61.	909A/2.	1967 only.	
740.	1950-54.	910/1.	1961-62.	
750.	1950-58.	924.	1965 -. "	
770U.	1955/63.	929.	1966 only. =	
770U MkII.	1964-69.	930.	1958-62.	
770S.	1962-65.	940.	1962-70.	
770R.	1953-63.	949.	1966 only. ""	
770R MkII.	1963-69.	960.	1961-63.	
820./HR20. +++	1955-58.	990R.	1968.	

+ This name also used for the S.710 in 1950.

* Does this include the earlier 358 ?

++ Does this include the 680 ? A different set.

** No mention of the other suffixes, up to /10 are on record.

+++ HR20 is a Marconi model type, hence a badged 820.

*** Must include all suffixes up to /12 are known.

++++ Must include Marconi badged /3 & /4 which was a GCHQ special.

= An unknown model to EUG.

== Must include 888A version, I would guess.

=== MIMCO feeder unit.

==== MIMCO Cabin tuner.

" PSU for the EB/EC series.

"" Electronic Keying Unit.

MODEL.	YEAR.	MODEL.	YEAR.
990S.	1966-75	1001.	1972->
EC10 MkI.	1963-69	964/7	1972-74
EC10 MkII	1969-76	958/7	1972->
EB35 MkI	1965-69	1001	1972->
EB35 MkII	1969-70	1002	1972->
EA12	1964-69	1004	1972->
EM34	1967 only *	961 MkII	1973->
EP14/15/20	1965-70	1061A & B	1975->
EB36	1966-69	1990R	1974->
958 series	1969->	31A	1972->
961 MkI	1970-72	1837	end 1976->
964	1970->	1838	end 1976->
EB37	1971-76	EC10A2	1976->
1830	1971-74		

-> indicates production continued beyond 1976 (when this list was compiled)

* To a Marconi Spec; (3837A - Elettra) but some badged Eddystone.

The National Vintage Communications Fair



Hall 11 • NEC Birmingham

(Please note that the NEC is now charging for car parking)



Sun. 9th May '99 • Entry £5
10.30am - 4pm (tickets on door)

VINTAGE RADIOS • CRYSTAL SETS
HORN SPEAKERS • MICROPHONES
EARLY SOUND RECORDING EQUIPMENT
CLASSIC AUDIO/HI-FI • GRAMOPHONES
EDWARDIAN & BAKELITE TELEPHONES
EARLY 405-LINE TELEVISION • RECORDS
and ALL ELECTRICAL & MECHANICAL
ANTIQUES and COLLECTABLES

Details/Booking Forms (stalls only £40)
Sunrise Press, Spice House, 13 Belmont Road,
Exeter, Devon EX16 9LY. Tel: (01392) 411565.
e.mail sunpress@curobell.co.uk
web <http://www.angelfire.com/tx/sunpress/index.html>

LATE-LATE MEMBERS' FREE ADS

WANTED: EP20 Panadaptor for cash or part-ex for pair RX mounting blocks (cat. no. 774) and/or original Eddystone Short Wave Manuals numbers 4, 5 & 6 in tidy order.
Call Richard (see below)

FOR SALE: 770R MkI Rx with copy manual, for spares or repair £35.00
Call Richard 01789-293375
(Stratford-upon Avon)

WHY NOT ORDER A DE-LUXE
EDDYSTONE USER GROUP
LAPEL BADGE WHEN YOU
RENEW YOUR SUBSCRIPTION?

3/4" DIA CHROME AND ENAMEL
PRICE £2 INCL P & P

THE COOKE REPORT

Part Seven

In his last episode Bill Cooke, GWOION - Chief Engineer at Eddystone throughout its halcyon years - told us about the last of the famous valve receivers. He also told us about the first transistor radio, the "Stratton Portable", which failed to beat the price barrier and never went into production. This month Bill describes the true impact of solid state.

TECHNOLOGY NEVER STANDS STILL . . .

"It was obvious by the turn of the 'sixties that valve sets were reaching the peak of their development and that future success would lay in solid state, in spite of the problems. After all, thermionics took twenty years to get 'off the ground'. The triode amplifying valve was invented in America by Dr Lee de Forest in 1906. It remained fundamentally primitive until the mid-1920s and the invention of the screen-grid, or tetrode valve in 1926, rapidly followed by the power pentode.

"The point-contact germanium transistor (an acronym derived from 'transfer resistor') was invented in 1947 by John Bardeen and Walter Brattain at Bell Telephone Laboratories, U.S.A. It remained a laboratory curiosity for the next few years but by the late 'fifties the robust junction transistor had been developed. This offered miniaturisation, low power-consumption, and high reliability, all of which had been long-awaited by the radio industry.

"In spite of our fruitless foray into the world of solid state with the 'Stratton Portable' it was obvious that we would need to get more experience in this field; the sooner the better. Following interest from the Nuclear Authority we decided to use the hardware of the new (valved) model 940 'semi-professional' communications receiver as a test-bed and developed small boards to fit over the valve-holes, together with the I.F. board. Although printed-circuits had been in use with valved sets for some time we at Eddystone considered them to be a source of unreliability when married to heat-generating circuitry. This has been proven time and again when forty-year-old sets have been repaired with ease . . . No charred boards, broken tracks, or jammed components.

THE PRICE OF PROGRESS . . .

"Harold Cox (Technical Director) and myself went to Mullard to discuss the availability of production transistors and also design parameters. They were able to offer the OC170 for the RF stages (at a price of £3.10s each [£3.50] - equal to about £50 each in modern money), and the OC44, a little cheaper, for the IF stages. Geoff Woodburn, one of our long-serving development engineers, constructed the set, the sweat dripping from his brow at the thought of one false move with his delicate little charges. Harold Cox was not at all happy with the result. Quite frankly it couldn't hold a candle to the valved sets. The practicalities of dealing with low impedance

The Company's first Solid State Communications Receiver.
It was based on the popular Model 940 valve set
but was not a success. It was withdrawn after two years.

TRANSISTORISED COMMUNICATIONS RECEIVER



—the **EDDYSTONE '960'**

500 kc/s-----to-----30 Mc/s

- Nineteen semi-conductor devices
- Six ranges cover 500 kc/s to 30 Mc/s
- Good frequency resolution
- High sensitivity
- Two selectivity positions—one with crystal filter
- Excellent frequency stability
- Audio output up to one watt
- Precision slow motion drive
- Internal heavy duty battery
- Provision for using external power supply
- Robust construction
- High reliability
- Modern styling and finish

Illustrated brochure giving full specification and other information available on request from the manufacturers:

STRATTON & CO. LTD

Telephone Priory 2231/4

BIRMINGHAM 31

Telex 33708

devices posed quite a challenge. One of the biggest headaches was the action of the AGC, which damped the IF transformers so heavily that the 'Q' practically disappeared. One may say that if the signal was so strong it didn't matter, but what if there was a signal of similar strength in the adjacent channel! Nevertheless the set, now designated the Model 960, was marketed, but only for about a couple of years. It was ahead of the technology of the time, I'm afraid, but at least it gave us a lot of practical experience in dealing with the little wire-ended monsters.

A NEW FAMILY AT THE BATH TUB . . .

"The Company was reluctant to be without a solid-state product; 'Transistor' was the buzz word of the 'sixties. Arthur Edwards G6XJ (Sales Director) suggested to Harold Cox that we should set our sights a little lower and produce a 'midget' communications receiver for the SWL and radio-amateur at a more realistic price. In those days the concept of portable and mobile HF operation was much more popular than today. And so the EC10 was born. It was a runaway success from its introduction in 1963 and, with its broadcast derivatives the EB35/36/37, continued in production until 1977, when the Company finally withdrew from the High Street. Variants were used by the Post Office, coastal shipping, NATO Forces, and as standby (reserve) receivers (EC10A Series) for the Swedish Merchant Marine. To satisfy the Swedish authorities with the performance of these low-cost receivers Terry Parker, chief of Test (and now G4NXN) and myself worked in the cold of Gothenburg for a while. The Swedes were very substantial customers of Eddystone. All this as well as widespread domestic sales.

THE END OF AN ERA . . .

"The arrival of solid-state technology also heralded an upheaval at Stratton and Company Ltd. Since the founding of Jarret and Rainsford in 1860, over a hundred years previously, the firm had been under continuous family ownership and control. George A. Laughton had been with the firm for over 64 years (inconceivable to our present outlook), having been Chairman since the 1920s. He was succeeded in this office by his eldest son, George Stratton Laughton (a wireless enthusiast and founder of the Eddystone Radio division 40 years earlier). But it must be remembered that the core business of the Parent Company was cufflinks, tieclips, powder compacts and fancy goods.

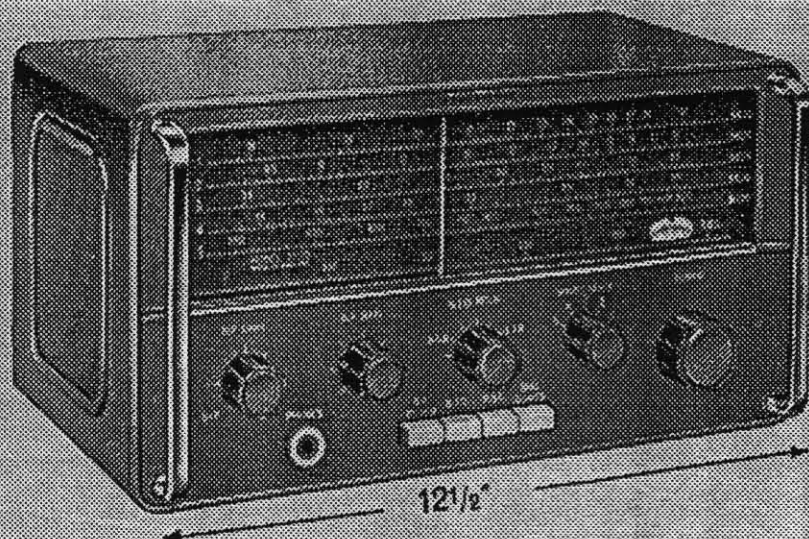
"The 'Wireless Department', as it was termed by the Board of Directors, was really a bit over the top by comparison. They never missed an opportunity to to inform us that the 'Woolworths Department' (hair grips, etc.) had a slightly higher turnover with a somewhat better profit margin! With the advent of the transistor the Laughton family had serious misgivings about being able to understand what it was all about. After great deliberations they decided to dispose of it to one of their best customers. On 26th March, 1965, Eddystone Radio passed into the ownership of the Marconi Company.

READERS' QUESTION ANSWERED . . .

"This seems a good place to pause in my reflections and consider one of the questions which members ask from time to time. 'What was the system of numbering Eddystone sets?' The answer is basically 'There wasn't one!' But let's examine the

An early advert for the Company's first successful transistor radio. It remained in production for 14 years.
Peak output was 100 per week.

THE EDDYSTONE MODEL
"EC10"
TRANSISTORISED COMMUNICATIONS RECEIVER



**RUGGED, LIGHT AND COMPACT
FOR PROFESSIONAL AND AMATEUR USE**

A most efficient transistorised receiver giving an excellent and consistent performance over the whole range from 550 kc/s to 30 Mc/s. Thirteen transistors and diodes, including stabilising Zener diode. Ample audio output to internal speaker, and panel jack also fitted for telephone headset. Precision slow-motion drive with 110 to 1 reduction ratio ensures delightfully easy tuning.

Self-contained battery unit holds long-life cells. Alternative aerial inputs for dipole, long wire and short wire aerials. Selective audio filter improves c.w. reception. Robust construction, modern styling, attractive two-tone grey finish. Dimensions are 12½ inches wide, 6½ inches high, 8 inches deep. Weight with batteries 14 lb.

List Price (in U.K.) £48. 0s. 0d.

STRATTON & CO. LTD. BIRMINGHAM · England

26th March, 1965.

N O T I C E.

It is with considerable personal sentiment that I announce that the Laughton family has accepted an offer from The Marconi Company Limited to purchase the Eddystone Radio section of their business.

For many years the Marconi Company has been one of our largest and most important customers with whom we have had a most pleasant business relationship and I hold this Company in the greatest respect.

Speaking personally as the founder in 1923 of the Radio business, I am confident that the future outlook for the Company is excellent. I have been assured that it is intended that the Eddystone Radio business will continue to function in the future without any radical change of policy. Further that existing employment for staff and employees will continue, and that present pension rights will be fully safeguarded.

Mr. H. N. Cox and Mr. A. C. Edwards will remain on the Board of the Company.

George Stratton Laughton.
Chairman.
Laughton & Sons Limited.

Early in 1965 this Notice appeared in the Wireless Section of Laughton's complex at the Bath Tub. The family decided to accept an offer for a Department which was becoming too difficult to oversee.

matter closely. Before the war sets were given names, usually reflecting their technical aspirations, such as Scientific Short Wave Three, Atlantic Two, Homeland Four, All Wave Four, All World Eight. Then, unfortunately, 'The Sphinx' (battery and AC versions). We received letters from some customers saying they had bought one and that it was indeed as silent as the Sphinx! A lesson in marketing . . . By the late 'thirties these names were becoming a little confusing, especially as rival manufacturers styled their sets in similar manner. More than one EUGer has been misled into thinking he'd found a 'new' Stratton product when he came across the McMichael 'Colonial Four'.

"So new and more mysterious names were devised by Harold Cox and Arthur Edwards. The ERA 7 came upon the scene . . . (was it merely coincidence that the 'ERA' was a famous racing car of the period?); and what happened to the ERA 1, 2, 3, etc.? There never were any. Seven was considered to be a 'magic' number (still is by some people). The ECR of 1939 was thought to stand for 'Eddystone Communications Receiver', but you won't find it written down anywhere! With the onset of the War plain three-digit numbers came into fashion; probably following the military penchant for similar nomenclature (R.1155, R.101, R.1132, etc.,). Stratton usually prefixed their numbers with the letter 'S'. This is often thought to stand for 'Stratton' but the truth is much simpler. It stood for 'Specification'! Usually the numbers went forwards; but sometimes they came backwards - the 870 came out seven years before the 830 . . .

"Then came the fashion for prefix letters, which did at least describe the nature of the set (EA = amateur, EB = broadcast, etc.,) but the numbers made no more sense. And to cap it all the 'S-numbers' were still allocated as specification numbers at the factory - I'll bet you never knew the EA12 was also the S923 and the EB35 the S944 (and if you really want to know, the EC10 was the S907).

NEXT MONTH BILL TAKES A LOOK AT THE NEW OWNERS; THE FIRST TRANSISTORISED VHF SETS AND THE NEXT GENERATION OF SOLID-STATE HF RECEIVERS.

MEMBERS' FREE ADVERTISEMENTS

FOR SALE: Eddystone model 840C AC/DC Universal Rx; good order; works well; £85 plus carriage. Phone Anthony on 01686 630255 (Mid Wales).

FOR SALE: Eddystone model 680X as featured in Newsletter 53. Works well on all bands. Complete with manual and one or two spare valves. £85. Buyer must collect. Phone Jim on 0181 449 3921 evenings; or 01628 585201 daytime. (Barnet area)

WANTED: Eddystone model 909 (any version) Swedish Merchant Marine set. May exchange for other models if desired. Phone Anthony 01686 630255 (Mid Wales)

WANTED: Case for my Eddystone S.680. (a 770R/770U/730/680X should fit). Call Mr Williams on 01752 491517, 'Tresseck' Wembury Road, Wembury, Plymouth PL9 0DH

WANTED: Are there any retired TV engineers out there in EUG-land that might have a redundant greyscale or colour bar generator for disposal. I DESPERATELY need one for TV servicing practice on the City & Guilds 2240 Course. Also required, a Ferguson 1615 series chassis (monochrome) models 3850/6850/3852 or 6852. C.A.Crabb, 41 West Drive, Edgbaston, Birmingham, B5 7RR. Telephone: 0121 472-3845. Please Help!!! (This is from Colin, G4HNN, who you hear on the Net . . .)

RADIO RAMBLINGS

Gottings from my Notebook



By

Graeme Wormald

G3GGL

THE END OF AN ERA . . .

AT THE TIME OF WRITING (the end of March) the true future of the Eddystone marque is not clear. There is no doubt that sad times are upon all Lighthouse fans, as the management initiative to acquire the Company has come to nought.

Last week I paid a visit to the Factory and met Matt Parkes, the General Manager. UK Members will recall that last month he asked for their help in this project at very short notice. He told me that he was inundated with members' telephone calls the next day. He took his plans to Chelmsford, but to no avail. The Parent Company were unable to give the extra time needed to organise the arrangements. Such is life. Matt has asked me to pass on to EUG Members his sincere thanks for their support, both financial and moral, at this very stressful time.

However, the Company is still trading until Easter. What happens thereafter will be too late to report in this column, so I'll promise a full report next time and mention it no more for now.

SHEDDING LIGHT ON THE 840C . . .

I REMEMBER THE FIRST TIME I looked inside my newly acquired Model 840C (universal AC/DC set) I was most disappointed at the absence of scale illumination. The dial - just the same as big brother 940 - has all the fittings to take the lamp-holders but no arrangements for feeding current to them! A collector in California reports that he fitted bulbs in his 840C and powered them from the heater chain. He changed R39 (100 ohms) for three (USA) # 44 lamps (6.3v @ 0.25a) all in series with a 15 ohms resistor. So now I'm on the lookout for some bulb-holders, I'm told they used to be a standard Bulgin product . . .

MEMORIES OF TIMES PAST . . .

EUGer CLIFF HARTLES, DJØOS, PICTURED IN last month's Cooke Report inspecting Model 940s on test, has lived in Germany for the past 30 years. He reports that in his early days at the Bath Tub he acquired a prototype 770R. The big problem was getting it home by his only means of transport: a bicycle! Balancing his prize on the saddle he set off at a very slow walk. As he wobbled along he was passed by Arthur Edwards G6XJ (Sales Director, a Very Senior Manager) driving home in his Jaguar. Arthur stopped and shouted back: 'Need any help, Cliff?' Didn't he just! The 770R was loaded into the boot and whizzed off. G6XJ was chatting with Cliff's mother by the time he arrived home. 'What other Company Director would have done that?' asks Cliff.

SMALL ERROR CREP' IN...

GEORGE LEE, M1BTG, OF NORTH SHIELDS, asks me to point out that the picture of GB5NO in our last edition was, in fact, a photo of his shack. Sorry George, I misunderstood.

FROM ALPHA TO OMEGA...

THE TWO EDDYSTONE QSL CARDS reproduced here represent the first and the last issued by G6SL from the Bath Tub. The first one is by courtesy of Roger Sutton (one of the Company's design boffins), who collects radio-related postcards. It shows a contact made from the Bath Tub by Jerry Walker (G5JU) using an Eddystone 504 receiver (the first post-war comms model which, in April 1946, must have been the

SHORT WAVE EXPERIMENTAL STATION		
RADIO: G5YH	DATE: 26.4.46	
TRANSMITTER CO/PA FREQUENCY 1.8 Mc/s AERIAL 100 ft.	G.6SL	RECEIVER "504" AERIAL 100 ft.
THIS IS TO CONFIRM REPORT AND THANK YOU FOR CO-OPERATING IN THE TESTS.		
YOUR SIGNALS C.W. ON 1.8 Mc/s AT 2029 GMT RST 339		
STRATTON & CO. LTD., WEST HEATH, BIRMINGHAM 31, England. 75		
	 Jerry.	

ONE OF THE FIRST QSL CARDS SENT OUT FROM THE BATH TUB AFTER HAM RADIO RESUMED FOLLOWING WORLD WAR 2. THE TRANSMITTER WAS A TWO-VALVER: CRYSTAL OSCILLATOR PLUS POWER AMP, USING MORSE.

prototype). It was on the 1.8 Mc/s band ('Top Band' - 160 metres), which was the first non-VHF band released to amateurs after World War 2. Six weeks previously, to be precise. The QSO was with G3YH in Bristol, some 70 miles away, but remember the maximum power was 10 watts input 'to the anode circuit of the valve energising the aerial', to quote the licence of the period. They were exciting times. The second card was in use by the Eddystone Amateur Radio Club until recent years.

'EDDYSTONE PARTS SPECIFIED ...'

THIS MONTH WE START a new series of Short Wave receiver projects which specify the use of Eddystone Components. This means combing through old magazines from the thirties to the fifties and scanning the parts lists. Our first one →

ORION 5000
150w PEP HF SSB
transceiver with 8 channel
capacity, and suitable for
base or mobile
applications.

G6SLI

Eddystone Radio

A MARCONI COMMUNICATIONS SYSTEMS COMPANY
Eddystone, East Lothian,
Scotland, UK
Eddystone Works, Sweetest Road, Berrington, York, UK, England
Telephone: 01904 822111 Telex: 218811 Eddystone Radio

THE LAST QSL CARD SENT OUT BY EDDYSTONE RADIO CLUB

was sent in by Dave, MW1DUJ, from Llanelli. He acquired it some time ago at an early NVCF where it was mixed up with a handful of old radio books and leaflets. It is instantly recognisable as a Stratton derivative because it features the famous Eddystone 'Aeroplane Dial'. The source is a mystery as it bears no credits, only page numbers. Both the execution and technique of the circuit diagram bear the hall-mark of the pre-war 'Wireless World', but the page-numbers don't . . . !? The style of construction is mid-thirties, but the valves are the Marconi-Osram 6.3 volt KT ('kinkless tetrode') octal series, which (correct me if I'm wrong) weren't introduced until early 1938. Peruse it well; it looks like a good one to me.

---####---

EDDYSTONE SPARES - THE FUTURE

Howard Turner of Centre Electronics who for many years has provided an exemplary service to any owners of Eddystone Receivers, no matter how old, has now ceased trading and will be turning his many talents to other pastimes. I am sure all members of EUG will wish him all the best in his new ventures and thank him for his support over the past years. He will be a face sadly missed behind his stall at the NEC but I am sure he will be found wandering the aisles, as once bitten by the Eddystone Bug one is rarely, if ever, cured.

But all is not lost - all his spares have been rescued for the benefit of Eddystone owners present and future and will be obtainable by contacting the following:-

Dave Simmons: Tel 01869 347504 or email at eddyspare@orangenet.co.uk

Spares requests may also be snail-mailed to Graeme Wormald G3GGL

Constructing A Short-Wave Receiver

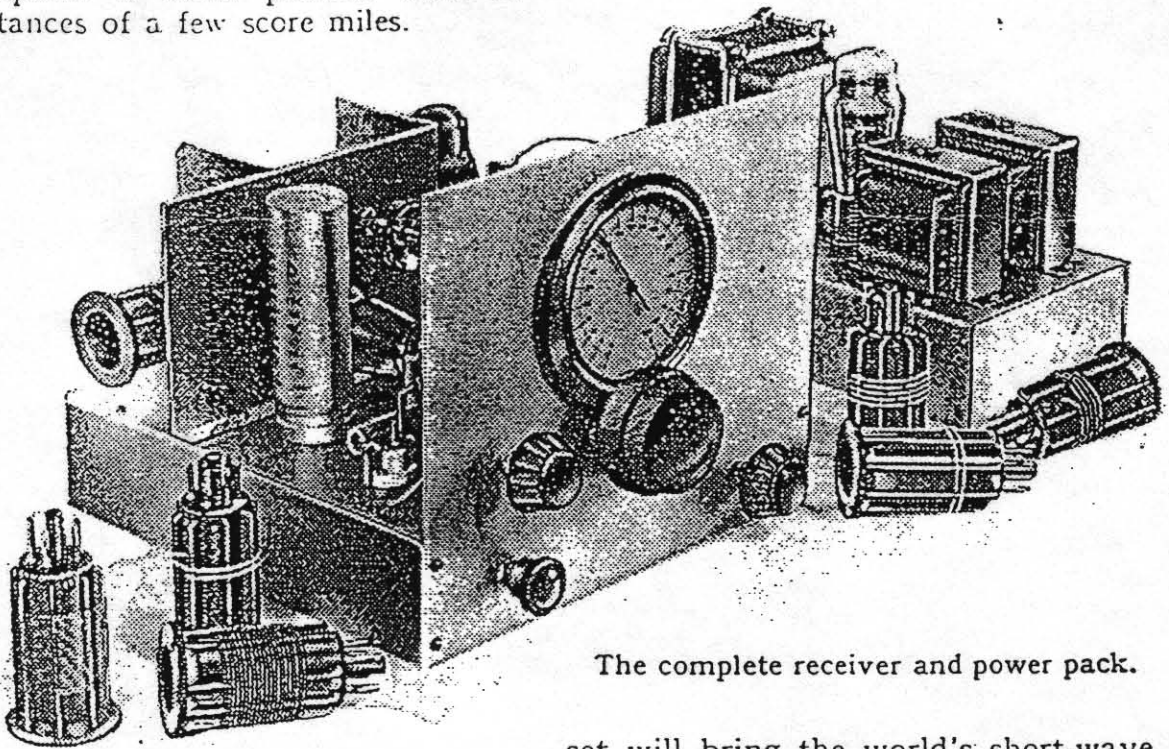
A THREE-VALVE AC MAINS SET COVERING
WAVELENGTHS BETWEEN 5.9 TO 200 METRES

GENERALLY speaking the short waves are not a good medium for national broadcasting as these wavelengths are subject to serious attenuation over relatively short distances and the shorter the wavelength the more restricted is the service area of the station. On the other hand, the short waves possess the peculiar feature that several thousand miles away better reception is often possible than at distances of a few score miles.

even this is now being overcome by a better understanding of the conditions governing short-wave propagation.

When short-wave signals are receivable they are often very good indeed, while when conditions are very bad even the best of receivers can give only a mediocre performance, but the better the set the better will be the reception.

It amounts to this: quite a simple



The complete receiver and power pack.

Thus when we build a short-wave set it is mainly with the object of listening to broadcasting, or other signals, transmitted from some far distant place.

It also has to be taken into account that this form of reception will not have the same reliability as our own national broadcast service, though

set will bring the world's short-wave stations to the listener, given reasonably good conditions. Where the more ambitious set scores is in such refinements as AVC, exceptionally high selectivity for telegraphy reception and very good sensitivity.

On the other hand, a relatively simple three-valve set can provide endless enjoyment for the short-wave listener. Whether it be mains operated

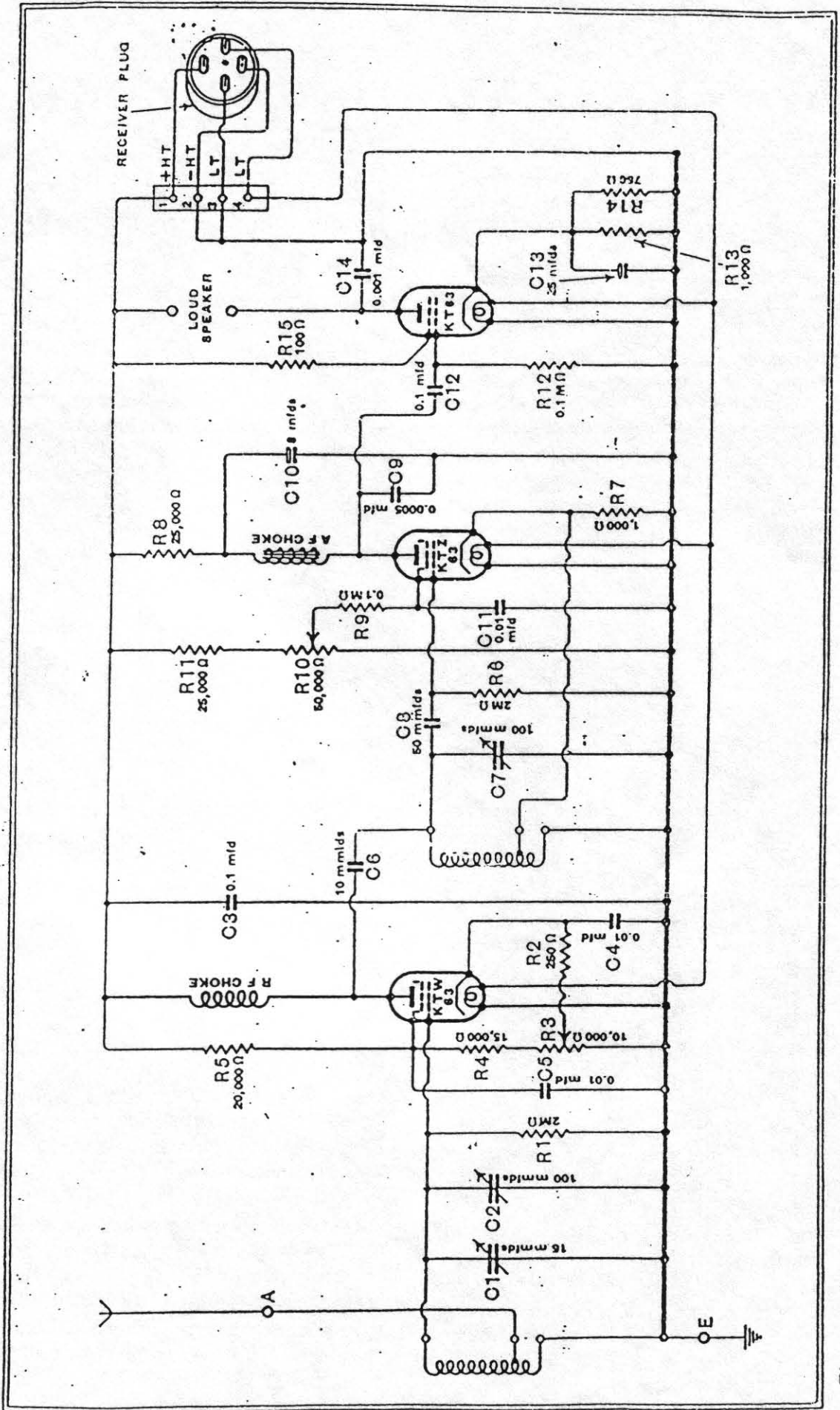


Fig. 1.—Theoretical circuit of the receiver. The AF choke in the anode circuit of the detector is a small transformer with primary and secondary windings joined in series.

or powered by batteries depends on the facilities available and often the same circuit can be employed with only minor changes. Two similar sets, one battery and the other mains operated, would, therefore, have a comparable performance.

The set described here is a three-valve TRF, or straight, receiver having one RF stage, a regenerative detector and a pentode output valve and it is AC operated. Its circuit is given in Fig. 1. Plug-in coils are used in preference to wave-band switching as this simplifies the construction, while it also offers facilities for experimenting with different coil windings and so does not tie the set down to a definite band of wavelengths.

Short waves cover a very wide band, for if we take them as extending from 200 metres down to 10 metres, the frequencies covered amount to 28,500 kc/s, whereas the combined coverage

of the medium- and long-wave broadcast bands is only 1,350 kc/s.

Allowing for about the same general ease of tuning, at least twenty ranges will have to be used, and as this is impracticable a compromise has to be made. Five ranges will suffice if a good slow-motion condenser drive is fitted.

Possibly the most important stage in a set of this kind is the detector, for regeneration is needed not only to enhance the sensitivity but also to enable CW signals to be received, the detector then being made to oscillate. Very smooth reaction control is essential and it is most desirable that the transition from non-oscillating to oscillating condition be made with the least possible disturbance of the tuning of the detector grid circuit.

The arrangement used in this set gives the required smoothness of control and the mis-tuning effect is almost

LIST OF PARTS

RECEIVER

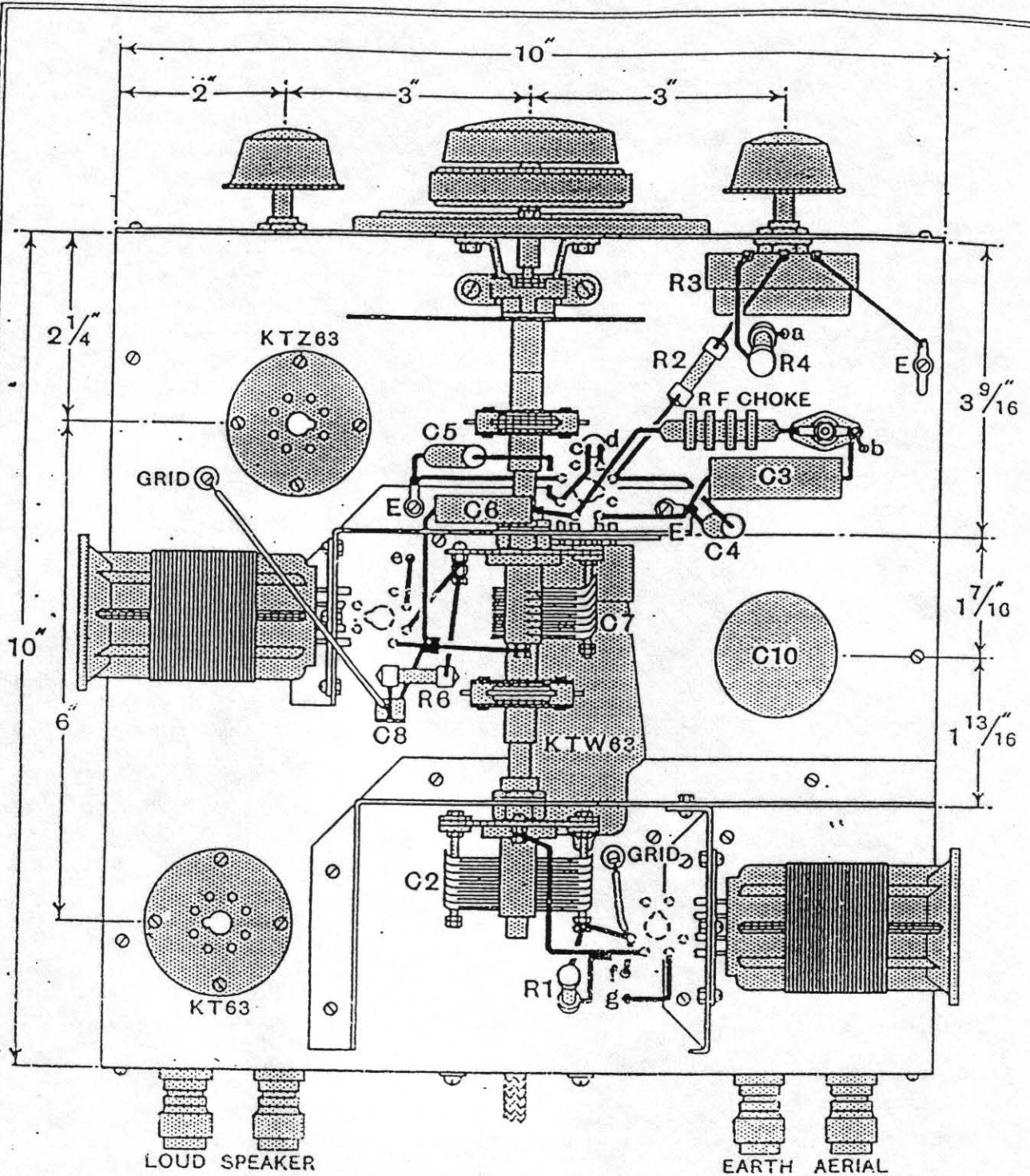
- 1 Variable condenser, 15 mmfds., C1
Webb's "Apex"
- 2 Variable condensers, 100 mmfds., C2, C7
Eddystone "Microdensers" 1130
- 1 Dial, full vision, dual speed Eddystone 1070
- 2 Flexible couplers Eddystone 1009
- 1 Short-wave RF choke Eddystone 1010
- 1 AF transformer Bulgin LF37
- 1 Flexible driving shaft Eddystone 1096
- 3 Stand-off insulators Eddystone 1019
- 3 Valve holders, octal type Premier Supply Stores
- Resistances:
- 1 250 ohms, $\frac{1}{2}$ watt, R2 Dubilier F $\frac{1}{2}$
- 1 750 ohms, $\frac{1}{2}$ watt, R14 Dubilier F $\frac{1}{2}$
- 1 1,000 ohms, $\frac{1}{2}$ watt, R7 Dubilier F $\frac{1}{2}$
- 2 25,000 ohms, $\frac{1}{2}$ watt, R8, R11 Dubilier F $\frac{1}{2}$
- 2 100,000 ohms, $\frac{1}{2}$ watt, R9, R12 Dubilier F $\frac{1}{2}$
- 2 2 megohms, $\frac{1}{2}$ watt, R1, R6 Dubilier F $\frac{1}{2}$
- 1 100 ohms, $\frac{1}{2}$ watt, R15 Dubilier F1
- 1 1,000 ohms, 1 watt, R13 Dubilier F1
- 1 15,000 ohms, 1 watt, R4 Dubilier F1
- 1 20,000 ohms, 2 watts, R5 Dubilier F2
- 1 Potentiometer, 10,000 ohms, wire-wound, R3 Reliance TW
- 1 Potentiometer, 50,000 ohms, wire-wound, R10 Reliance TW
- Fixed condensers:
- 1 0.0005 mfd., tubular, C9 Polar-NSF
- 1 0.001 mfd., tubular, C14 Polar-NSF
- 3 0.01 mfd., tubular, C4, C5, C11 Polar NSF
- 2 0.1 mfd., tubular, C3, C12 Polar NSF
- 1 10 mmfds., mica, C6 Bulgin CM2
- 1 50 mmfds., mica, C8 Bulgin CM3
- 1 25 mfd., 25 volts, electrolytic, C13 Bulgin EC4
- 1 8 mfd., 500 volts working, electrolytic, C10 Dubilier 0281
- 2 Six-pin self-locating coil bases B.T.S.

- 4 Six-pin self-locating coil formers, threaded 8 t.p.i. B.T.S.
- 2 Six-pin self-locating coil formers, threaded 12 t.p.i. B.T.S.
- 2 Six-pin self-locating coil formers, threaded 22 t.p.i. B.T.S.
- 2 Six-pin self-locating coil formers B.T.S.
- 1 Knob Bulgin K14
- 4 Terminals, ebonite shrouded, A, E, LS(2) Belling-Lee "B"
- 1 Connector, 4-way Bryce 6C2
- 2 Plug-top connectors, octal type Bulgin F-96
- 1 4-way cable and plug Goltone
- Miscellaneous: Peto-Scott
- Aluminium for chassis, 10x10x2 $\frac{1}{2}$ in.; aluminium for panel, 10x8 $\frac{1}{2}$ in.; aluminium for screens, 10x5in., 6x4 $\frac{1}{2}$ in., 5x3 $\frac{1}{2}$ in.; 3 lengths Systoflex; 4 oz. No. 20 tinned copper wire; small quantity No. 18 tinned copper wire and 24 enamelled wire; screws, etc.

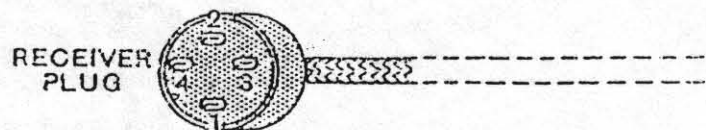
Valves: 1 KTW63, 1 KTZ63, 1 KT63 Osram

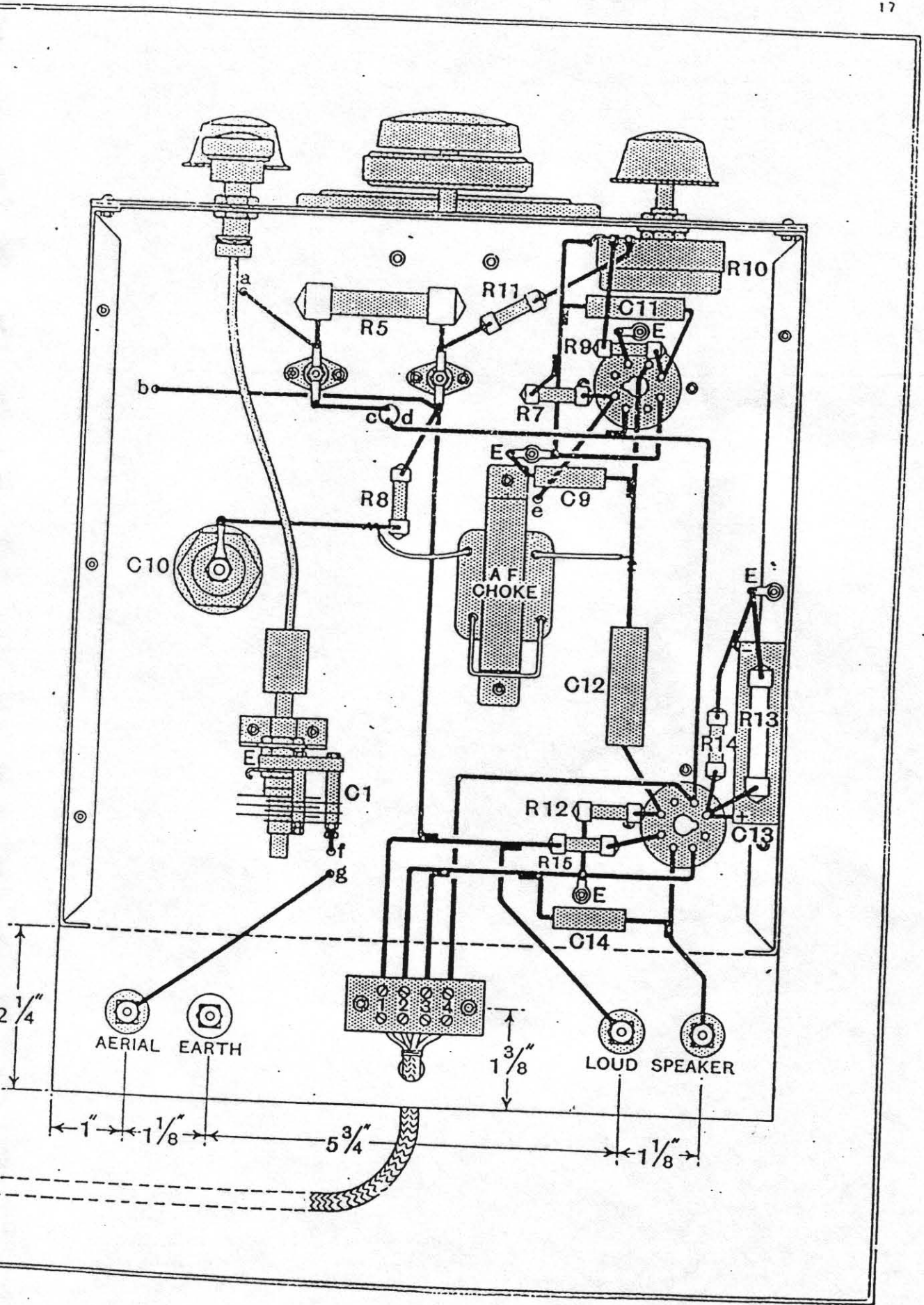
POWER PACK

- 1 Mains transformer, with screened primary, 275-0-275 volts 70 mA., 6.3 volts 1.3 amps., 5 volts 2 amps., C.T. Vortexion S275
- 2 Smoothing chokes, 30 H., 80 mA., 350 ohms DC resistance Premier Supply Stores
- 1 Condenser, 8-8-4 mfd., 570 volts peak, electrolytic, C17, C16, C15 Dubilier 3215RB
- 1 Valve holder, 4 pin (without terminals) Clix Chassis Mounting Standard Type VI
- 1 Valve holder, octal type Premier Supply Stores
- 1 Connector, 4-way Bryce 5C2
- Miscellaneous: Peto-Scott
- Aluminium for chassis, 10 $\frac{1}{2}$ x5 $\frac{1}{2}$ x2 $\frac{1}{2}$ in.; 1 oz. No. 20 tinned copper wire; length Systoflex, screws, etc.
- Valve: 1 U50 Osram



Position of the components and the wiring of the receiver is obtained from these two drawings, which show (left) top of chassis and (right) the underside.

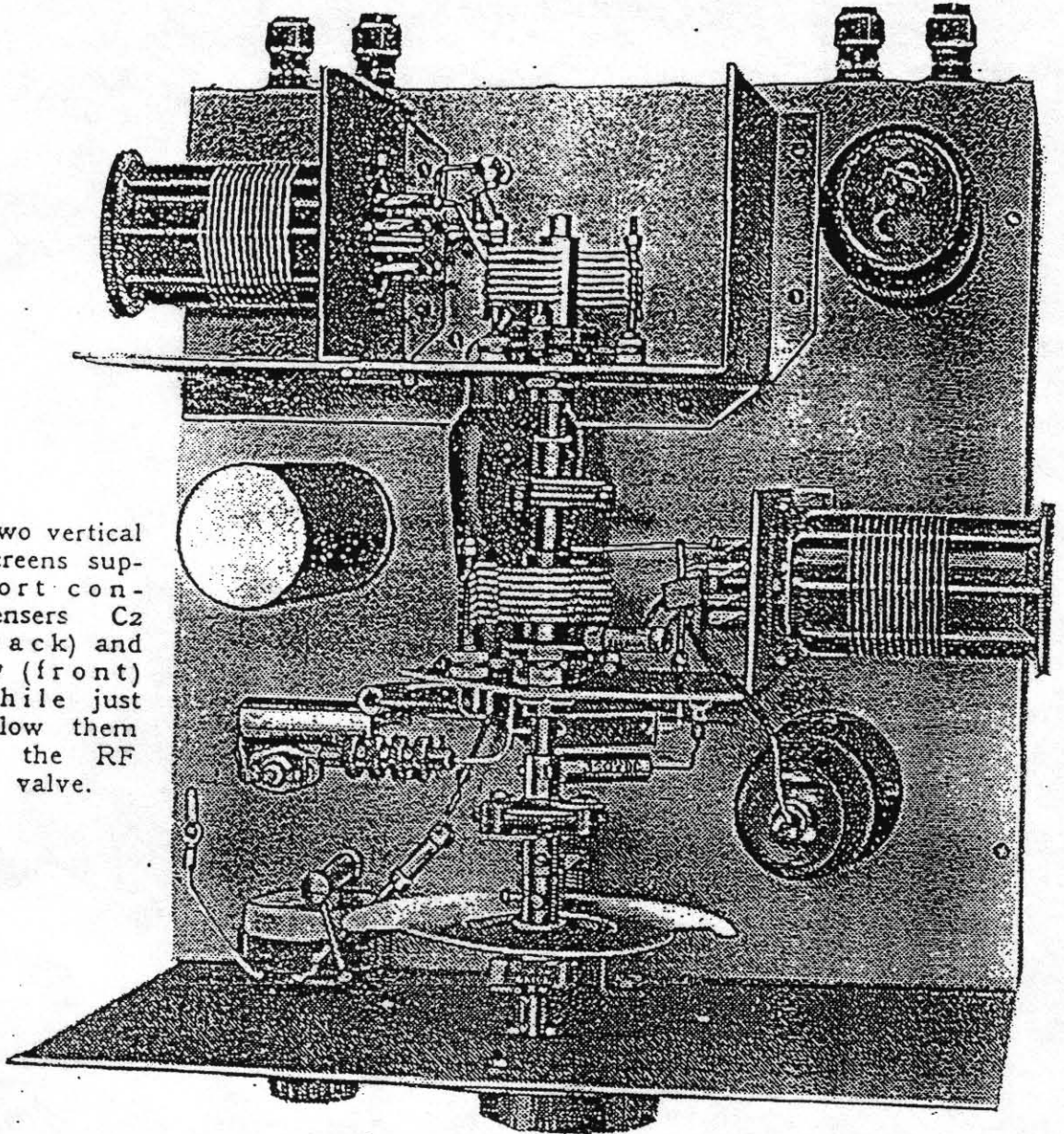




negligible. In the theoretical circuit are two resistances that may be thought to serve no useful purpose, they are R_1 and R_7 . The former prevents the grid of the RF valve being

valves is obtained from cathode resistances, which in the case of the former consists of a fixed part, R_2 , and a variable part, R_3 . This is a pre-detector volume control. For the out-

Two vertical screens support condensers C_2 (back) and C_7 (front) while just below them is the RF valve.



"left in the air" when the aerial coil is removed, while R_7 allows the grid coil to be changed without crashes in the loud speaker due to sudden interruption of the detector HT current.

In the grid circuit of the RF valve are two tuning condensers, C_1 and C_2 ; C_1 , of 15 m-mfds., is a panel-controlled trimmer, while C_2 is a 100 m-mfds tuning condenser, and this is ganged with C_7 in the detector grid circuit.

Grid bias for the RF and output

put stage two resistances, R_{13} and R_{14} , have had to be used, as the 420 ohms required is a non-standard valve, but it is made up by joining one of 1,000 ohms and one of 750 ohms in parallel.

There is no provision for headphones, as a set of this kind will give loud speaker reproduction when signals have a sufficiently good entertainment value. Headphones are difficult to incorporate because signals would

be too loud if used after the output stage, while, if fitted after the detector, they might not be strong enough. A small power valve is usually necessary even for headphones.

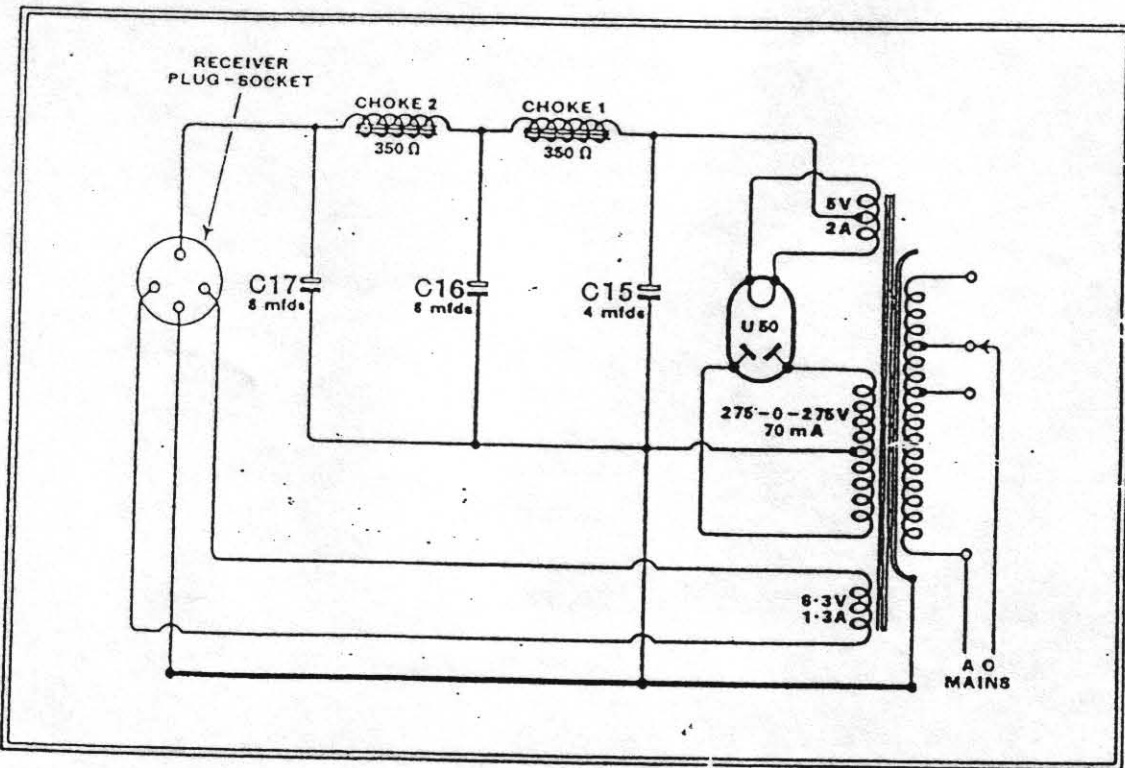
There is very little that need be said about the construction of this set, as it is quite straightforward and easily carried out with the help of the drawings and illustrations. The only part that might be considered a little difficult of access is the front of the sub-panel carrying the RF valve-holder. This should be completely wired before the front panel is fixed in position.

Though flexible couplers are fitted between both condensers and also between the slow-motion drive and C7, this and its ganged companion C2 should be mounted exactly in line so as to avoid imposing an excessive strain on the condenser drive. It should be quite smooth on rotation

the current is taken by the output valve. Octal-base valves with 6.3-volt filaments are used, and they consume 1.3 amps. in all.

As the detector valve is very sensitive when adjusted close to the oscillation point, any ripple on the HT supply will produce an annoying hum, so that more than the usual amount of smoothing is necessary. Two high-inductance smoothing chokes and three condensers—two of 8 mfd. and one of 4 mfd.—have had to be used, while a further 8 mfd. condenser, C10, is fitted on the receiver chassis as a decoupling and smoothing condenser for the detector stage alone. Anything less than this will result in a troublesome hum being audible in the loud speaker when the detector is oscillating.

With tuning condensers of 100 m-mfd. a coverage of two to one in



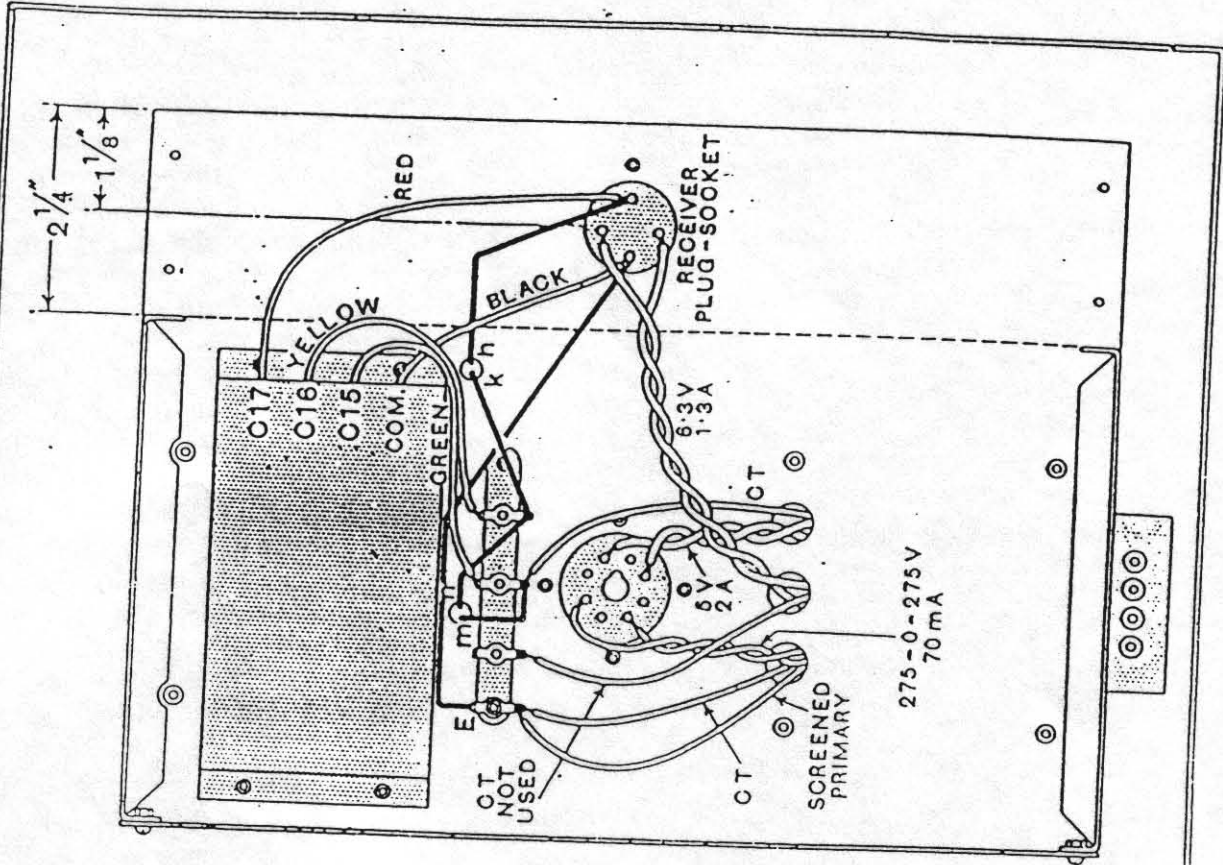
Circuit of the power supply unit; C15, C16 and C17 are units of a block condenser mounted below the chassis.

and free from "hard" spots which would indicate misalignment and binding in the condenser bearings.

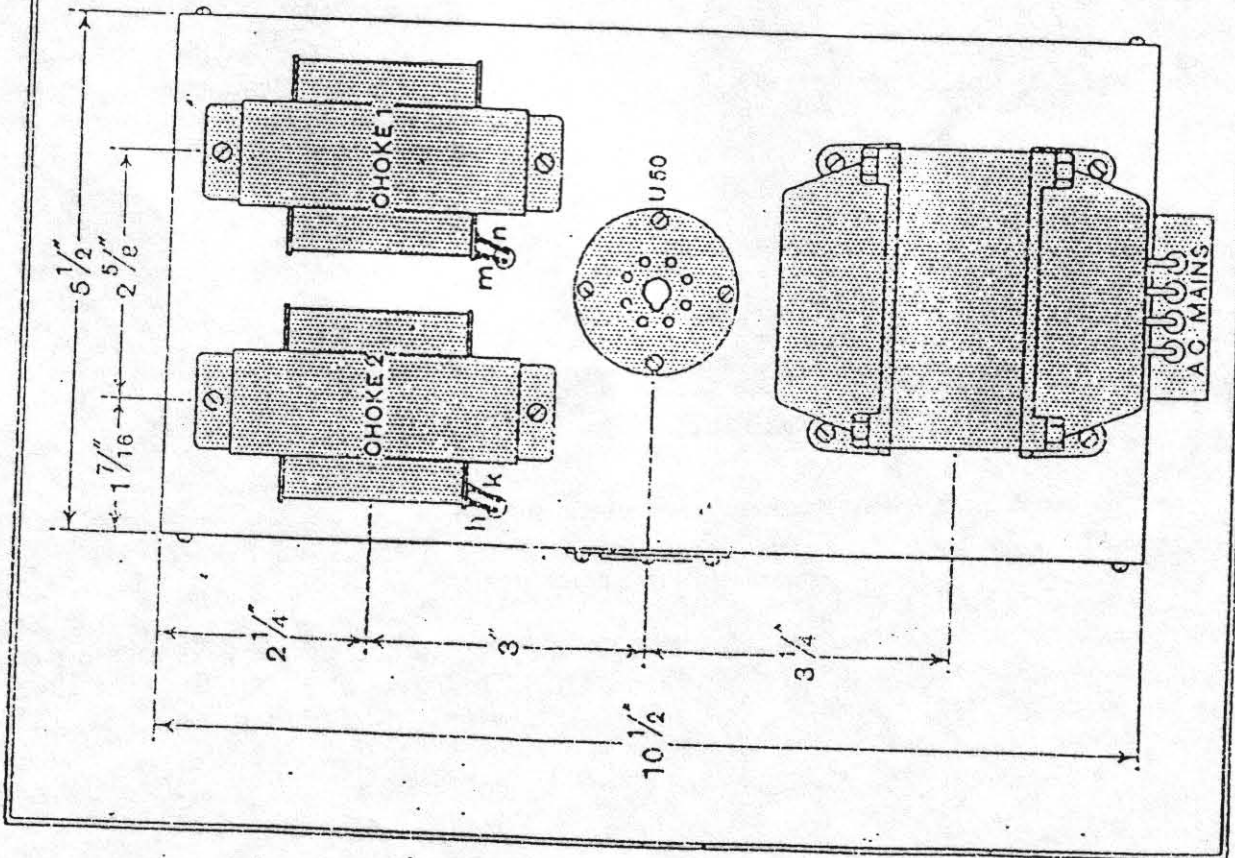
An HT supply of 250 volts at about 65 mA is required, but the bulk of

wavelength or frequency is possible, so that five sets of coils will carry the tuning from just about 6 metres up to 200 metres.

The coils are wound on self-locating



Layout of the components and wiring of the power supply unit.



formers; that is to say, they have a centre spigot with a key on one side, and it is only necessary to locate this spigot in the centre hole in the coil holder, rotate it until the key falls in line with the keyway, and press the coil home. Coil changing can be done quickly and merely by feel; thanks to the locating keyway there is no need to see what one is doing.

All coils are wound in the same way, and all have one tapping, though the tapping is not in the same place for aerial and RF coils, as the coil-winding table will show. The top of the coil former is made the earthy end, which is contrary to customary practice, but it fits in best with this form of assembly, as the set can be housed in a metal case with the tips of the coil former just protruding through large holes on each side.

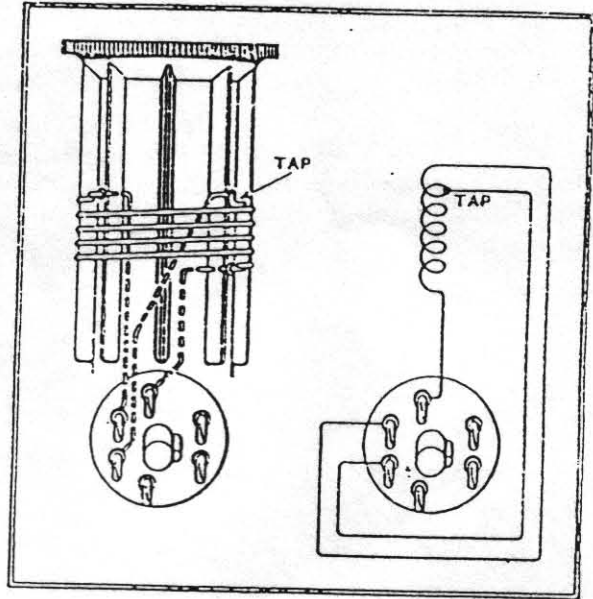
As the top of the coil thus falls rather near the metal sides of the cabinet, it is made the earthy end, and this must be remembered when winding them.

As with all straight sets, the station getting properties depends to a large extent on the use of reaction, the most sensitive adjustment for broadcast, or telephony, reception is with the detector valve just off the oscillating point, while for CW reception it is adjusted for weak oscillation.

Too strong oscillation will result in

a reduction in sensitivity. All adjustments of the aerial trimming condenser C1 should be made as far as possible with reaction backed off below the oscillating point, but this is not essential.

Any good loud speaker having a per-



All coils consist of a single winding with one tapping, the connections to the base pins being as shown.

tode or tetrode matching transformer is satisfactory, though, as no provision is made for field supply, a permanent magnet type would probably be the best kind to employ. For matching purposes the optimum load for the KT63 output valve is 7,000 ohms.

COIL WINDING TABLE

Range.	Waveband (metres).	Turns.	Wire (SWG).	Spacing.	Tapping On Aerial Coil.	Tapping on RF Coil (Detector).
1	5.9-12.8	2	No. 18	8 t.p.i.	$\frac{1}{4}$ th turn	$\frac{1}{3}$ th turn
2	10.5-23	4 $\frac{1}{2}$	No. 18	8 t.p.i.	1 turn	$\frac{3}{10}$ th turn
3	22.3-48	12 $\frac{1}{2}$	No. 20	12 t.p.i.	1 $\frac{1}{2}$ turns	$\frac{1}{4}$ turn
4	40.8-100	28	No. 24 (Enamel)	22 t.p.i.	4 turns	$\frac{5}{8}$ th turn
5	97-206	70	No. 22 (Enamel)	Close wound	12 turns	2 turns

Issue 53, Hudson Straits.

A letter from one EUGer who queries the unnamed university and stating that his belief was that this was Oxford U. He does have remote connections with somebody there and will arrange for some enquiries to be made.

Any more offers out there ??? Please do check if you have access to sources at Oxford. University Libraries are always an invaluable source of information on matters relating to University projects down through the years.

I recall researching something in the Library at Liverpool U. this was back in 1955-6. My request for info was accepted and I sat down - expecting a long wait. Within minutes I was presented with a foot high pile of material which dealt with all aspects of my query. talk about an embarass of riches ! Some of the 'references' went back to the 1700s era.

END IT END IT

Well there it is again. A bit of everything and all connected with The Eddystone Radio Company Limited - hereinafter referred to as The Company. I shall find it hard in future to use The Company name as I shall always be thinking of what might have been, if only !

Thanks to "Our Christine" who will by now be enjoying her retirement from the Archives Department of The Company. Ten years there and she was in at the beginning of EUG. She has been with us down through the last ten years and has always come up with whatever we wanted from her, be it copying on an everyday basis, or be it delving deep into her boxes and cupboards for that rare gem of a manual or schematic to keep us all happy.

You are a lovely lady Christine Surman, and a very wonderful friend of EUG and all EUGers. Have a Happy and Well-Deserved Retirement.

P.S. - Thanks for your letter dated 16 - 3 - 99, it has become part of my personal archives. Ted.

Apologies again - My copy of this last issue, 53, had a half line missing from the bottom of page 8. Just three words - i.e. - "time be apparent." Mea Culpa. Ted.

NEW VALVE SERVICING GUIDE PUBLISHED

Just published by Chas. E. Miller (of 'Radiophile' fame) is the first of a new Series under the title of 'Rapid Radio Repairs'. It is called 'Standard Superhets', and covers the type of circuitry common from the late 'thirties to the 'sixties. Ideal for the Eddystone fan whose experience of valve servicing is limited. A5 format, 64pp. Price £3.70 includes p&p in U.K. from: Radiophile Publications, "Larkhill", Newport Road, Woodeaves, Stafford, ST20 0NP.