# Lighthouse

**Founded 1990**

**The Magazine of the Eddystone User Group**

**Issue 76, December 2002**

*Merry Christmas*

# LIGHTHOUSE

ISSUE NUMBER 76, DECEMBER 2002

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# Chris's Column

**Well it's another Christmas and here is your required Christmas reading. May I wish all of you a very Merry Christmas and a happy and prosperous New Year.**

You may recall that in the last issue I made reference to the Eddystone Museum and Archives. I started to build the museum collection in the late 1980's from radios that had previously been collected by my predecessor as MD, Bill Cooke, GWØION.

I found a large collection of development models and prototypes stored in the rafters of the development laboratory building. I had a room cleared and decorated and shelving put in and the equipment displayed to its best advantage.

Although a closed museum, some collectors and radio clubs were privileged to see it on organised tours. I managed to persuade some collectors to loan or donate equipment over the years and donated some items myself.

Some of the collectors I met were serious about their hobby, names like Richard Baker, Ted Moore and Howard Turner come immediately to mind. And like all collectors they were not averse to a bit of trading and swapping.

Bear in mind that the company had no budget to ever buy any sets so we relied on donations and swaps to build up the collection. It was about this time that Richard Baker introduced me to Alan Ainslie (EUG member).

Alan was a prodigious collector and offered to sort and archive what then was a large amount of printed and photographic information for the company at his own cost on the basis that he could copy any material he wanted.

He also told me of his plans to write a three volume history of the Eddystone Radio company. I was more than happy to go along with this suggestion and sure enough Alan turned up one day with a car full of binders with all the material nicely archived and cross-referenced.

Well to move on a few years, I left the company at the end of 1997 and in 1998 Eddystone was put up for sale by Marconi. Eventually it was sold to Megaherz.

As part of the deal Marconi bought back from Megaherz the Eddystone Collection (in fact Graeme was instrumental in cataloguing it for them – by that time it was squeezed into a very small and unsuitable room in the Selly Oak factory, the company having moved from Alvechurch Road around 1994). *(see picture page 5)*

Marconi promised to include the Eddystone collection with their own Marconi collection and donate it to the Marconi Trust for eventual display in Chelmsford in conjunction with Chelmsford Borough Council.

So now it's 2002 and Marconi is on the verge of going bust and I get a call from James de la Mare (another EUG member) who has heard that Marconi intend to auction the Eddystone collection in order to fund the housing of the Marconi collection. Given that some of the material in that collection really belonged to others, I got my solicitor to write to Marconi asking for assurances that they would not sell items that did not belong to them.

I think they bought the collection from

Megaherz thinking it did all belong to the company – but they did not ask me for my opinion at the time. Marconi were not very forthcoming on their plans but this pressure and that brought by others had the desired effect.

Marconi looked for someone to buy the collection who would be willing to still keep it together and make the archives available for research. Enter Alan Ainslie as the white knight. I will let him take up the story:-

"After a lot of speculation and concern, I am pleased to be able to confirm the situation regarding The Eddystone Collection which has been resident at Marconi in Chelmsford for some while.

When Marconi sold Eddystone to Megahertz Communications, Matt Parkes, then General Manager, had all the items displayed in the Company Museum expertly packed and despatched to Chelmsford. They were retained with a view to including them in The Marconi Collection.

As a key component within the Marconi commercial strategy from 1965 the Eddystone Collection was clearly of some importance as reflected by the intention to incorporate the two collections.

Readers will be aware of the recent fortunes of Marconi, and one consequence of this was that The Trustees of The Marconi Collection were presented with a choice for the fate of the various parts of The Collection.

I can now advise that with the full support and assistance of The Trustees I have purchased the whole Eddystone Collection from Marconi. Actually the Collection at Marconi was rather incomplete: many readers will know of the scholarly and well researched collection that Richard Baker put together. Some ten years ago I was fortunate to be able to purchase that collection from Richard in its entirety and add this to my own.

The Richard Baker collection covers many of the incomplete areas of the collection at Marconi. Together with the results of many years of sleuthing and items donated by Chris Pettitt at the time of vacation from The Bathtub, the sum total of all the collections is pretty much definitive and complete, although I have to confess to some more popular models not being well represented. The pre-war period is still a concern as is the literature, and shortage are still evident in these areas.

So what of the future of the Collection?

I am pleased to say that we have been able to modify some buildings in Farnham, Surrey, where the full collection will be displayed.

My promise to both the EUG and anyone else with an interest in our Electronic and Communications heritage is that the collection can be accessed freely following a telephone or written request. The collection will remain intact: my understanding is that this is one of very few totally complete one-manufacturer collections in existence, and the collection will remain as such.

The Archives will be available at the same address. The full archive is well indexed and copies of documents or photographs will be available for study and research.

Digital photography will also allow us to make available pictures of rare and unusual items to assist with restoration projects. The full picture will become evident on completion of my 'History of Eddystone Radio' which will be published in three volumes and draw on the information within the collection.

At present we have a huge job cataloguing and researching some of the new items, but there will definitely be an opening event Spring 2003: an EUG day could be easily arranged.

The Eddystone Collection is very much alive and well, and it is both safe and accessible. As with any such collection, however, it is dynamic, in that new research will always conspire to change common beliefs and surely there are few companies that produced so many one-offs and variants as Eddystone.

It is my intention to continue to enhance the collection and thereby further increase its validity, and in this regard I have to rely on the observation and goodwill of collectors and historians worldwide.

I would be very happy if it were felt that The Eddystone Collection were able to be a shared resource and that we could all work together to ensure its completeness.

Finally I have to express my sincere thanks and appreciation for the hard work and support of Louise Jamison at Marconi; Peter Craine, Chairman of The Marconi Collection Trust; Gordon Bussey of The Marconi Collection Trust, and of course Chris Pettitt, who was introduced to me by Richard Baker many years ago. "

Alan Ainslie can be contacted on 01252 782 932 or via e-mail to:- alan.ainslie@lineone.net

A good end to a difficult situation I think, well done Alan.

My best 73 *Chris Pettitt*– GØEYO Patron

g0eyo@blueyonder.co.uk

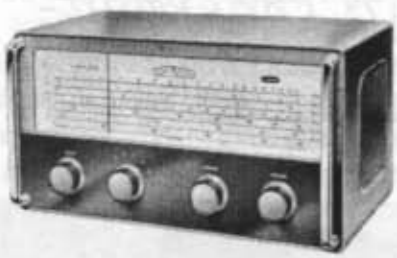
***Part of the Eddystone Factory Museum Collection, Selly Oak, 1998.***

# Success at Last !

**Graeme Wormald G3GGL**

**Our more perceptive readers may have noticed that I've bee seeking an Eddystone 670C (*"in perfect external condition!"*) for about three years, no less. One kind member immediately responded with a rather sorry-looking Mimco 'Elettra' (670C/1), priced in single figures, for spares. Hopes were high, even though the 670C is by far the rarest of the Stratton De-luxe Cabin Sets (only about 400 were built). But it took until now to source one.**

A phone call came out of the blue, and, to cut a long story short, thanks to the kindness of another member, I'm now the proud owner of an immaculate 670C. Not only that, but it works!



***The 670C is the only classic Eddystone with four equal knobs! It's also one of the few with Long Waves (to monitor BBC Radio 4)***

One must always be circumspect with a set of almost forty summers which hasn't sniffed a hot iron since the day it was made.

Routine component checks showed all resistors to be within 10%; a sure sign of little use. *(Another sign is the state of the dropper, which shows its age by changing colour and crazing. Not so here.)*

Condenser checking isn't quite so easy, but as the set was a "worker", I decided to perform the time-honoured ceremony of the "soak".

So whilst attending to EUG mail I had it running quietly on *"The World Tonight"*. Pausing for thought I realised that the background chatter was no longer with me. A quick glance at the darkened "magic eye" confirmed that the 670C was no longer with me (*these later AC/DC sets don't have dial lights).*

A moment's thought indicated that either the heater chain had gone O/C or that one of the two mains fuses had blown. The second option was easiest to check and, sure enough, a fuse had shrivelled. Now there are two reasons for a fuse to blow. One is overload; the other is weakness due to old age.

So I replaced it with crossed fingers. The set played for another half-hour then died. The other fuse had blown. Mmmm.

The mains input has a "brute force" filter with two 0.05 mfd 500 volt condensers across the volts. Neither condenser had "popped" but they were taken out and put on the neon tester. A gentle "burbling" of pink light, certainly nothing to blow a half-amp fuse. But I replaced them with new 1500 volt ones. The set is still running.

Speaking to Bill Cooke yesterday (chief engineer when the 670C was produced) I mentioned this slightly anomalous behaviour.

"Oh, no, not all all", said Bill. "Those were TCC Visconol-X self-sealing capacitors; didn't you know?" The memory of an elephant has Bill.

I have to admit that in EUG I'm leaning all the time. ♠

***A CASE HISTORY***

# CURING A TROUBLESOME 740

***Peter Lankshear***

*No sooner had I finished the recent Servicing series, than I encountered a problem that was not due to a failed component but faulty workmanship. As well as the standard fault finding methods, it required a bit of detective work – even to a magnifying glass.*

**The Eddystone Model S.740 was introduced in 1950. Over a period of four years the production run was less than a thousand sets. It used an external speaker and had provision for a plug-in S-meter.**

The Eddystone 740 and its AC/DC counterpart, the 840, are in their own way, remarkable receivers. Their basic lineup is the same as that of good quality household receivers – straightforward superheterodynes with single R.F. and I.F. stages, a combined oscillator/mixer and a simple two stage audio system. Non domestic additions are a BFO and noise limiter. However, it would be a rare domestic receiver that could equal their coverage and performance.

I use my 740 as my workshop receiver and recently it started "playing up" by occasionally lapsing into a sullen silence. Although the usual faint hum could be heard in the speaker, the set was otherwise very dead. Recently the silence became permanent. Time to fix it.

I took the easy way first and armed with a set of spare valves, tried the substitution trick with no luck. Nothing for it, the cabinet had to come off.

Armed with a test meter and the

manual I proceeded to take some measurements but first I tried an old trick of seeing if the problem lay in the coil box (which I did not wish to undo unnecessarily) by the simple process of touching a prod on the connection to the anode of the mixer.

This point is readily found in most Eddystones, - it is the end of the coaxial lead that connects the 1st I.F. transformer to the coil box.

Touch the I.F. terminal with a prod or insulated screwdriver and a healthy "crash" will result, but in my case there was no response so the fault clearly lay in the I.F./Detector/Audio system. Touching a screwdriver on the centre tag on the volume control produced the usual audio "burp" so the problem was now narrowed down to the I.F. amplifier (V3).

The voltmeter soon indicated all was not well there. Both the screen grid and the cathode of the EAF42 (V3) read well over 100 volts – indicating that the valve was not passing any cathode current. The 470 ohm cathode resistor (R18) had been replaced at some time and a quick resistance check showed that it was OK.

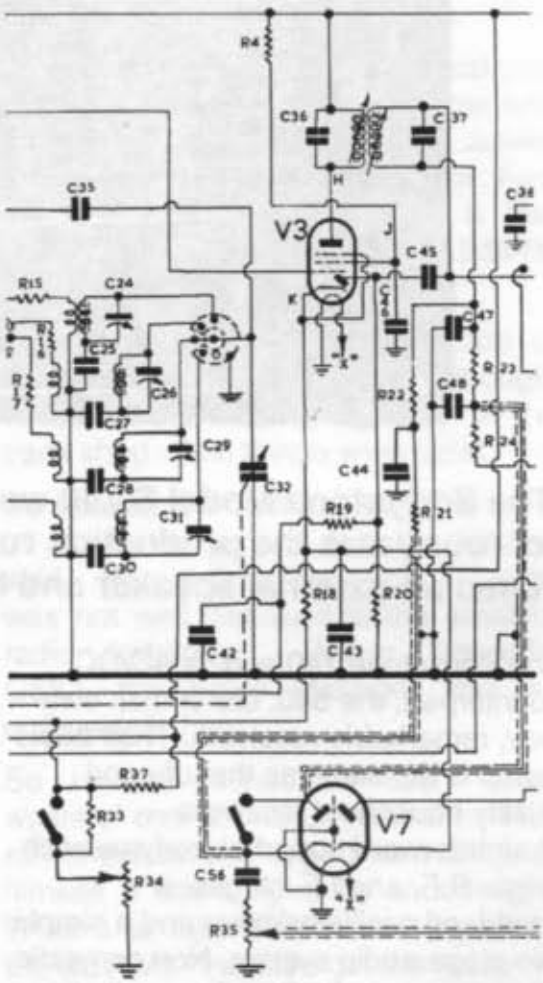
Its bottom end is not earthed, but is connected to a standoff and a lead that wanders off towards the front panel and the standby switch. Earthing the resistor brought the set to life and my first reaction was that the switch was faulty. However, being a lazy character I didn't fancy replacing the switch if it were not necessary.

Just in case, I prodded around and found that earthing the bottom of the resistor brought the 740 to life, but earthing the switch tag did not. Moving the lead resulted in bursts of activity.

Possibly there was a faulty connection to it. Sure enough an inspection with my trusty jeweller's loupe* showed a classic dry joint on the standoff tag, hidden by the solder above. A hot iron soon fixed that problem and once again the 740 is working.

In fairness to Stratton's, I suspect the problem arose when someone replaced the original cathode resistor and did not solder the connection properly – an easy trap to fall into. Always be very sure that your soldering has "taken" properly. Dry soldered joints are a menace because they can create intermittent faults, often the hardest of all to find.

**** Yes, I had to look this one up as well; it's one of those little spyglasses used by those in the jewellery business – Graeme.***




I.F. Stage of Model 740 ▲

# Ted's MailBox

A Review of Mail and Happenings

## By Ted Moore, Founder of EUG

**A Cautionary Tale**

Before agreeing to accept this set from the EUGer concerned I did ask him to look inside and see if there was anything obviously wrong as this might save him the cost of shipping it to me, and back.

I suggested for instance that he check the valves were all lit up, and incidentally had he checked the fuses in the set, not just in the 13 amp plug ?

He did this and still no joy so off he went to pack it up and ship it via the carrier. When it came I did the same and having removed the case was immediately drawn to the state of one valve.

This 6BA6 had the usual sign that it had gone soft, i.e the vacuum had gone. The inside of the glass bulb had that milky white look which is a sign of oxidation of the residue from the 'gettering' process.

Swopping this for another 6BA6 soon brought the set back to full life. More than £22 carriage was a steep price to have paid for the cost of a single valve. Nothing beats a good visual examination to begin with.

In this respect I have myself fallen foul of the same problem recently. Having had a 1990R/2S donated to my collection I get it home - with difficulty - and plug it in only to find that whilst all lit up like a Christmas tree there is no output. Yes Graeme's last words had been 'read the handbook Ted". Anyway a few minutes read brought me to the simple fact that the mini toggle switch on the rear panel had to be down i.e. ON, for the set to work - and it did.

Very satisfactorily too. Thanks 'GGL, for not laughing.

**Boat Anchors ?**

It seems that the Wormald Clan may be trying to tell me something, not in words but in actions.

On my past two previous visits I have left the 'GGL QTH with two of the heaviest ever of Eddystone receivers. After the Llandudno Rally, having delivered Graeme home safely I left for

***Heavyweight HF Hi-Stab 880***

my home with an 880 on the back seat of the car, all 99 pounds avoirdupois of it. On the last occasion after having collected from Dorset and delivered to a happy smiling 'GGL his heart's delight (a very nice, clean, working, 670C) I had to manoeuvre into the back seat of the car the aforementioned 1990R/2S - another heavyweight at 63 lb. with the optional

double case. Maybe next time I should turn up on my bicycle ?

**The 1990R/2S**

At almost £6,000 in 1984 this must be one of, if not the most expensive single receiver ever produced at the Bath Tub.

***Heavyweight VHF Hi-Stab 1990***

It certainly performs as one should for that kind of money.

I am very happy to have it in my growing collection even if it, and the 880, have meant a complete re-arrangement of my play room operating position less than a month after I first installed the playroom fittings.

**My New Playroom**

I had been in this house less than a month when I grew frustrated at not being able to play with my toys. A month spent on furnishing the house, chasing around the furniture showrooms etc; was more than enough and so I decided to have some 'fun' time instead.

I am lucky enough to have a large double bedroom solely dedicated to my hobby and so after much nighttime, and some daytime, cogitation I had in mind just what I wanted in way of benches etc; - time to get it down on paper and make lists of the needed hardware.

Armed with a list of everything from sheets of hardboard to quantities and sizes of screws I sallied forth to that large emporium whose name makes one think of BarbeQue.

I came home with two 244mm x 150mm sheets of hardboard lashed onto the roof of the Volvo.

Poor thing did not know whether to follow the road or turn into the wind and rev up for take-off. Similarly the inside of the car was loaded down to the 'gunnels' with the rest of the needed goodies.

By now everything had been measured several times and committed to paper - and memory. The sawing and screwing together took but one afternoon and then the fun started.

All the compartments under the shelf for ancillary equipment were carefully measured to take an Eddystone with about a quarter to half inch to spare at each end - and it all worked so well when I began to install my receivers.

The first line-up along one end was the 770R MkII then the 840C and then the 940. The test gear was on the shelf above and behind and my workbench was at the end of the other longer leg of the 'L' shaped bench. This left me three more receiver positions to fill but I had not yet decided which models to bring out of the loft and use.

Then came the Llandudno trip, and the resultant delivery of an 880. I was almost home, coming along the A47, when it struck me - the darned thing was wider by far than the standard Eddystone set. Oh heck !

Getting home I both measured it and checked what the book said. TWO inches too wide for the empty compartment on my nice new bench.

Still I hefted all 99 pounds out of the car and into the house but left it in the living room until my tired brain could recuperate and think straight.

Next day it seemed there was only one way out. Move the divider for the end compartment a couple of inches further along. This I did and measurements confirmed that the 880 would fit in okay now.

Then came my collection and delivery trip on behalf of 'GGL and the return journey with the donated 1990R. Oh heck, here we go again. This was even wider and more surgery was required to fit in the 1990R at the other end by moving the other end divider along a couple of inches.

Anyway now they both fit and there is still a space in the centre for a 'normal sized' Eddystone. Any EUGers who would care to call in to see my toys are welcome, but do *phone first as I lead a very peripatetic life-style - more on this later. *(*0795 7951 998)*

**T.M.M.M.Ts**

One EUGer has rather facetiously applied this term to my long trips to far-flung corners of the mainland UK in search of Eddystones.

Ted's Mammouth Magical Mystery Tours might seem quite apt when you realise that on the Llandudno Rally marathon I covered just 576 miles including the diversion to collect and deliver 'GGL.

Then the recent trip to Dorset was only slightly less at 546 miles with 18½ hours between leaving home and returning. Then there was the trip to the Galashiels Rally, but that was uneventful really.

On both of the above mentioned trips I came away feeling quite virtuous in not having bought an Eddystone - but only because none were available. Then came the stop-off in Bewdley !! Anyway I do have to thank 'GGL very sincerely for both the welcome hospitality and the goodies. Even if I do have to share my choccie biccies with Lady (*The direct successor to G7DOG).*

**The Latest 870A**

This came by post from Ipswich recently and the request was 'Please make it work'. Easier said than done as the 'phantom twiddler' had been at work on both the IFs and the RF coils. Severe damage to one IFT and the MW RF coil meant a very radical repair was necessary.

***870A Midget Cabin Set***

I ended up by completely rewinding by hand the MW coil wire onto a spare former; that was the hardest bit really as with the IFT I simply kept the outer ally case and fitted an IFT from a RAYMOND radio of the same ('50s) era. A new rectifier valve and the 870A was soon burbling away on soak test for a couple of days (and nights).

Seriously though, nothing bugs me more than to find IFTs and RF coils wrecked by some 'person' having attempted to adjust them with a metal bladed screwdriver.

The proper trimmer kits are still available from Maplin etc; and they are not costly either. Besides these I also have a selection of old plastic knitting needles filed down to a variety of shapes, anything is better than metal.

The DAC10 I did the other month for David was similarly afflicted an open

book. "Everest: The Unfinished Adventure". This provided most of our background.

I asked Tor Marthinsen, (who has every copy of the Wireless World), to find what he could:

**"January 31st 1936, Eddystone Short-wave apparatus has been ordered for the forthcoming Mount Everest Expedition to be lead by Mr. Hugh Ruttledge. Contact will be maintained between the base camp and the outside world by means of two short-wave CW transmitters, while six Eddystone 5-metre Transceivers will provide means of intercommunication between advance parties."**

*And then*

**"February 14th 1936: Mr. Windham, wireless operator on the Mount Everest Expedition, left London on Friday last to join the party at Darjeeling. He will take charge of the short-wave transmitting and receiving sets operating over a range of ten miles for relaying messages from the summit to the Indian radio station.** *(This is a mis-take; the distance from Mt Everest to Darjeeling is over 100 miles)* **Climbers will carry portable radio equipment and will establish the transmitter on Camp 5 at an altitude of 25,700 feet – easily the highest radio station in the world.** *(This is also slightly garbled, as will emerge later)"*

Then on February 28th 1936:

**"Six Eddystone combined transmitters and receivers operating on 5 metres are to be used by the Mount Everest Expedition to maintain contact between various camps. It will thus be possible to transmit rapid instructions from the main camp to the advance parties instead of relying on foot messengers."**

There are then no more reports until one of 5th June (by which time the attempt had been abandoned), when a reference is made to the reception by the party of the BBC Daventry Empire Service on GSH (13.97 metres) and GSF (19.82 metres).

This absence of information was quite puzzling until the book was consulted. All was revealed when it stated that the use of wireless transmitters was stipulated by the *DailyTelegraph.* Full stop. The inference must be made that the *D.T.* had subsidised the expedition and obtained copyright reporting. *(Investigation is still being carried out on this theory.)*

The biggest problem with the recount of the expedition is that it was written for mountaineers, not EUGers!

On a previous expedition of 1933, also led by Hugh Ruttledge, HF radio communications (using a McMichael Colonial receiver) had been organised by a young Royal Signals officer, W.R.Smijth-Windham (yes, Smijth-.)

When the 1936 Expedition was being organised Lieut. Smijth-Windham was again seconded to the operation. So far as we can tell he was never a licensed ham, but he had a successful military career. Mentioned in despatches in W.W.2; by 1957 he was promoted Brigadier, Chief Signals Officer Eastern Command and U.K. Land Forces as well as ADC to HM the Queen. He retired to Somerset in 1960 and died in 1994 aged 87.

But back to 1936. He was charged with organising the whole radio setup for the expedition and decided that, in addition to long-distance HF equipment they would need to take light, simple equipment that would enable them to keep in radio-telephonic touch right up to the highest camp.

operating HT is within a couple of volts of the figure specified whilst power consumed via the mains transformer is reduced considerably (no hungry heater to warm up !). More to the point the series resistor seems to provide adequate 'soft-starting' to protect the electrolytics, after a couple of weeks of regular use things seem to be AOK.

**Coincidence ?**

Can it be so ? Within the last couple of weeks I have had two malfunctioning Eddystones where the 2.2 Megohms resistor used to provide anode to anode feedback between the output valve and the voltage amplifier valve has gone open-circuit. No, not just higher in value but very much an infinitely high value. Too high to register on any meter I have. Strange ?

**Copper Consumption**

This EC10 which I am attempting to restore has a very badly corroded PCB where the copper has been badly eaten away in many places.

In the absence of a complete replacement PCB all I can do is to re-tin the whole board so as to strengthen and protect what copper is left and to hardwire across the eaten away trackwork.

Since I have already decided to do the job I have decided also to replace all static and active components. Easy enough to do if one has all the time in the world - being retired ! ! This leads onto the next item.

**A Myth**

Yes it really is a myth ! This long-held idea that when one is retired one will have all the time in the world to do those things that one most enjoys.

Nothing is further from the true fact. I seem nowadays to be short of time for almost everything and find that I am having to ration myself - my time that is - for some things.

It has become necessary to make time for answering mail, playing with my toys etc; and to not do some of those chores that my mind tells me need to be done. Never mind I never did aspire to be a gardener, although, there is a thought.

Planting some Leylandii would mean that in a couple of years these quick growing trees would provide me with some nice aerial attachment points. Actually from experience in North Africa I believe that Bamboo grows even more quickly.

My random loop with ATU continues to provide adequate signals for MF/HF reception and it is at no point more than 20 feet above ground.

The 125 Mo/s horizontal loop in the loft is proving to be very good for omnidirectional reception of airband signals and I have one or two additional aerials in use for both HF and VHF.

Not having a tv, nor wanting one, I am utilising the chimney fitted tv aerial and its downlead as a vertical random wire for the domestic Pye radio in my living room, very effective too. By twisting together both inner and outer I am making good use of something in-situ and otherwise redundant.

**A Redundant 'AW 2' ?**

Have you got a spare 'All World Two' ? One that you might like to use on 10 metres maybe ? If so read on.

The Short Wave Mag Issue number 12 indeed, of **February 1938** has this article entitled *'Adapting the Eddystone All World Two for 28 Mc/s operation'*. Maybe they were more easily available

in those far off days. Anyway with due recognition to the Publishers of SWM here is the article:-

**"ADAPTING THE EDDYSIONE ALL WORLD TWO FOR 28 MC/S OPERATION**

**by G5VU**

The description of my station in the October 1938 issue of Short Wave magazine brought a large number of enquiries concerning the use of the Eddystone AW2 for the reception of 28 Mc/s amateur signals. The alterations made to the receiver were as follows; -

1. A valve with lower inter-electrode capacities was used in place of the SP2. The Mazda SP215 was found to be entirely satisfactory.
2. An HF choke (Eddystone 1010) was inserted in the anode lead of the detector valve as shown in figure 1.
3. The special 28 Mo/s coil was wound on an Eddystone 6 pin (non-threaded) former. Details as follows;Grid coil; 2 turns of 20 SWG enamelled. Turns spaced ~ inch apart.

   Aerial coil; 2 turns of 30 SWG D.S.C. Interwound with the grid coil.

   Reaction coil; 2 turns of 20 SWG close wound, i~ inch from the bottom of the grid coil.

Coil details should be taken as a guide and the optimum number of turns and spacing found by experiment. The 28 Mo/s band should be found at about setting number one of the switched Band Set variable condenser.

4. The tuning condenser supplied with the AW2 is unsatisfactory for use on 28 Mc/s, but greater ease of tuning can be obtained by using a 15 mmfd condenser in conjunction with a good slow motion dial (such as the 'Utility' Micro-dial or the Eddystone number 1070).

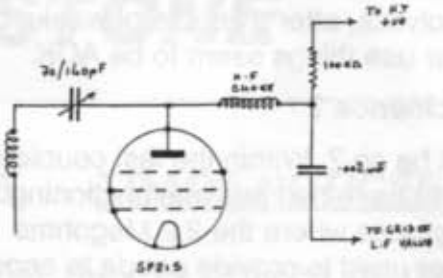


*fig: 1 ADAPTING THE A.W.2 FOR 28 MC/S*

Next month full details will be published for the conversion of the All World lwo to mains operation from 5 to 160 metres. Alteration is simple and, besides the high frequency choke specified above, only a few extra components are necessary.

**Fault Finding**

Just a couple of recent 'finds' that may have caused problems for others. Not specifically Eddystone related either.

The 1990R/2 had the problem that just occasionally it would cut-out, no apparent reason, and then come back on of its own accord. I had been forewarned about this and the excessive hum problem too.

Taking the outer case off and powering up the set I then waited for the problem to occur. Sheer cussedness meant that I waited and waited, a day and a half before the darned thing decided to play up.

Then I got it, complete lack of audio whilst the set was 'lit-up' . A few seconds of prodding with one finger and

the audio came back on. Unfortunately this also brought on the AC hum !

I then discovered that by 'wiggling' the plug in modules back and forth it was possible to induce the fault conditions and to clear them at will. In the event it was found that slight corrosion of the plug-in pins and sockets was the cause of both cutting-out and of unwanted hum.

A new, dry, cleaning pad of the fibre type as used in the kitchen was used to clean up the pins on ALL of the plug-in modules and the set appears to be 'cured' of its malaise.

After a full two weeks neither problem has returned. I do believe that this kind of problem is much more common with the solid-state set than the hollow-state set due to the much lower voltages and currents used in the former type of receiver.

A second problem encountered on an otherwise perfect EB35 MkII was intermittent operation of the FM band.

These sets use a 'bought-in' FM tuning unit and I have in the past encountered a great deal of problems with 'dead' oscillator trannies.

I have a fondness for the BC212 pnp type as it always seems to fire up okay in this position - and seems to last well too. The new trannie was fitted and without any other mods such as changing of resistors it worked a treat.

I did leave it powered up on FM with the gain turned down for a whole week just to check it out, no problem so back it went to the proud owner.

**More for my Collection**

An offer from an EUGer, (one of the 'oldies', the original members from when we first started) has resulted in me planning another 'raid'.

A trip up the AI and along the M62 will result in me taking charge again of three of my old collection of Eddystones which were sold off by my 'Ex'. No nasty letters please about treachery but I shall also as part of the deal be collecting FOUR aliens to add to my growing collection. Once checked out some will be put to use in the house (a radio in every room) and others relegated up to the attic. Thanks Jim, a lovely gesture of solidarity.

**Admiralty Pattern S.S 147**

A recent find amongst a trove of my archive material is the original handbook for this equipment as manufactured by Strattons in the very early days of WW2.

Never heard of it ? Well it took a minute for the penny to drop for me too. Then I opened the handbook and realised that this was the Admiralty Nomenclature for the 440/450 VHF Transmitter/Receiver units as used on the 'D' Day landing barges.

A version of the equipment also supplied to and used by the 'Met' and to various Port Authorities around the UK. The handbook is now in my archives until somebody asks for it.

**Replicas**

Okay they are NOT as good as the real thing but if the real thing is not available for love nor money then the next best is a replica.

Having acquired a spare 7 inch round

diecast speaker I shall - for my own use only - attempt to replicate this. Pity it isn't possible just to extract some DNA and then produce REAL clones eh ?

I shall let everybody know how things go but in the meantime if any EUGer out there has some gen on the 'potting' or 'cold-casting' of such items then please do write or ring me.

**Rallies etc.**

It looks like the Rally season is over now for 2002 and so I shall be able to spend more time with my sets and less in the driving seat. My 'jobs to do' list just seems to get longer and now to add to it I am going to have to unsolder the Product Detector unit from the 880 in order to replace a duff resistor - not a job I am looking forward to. These sealed units with a valve mounted on the top do not allow of easy access to the components sealed inside when you need to do voltage or resistance checks. My 'wheeze' is to use a sewing needle soldered to the end of a normal test prod and to access the circuitry via the valve socket. A much more accurate picture of what is going on in the sealed unit can be had this way. For instance using this method I discovered the very high resistor in the 6BE6 circuitry.

**Noisy EC10/EB35**

This is an actual observation and it has been verified by several other EUGers. I first came across it on an EC10. If you have one of the output trannies noisy then it is very much more discernible than if both are noisy !! honest Injun. It must be that in some way the noise is balanced out.

With the EC10 the noisy output stage is not only caused by the trannies. A prime suspect must be the voltage divider chain of R40 (4.7k) and R39 (1.2k). Try replacing them both with modern low-noise variety resistors and be pleasantly surprised.

**Quirky !**

Differences in the frequency coverage of the 670-series and its Marconi/MIMCO clone are considerable. One does wonder why ?

For some reason the Clone covers the 60, 70, and 80 metre bands but has no Trawler-band coverage as there is a gap between 1.5 and 3.5 Mc/s. It also has the Long Wave Broadcast band.

The Eddystone version has the Trawler-band coverage but has no Long Wave band. Very QuirkY indeed.

**Noise Generators - again.**

This was an EB35 mains psu which produced as much noise almost as it did DC. The receiver was fine running from batteries but when powered by the mains psu it produced not just a variable hiss but also the occasional 'shot' noise.

The culprit turned out to be a dried out electrolytic which when wired across the input of an audio amplifier produced a cacaphonous noise.

A new component cured the EB35s problem once and for all. The offending e'lytic is kept on hand as a source of amusement for visitors, no polarising voltage is needed to power this 'random noise generator' - it just does the job naturally.

**Suffixes**

Looking through the mass of brochures which I have I began to wonder just what some of the suffixes chosen by Eddystone over the years, could possibly stand for.

Okay, we can guess that the 'U' in 77OU is for UHF and the 'S' as for the 770S

was for what we then called the Super High Frequencies.

But what was the 'M' as for the original model 770M, or the 'R' in the later version 770R, any ideas please.

**The 770CE Receive Unit**

No, it doesn't exist. Yes it does exist ! Most decidedly so since Clive has got one. One more for the ORG pal.

Several of these rack mount affairs consisting of an 850/2, an 830/5, a 77CR and a 770U were produced for, or by, the firm of MEGATRON (G.Hullick & Co).

The rack mount set of receivers gave full coverage from VLF of 10 Kc/s up to UHF and several Government Dep'ts took delivery of one. Clive has one such unit but is unable to provide any further info as he inherited this from his Dad.

The audio outputs are all fed to a P.O type jackstrip from where they can be tapped off as required. It would be nice if any EUGer out there can provide further info on these multiple receiver units.

In the past I have seen rack mounted dual 880s and a diversity unit, also rack mounted triple 830/9s with a common synthesiser unit mounted below them but the 770CE is one which has so far evaded me. There was some mention of a similar unit but with an 880 replacing the 830 several years ago in the N/L but we got no further news about it.

**Dead 830/7**

Switching on one's 830/7 and looking forward to an evening of listening pleasure can be considerably spoiled by that total lack of output - pure unadulterated SILENCE

This was why the 830/7 was delivered to my door last week by a rather upset EUGer. His comment was 'But I didn't do anything. Just switched off one night, then on again the next day'.

The cause of the lack of output was pretty simple. All valves lit up inside but no HT at all. It was found that the series resistors in the silicon diode chain fed from the mains transfo secondary had gone o/c.

Now this can often happen if C209, the 50 muffs is leaky, or even occasionally the 32+32 muffs C207 will cause the same problem.

In this case the fault was even worse since the smoothing choke had gone o/c and this allowed the full, off-load, HT from the rectifiers across C209. This poor thing had given up the ghost and gone short circuit thus allowing the two series resistors to burn out.

It was thought wiser to replace the four diodes too since at the instant of s/c they might have suffered some damage, necessitating a further repair job later on. The choke was replaced with a very similar item from another Eddystone model and so the 830/7 is once more working as it should.

**A 'Hummy' 750**

Nothing new about this problem. I have had it before and recognise the symptoms immediately.

The 750 had been sent to me as the mains hum from the speaker had become quite objectionably loud.

It was too and I recalled other 750s with the same problem. A scan of the schematic will reveal a simple 6 (Yes Six) puffs condenser going from the anode of the audio output bottle back to its grid. Six puffs - no more ! And yet removing the one and fitting a new condenser cleared up the problem. Best

to fit a modern ceramic type in lieu of the mica type originally used.

**S 640 with a Cascode RF stage ?**

I acquired this 640 a couple of weeks back but have never got around to opening it up. I did power it up and it worked but other jobs had priority so it was put on the back burner.

This week I did get around to lifting the lid and checking out the innards. Surprise indeed since the RF amplifier EF39 no longer existed !

Instead there was a home made base adaptor produced from combining the old valve base from an octal valve and a new nine pin valve holder. Into this was plugged an ECC82.

Well I have memories of such a conversion being around about ten years ago but have never had the chance to see how it works. I had an EF39 on the shelf anyway so some comparisons could be made.

There is some increase in gain and a lessening of noise on the top end of Range one and possibly this will make the slightest of difference on some weak signals - a worthwhile mod as it does not make any changes to the receiver circuitry.

**ENDIT**

Guess that is it again. Christmas again too !

I wish all EUGers the very best of prezzies for Christmas and may the coming year be a Happy one for all. If I do not explode from eating too much then I shall continue my Rally Chasing next year.

***CU, Ted.***

## Nota Bene

**New Address for Ted's MailBox:**

***Ted Moore***

***21 Prince Street***

***WISBECH***

***Cambs PE13 2AY.***

***EUG Members are welcome to visit for coffee, biccies and chats but please phone me first as I am very peripatetic*** ***(that means I go out a lot!)***

***TELEPHONE***

***0795 951 998***

I switch the phone off at 8 p.m!

# Stratton's first Radio-related Patent Application

## Feb 21st 1925; accepted Oct 8th 1925 No 240,716

George Abe Laughton, the founder of Stratton & Co in 1911, took out a string of patents from 1919 to 1958. The first, dated **19th May, 1919**, GB148021, was for **"Improvements relating to hatpins, toilet pins and the like".**

The last, dated **17th May 1958** was GB859838, **"Improvements in and relating to containers for toilet salves and the like".** But among these rather prosaic inventions was sprinkled a curious collection of radio items. We aim to bring you details of these in successive editions of 'Lighthouse', but here is the first.

We have printed the Provisional Specification exactly as presented. The Full Specification runs to another three pages! We have spared you the task of reading it! The drawing also is taken directly from the Patent Office. The most striking thing about all this is that Geo. A. Laughton started work at 13 years of age as an office boy in a coal merchant's business. . . .

The subject of the patent is undoubtedly the dial used on the early version of the "Eddystone Twin" of the following year (see picture below). Later in 1925 another patent was granted for a dial which was used on the "Atlantic Two", "Eddystone Three" and the "Scientific Four" (the Eddystone Microtune Dial), but by 1928 Stratton's were buying in "Igranic Indigraph" dials (a simple pinch-wheel drive) – *see Ultimate QRG pages 16/17.* They must have been cheaper to buy than to make!


continued over

# Improvements in and relating to Electrical Condensers.

**I, GEORGE ABE LAUGHTON, British subject, of Balmoral Works, Bromsgrove Street, Birmingham, do hereby declare the nature of this invention to be as follows:-**

This invention relates to improvements in electrical condensers, and refers particularly to variable condensers of the type commonly employed in wireless apparatus, the condenser consisting of a set of parallel fixed plates and a set of moving plates which are moved into or out of engagement with the fixed plates by rotation of a spindle on which the moving plates are mounted.

In wireless apparatus such condensers are employed to tune various circuits and the setting of the condenser to a certain capacity is frequently very critical. With a condenser of other than very small capacity it is desirable that the operator could be capable of setting the position of the spindle carrying the moving plates within very fine limits, and the object of my invention is to provide simple but effective means whereby a fine setting can be readily obtained.

Rotation of the spindle to vary the capacity of a condenser is commonly effected by means of a knob and dial plate secured upon the spindle, and my invention consists in providing a fine adjustment by means of a worm or gear wheel of small diameter carried by the dial plate or part moving therewith and meshing with a toothed segment or disc which is fixed relative to the dial-plate, a suitable knob or handle being provided for rotating the worm or gear wheel.

In tuning a circuit with the condenser a coarse or approximate setting is first made by means of the dial-plate in the ordinary manner. A fine adjustment is then made by rotating the worm or gear-wheel which owing to its engagement with the fixed segment or wheel causes rotation of the dial-plate and spindle at a much reduced speed. Where a gear-wheel is employed the arrangement is similar in operation to an epicyclic gear, the toothed segment or wheel being the sun-wheel, the small gear-wheel the planet-wheel, and the dial-plate the cage which carries the planet wheel.

In a convenient practical form the toothed disc or segment is of a diameter substantially less than that of the dial-plate and is keyed to the upper fixed bush for the condenser spindle, or if desired secured to a panel or the like on which the condenser is mounted. The dial-plate is keyed upon the outer end of the spindle in the usual manner and the small gear-wheel which meshes with the toothed disc is rotatably mounted in a bush in the dial-plate near its periphery and has an operating knob or handle on its outer end above the dial-plate.

In both the course and fine settings of the condenser the dial-plate rotates so that the setting of the condenser can be read off by means of the scale usually provided on the dial-plate, but if desired a graduated scale may be provided around the knob which operates the fine adjustment.

**Dated this 20th Day of February, 1925.**
**For the Applicant,**
**GEORGE BARKER & BRETTELL,**
**Chartered Patent Agents,**
**75 and 77, Colmore Row, Birmingham.**

240,716 COMPLETE SPECIFICATION

1 SHEET

[This Drawing is a reproduction of the Original on a reduced scale]

FIG. 1

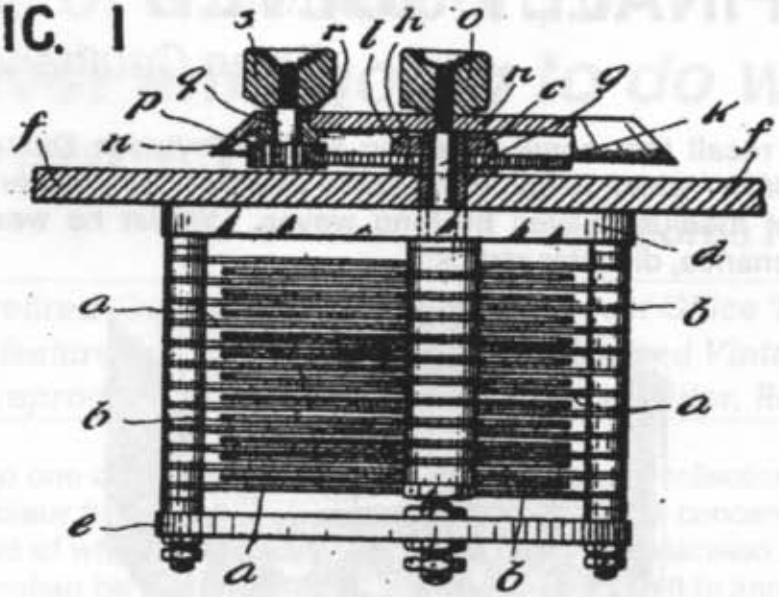



FIG. 2

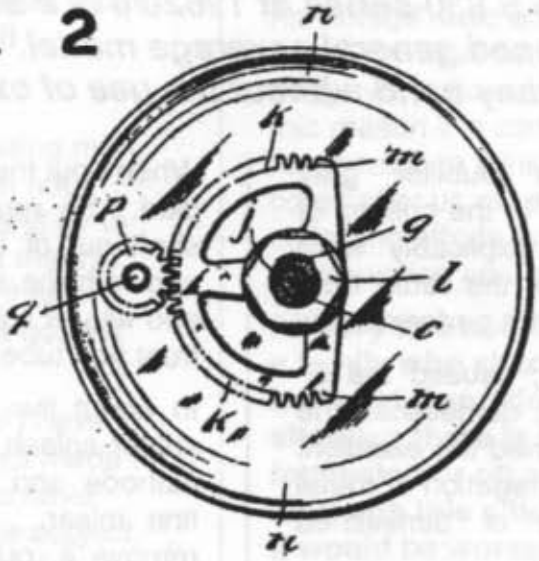



FIG. 3


FIG 4


Charles & Read Ltd. Photo Litho.

# MYSTERY FAULT ON CANADIAN 830/4 FINALLY SOLVED

*Bryan Cauthery, VE3DFC*

**Readers may recall that some time ago EUGer Bryan in Ontario acquired a Canadian S.830/4 – which is much the same as other 830 models except for the substitution of medium waves by long waves. Whilst he was carrying out routine maintenance, disaster struck!**

***The Eddystone S.830-series of 1962-73 is a double conversion interpolation-tuned general coverage model. It can be re-set to within 1kc/s on any band without the use of external calibration.***

"After replacing the Dubilier grey decoupling capacitors in the coilbox of my 830/4 the set inexplicably went sick! It didn't prevent the radio from working, it just ruined the performance.

It disrupted the AVC; caused the S-meter to non-function; demolished the front end gain and turned the excellent 830/4 into a sorry aggregation of metal and electrical parts of diminished worth.

After puzzling about the Q of the IF transformers I did some tests to check the 100kc/s stage gain. It seemed about right. Then I used another front end from a TMC receiver, connecting it first through the RF input; then into the first mixer; then into the first IF and in that position the whole set burst into life AFTER I REMOVED THE CASCODE RF TUBE AND 6AK5 MIXER TUBE.

When I put the mixer back in place it all died. So next I pulled the operating shaft out of the wave change switch and with the aid of a magnifying glass and lots of light I looked closely at the front end tube sockets.

In about five minutes I saw this tiny solder splash bridging pins 1 & 2, the cathode and control grid pins of the first mixer. It took ten seconds to remove it, put the tubes back in and the 830 was back to robust health.

I must have caused the splash when replacing the capacitors, so correcting one problem created another.

The interesting part of all this was the plethora of problems this short caused, which in combination made it hard to make any sense out of the symptoms."

*Bryan Cauthery, Caledon, Ontario.*

♠

# Letter from Tønsberg

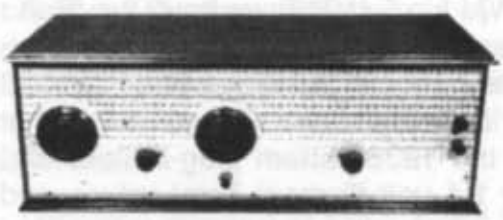
## Our Norwegian Correspondent, Tor Marthinsen, has now acquired a PC and his letters are more frequent! Here is his first of a series on Eddystone receivers, entitled *"Eddystone Fours"*

"I promised you something about the Eddystone 'Fours' and this is the first instalment. As you well know the Fours can be subdivided into two groups, those with a tuned input and those with an aperiodic input. This time I will talk about the first group.

Now the grand daddy of all the Fours was the Scientific Four of 1927. Not much has been said in previous EUG material, however in EUG N/L 35, page 23, Ted says that the construction manual is available! If so I would appreciate a copy!

*(Note from Graeme: - after a huge search a photocopy of this was discovered in factory clearout salvage! I have sent a copy to Tor and also done a report immediately after this letter. It includes a picture and circuit).*

The only info that I have is what was presented in Lighthouse No. 64 pages 18-19. Page 18 is mainly a rehash of a report in Wireless World from Sept. 28th 1927 and there is a lot of info here.



***'Wireless World' homebrew 'Everyman Four' 1926***

We are told that this receiver is a close copy of the W.W. design the 'Everyman Four' which dates back another year to mid-1926. This was probably one of the best receivers available at that time and won great popularity. Even a year later this was one of the most popular receivers for home construction.

And the name caught on, in 1927 we got the 'Everyman Three', the 'New Everyman Four' sporting a screen-grid valve and the 'Two HF Everyman Receiver', all being W.W. designs. A few manufacturers produced both kits and ready made receivers according to the 'Everyman Four' design.

Now since the Scientific Four was a 'Everyman Four' clone perhaps it is of interest to see what was in this design and what made it so special. First of all there were two really good HF-transformers. The detector was of the anode bend variety without reaction. The first LF-stage was resistance-capacity coupled and the output stage was transformer coupled.

This was one of the first receivers to get any appreciable amplification out of a neutralised triode HF valve. The original design called for fixed HF-transformers. To start with one was told not to try plug-in types, this probably because of the non-availability of suitable formers and holders. And it was a medium-wave only receiver.

Very soon there were questions about how to incorporate long wave as well (Daventry!) and the usual solution was to cut out the HF-stage and introduce a loading coil in series with the tuning coil. Eddystone decided to do this properly and so we got the Scientific Four with plug-in coils and a working HF-stage for both bands.

I believe that there was a bit of engineering behind the solution for changing coils. Just think about the difficulties to have a neutralised amplifier to be efficient not only across one band of frequencies but two!

There was an answer to this problem of incorporating plug-in coils from the pages of W.W. as well. In mid-1927 there was published a design for such a receiver, it was not called the 'Everyman' but 'The All Wave Four', can you believe that?

The next Eddystone receiver with tuned input was the 'All Wave Four' of 1930. How they got away unscathed with this name is beyond me! Now with a proper screen grid valve at the input there was no need for neutralisation, and with good quality coil formers and bases this turned out to be a first class short wave receiver.

***Eddystone All Wave Four 1930***

As shown at the exhibition in 1930 the range was given as 12.5-2000m, however in the receiver survey later it was given as 14-2000m. They also said that 'eliminators are available'. I do not know what type of screen grid valve was used in this version, probably the PM12 (no suffix).

An advert in W.W. for April 12th 1932 shows a new version of the 'All Wave Four' with ganged tuning, this must be the same as covered in the handbook which accompanied EUG N/L No. 58. There is a misprint in the EUG N/L as the set is called the 'All World Four' when in reality it is the 'All Wave Four'!

Apart from the ganged tuning there are quite a number of changes. Vari-mu screen grid valves had been introduced in the end of 1931 and such a valve was used in this version. Also the then-new Eddystone tuning capacitors were used, the large diameter ones. In 1934 the input circuit was arranged for the balanced 'crossfeeder' connection.

The AC-version was now a proper AC model and not just having an eliminator added.

The next version of this receiver had a much peculiar change introduced – the name! It was now called the 'All World Four'. Further changes were new coils of smaller diameter and new smaller tuning capacitors. The input valve was now a pentode. This set was mentioned in W.W. of October 30th 1936

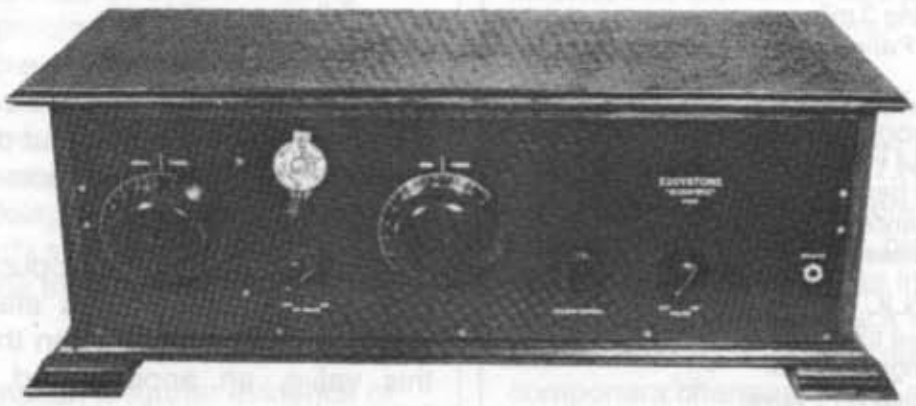
You may believe that this is it, but there is one more – from the ESWM No 5 (1946) we have the 'Band Spread All Dry Four'. This is so much like the original 'All Wave Four' of 1930 that I think it deserves mentioning! It has the 1936-pattern plug-in coils and new 1.4 volt filament octal valves and tuning capacitors and a novel way of introducing reaction. But it retains the non-ganged tuning! I like such details.'

***Thank you, Tor, for your first of a series of surveys.*** ♠

*Lighthouse Issue 76, December 2002.*

# THE EDDYSTONE "SCIENTIFIC" FOUR OF 1927

*BY GRAEME WORMALD G3GGL*



**This set was featured in 'Lighthouse' Issue 64 (Christmas 2000) pages 18/19, when a Wireless World report from the 1927 Radio Show was presented along with an advertisement from Harrods Catalogue of 1927. A certain amount of confusion was caused by the wording of the W.W. report, inferring that the set covered short waves, when in fact it was referring to a new component (a short wave HF choke!) not connected with the Medium- and Long-wave only Sci Four.**

A message from Tor Marthinsen in Norway also tells me that this set had no reaction control, thus negating my statement in QRG/3 that "All valve detectors *(in TRF sets)* were regenerative . . . " (page 15). Mmmm. I just couldn't imagine a 1920's TRF set working effectively without regeneration, in the interest of sensitivity and selectivity.

A serious search of some early EUG junk-boxes produced a little winner in the form of a photocopied Construction Handbook for the 1927 "Scientific" Four. It was, you see, also sold as a kit, another snippet of information.

And the other little snippet is (quote): "The neutralising condenser . . . is a valuable means of obtaining a reaction effect and, in our opinion, without any detrimental effect on quality." So there you are, Tor. You have me on a technicality, but it's a pretty fine line!

I'll follow now with some interesting extracts from the manual and a few pictures.

(which are worth a thousand words . . . )

## THE EDDYSTONE "SCIENTIFIC" FOUR

*Possesses the five main factors of modern requirements.*

1. RANGE.
   At least 30 stations on loud speaker
2. SELECTIVITY.
   At least 6 stations with London working 3 miles away.
   Radio Paris, Hilversum and other high- wave stations received in London with Daventry working.
3. QUALITY.
   Anode bend detection.
   Resistance coupled amplifier.
   Neg. biased H.F. valve.
4. SIMPLICITY.
   Two dial tuning only.
   Readings identical.
   Stabilised H.F. valve.
   1 Volume Control.
   1 Master Rheostat.
5. ECONOMY.
   Filament current .325 amps for 4 valves.
   Anode current 15 m/amps.
   Every valve pulls its full weight.
   No waste energy.

The Eddystone "Scientific" Four is an up-to-date 4 valve receiver, comprising 1 high frequency valve followed by a detector, and two low frequency valves, and although this arrangement is generally common in a 4 valve set, rarely does every valve pull its full weight.

In the "Scientific" four we claim that every valve is being utilised to its best advantage, the result being that the selectivity, range and quality of the set is far above the average. Moreover, this efficiency is not confined to the broadcast waveband from 250-600 metres only, but extends to the high waveband amongst which Daventry, Radio Paris and Hilversum are members. In addition to its high performance, we would point out that it is extremely simple in operation and, for the results obtained, very economical, two features which are of great importance to the user.

The selectivity and range are obtained by use of low loss high frequency transformers wound with an expensive kind of Litzendraht wire, using with them a circuit so designed that the damping load across them is as small as possible.

Each valve stage is then arranged so that the impedance of the valve is in correct unison with its output circuit, so that the full amplification factor of each valve is approached.

Good quality reproduction is obtained by means of a stable H.F. stage with negative bias on the grid of this valve, an anode bend detector followed by a resistance coupled L.F. stage which is fed into the final power valve output circuit by means of a high class intervalve transformer.

Finally the set is such, that in our opinion it cannot fail to give the owner every cause for satisfaction.

### CONTROLS

The set is tuned by means of two condensers and the reading of the dials for any given wavelength is approximately the same. To obtain fine and accurate tuning, two Eddystone Microtune Dials should be fitted (*sic*); these have a vernier motion of 128:1 in addition to a direct drive for rapid searching.

The neutralising condenser is also mounted on the panel and is fitted with a special dial marketed by the makers which enables fine adjustments to be made and read. *Now although in many sets this condenser is inside and it is recommended that it should be set and left alone, we find that in practice, it is a valuable means of obtaining a reaction effect and, in our opinion, without any detrimental effect on*

*quality. This control can therefore be adjusted as occasion calls for. (Graeme's italics.)*

The remaining controls are the first rheostat R1, which controls the high frequency valve and enables this valve to be switched off altogether when receiving a local station and for neutralising; a potentiometer R2 in the centre, which enables the negative bias to the anode bend detector to be brought to zero, and which acts as a most efficient volume control; and lastly a master rheostat R3, which cuts off all the valves and puts the potentiometer out of circuit. A jack is provided for the Loud Speaker.

**VALVES.**

The set is adaptable for 2 volt, 4 volt or 6 volt valves without alteration, but in practice the 6 volt valves are the most satisfactory and are recommended.

The correct valves for each position are as follows:-

| | H.F. VALVE. | DET. VALVE. |
|---|---|---|
| 2v. | P.M.1H.F. | P.M.1A |
| 4v. | P.M.3 | P.M.3A |
| 6v. | P.M.5X | P.M.5B |

| | 1st L.F.VALVE. | 2nd L.F.VALVE. |
|---|---|---|
| 2v. | P.M.1L.F. | P.M.252. |
| 4v. | P.M.3 | P.M.254. |
| 6v. | P.M.5X | Stentor 6 |

If it is desired to use other valves, advice should be obtained first to ascertain whether they are suitable.

**OPERATING THE SET.**

When the receiver is finished and connected ready for use, the valves can be inserted, although as a precaution against burning them out, before switching on, make certain that the voltage across the filament sockets of the valve holders is that of the accumulator *(Note 1- see next page) ).*

The local or nearest station should be tuned in with all valves on; the strength of signals in this case should be so great that to prevent overloading of the last valve, it will be necessary to detune, this is best done on the aerial condenser, leaving the grid *(Note 2)* tuner correctly tuned to the station.

Before proceeding further, the correct neutralising setting of the Neutrovernier should be found; this is done by leaving the receiver tuned to the local station and then switching off the H.F. valve, retune the set slightly until the local signal is strongest. Now turn the Neutrovernier dial in the direction in which the signal gets weaker: at a certain point no signal should come through whatever, but if the dial is turned still further in the same direction, they will reappear; the silent point is the correct neutralising position for the set.

When the correct neutralised position has been found, a note should be kept of the dial reading for future reference; the condenser reading, however can be increased slightly, to obtain a reaction effect for increased volume on distant stations. The dial readings for each given wavelength should be similar on each dial, so that in searching for ditant stations the dials should be rotated together.

The grid bias should be adjusted until a milliameter if included in the plate circuit of the last valve registers a fairly steady reading for all signals. If the needle kicks violently as varying

notes appear, distortion is occuring either through signals overloading the valves or incorrect bias is causing the same effect.

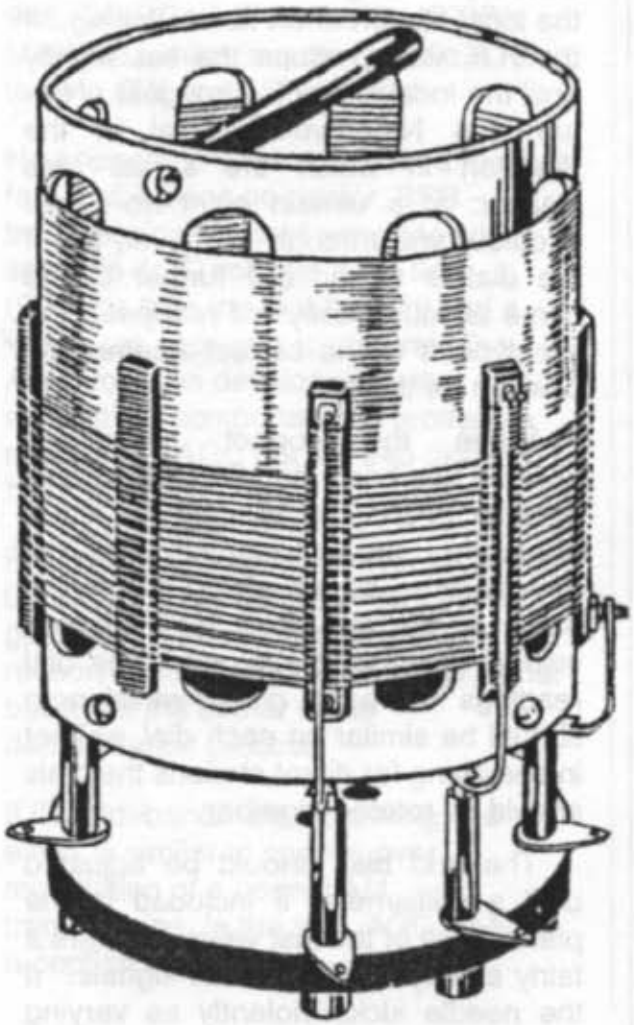
**RESULTS.**

On a standard 100 ft. aerial, 30 ft. high, 3 miles from 5IT, the old Birmingham station on 326 metres, the set was capable of eliminating the 5IT transmitter, and bringing in plenty of other English and Foreign programmes. During the test a loud speaker only was used, and volume in many cases was so great that the set had to be detuned.

Altogether, 37 stations were logged, but this number could be considerably increased with the set in constant use. When the set was taken into the country, 25 miles away, stations could be received at degrees all round the dials.

On the Daventry waveband, in the first mentioned locality, five other long wave stations were received without interference from Daventry. In the case of Radio Paris, this station could be received at volume, but Daventry could not be entirely eliminated.

Quality from the set was exceedingly good, and on the local transmission was all that could be desired."



One of the set of four plug-in coils utilised by the 'Scientific' Four. One tuned the grid of the H.F. amplifying valve and the other tuned the grid of the anode bend detector.

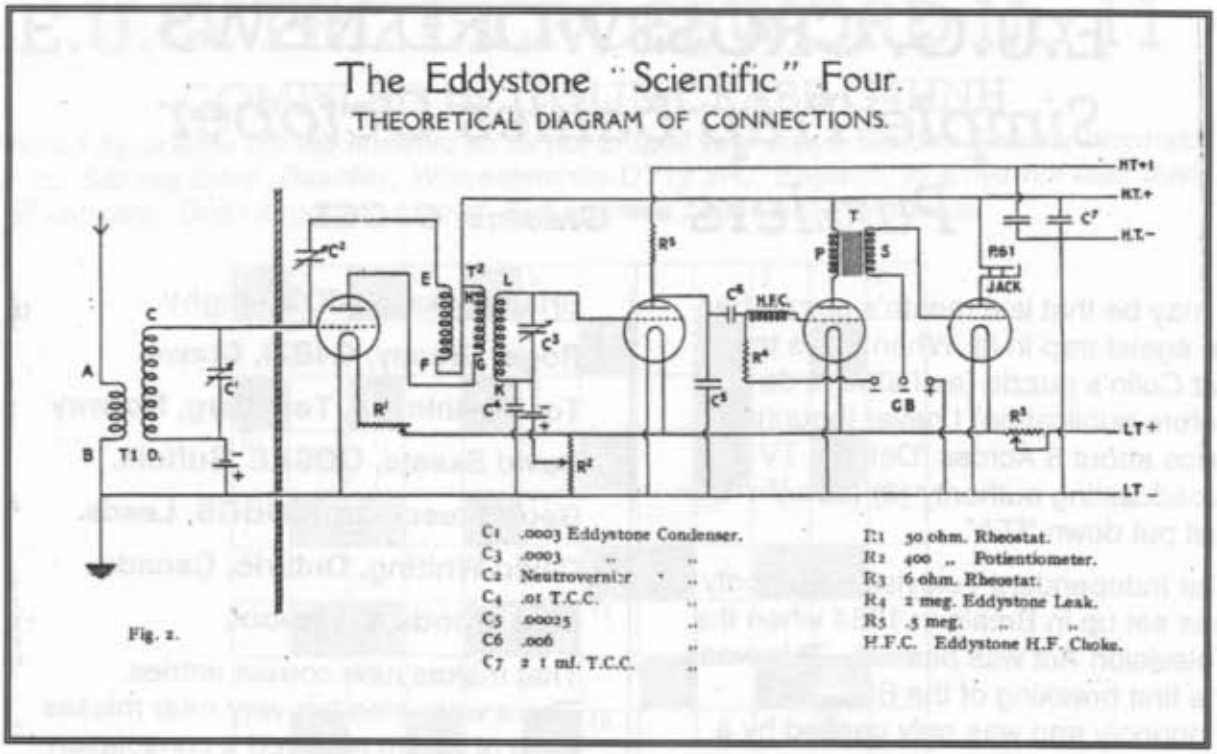
There were separate coils for medium and long waves.

*(Note 1) From previous page.*

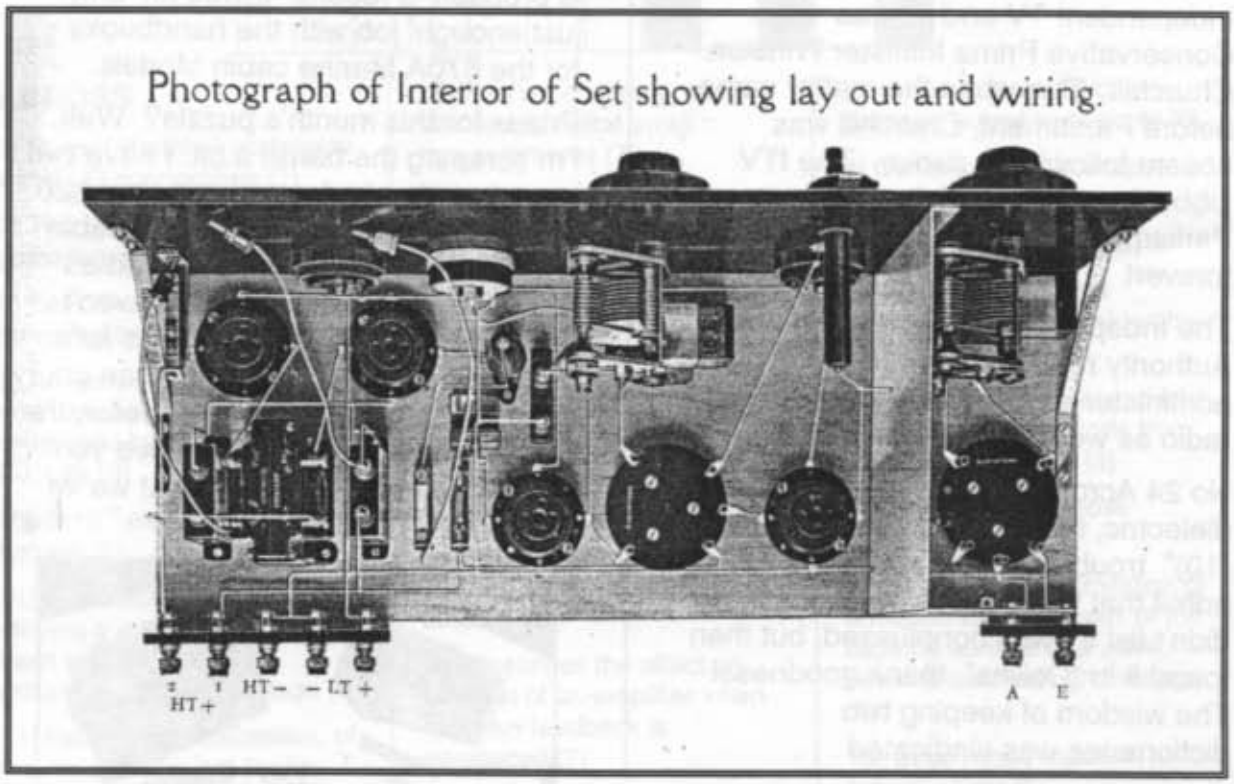
*The instruction to "check the voltage across the filament sockets before switching on" must have caused a lot of grief among the non-technical constructors of this set. There would, of course, be no reading with the set switch off!*

*(Note 2)*

*A certain amount of confusion could also be caused here, as the term 'grid tuning' would apply correctly to both tuned circuits – one tuning knob controls the H.F. amplifier grid and the other controls the detector grid.*




The circuit of the H.F. amplifier of Eddystone's 1927 "Scientific" Four must rank it as their most unconventional TRF set.




The neat chassis layout clearly shows the screen between the aerial input circuit (*right*) and the detector stage (*centre*). The neutralising condenser is the long tube just left of the screen. The intervalve transformer (*left*) is a 'Ferranti' AF-series.

# E.U.G. CROSSWORD NEWS

## *Simple Trap baffles October Puzzlers* – *Graeme, G3GGL*

It may be that last month's puzzle had an ageist trap in it! When I was trying out Colin's puzzle (as I always do before publication) I never thought twice about 8 Across "Defunct TV broadcasting authority (3) (abb.)" . I just put down "ITA".

The Independent Television Authority was set up in Britain in 1954 when the Television Act was passed. This was the first breaking of the BBC's monopoly and was only passed by a Conservative administration due to a strange twist of fate.

The Labour party was dead against Independent TV and so was Conservative Prime Minister Winston Churchill. But, when the matter came before Parliament, Churchill was absent following a stroke. The ITV lobby 'forced' the Bill through Parliament and life in Britain changed forever!

The Independent Broadcasting Authority replaced the ITA in 1970 to administer both the new independent radio as well as television. QED!

No 24 Across, the real stinker: "Of a dielectric, the reciprocal of permittivity (10)" troubled hardly anybody. I must admit that when the "New Oxford" didn't list it I was nonplussed, but then found it in "Collins", thank goodness! The wisdom of keeping two dictionaries was vindicated . . .

Here are the successful entries:-

**Peter Beardsmore, G4IXY, Herts.**

**Roger Bebbington, MØBWP, M'side.**

**Brian Blake, G3JOS, Rugby.**

**Roger Bracey, G4BZI, Crewe.**

**Tor Marthinsen, Tønsberg, Norway**

**David Skeate, GØSKE, Suffolk.**

**Geoff Steedman, MØBGS, Leeds.**

**David Whiting, Ontario, Canada.**

**Fred Woods, Liverpool.**

That makes nine correct entries. There were also ten very near misses each of whom received a consolation prize.

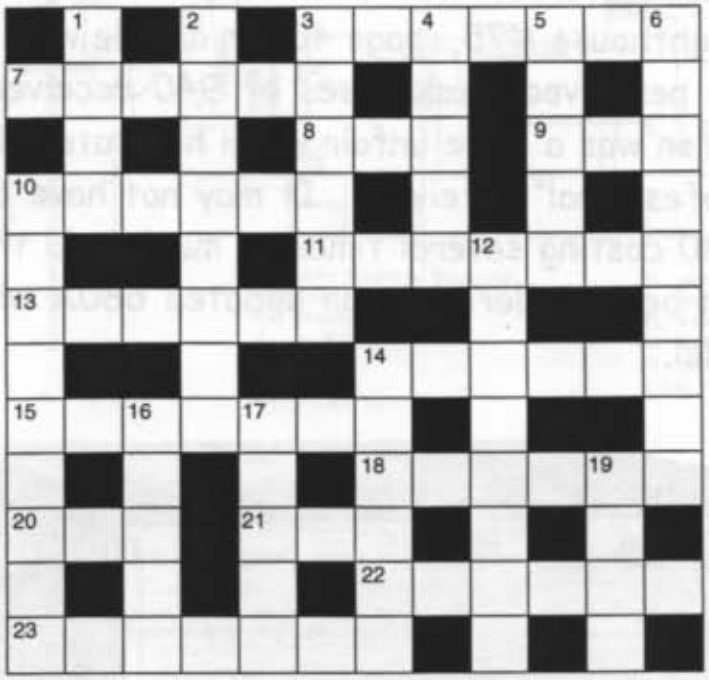
Come to think of it I reckon 19 entries is probably a record. It was an 'only just enough' job with the handbooks for the 670A Marine cabin Models.

Prizes for this month's puzzle? Well, I'm scraping the barrel a bit. I have two more handbooks from history; the 820 FM Tuner and the 870A midget cabin set. The only trouble is if we had as many entries as last month I haven't got enough FM Tuner books, so let's make it an open choice. Write on your entry which handbook you'd prefer, the 820 or the 870A. I'll try and give you your choice and we'll see what we've got left over! ♠

# E.U.G. PRIZE CROSSWORD No 11

## COMPILED by COLIN CRABB G4HNH

*Photocopy or write out the answers so as not to spoil your copy. Send to Graeme Wormald at 15, Sabrina Drive, Bewdley, Worcestershire DY12 2RJ, England, to arrive not later than 25th January. Don't forget your name! See previous page for further details.*



### ACROSS

3) Buxom starlet of yesteryear with EUG connections (7)

7) This amateur radio gathering is no accident (4,2)

8) Eat differently to achieve projected time of arrival (3)

9) An early digital computer and data-processing system developed by J. Lyons and Co. Ltd. (3)

10) $6x10^{18}$ electrons per second (6)

11) Low noise amp. circuit utilising a grounded cathode input stage, driving a grounded grid output stage (7)

13) Reversal, by saturation, of the residual flux in a ferrite core (6)

14) Common ref. to a receiver that is producing max. response to a particular signal (2,4)

15) Ron's mic., oddly, could be used to define small measurements (7)

18) Resources could be pooled, to indicate feedback circuitry (6)

20) First name of the US inventor of the Audion valve (early triode) (3)

21) Aim westward to first name familiar US actress (3)

22) Common phrase still sometimes used by radio amateurs, especially old timers, to describe lack of output! (2,4)

23) Describes the effect on the gain of an amplifier when negative feedback is introduced (7)

### DOWN

1) Record motion (4)

2) Tetrode C, unusually, provides the intelligence (8)

3) --- coil; active part of a common output transducer (6)

4) Common alloy of copper and zinc (5)

5) Arctic radio shack? (5)

6) Triode detector that generally utilises considerable negative bias (5-4)

10) Computer software which produces machine code from symbolic input data (9)

12) Negative electrodes generally (8)

14) ----- effect; the limitation of emission to small areas of the cathode surface of a valve, below a minimum grid voltage (6)

16) British code machine manufacturer (5)

17) Linear resistance (5)

19) Aerial insulators with culinary connotations (4)

♠

# "IMPROVING" THE 940

**By Peter Lankshear**

With considerable interest and some alarm I read in "POO's Ponderings" in Lighthouse #75, (page 40) an article with suggestions for curing some perceived weaknesses of 940 receivers. In his introduction, Simon was a little unfair when he states that the 940 was never a "professional" receiver. It may not have been "top of the line" (the 830 costing several times as much held that position) but the 940 can be considered as an updated 680X which WAS a professional model.

Simon implies a criticism in that the development time was only a few months. Surely this was due to the head start that came from experience with a whole series of very successful receivers. The 940 was an "operator's" set, and in the right hands can still do a first class job.

Like Simon I am generally not in favour of altering commercial equipment, especially of the calibre of Eddystone products and I cannot recommend any of the suggested modifications.

Indeed I would discourage them all, as they would degrade the performance of a fine receiver. The original designer probably would have forgotten more than most of us will have ever known about receivers, and would have had good reasons for doing things the way he did. This is not to say that designers are always infallible, but it is far more likely that "improvers" do not fully appreciate the side effects of what they are suggesting.

To give one example in my own experience. In the 1950's articles appeared in hobby electronic magazines whose writers had became

aware of the signal to noise ratio of receiver input stages.

Readers were encouraged to exchange the input valve of their receivers for one of the "hot" high mutual conductance TV types available on the surplus market.

A typical and easy plug-in swap was a 6AC7 for the ubiquitous 6SK7, and a receiver so treated appeared to be more lively and to receive more transmissions. In reality, because the change was to a sharp cut-off valve, most of the liveliness came from signals generated in the receiver.

As the technical manager of a local radio station I began to receive calls from enthusiasts to the effect that my transmitter was putting out harmonics and spurious signals

By creating cross modulation etc. the 6AC7 valves were the real culprits. Replacing the "hot" valves with the originals original cured any transmitter "problems"!

The manner in which the circuit drawing amendments of the "improvements" have been drawn causes me to think that they may well have come from a large organisation with good draughting facilities.

Whoever did the drawings was a skilled draughtsman familiar with electronic circuits. I suspect though that the author of the 940 "Improvements" was rather damp behind the ears, but trying to make an impression with his newly acquired knowledge of receivers.

I have more than once encountered graduate engineers with this type of attitude. They had heads full of knowledge and ideas but lacked an appreciation of how much they didn't know, and furthermore often had difficulty in accepting that there were older and wiser heads than theirs around.

It is all very well to have some bright ideas about what can be done to a receiver, but they must be balanced by an understanding of the spinoffs and side effects of any alterations.

The lack of documentation of the exercise is unfortunate. There is no explanation as to if and how the performance was measured before and after the modifications.

If it was, no data is provided. Indeed, the claimed improvements appear to be subjective with no confirming figures.

I shall deal now with the specific criticisms and suggestions:

***Poor General Stability (drifting)*** No measurements for the 940 are given, but all valve receivers drift before reaching a stable temperature, which can take some time due to the large mass of the receiver.

Drift is dependent on the heating of all the components and hardware associated with the oscillator, but once the receiver is thoroughly warmed up, it is minimal. The effort in replacing the mica filled socketss with PTFE gold plated sockets would be hardly worthwhile. To do so is very dificult without dismantling much of the coil box and the gold plating is there to improve resistance to contact tarnish, not minimise drift.

As to the "unstable capacitance formed by the triode section of the ECH81" I will show later that this assertion is quite misleading.

***Frequency 'jumping'.*** Is he referring

to temperature drift covered above? I have never experienced a change in frequency in a 940 that could be described as "jumping". Again there is no detail to back up the assertion.

"***Frequency 'wobble'***" due to "poor mechanical integrity between the coil box and tuning gang"! Pardon me, but I wonder if our expert is referring to an Eddystone receiver. The rugged chassis and Strattons' diecast coil boxes are second to none for rigidity and stability. About the only way to make any improvement would be to mill the assembly from a cast iron billet.

***Very poor SSB performance when using maximum RF gain with AGC 'on'.*** This statement is very revealing because it shows that whoever wrote it did not fully understand how to use the 940, OR READ THE INSTRUCTION MANUAL which is quite specific in how to tune CW and SSB signals!

He appears to have overlooked the fact that, having no carrier, SSB transmissions cannot generate any sensible AGC voltage in the 940. (Graeme tells me that the 830 had a very large capacitor to integrate the AGC voltages developed by the modulation components to produce a measure of AGC but the 940 did not have this feature).

For SSB work with a receiver like the 940, you do not use any more R.F/I.F. gain than is absolutely necessary. The reason of course is that the BFO signal becomes the carrier in the demodulation process.

If the sidebands are too strong, the effect is similar to serious over modulation of a normal AM transmission. In the 940, AGC for SSB reception is irrelevant.

***Excessive Local Oscillator Pulling.*** I have never been aware of "excessive" oscillator pulling in the 940. Again, there are no quantitative measurements, so what is excessive? In reality the oscillator is very stable.

Again, the nonsense about ECH81 triode grid capacitance is mentioned.

There seems to be a fixation with the connection to the unused ECH81 triode grid. Several previous Eddystone designs successfully used the earlier 8 pin triode-hexode and heptode mixers (7S7, ECH42 etc.) in which the triode grid and the injection grid are connected internally, and to my knowledge, there never has been any serious criticism of these receivers on this score. The possibility is raised of the shunting of the oscillator voltage by the diode formed by the idle grid, and its variation with changing ECH81 cathode voltage with AGC. action.

Consider this. The cathode voltage of the 940's ECH81 varies from 1.6 volts at no signal to 0 volts at cutoff, whereas the oscillator voltage is of the order of 10 volts, more than sufficient to swamp the effect of small cathode voltage variations.

The suggestion is made to use the ECH81 triode as a resistance-coupled isolator for the oscillator feed! However the precise level of injection is important, and attempting to amplify the full oscillator voltage with a resistance coupled zero biased amplifier is to create real problems.

The modification would result in serious overdriving of the mixer with a grossly distorted oscillator waveform (something approaching square waves) generating spurious signals.

There is a broad optimum injection voltage for mixers, that for the ECH81

being in the region of 10 volts (measured as 200 microamps. rectified grid current in the 47kohm grid leak). Too little injection results in poor converter performance; too much and there will be spurious beats, birdies etc.

There is criticism of the delay of 45 volts for the AGC threshold causing the "AGC problem". Presumably the "problem" he is referring to is the previously discussed absence of AGC voltage in the SSB mode, and he incorrectly assumes this to be due to the large delay voltage, whereas as we have already shown, SSB signals will not generate true AGC in conventional receivers.

This assumption is further evidence of his lack of understanding of SSB operation. Reduction of the threshold or delay voltage would permit the AGC to become effective with weaker DSB signals but would not alter the SSB reception.

Reduced AGC delay results in control of weaker signals but less audio signal from the detector. Conversely, a large delay results in more audio being available on stronger signals, and incidentally, a flatter AGC response curve.

The final modification is a good example of the old saying "if it ain't broke, don't fix it". His suggestion is to compensate for the lack of audio with the reduced AGC delay by increasing the audio system gain by eliminating the audio negative feedback, and for no good reason, messing about with the perfectly good phase splitter!

The negative feedback is there because of its well-known benefits and should be left alone. Although he doesn't say so directly, our "improver " apparently thinks that eliminating the coupling capacitor (C103) between the voltage amplifier, (V9a) and the phase splitter (V9b) will increase gain.

Not so – there will be no discernible change in amplification. The amplifier/splitter system used is one of the best, being stable, tolerant of component ageing, providing a balanced output and It was justifiably popular in valve amplifiers.

The split load phase inverter was often used within the feedback loop of High Fidelity amplifiers (e.g. D.T.N.Williamson's famous design), where minimal phase shift was essential, but in the case of the 940, the phase inverter stage is not in the feedback loop. Direct coupling is less tolerant of component changes and to retain the existing capacitor coupling is preferable.

Had our "improver" been more familiar with his valve manuals he would have realised that a far better and much simpler way to increase the audio gain of the 940 is to leave the circuit intact but to simply change V9a-b from a 12AU7/ECC82 to a higher gain valve, of which there are several available.

A 12AT7/ECC81 will double the audio gain whilst a 12AX7/ECC83 will give a fourfold increase. The existing bias resistor values are quite satisfactory for all three types.

My recommendation is to be very wary of modifications to Eddystone receivers. The people who built them knew what they were doing.

Remember too that in an urban location with its noise and restricted aerial installations, it is not possible to use fully the existing performance capabilities of most Eddystone receivers.

♠

# EDDYSTONES ON CAMPBELL ISLAND IN THE ROARING FORTIES* AND SUB ANTARCTICA

PETER LE QUESNE. ZL4TCC.

**I have always had an interest in Antarctica and was there in 1958/59 as a technician and dog handler with the New Zealand Antarctic Research Program at Scott Base, McMurdo Sound. (The site for Scott's and Shackleton's expeditions.) As a technician I was involved with Ionosphere Research which included monitoring, on a TRF fixed tuned receiver, GBR on 16Khz from Rugby. I went to and from the Antarctic by ship. The communication receivers at Scott Base were Racal 17s and Philips.**

**Though I have never been to Campbell Island, I was naturally very interested when I recently saw a new book in the Napier Public Library called *Campbell Island 1955/1960.* On reading the book, what do I find but two articles on Eddystone Receivers used on Campbell Island.**

***The Roaring Forties (degrees latitude) was the route taken by sailing ships from Australia to England – East, round the Horn, because the wind was behind them. A route littered with the wrecks of grand clippers.***

Campbell Island lies at Latitude 52°30'S and Longitude 169°8'E. To compare it in latitude in the Northern Hemisphere the equivalent site would be level with the City of Birmingham (or the town of Bewdley!). In the Southern Hemisphere it is near enough the same latitude as the Falklands or the tip of South America.

It is to be noted that Campbell Island, which is 44 square miles, is completely surrounded by sea and is some 400 miles South of New Zealand, which is the nearest land mass. Antarctica is some 1200 miles South. (London 14,157 Miles.)

The Island was discovered in 1810. Whalers and sealers used it and in 1896 sheep were introduced. The Island was more or less continuously occupied until 1931.

In 1941 a Meteorological and Coast Watchers' Station *(lookout for enemy ships)* was set up and was occupied by the former until the early 1990s. The Island is now unoccupied.

It appears that the first Eddystones arrived at Campbell in 1956. Bill Whitley the mechanic—handyman arrived on HMNZS Tui on 8th August 1956 complete with an Eddystone 740. (S/N FC0537) which at the time of writing he still has. Bill used it for Dx-SWL-ing. It was purchased new in Christchurch. Bill is now ZL3AHN.

In 1957, when a new camp had been built for the IGY 1957/58 three Eddystone 680Xs arrived and were used in conjunction with three RCA 4332 Transmitters. All equipment was fed into an array of folded dipoles.

The sets were purchased by the New Zealand Civil Aviation Administration (CAA) who were responsible for the administration of the Meteorological Station. Efforts are being made to find out the fate of these receivers, which appear to have remained in service until the early 1990s. They would have been returned to New Zealand and disposed of, but where is not known.

If and when any information on their fate comes to light it will be conveyed

to Graeme – G3GGL. The Island had a power supply of 230 volts at 50Hz.

One of the 680Xs was used in 1960 by Ian Johnson, radio technician (ZL1BAW - see photograph). Ian established the first Amateur radio station on Campbell Island, which was then designated a new country, and allocated the call sign ZL4JF. Ian accumulated some 500 QSOs from Campbell and lists many British Stations, the transmitter was home made on the Island from parts he brought with him. Ian recently bought a 680X (S/N JD0064) for NZ$235.00. (£70.00).

Graeme Wormald G3GGL, has a copy of, *Campbell Island 1955-1956. 1958-1960* by George Poppleton, the Base Leader in the years stated. George will be 80 at the end of November. Photos are from the P.G. Poppleton Collection, Alexander Turnbull Library, Wellington. There are wonderful coloured photos of the Island, including animal life and flora. Graeme has a copy of the original photograph displayed, personally autographed by Ian.

**Acknowledgments and References:**

Ian Johnson. ZL1BAW, Tokoroa. NZ

George Poppleton, Lower Hutt, NZ

Bill Whitley, ZL3AAN, Christchurch, NZ

Campbell Island. 1955-56. 1958-1960. By: George Poppleton. ISBN:0473070235.

New Zealand's Sub Antarctic Islands, ISBN: 0790007193

Beyond The Roaring Forties, By Cannon Fraser. ISBN: 0477103627

Alexander Turnbull Library. (Photos) P.G. Poppleton Collection. Website: http://timeframes.natlib.govt.nz

Search then Poppleton and other headings.

**Further Information.:**

Peter Le Quesne. 23 Oriel Place. Napier NZ. E-mail. pleq_tbc@clear.net.nz.

# Graeme's PostScript to Peter's Tale

We seem to get lots of Eddystone feedback from the Commonwealth, or what my generation still looks upon as the 'Old Empire'.

Peter le Quesne sent me a copy of the expedition book, "Campbell Island, 1955-60" by George Poppleton, and I can recommend it as a thoroughly good read.

George's account of three years as base leader on Campbell Island describes how small communities of men survived on an isolated and often inhospitable island. For George the experience was far more than he expected. As he says:

**"I actually found myself as a man down there. Before then I'd just pissed around with my life . . . I never wanted responsibility. Down there – that first year – I learnt the meaning of the word."**

Written in true down-to-earth style that we have come to associate with our cousins abroad, the account is well illustrated with photographs, both B/W and colour, together with line drawings.

One paragraph jumped from the page as I turned it . . . **"... we were invited to look at a couple of**

**transmitters which were the same as those on the island. I well remember the technician who showed us around remarking that there were only three things that could go wrong with radio gear and they were damp, dust and technicians.**

**I later found that technicians were by far the biggest problem – always wanting to modify something. Rarely did those 'mods' work. The remodification to get things back to normal always left something to be desired, which warranted further mods and so on. His excellent advice was keep the gear standard and leave the experiments to the researchers."**

Very sound advice, still relevant to all Eddystone collectors!

This book is available for any member to read for the price of the postage and an undertaking to read it in a fortnight!

Just contact me, Graeme Wormald, details as per the membership page.

Ian Johnson, now ZL1BAZ, the radio technician of the party, has sent us an original photo of himself as ZL4JF operating his ham station on Campbell Island in 1960, together with a message:

**"To Graeme G3GGL & Eddystone User Group UK; From Ian ZL4JF, Campbell Island (1960).**

**Greetings . . . like you, I hold a deep respect for the reliability and performance of the Eddystone model 680X receivers. They were used, as shown here, at the Campbell Island weather station, located at lat 52 south & long 169 east (in the sub-Antarctic) south of New Zealand.**

**The receivers provided the expedition team with many hours of shared operating pleasure.**

**The transmitter consisted of a Geloso microphone with homebrew VFO (shown), to 807 buffer/multiplier and 813 pa, pi-coupled to balun of a broadband terminated dipole at 60 ft**

**The mains power was sourced from 5-kva generators made by Armstrong Siddeley."**

*Ian Johnson ZL1BAZ*

# Some Ideas and Advice on the Disposal of a Collection, or *"Whatever am I going to do with all this stuff ?"*

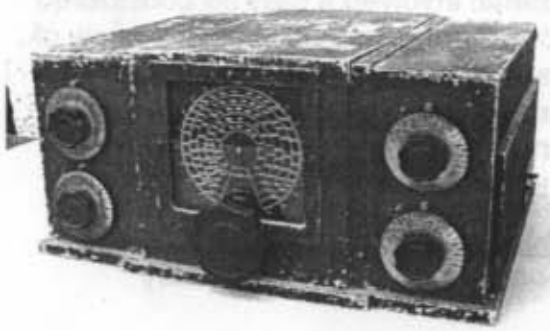
**by George Newlands**

*George is the retired Curator of the New Zealand Post Office Technical Museum. This feature first appeared in the New Zealand Vintage Radio Bulletin and is reproduced by kind permission of the editor, Reg Motion.*

**A short while ago one of my friends in the Radio Amateur fraternity raised the subject of what he should do with his gear when he reached the stage of having no further use for it. He is getting on in years and it occurred to me that he was facing a problem that we must all eventually confront.**

The problem has been crossing my mind of recent years too. I'm not getting any younger either and try to console myself with the fact that I'm not getting older any faster than anyone else but somehow it doesn't seem to help.

*Over the last 20 years or so I have noted with interest comments made on disposals in our Bulletin and have offered my own views on the subject, both as a private collector and in my professional capacity as a museum curator.*



The disposal of a collection is something that will concern us all in due time and the decision as to bequest, sale or gift to another collector or a museum is one which each must make for himself.

As vintage radio enthusiasts we attach value, if only in our own minds, to the things we accumulate and collect. For this reason it is comforting and reasonable to think that those that come after us will appreciate our collecting efforts and expenditure on conservation and restoration.

**All very fine and simple if you have a family who shares your interest but what if you don't? In this writer's situation there is no family, interested or otherwise, and although this situation is not unique it would be worse if there was a disinterested family.**

So, the questions are what to do and when to start doing it? The second question is probably the most difficult. Everything, and that is absolutely everything, deteriorates with time. (Have you looked in a mirror lately?)

There must come a time when the maintenance of a collection, or perhaps more importantly the maintenance of the facility which

houses the collection, will get beyond the capabilities of the collector and things will begin to deteriorate.

**In fairness to posterity provision should be made before waste and deterioration set in and before disposal is forced upon the collector by age or ill health.**

So, when to start? A good time to start thinking about it, if not actually commencing disposal, is when you have ceased to see it. Once a collection has become simply part of the household chattels you have an indication that dispersal time is near or a new collecting direction is indicated.

**When you cease to notice your collection or when the maintenance of it becomes a chore it's time to move on. Our interests change as we age and something that might once have been of interest to the point of an insane obsession can eventually be consigned to a dusty corner.**

It is then that the required care ceases to be applied and deterioration sets in with a vengeance. Values drop and artefacts can eventually be reduced to rubbish. (One of the most insidiously destructive forces at work is ultraviolet light. That's right - daylight! Ordinary sunlight will destroy anything in due time. That and the perspiration from peoples' hands are a museum curator's two worst enemies.)

*There are no definite indicators in this business but there must eventually come a time when the practicalities of maintenance and storage overwhelm any other feelings you might have on the matter.*

And now to methods. Nobody should be required to part with their possessions in anyway that is not satisfactory to them. You need to be comfortable with what you do if on-going disappointment and even bitterness or anger is not to result.

For this reason the business is deserving of much thought and consideration. One way is to do nothing, provided you have the storage, leaving the problem to the executor of your Will. Then you will have no interest in the matter so it won't be a problem but it seems a bit selfish, particularly if the individual concerned does not share your interest.

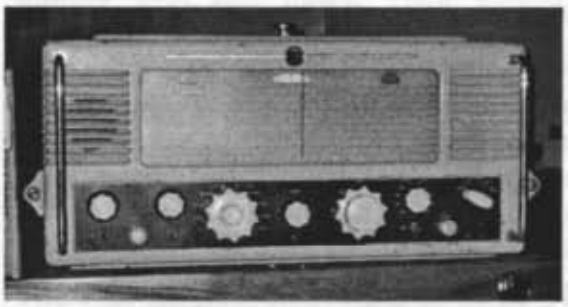
It must be considered also that if the executor has no understanding of the material involved it may be considered rubbish and simply dumped. (I know of cases of horrific losses of archive material for this reason.) On the other hand a specific bequest will take care of things nicely.

**Another way is to let the lot go to a younger collector, preferably**

**someone you know and trust. Then you will have the satisfaction of knowing where it has gone and may even be able to view it from time to time.**

Of course this won't work if you have looked upon your collection as an investment, the intrinsic value is high and you expect to get something for it. You will need to find someone with the required amount of spare cash and even then the purchase of a large collection in one operation is of little satisfaction to the buyer.

That's not really what collecting is all about. A public auction will disperse a collection too, that is if you can screw up your courage sufficiently to do it.



This gives other collectors the thrill of the chase and the adrenalin rush that goes with it but the monetary return may be considerably less than you hope for. The auction business is rather more involved than you might think and can be quite fickle.

It also involves commissions which will diminish what you might hope to receive. Personal attendance at such an event should be avoided lest you find yourself involuntarily bidding or having to be assisted from the premises in a state of helpless grief.

Disposing of a collection a bit at a time is a way to go but it could take forever. People will always try to knock your expected price back and acrimony can result.

There is also the situation where other collectors already have more than enough of what you are offering. Confusion and disappointment result when your offer of something you think is valuable and desirable is turned down.

*Eventually you will be left with "rats and mice" in which nobody has much interest at all. The only way to dispose of these is to dump them (sacrilege!) or take the lot to a group meeting, say the magic word "Free!" and try not to get bowled over in the rush.*

As with selling by tender the system is messy and time consuming to say the least. Someone with a large collection to dispose of doesn't need this sort of hassle and will be looking for someone to take the lot in one fell swoop. And so we come to the museum; a type of organisation which requires very careful consideration before making one the recipient of your treasures.

Ideally, when something has been donated to a museum the donor should relinquish all interest in it but this is well nigh impossible to do. There are museums which specialise in the things that interest us but unfortunately they are generally the hobby club type run by enthusiasts who are often extremely knowledgeable only in very narrow fields.

Such places are frequently amorphous clutters with explanatory labels inconsistent, inadequate or even lacking entirely. Information is generally held in the memories of the attendants and little attention is paid to artefact registration (a cornerstone of any properly set up museum) or written record.

**Such places get overwhelmed with sheer quantities of material and any form of curatorial care is frequently lacking. They tend to accept anything that is offered to them**

# Stratton's first Radio-related Patent Application

## Feb 21st 1925; accepted Oct 8th 1925 No 240,716

George Abe Laughton, the founder of Stratton & Co in 1911, took out a string of patents from 1919 to 1958. The first, dated **19th May, 1919**, GB148021, was for **"Improvements relating to hatpins, toilet pins and the like".**

The last, dated **17th May 1958** was GB859838, **"Improvements in and relating to containers for toilet salves and the like".** But among these rather prosaic inventions was sprinkled a curious collection of radio items. We aim to bring you details of these in successive editions of 'Lighthouse', but here is the first.

We have printed the Provisional Specification exactly as presented. The Full Specification runs to another three pages! We have spared you the task of reading it! The drawing also is taken directly from the Patent Office. The most striking thing about all this is that Geo. A. Laughton started work at 13 years of age as an office boy in a coal merchant's business. . . .

The subject of the patent is undoubtedly the dial used on the early version of the "Eddystone Twin" of the following year (see picture below). Later in 1925 another patent was granted for a dial which was used on the "Atlantic Two", "Eddystone Three" and the "Scientific Four" (the Eddystone Microtune Dial), but by 1928 Stratton's were buying in "Igranic Indigraph" dials (a simple pinch-wheel drive) – *see Ultimate QRG pages 16/17.* They must have been cheaper to buy than to make!


continued over

chronologically ordered display and a museum will take it.

4. Is the item simply old? If it is no longer made it is worth keeping, space permitting, if only for the fact that there will never be any more.

**These are the 'collectibles' with which museums can get inundated if they are not careful and of which the majority of private collections are made up.**

A museum will appreciate the offer and may even have storage space for such things but, if accepted, they may be lost or be used as parts of' 'study collections' which are available only on specific request and under controlled conditions.

**Such things might never enter a display cabinet. Study Collections are a valuable asset for Post Graduate studies and the like but they deny much to the private collector. By donating things which are simply 'collectible' to a museum, the donor runs the risk of having them lost forever.**

Such types of things may be accepted but are generally considered of little value. They are likely to be passed on to another museum, used as spares for similar artefacts, stored indefinitely or eventually lost through lack of care and attention.

Bartering of items amongst museums is not unknown but it is not common either. A museum will not generally let an item out to a private collector although this can be the case if the collector is genuine and it is done by way of a swap for something the museum really wants.

**There are risks involved and uncomfortable precedents can be set. Museum curators become very good at distinguishing genuine collectors from rip-off merchants and they are not in the business of making other peoples' fortunes.**

As regards our own society I personally believe that the things we collect are better in private hands. Throughout the country there are small museums dedicated to what we collect but, as previously stated, they tend to be the hobby club type. They tend to be run by enthusiastic unpaid volunteers with little really professional expertise and with a monetary income that tends to be inconsistent at best. Long-term security may not be good either.

In closing I will quote Edmond de Goncourt ( 1822-96) a French art critic, writer of social histories and instigator of France's most prestigious literary prize.

***"My wish is that my drawings, my prints, my curiosities, my books - those objects of art which have been the joy of my life - shall not be confined to the cold tomb of a museum and laid out for the foolish glancing of the careless passer-by; but I will that all shall be dispersed by the hammer of the auctioneer, so that the pleasure which the acquiring of each one of them has given me shall be given, once again, in every case, to someone, the inheritor of my own tastes."***

# POO'S PONDERINGS

## 'Stray thoughts from an absent mind!'

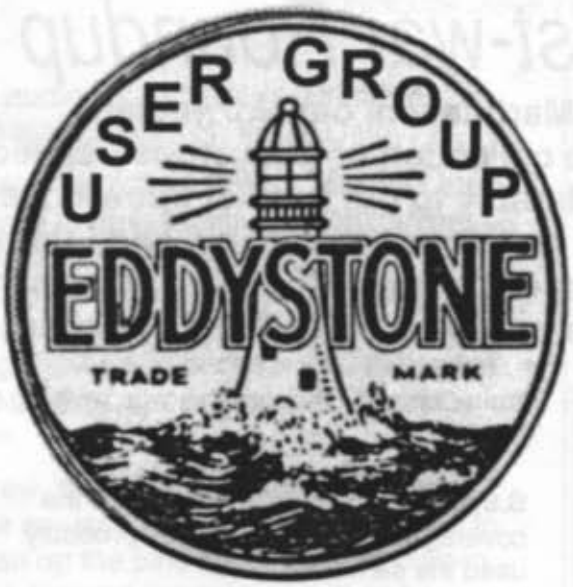
by Simon Robinson M5POO

It *STILL* never ceases to amaze me how odd Eddystone sets turn up totally out of the blue so to speak.

My brother, who works for a local computer company, was training a client in Cockenzie (that's in Scotland by the way) in the use of a piece of software. Somehow they managed to get on to the subject of radio; how I don't know as my brother has absolutely ZERO interest. It turned out that this chap's mother used to work at the Bathtub many years ago. She is no longer with us unfortunately.

He said he had "an old VHF Eddystone set" my brother could have for me if I wished plus some odd brochures from the 50's and 60's. My brother called me to see if I was interested – well of course not! He kindly made a detour on his way home and collected the set. Imagine my delight when I found out it was one of the little 930 receivers; in fact a 930/1.


As you can see from the above picture it covers 100 to 120MHz but is otherwise similar to the 930/12 I featured some time ago. These sets are totally self contained and require simply connecting to the mains supply and an aerial of some sort. Fortunately the VHF band above 100MHz is awash with local FM stations so at least I can listen to this one! Of course the 930 series, manufactured in very small quantities up to about 1958, was originally designed for intelligence gathering and radio microphone use. I just need another ten or so to make a complete set of them.




A few short weeks ago Graeme and I were discussing what could make a 'Christmas Special' this year as he had already distributed the superb 'Ultimate QRG'. I suggested a new car window sticker for the group using the logo I created some time ago. He made the right noises with a local supplier and the end result is the handsome little disc that hopefully will drop from your 'Lighthouse' this month. The image has not been touched up at all and that plus the black and gold Graeme chose makes it look very authentic and aged (I know how it feels).

There's nothing more to report this issue as work wise I have been very busy and barely turned a radio on of any sort. I'd like to take this opportunity to wish everyone a very Merry Christmas and Happy New Year. May 2003 bring you the joy and happiness you deserve!

73 de Simon M5POO

## *yourname@eddystone-radio.com*

Why not treat yourself to a prestigious new e-mail address for Christmas?

When the 'eddystone-radio.com' domain was registered it was agreed with the ISP that we could have any number of mailboxes for members that included redirection to their existing e-mail account.

No need to change your existing Internet Provider or e-mail address. All you do is change the 'Reply To' address so when recipients click 'Reply' it will go to your 'eddystone-radio.com' e-mail address. Our ISP then redirects all your mail back to your *'joebloggs@verylongandcomplexemailaddress.com'* e-mail address.

This service is available to members at cost which is £25-00 per year including VAT and paid by standing order. *That's about fifty pence a week!*

Drop me an e-mail at 'simon@eddystone-radio.com' if you are interested.

# Tor's QRG/3 post-war Roundup

**Readers will recall that Tor Marthinsen, our Norwegian correspondent, is an expert in the collection of Eddystone–related ephemera and contributes considerably to our fund of knowledge. He & I have an ongoing dialogue; he thinks I'm 'sloppy' and I think he's 'pernickety'! He has a pre-war critique commencing elsewhere in this issue, but here we have his post-war "letter from Tønsberg"**

Hello Graeme, 13-09-02

Today I start at page 24, with the post-war manuals. Now since you included the 'Ultra Short Wave Guide' in the pre-war entries, perhaps the 'Eddystone 145 Mc/s Guide' ought to be included? I do not have this 'Guide' and perhaps it was not a do-it-yourself manual? *(Note from Graeme; I do have a copy, it's a small A5 booklet and I quite overlooked it. It has constructional details of a tuneable 145 Mc/s converter and a 30 watt crystal controlled 145 Mc/s Tx. My apologies!)*

•

Also you comment that none of the sets were offered as kits or ready-made. I believe that I've got an advert from Webb's, where you could buy the 'Five - Ten Converter' as described in the ESWM#5 ready-made. Now, that advert is of course mislaid and my archive is a mess ! *(N.f.G; I'm not surprised at anything Webb's advertised! They certainly offered 'Eddystone' transmitters that never saw the Bath Tub! I think they had their own assembly line.)*

•

**S.556.** The set has a noise limiter, very few broadcast receivers had this feature.

•

**S.659.** There is not continuous coverage of the band given! I guess that the small production run of the 556 pointed to the fact that this receiver was too expensive and complicated. I believe that the 659 came into being after a cost-reduction exercise on the 556 – out with one RF-stage, out with one IF-stage, out with band 3! So the bands covered are 520 kc/s to 2.7 Mc/s and 5.8 Mc/s to 30 Mc/s. They did add a switch to the noise limiter circuitry though, this was missing on the 556.

•

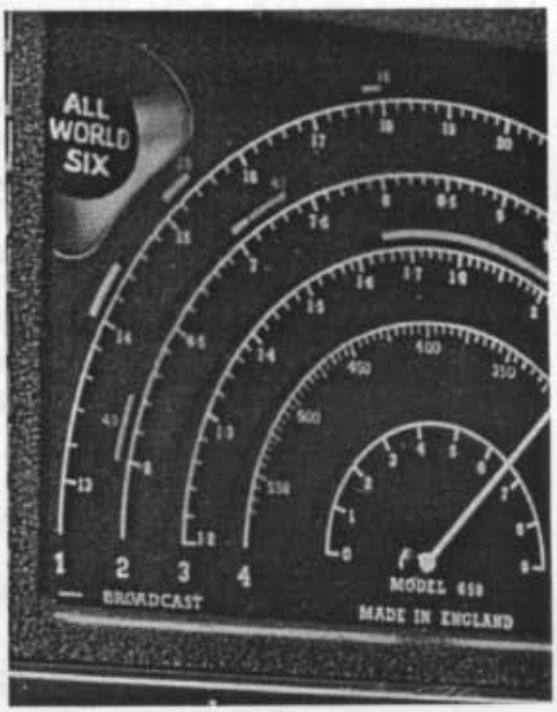
**S.670.** Same comment on the coverage as for the 659, they probably used the same coil-box.

•

**S.680/680X.** There is a difference in the gain-compensating circuitry, being more complicated for the 680. The number of bands is missing for all the different sets..

•

**S.710.** This receiver, the 740 and the 840 had identical dials, I suspect that they used identical coil-box components. So your 'nota bene' here does not make sense, as the 659 dial was very different. *(N.f.G; you may be quite right, Tor, but here is a factory photograph to prove my 'nota bene'!*



*If you can't read the model number above "MADE IN ENGLAND" I can assure you that it says "MODEL 659". You must never be surprised at any irregularity from Stratton's stable!)*

*

**S.770U.** Receiver has 17 valves

*

**S.830** series. What about the /5, /8 and /10 ? On my /5 the wavechange knob and the main tuning knob are identical. *(N.f.G; I don't know anything about the /5, /8, and /10. You can fit any knob you wish on the main tuning, but the factory always fitted little ones, so my spies tell me!)*

*

**S.840C.** I believe that changing to 5 bands from 4 was a more important step than adding the lineariser, so I do not quite swallow your explanation that the band number change was necessary because of the lineariser!

*

**S.850/2 and /4.** From pictures I believe that the two versions both had the new case. The /2 version had the old style knobs though, making it look different.

*

**S.909A** All the 909A's that I know of have been rebuilt to take the DC-DC converter as used in the 909A/2. It may be difficult to obtain an unaltered 909A. The 909A/1 that I have is also changed accordingly.

*

**S.910/1.** This receiver was featured in the EUGNL #37, page 5. We were told that the receiver had 13 valves and 7 bands.

*

**EC10A.** Receiver missed out! I own two of these and they have only ten transistors and NO crystal controlled 2182 kc/s. The EC10A has a grey scale plate with white calibration. It has a 12/24V power supply which uses an external accumulator, this is really a power converter as the receiver proper works on 9 volts. Accordingly the receiver can use the battery box or the AC power supply for the EC10. The EC10A dates back to 1964. *(N.f.G; very sorry for the oversight! The EC10A is a marine special never seen in England! It covers the non-rotating beacon (N.R.B.) band of 300-550kc/s instead of the MW broadcast band and has an IF of 720kc/s)*

*

**EC10A/2.** I own a receiver with this marking, it is mounted on a plate with two speakers making it in effect an EC10A/2/RM. This receiver conforms to the description you give of the EC10A2/1, but as said it is not so marked. This receiver also has a 12/24V power supply but it is not identical to the unit for the EC10A as the plug/connector is different so it cannot use the AC supply or the battery box for the EC10. The receiver I own has had the Eddystone badge at the rear removed by a previous owner so it is not possible to figure out the production date. Many years ago I sent Ted a copy of the handbook for this receiver, it is dated May 1966, issue 1.

*

**EC10A2**-series are then possibly not out as early as 1966! The only date I know is from a leaflet dated January 1970. *(N.f.G; According to my handbooks there is no difference between the EC10A2 and the EC10A/2; they just changed the name to confuse the innocent!)* They will not take the battery pack or the AC supply unless you change the connector, so your comment at the bottom right of page 42 is slightly in error.

*

**Lots of places.** Graeme, you still use the term 'millicycles', starting on page 20 with the 'All World Four', ending with the EY11 on page 42. About 23 places!

**A few places.** In the text about the S.700 on page 34 you write '15 KHz'. Yes, I know, Eddystone also used a capital 'K' in 'KHz' some times, the standard today is a lower-case 'k'. Same comment on the 1650/8 on page 50. *(N.f.G; I know, I know! Old habits die hard, but I know what I mean . . . )*

*

**Accessories.** You mention the loudspeaker for the 'Twin', what about the loudspeaker/cabinet as shown at the exhibition in 1928? I guess that I will have to heat up the photo-copier once more! *(N.f.G; I know nothing about the exhibition of 1928! I guess you're right, but please get a usb scanner!)* ▲

# On Top of the World with Eddystone

**The T. & R. Bulletin. February, 1936.** **TRADE NOTICES**

*"Stratton & Co., Ltd.*, inform us that they have been favoured with an order for the wireless equipment to be used on the forthcoming Mount Everest Expedition led by Mr. Hugh Ruttledge.

The equipment consists of two short wave C.W. transmitters with the necessary receiving equipment to maintain contact between the Base Camp and the outside world.

There are also six Eddystone 56 Mc. Transceivers for inter-communication between the advance parties, and it is worth noting that this is the first occasion on which radio is to be used for communications between the various camps.

It is hoped to keep the leader in constant touch with the climbing parties. He will then be enabled to direct the attempt more easily than in previous efforts when speedy communication has necessarily been restricted owing to the time taken by messengers passing on foot to and from the camps."

A couple of months ago the above news item was found in an old T. & R. Bulletin *(now 'RadCom')*, by Angus Graham, G3TXL. An e-mail was sent at once to G3GGL and enquiries were initiated.

Although the use of Eddystone 5- metre gear by Oxford University in the Himalayas is mentioned in Stratton literature, no mention of Mount Everest is recorded. A quick phone call to Bill Cooke, GØION, former Managing Director and in 1936 an engineering apprentice at Stratton, produced a response. "Yes" said Bill, "They were the first walkie-talkies in the world. I think the HF Tx was made specially by Tommy Martin, G2DL, who went to the Home Office during the War."

So we had a fairly clean slate to start on. Angus perused the 'T & R Bulletin' for later weeks but found nothing. Then he discovered a mention on the www that the expedition had been thwarted at the end of May by an early monsoon. But what was more important, Hugh Ruttledge, the leader, had written a

book. "Everest: The Unfinished Adventure". This provided most of our background.

I asked Tor Marthinsen, (who has every copy of the Wireless World), to find what he could:

**"January 31st 1936, Eddystone Short-wave apparatus has been ordered for the forthcoming Mount Everest Expedition to be lead by Mr. Hugh Ruttledge. Contact will be maintained between the base camp and the outside world by means of two short-wave CW transmitters, while six Eddystone 5-metre Transceivers will provide means of intercommunication between advance parties."**

*And then*

**"February 14th 1936: Mr. Windham, wireless operator on the Mount Everest Expedition, left London on Friday last to join the party at Darjeeling. He will take charge of the short-wave transmitting and receiving sets operating over a range of ten miles for relaying messages from the summit to the Indian radio station.** *(This is a mis-take; the distance from Mt Everest to Darjeeling is over 100 miles)* **Climbers will carry portable radio equipment and will establish the transmitter on Camp 5 at an altitude of 25,700 feet – easily the highest radio station in the world.** *(This is also slightly garbled, as will emerge later)"*

Then on February 28th 1936:

**"Six Eddystone combined transmitters and receivers operating on 5 metres are to be used by the Mount Everest Expedition to maintain contact between various camps. It will thus be possible to transmit rapid instructions from the main camp to the advance parties instead of relying on foot messengers."**

There are then no more reports until one of 5th June (by which time the attempt had been abandoned), when a reference is made to the reception by the party of the BBC Daventry Empire Service on GSH (13.97 metres) and GSF (19.82 metres).

This absence of information was quite puzzling until the book was consulted. All was revealed when it stated that the use of wireless transmitters was stipulated by the *DailyTelegraph.* Full stop. The inference must be made that the *D.T.* had subsidised the expedition and obtained copyright reporting. *(Investigation is still being carried out on this theory.)*

The biggest problem with the recount of the expedition is that it was written for mountaineers, not EUGers!

On a previous expedition of 1933, also led by Hugh Ruttledge, HF radio communications (using a McMichael Colonial receiver) had been organised by a young Royal Signals officer, W.R.Smijth-Windham (yes, Smijth-.)

When the 1936 Expedition was being organised Lieut. Smijth-Windham was again seconded to the operation. So far as we can tell he was never a licensed ham, but he had a successful military career. Mentioned in despatches in W.W.2; by 1957 he was promoted Brigadier, Chief Signals Officer Eastern Command and U.K. Land Forces as well as ADC to HM the Queen. He retired to Somerset in 1960 and died in 1994 aged 87.

But back to 1936. He was charged with organising the whole radio setup for the expedition and decided that, in addition to long-distance HF equipment they would need to take light, simple equipment that would enable them to keep in radio-telephonic touch right up to the highest camp.

***Lieut. W.R.Smijth-Windham, RCS***

Advice from officers of the Royal Engineers and Signals Board sent Smijth-Windham to Messrs Stratton, who had just finished a promising design. Six sets were ordered and they made a notable contribution to Everest technique. This is the first known report of the professional use of 'walkie-talkies'. Each of the six stations comprised the following:

One 5-metre transceiver in aluminium case, with the following controls: tuning condenser, Send-Off-Receive switch, filament rheostat and regenerator control. For sending, the two valves functioned as an R.F. oscillator and modulator; for receiving the same two valves acted as a super-regenerative detector and L.F. amplifier.

One box containing H.T. and L.T. dry batteries.

One box containing headphones, microphone and battery connecting cables.

One half-wave aerial, made of thin aluminium tubing in three sections, fitting together, with a matched feeder soldered to the centre.

Three ex-W.D. haversacks, fitted with clips for attachment to the aerial stays. Filled with boulders, these made excellent anchors for the stays.

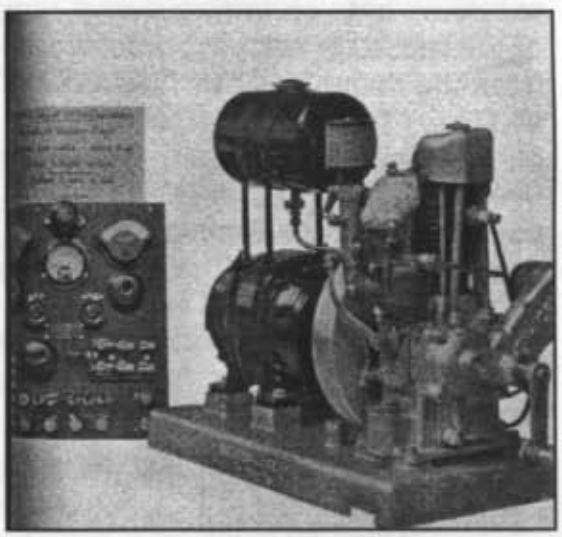
The whole outfit weighed 28½ lb., an easy porter load to Camp V.

A halt was made at Tangu for the purpose of height acclimatisation, giving a good opportunity to test the 5-metre sets. Two were unpacked and assembled, one being set up in the compound and the other carried up the hill by Smijth-Windham.

The operator in the compound gave orders to S-W's Sherpa to perform various gymnastics on the skyline above. This gave rise to roars of applause from the crowd of porters assembled below and after that there was never a lack of volunteers to help carry the wireless.

Back now to the consideration of H.F. equipment for the expedition.

A 175 c.c. motor generator was designed by Messrs. Arthur Lyon suitable for work at 18,000 feet, where the barometer is under 15 inches (or about half normal atmospheric pressure). This drove a 12-16 volt, 280 watt shunt-wound dynamo.



The Young Accumulator Company donated six 4-volt units of 90 ampère-hours capacity.

Consideration of the maximum load that could reasonably be handled by

the accumulator bank showed that an efficient transmitter on C.W might put some fifty watts into an aerial. Two C.W. transmitters were built by Messrs Stratton of Birmingham. They consisted of a crystal-controlled pentode oscillator driving a TZ-05/20 triode as a neutralised amplifier, keyed in the grid circuit and inductively coupled to the aerial.

In the case of the transmitter at Darjeeling, where A.C. mains were available, power was derived from a mains power pack. In Base Camp the transmitter was provided with a rotary converter.

Crystal frequencies of 7010, 7020, 7030 and 3720 kc/s were chosen so that in the event of trouble with the Darjeeling transmitter it might be possible to co-operate with amateurs. (So far as is known there was no need to resort to such a measure.)

A special design of receiver was not considered necessary and two Eddystone "Homelander" receivers were bought. These were four valve sets with built-in speakers.*(See QRG/3, page 20)*

***Eddystone "Homelander"***

When Bill Cooke was told about the use of the Homelanders he was a little taken aback. They were intended for Tea-planter use, not communications; but they worked fine!

Other wireless equipment used on the expedition was the Marconi S.P.3A equipment. Few details of this are given other than the fact that it used separate Tx & Rx, operated on a frequency of 5 mc/s (60 metres), was rated at 5 watts output and was given a range of 5 miles. *(Presumably ground wave).*

***The wireless outfit, packed and ready to go. It took 58 porters to carry on the final ascent***

The march to the Tibetan frontier seems to have been about sixty miles and the wireless gear took no less than thirty-six yaks to carry it. As each yak carried 160 lb. the mind boggles!

***Loading one of the 36 wireless yaks***

During the crossing of the twin Bahman Dopte pass beyond Tengkye Dzong no less than seventeen of the wireless loads were unshipped, to the dismay of Lieut. Smijth-Windham. He continues:

**"By the time we made our last major halt at Shekar I was surprised on unpacking the Eddystone Homelander, to find it none the worse.**

**"That evening, a full audience listened to the Empire News from GSH (Daventry). We had been out of touch with civilisation for over a month, and expected something fresh.**

**But, amid hoots of derision, the same familiar fare was dished up once more – trouble over demilitarised zones, acrimony over the bombing of Red Cross units, a general election in France, riots in Madrid.**

**I was told to see that better programmes were available in future."**

*So what changes?*

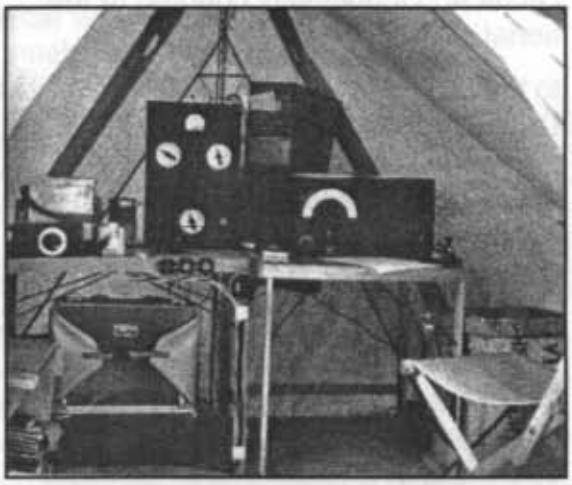
On 28th April 1936 all the equipment was unpacked at Camp 1. Just before lunch the petrol-electric generator was started to the delight of a great crowd of porters, many of who could never have seen an engine before. The afternoon was spent filling accumulators with acid prior to charging and the Homelander was unpacked in time to listen to the Empire News again.

At 8.30 am next day the Darjeeling station, VUF, had started working to a prearranged timetable and was heard on the Homelander but the Eddystone transmitter had not been unpacked, nor the aerial erected.

This was to be a Hertz half wave, end fed, slung between two 30-foot masts at right angles to the line to Darjeeling. By the time this was erected and the Tx readied VUF had gone off the air.

At 8.20 a.m. on 1st May on 7020 kc/s contact was made with Darjeeling for the first time. The transmitter was not happy with the voltage-fed aerial *(note from Graeme – I've never had success with an E.F. half wave either !).*

Lieut. Smijth-Windham decided to centre-feed the aerial (ie turn it into a dipole) and fed it with twisted-flex. The improvement was spectacular. Lance corporal Maudsley, the operator at Darjeeling, reported "Much better – blowing my head off". Next morning he came on the air also using a dipole and doubled his signal strength.



***Smijth-Windham's wireless tent at Camp 1 at 17,700 feet. On the left is one of the 5-metre portables. The main Eddystone Tx is centre and the Homelander on the right. Below the table is a Marconi portable S.P.3A. Upwards of five hundred wireless messages passed through this tent.***

On 19th May a signal was received from Alipore meteorological station to the effect that conditions favourable to the formation of the monsoon had been observed off the coast of Ceylon.

And that was that. You don't stay on Everest during the monsoon!

*T. & R. Bulletin; August 1936.*

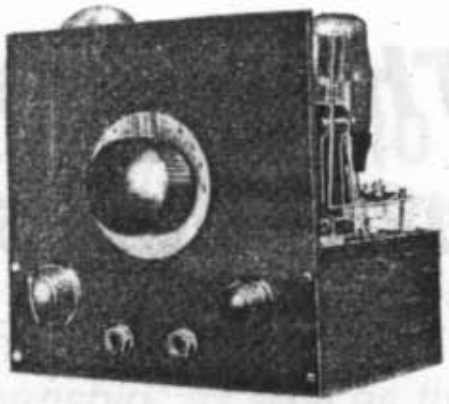
**EDDYSTONE** Special custom built 5-metre Transceiver, as used on Ruttledge Mount Everest Expedition. Two valves, battery operation, handset mike and phones, telescopic aerial, in brown crackle finish metal cabinet. £12-12-0 A.C.S. LIMITED, 52/4, WIDMORE ROAD BROMLEY, KENT. *Telephone : Ravensbourne* 1926

The advert in the August 1936 T. & R. Bulletin *(previous page)* is the only specific post-expedition radio-press reference I've been able to find so far. *A.C.S. Limited* seemed to specialise in one-off items, so whether or not this Tx/Rx was actually a souvenir of the trip or perhaps a Stratton pre-production model remains a mystery.

The first source of research was the Eddystone Ultra Short Wave Guide of c.1936 which describes a constructional project of a very compact 5-metre transceiver, but on close examination, the circuit doesn't fit Lieut. Smijth-Windhams fairly detailed description.

In particular the "Everest" rig uses the modulator valve as an audio amplifier, whereas the USWM uses it as a separate quench oscillator. Quite different.

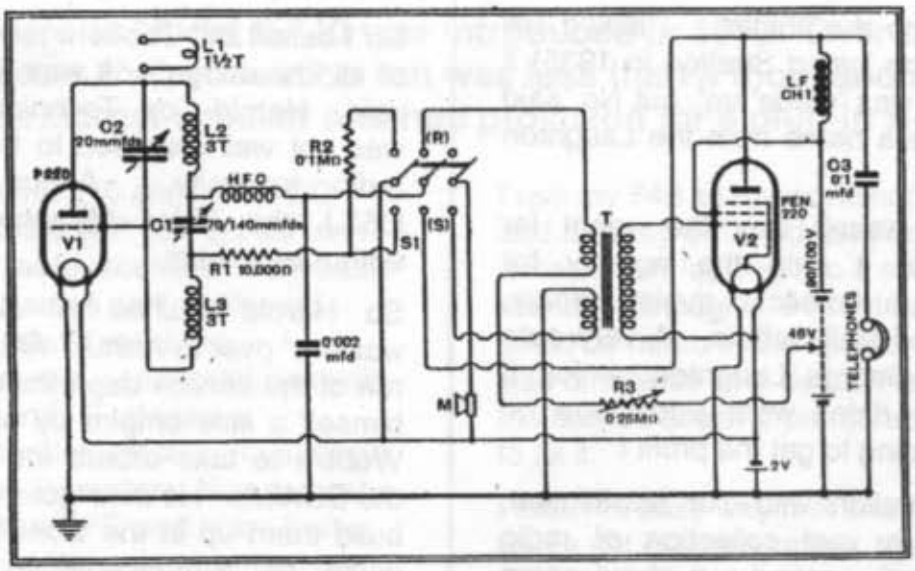
But in the Wireless World for July 17th 1936 there appeared a detailed constructional project for a 5-metre portable TxRx by D.R.Parsons of Stratton and Co. Bill Cooke tells me that he was the Development Engineer at the time. It is a serious contender for the title roll. The surprising thing is that the article doesn't mention Mount Everest!



***Stratton 5 metre rig from Wireless World, July 1936***

The article is very detailed and I'll feature it in a forthcoming issue of Lighthouse. The same goes for the "Homelander" H.F. receiver which was taken to use at Darjeeling and Base Camp.

Although the CW Tx bears a superficial appearance to the "Four Band Amateur Transmitter" described on page 21 of the ESWM No 3, close comparison fails to tally. (The valves are different, Everest uses two and ESWM uses three.)




***Circuit of the above 5-metre rig; a strong contender for the Everest outfit.***

# The Remarkable World of Webb's Radio

**Graeme Wormald G3GGL**

**In 1924 George Abe Laughton, founder of Stratton & Co., announced to his eldest son, George Stratton Laughton, that he had taken over the lease of a shop in Stephenson Street, Birmingham, and that G.S.L. had better get busy and open it as a radio shop, intended to be the first of a chain of retail shops to come.**

Five shops were eventually opened, but due to the war, many other business developments, and the absence of G.S.Laughton in Australia, the project did not grow. It was finally decided to retain only the London business of "Webb's Radio".

This business, under the management of E.J."Pick" Pickard flourished until the Marconi take-over in 1965, when it was quietly dismantled. Imhoff's of Oxford Street became the main London Eddystone agents.

But back to the 'thirties. I asked Bill Cooke (who joined Stratton in 1935) if the name was 'made' up', but No, said Bill. It was a name from the Laughton family.

The firm wasn't only the agent for Eddystone, it held the agency for Eddystone's American rivals: Harvey, R.M.E. and Hallicrafters. A very cute guy was George Laughton senior; if somebody didn't want Eddystone he was still going to get the profit !

In conversation with Tor Marthinsen, who has a vast collection of radio ephemera, he asked me about some obscure sets, presented in the Eddystone Short Wave Manuals, but not offered as kits, which he reckoned he'd seen advertised by Webb's.

Quite frankly I was a little sceptical until this week when Tor presented me with the page opposite; a Webb's advert from Short Wave Magazine for April 1948. There was the "Five & Ten Metre Converter" from the 1946 ESWM Number 5.

I had never seen it in a Stratton or Eddystone catalogue and I thought Webb's were making them up in the back shop when things were quiet.

So I called Bill Cooke again (the fount of all knowledge!). It was like this, he said. Harold Cox, Technical Director, was not well disposed to the amateur radio fraternity. Arthur Edwards, G6XJ, the Sales Manager was an enthusiastic ham.

So Harold pushed all such "time-wasters" over to Arthur. Arthur had the run of the service department and built himself a little empire by encouraging Webb's to take orders for items from the ESWMs. He then got the troops to build them up in the workshop. They could do a converter in an hour. (Remember they were professionals!)

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# RADIO RAMBLINGS

Jottings from my Notebook

By Graeme Wormald G3GGL

Bewdley, November 2002

Time flies, as we all know, and although this column is datelined November we also know that it's the Christmas Issue! Season's greetings to each and every one of you. May the New Year bring you health, happiness and the wealth to enjoy it.

As you all know, I used up my seed-corn for the traditional Christmas Extra by launching the new Quick Reference Guide in August. I had to do it because the print-run of the old edition had run out and I always insist that every new member should have a copy of QRG. Otherwise they won't know what we're talking about half the time.

By the way, if any of you want another copy for yourself or a friend, send me three X £1 coins taped onto a piece of cornflake packet (overseas send notes for €5, US$6, or your own notes equivalent) and a spare copy will come flying.

## NEW STICKER

But that left me with a bit of a blank. The new suggestion came first from Ted and then from Simon. It was, of course, for an EUG windscreen sticker badge.

I was a bit slow to pick up on it at first, as every member is given an *"Eddystone's do it On Air"* sticker, which may be questionable grammar but most don't notice and they cost us nothing (salvaged in the move from the Bath Tub in 1996).

Then I realised that most members had them about five years ago and will have either lost them by now or forgotten about them, so I asked our "Lighthouse" printer about making them.

He pointed me to the local screen printer – who is down a cul de sac about three miles away! – and I presented him with the logo on CD-ROM with the instruction to do it in black on gold, like the pre-war trademark transfer (only bigger). Simon put the "USER GROUP" on it in place of "Radio Products".


So there it is, I hope you like it. It's the non-stick variety; you can peel it off and start again, like the RSGB badge. If you need any more for your other cars send me £1 coin (taped onto a piece of cornflake packet) or 2 x US Dollar bills or equivalent. I don't know about the Euro, I suspect €5 is the lowest note (I can't change coin). Send a €5 note for three badges!

## WRINKLE SPRAY PAINT

Some time ago Simon told us about a source of black wrinkle spray paint, but I think that particular well 'dried up'.

Whilst speaking to EUGer James recently, who is also into car collecting (as seem to be several members), he mentioned another recent advert for this product.

It is advertised as being suitable "for vintage car and radio restoration work". Here's the place: Frost Auto Restoration Techniques Ltd., Crawford Street, Rochdale, Lancs, OL16 5NU. E-mail order@frost.co.uk , telephone 01706 658 619, fax 01706 860 338, illustrated catalogue available; paint available in black, ref: P110, or in red, ref. P111, price £7 for 310 ml. (Who'll be the first to have a red 870 ?)

## FOUNDATION LICENCES

I see from this month's RadCom that the issue of Foundation Licences has now passed 5,000 since they were introduced last January. About half of them converted Class "B" tickets, and the rest new blood.

This I find to be an incredible surge. I recall when I was first licensed in 1949, as an enthusiastic schoolboy, the standing of licensed hams numbered 7,000. All Class "A", of course, 'cos that was the only sort of licence until 1964 when Class "B" was first introduced (and that was 430 Mc/s and above only; no 2 metres allowed in those days!)

I'm ignoring the television licensees, as they were never more than two figures!

Back to 1949 and 7,000 tickets. Remember that this was just after the greatest ever fillip for radioamateurs; to wit WW2. Countless thousands of ex-servicemen were exempt from both the technical exam and Morse. To say nothing of simple home-brew gear and government surplus.

Just to remind members who may be pondering the matter, a foundation licence allows the use of ten watts output power on all modes and all HF bands except 28 MHz *(don't ask !)*. The Morse test as such is waived in favour of a simple unfailable appreciation test. Callsigns are issued in the M3-series.

## CLASS "A"

Also a brief reminder for any out-of-touch Class "B" members, the Morse test requirement for a full Class "A" licence is now 5 w.p.m.

## THE MARCONI ARCHIVE

Members may recall some five or six years ago (long before the Marconi bubble burst) that G.E.C., then the parent company, decided to auction off the unique collection of artefacts and memorabilia collected over the years by Guglielmo Marconi.

They were valued by Christie's at £3M. A huge public outcry and intervention by Marconi's daughter, Princess Elettra, scuppered the deal.

In 1999 G.E.C. announced that they were setting up a charitable trust, and were searching for premises to display the collection in Chelmsford, the home of Marconi's Wireless Telegraph. It was due to open in 2,000.

The material dates back to 1896, when Marconi, unable to find support in his native Italy arrived in England where his British relatives introduced him to influential Post Office executives. Marconi's mother was a member of the famous Scottish-Irish Jameson family, still producing Irish whiskey.

**But now we hear that the stricken Marconi company never transferred ownership of the collection to the Trust!**

72-year-old Princess Elettra Marconi said from Rome: "The company has run out of money. Now anything can happen to my father's collection."

*Can't people get anything right ?*

## G6SL/P QSL CARDS

These have all been despatched direct to SWLs and Stations Worked. If anybody who should have one hasn't got it, drop me a line.

**HANDBOOKS & SPARES**

Dave Simmons phoned me yesterday to ask the address of a member who'd left a message on his Ansafone. He'd only joined recently and wasn't on Dave's list (remember he lives 100 miles from Bewdley and we only confer twice a year!)

"John Smith here; can you send me a handbook for a 777 please. Goodbye". Well, you can imagine Dave's confusion, can't you?

He went on to say that he has more trouble than enough with his Ansafone. Members make unclear orders but don't leave their phone numbers. Dave's not psychic (neither am I), so PLEASE leave your phone number if calling him, as well as a clear name and address. If there's any doubt about what you need, call back.

Dave once remarked that one ansafone order asked for a set of knobs for an EC10. Simple enough, you might say, but there have been at least three different sets of knobs used on the EC10!

A little bird tells me that Dave has just acquired a large number of storage racks for his spares . . . !

**WHAT'S IN A NAME?**

It may be an odd thing to bring up, but it's something which strikes me every other month when I update our address label database.

Out of 340 members of EUG (give or take; growing slowly) the number of duplicates never fails to catch my eye. I suppose it must be something to do with having a name that is absolutely unknown in the Midlands (where I've lived for almost 50 years!).

Wormald is an Anglo-Saxon Yorkshire name and is rarely spelled correctly (even among EUGers!) and never pronounced correctly. The accent is on the "Worm" and it rhymes with "Donald". But there I go, digressing again.

We have two "Adams", two "Clarks", two "Ellis's", two "Goodwins", three "Grahams", two "Halls", four "Harris's", two "Harveys", two "Hirsts", five "Jones's", three "Kings", two "Marsh's", three "Marshalls", two "Morgans", two "Murphys", two "Parkers", two "Phillips's", four "Robinsons", four "Smiths", two "Suttons", three "Thomas's" and two "Walkers". That's 59 of us!

Can they really be representative of the national percentiles? We all know about Smith and Jones, but some of them I have never considered being common. We have at least one member who makes a study of such things. Perhaps he will tell us!

There are three "Wormalds" in the RSGB Yearbook (as they now designate the Callbook). One is me. (Well, it would be, wouldn't it). One is my youngest son. And the third is a mystery (to me) and I haven't dared call him. Well, what would you say? He'd think I was trying to sell him something! At one time my father was listed. Three generations in one family, all of them "Gs" (no offence), used to be quite uncommon. But there we go. At it again.

**". . . ALL THIS STUFF?"**

Did you read George Newlands' article in this month's Issue? Or did you take a quick look at the headline and hurry past?

I'm talking about the "Ideas and Advice on Disposal . . . " It's pulled me up short, I can tell you. I've still got some bits in my junk box(es) I've had since being a schoolboy. And I'm not just talking about Eddystone collecting.

If you've not looked at it for 5 years it's called hoarding . . . ! Think about it. ♠

# EDDYSTONE USER GROUP

A non-profit-making group for Eddystone Radio Enthusiasts
Founded in 1990 by Ted Moore
Issue 76. December 2002

**Membership Details:-**
Annual subscription for six bi-monthly magazines:-
United Kingdom; £14
Europe: £16
(or €25 banknotes)
Rest of World: £20 sterling cheque OR the notes of your country, e.g. US$30,Can$50, Aus$60, NZ$70. We accept notes of any currency but cheques must be in Sterling payable in London. Regret no plastic. ALL OVERSEAS sent by AIRMAIL.

**MEMBERSHIP QUERIES** payments, renewals, **adverts**, CD-ROMs, also features for publication (welcome!) to:-

**Graeme Wormald G3GGL**
**15 Sabrina Drive Bewdley,**
**Worcestershire DY12 2RJ**
graeme@eddystone-radio.com
**Phone 01299 403372**

**SERVICE MANUALS** Back numbers (hard copy), **Spare Parts:-**

**Dave Simmons**
**Windana House**
**North Aston**
**Bicester, Oxon OX25 6HX**
**Phone/fax 01869 347504**

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## FOR SALE

**Rationalising due to old age!**
**Eddystone 670,** KC2139 (Nov, 1951) Working, condx fair £75.
**Eddystone 732** Mains filter box for 670, good condx, £15.
**Eddystone 840C,** CN1129 (Mar 1962) wkg, V.G.C. £140.
**Eddystone 770R Mk II,** IT0896 (Sep 1968) wkg. V.G.C. £140.
**All the above** have the correct mains connectors and manuals where appropriate.
**Racal RA17.** S/No RAC11631. Wkg, immaculate, three manuals included and two rare Burndept plugs. £200.
**Racal RA237B,** LF Converter, good condx, including rare Racal Manual. £150.
**Mullard Valve Tester,** complete with one box of cards, manual and other papers showing provenance. Possibly needs attention. £100.
ALL PRICES NEGOTIABLE, BUT NO TIMEWASTERS PSE. Ron Drew, G8URU/M3URU, Phone 01697 748672, Buyers to inspect and collect, Carlisle. Clattering.ford@euphony.net

**EDDYSTONE 998 7" Round** Die-Cast Speaker, wrinkle black, nice condx, £40 or exchange w.h.y.?. Call Peter, 01727 839 908.

**EDDYSTONE 898 DIAL** as new, unmarked unboxed. Against highest offer received within 40 days of publication, by snail mail to Graham Ridgeway G8UYD/M5AAV, 37 Highfield Gardens, Blackburn, Lancs, BB2 3SN

**EDDYSTONE 770R (Mk I)** Ex-BBC FM Rebroadcast. Neat clean GWO; re-valved, with handbook and BBC mains connector. £90. Call Graeme G3GGL, 01299 403 372. Buyer to inspect and collect (20m west of Birmingham)

**EDDYSTONE 31A Noise Measuring portable VHF Rx.** See QRG/3 page 43 for picture and details. Complete with Manual, new Nicads, and all accessories. GWO. £85 or exchange for Eddystone 40A. ralph, G4EBL, 01568 780 396 evenings and weekends (North Herefordshire).

## WANTED

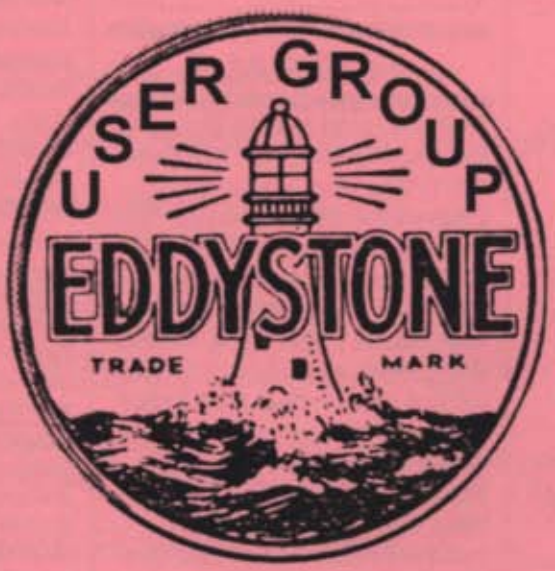
**EDDYSTONE EC958/7 or 958/7E or EC958. Also S.G. Brown** headphones types A and F. Call Tony GØLGT on 01494 778352 evenings. (Chesham, Bucks.)

**EDDYSTONE 940, 830 series, 680X, 730/4 or 770R MkII** in good working order. Contact Steve G1KXP, 0161 283 3820 (South Manchester) steve70@ntlworld.com

**"D" series cabinet for an EDDYSTONE 888, 730, 770, etc.** Any cabinet from a junker is o.k. damaged cabinets welcomed! Please contact Cal Eustaquio, N6KYR, at catman351@yahoo.com or 1747 Pescadero Drive, Salmas, California, 93906-2227.

**PANORAMIC UNIT for EDDYSTONE 1650,** also for Racal 1792 or w.h.y.. Good price paid. Ring 0208-204 9175

**EA52 Diode** for Marconi VTVM TF1041C. **Circuit** details of Power Supply and Amplifier Supply Panel TM5347 as used with a Signal Generator Marconi TF995A/3/s (CT402). **B7G plug or back to back B7G plug. Same for B9G,** for reaching awkward valve sockets. Peter le Quesne, ZL4TCC, 23, Oriel Place, Napier, New Zealand. E-Mail pleq_tbc@clear.net.nz (note the underscore after the 'q') Fax +64 6 843 1488.

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