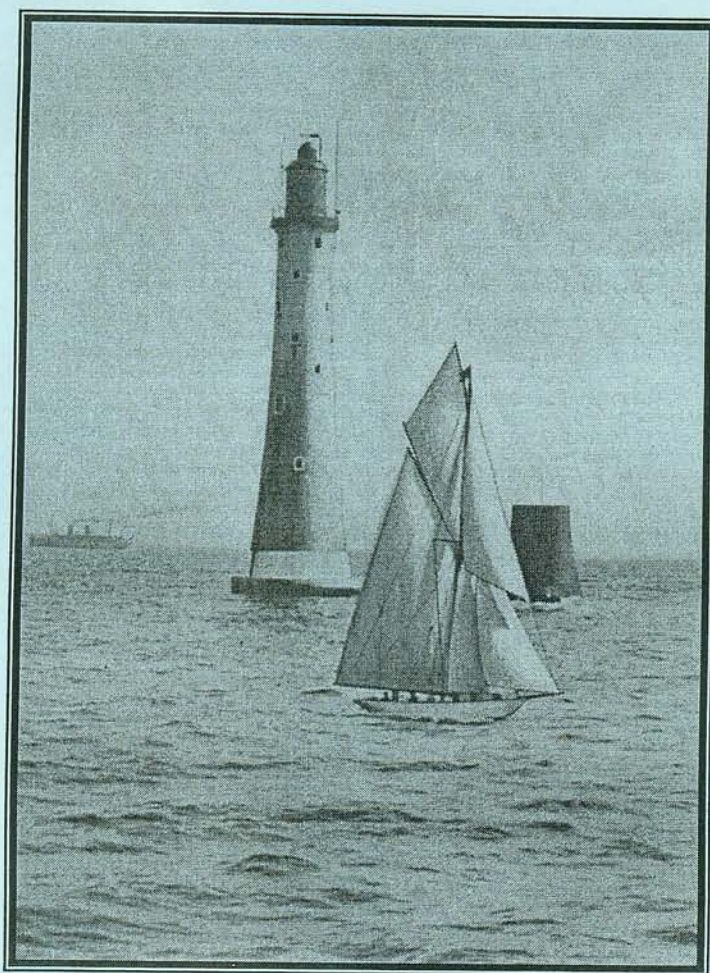


Lighthouse

Founded 1990

The Magazine of the
Eddystone User Group

Issue 91, June 2005



'Sailing By'

EDDYSTONE USER GROUP

A non-profit-making Group for
Eddystone Radio Enthusiasts.

**Founded in 1990 by
Ted Moore, G7AIR
Issue 91, June 2005**

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LETTERS ONLY (SEE OPP PAGE)

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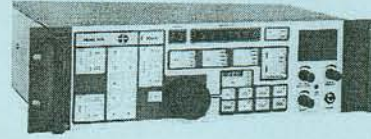
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WANTED

Wanted: mains input connector 2

point and plug 2 pole fixed, and or
mains socket polarised with earth
contact and its mains plug for an
Eddystone 870A receiver project, also
the Finger plate blue/grey in colour.

Also Wanted mains transformer drop
through chassis type for Eddystone
E.C.R. receiver to fit a 2.5” square
hole. Please telephone Andrew
Humphriss on 01789 262 872

Wanted: Frame Aerial for 1925 Curtis

8-valve double circuit superhet
receiver (will exchange for 1925 and/or
Burndept frame aerials or will
purchase for cash. Failing this, I would
welcome precise details of the **Curtis**
frame aerial, circuit and valve line-up.

Also wanted c.1957 **Perdio** transistor
radios type PR1, PR2 and PR4 usually

in red plastic case) and any **Perdio** leaflets or advertising material.

Also wanted c.1959 Henry's (Radio) Ltd '**QUINTET**' transistor pocket radio (usually in a red plastic case) in kit or built-up form. Gordon Bussey, Tel: - 0108 660 2240

WANTED Copy of circuit diagram and service manual for British Telecom oscilloscope Type 21A. 60 MHz, a.k.a. KIKUSUI Type COS 5060A. All expenses paid. Call A.A. Kendall on 020 8560 4776

EXCHANGE

The following items: -

- 1 x 898 Eddystone drive unused in original box with instructions.
- 1 x 898 Eddystone drive used in good condition.
- 1 x 756 Eddystone neutralising condenser in original box. Continued at top of next column . . .
- 1 x 852 Eddystone BFO transformer in original box.
- 2 x Eddystone IFTs, 1 in original box.
- 1 x 935 Eddystone speaker. (*cont . . .*)

Would exchange or part exchange for an Eddystone EC10 MkII in good working order and condition.

Contact Jim, MØMAC, on 01708 340304; e-mail jimmo@btinternet.com

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Order all CDs from Graeme G3GGL details on opposite page.

IMPORTANT ANNOUNCEMENT

Ted Moore G7AIR has suffered a severe heart attack due to a blood clot caused by a cycling accident. He has a damaged heart valve and is under strict orders to take it very easy. Further surgery will take place in July.

NO PHONE CALLS, PLEASE

Full Story in Radio Ramblings

Chris's Column

This years NVCF at the NEC was another opportunity to say hello to EUG members and watch with amusement the antics of Graeme, Ted and David and James as they tried to outdo each other in trying to find the bargains. Actually this is a bit unfair on Graeme as he bought items to sell and sold them within a few minutes of arrival and if memory serves me right didn't actually buy anything new to add to his collection.

Eddystone collectors are a funny breed and after years of observing them I have come to the conclusion that there are several types. There are the "obsessives". This character mops up everything in site without a moments pause as to whether he a) needs it or b) can afford it. This man has to have more than anyone else and never misses the opportunity to make a kill.

Then there are the "dealers", similar to the obsessives but do it to make money. Some times collectors are also dealers and this has been known to lead to personality clashes with themselves. Then there are the "one that got away" types. This character will see something he wants but will dither just long enough about whether he should really buy it until such time as someone else snatches it away from him. Generally these are interesting types who I think feel that nearly owning something is as good as actually owning it. Then there is the "tick list man". He goes from stall to stall looking at what is available and then going down his list to see if he needs it. Has been known to occasionally purchase something. Finally there is the "grudge" collector. He is a distant relation to the obsessive and nothing winds him up more than if someone beats him to a bargain that he thinks he should have spotted first. He can be easily spotted as he tries to convince everyone that

he "wuz" robbed!. A bit cynical? Well look around at any rally.

As you would expect, no respectable collection of vintage radios would be complete without its fair share of Eddystone receivers. I was interested to see in this month's RadCom a feature on the Orkney Vintage Wireless Museum with quite a number of our favourite brand sets. As it happens I shall be in Kirkwall later on this month and will take the opportunity to pop in and see what they have. Might give me some material for a future Lighthouse. I never cease to be amazed as to how many vintage radio museums there are in this country and these are just the ones that are accessible to the public.

Rallies seem to be losing their popularity, certainly here in the Midlands. My local one at Wythall was successful but we had fewer people through the door than the previous year and around half what we had 10 years ago. I recently went to Drayton Manor and this rally was a much smaller affair than in previous years. Anyone care to speculate why rallies are losing their attraction? Perhaps E-bay is taking over.

Well that's all from me this month. Enjoy your read. I know it will be a good one.

Vy 73 *Chris GØEYO*

Letter from Auckland

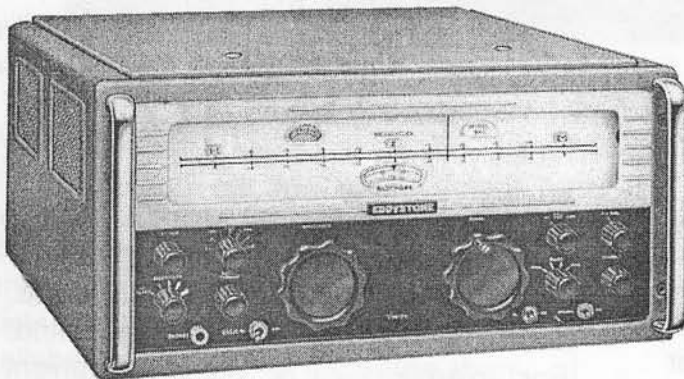
Ross Paton Reports

Members will recall Lighthouse Issue 83, February of last year, where Ross reported the disastrous fire at his home which caused much smoke and water damage to his collection. Readers will be pleased to hear that he is back on the collecting scene and will enjoy reading his latest report.

"Hullo Graeme (& Ted),

Received Issue 90 on Monday. Please note that I'm back at my old address at Glen Eden, though not back in my house, which is still being worked on, but in the house next door, the letter-boxes are side by side as we share the same drive.

Recently I acquired an Eddystone S.880, an early one by the look of it.



S.880

Don't know if it's working, the permeability tuning mechanism appears to have seized. Does anyone out there know whether this is the cores in the coils seizing or the mechanicals which move the cores in and out of the coils, or both?

(Note from Graeme, I've had a word with Bill Cooke, chief engineer at the time of the 880, and he says it won't be the cores; they could not all jam at

once, and if one got stuck it would be broken by any attempt to tune. He says it will be to do with the bevel gears.)

The tuning knobs can be turned by hand, but no pointer movement. I assume that there is a clutch in there somewhere. *(Not according to Bill).*

The only work I've done to it so far has been in the power supply as this was in a mess. All the original TCC Metalmite capacitors are still there, so, my efforts on the psu excepted, no, or very little electrical work has been done. No doubt the presence of these TCC Metalmite tubular capacitors date it somewhat. *(Can you see the date code on the serial plate, Ross?)*

A service manual came with it, but in common with other Eddystone models, and other makes of communications receivers, e.g. the AR88, CR100, SX28 etc., there is no mention of, let alone any diagrams, data, of the mechanical side of these receivers.

Incidentally, on the Internet there is a 13-page article on SX28 gearbox overhaul, by Doug Moore KB9MTY address as follows:-

<http://www.w9wze.org/df.php?dn=restorations/SX28gearbox.wp>

The 880 tuning system appears to be similar to, or the same as, that used by Collins in their receivers, is this assumption correct? (According to Bill any similarity is coincidental; the 880 tuning system was designed 'in house' at the Bath Tub. They do, of course, both use permeability tuning as opposed to capacity tuning.)

Re the article by Jack Read, pp 20-21, regarding what "Mil Spec" signifies. According to my source "TUBE LORE" by Ludwell Sibley & RCA Tube Manual HB-3 the 5654 (or 6AK5W, same thing) was designed for applications where, to quote RCA, "dependable performance under shock and vibration are paramount". This data states that "the 5654 is a 'premium' version of the 6AK5".

It is worth noting that Antique Electronic Supply in Tempe, Arizona, U.S.A., have a sale going, till 21st July 2005, and one of their specials is the 5654 / 6AK5W \$1-10 US each. A good buy, I bought a few, they are G-E ones (G-E of the US that is, not GEC).

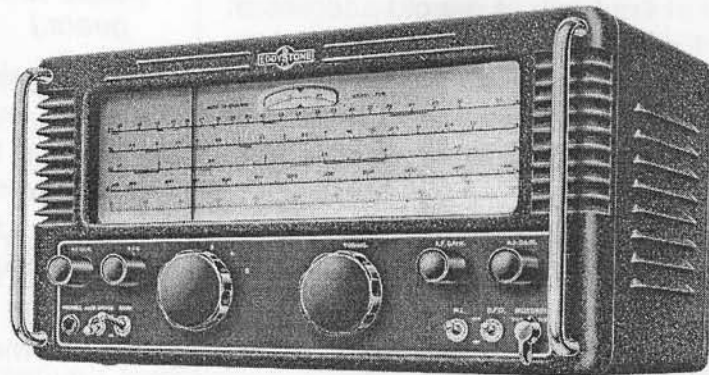
In "Ted's MailBox" I read of a bod who bought a 640 and discovered that someone had replaced the valves with FETs. Didn't he lift up the top cover and have a look, before he handed over his dosh? Or, did he buy it on E-bay or some other way of buying, sight unseen? It can't be that hard to rebuild a 640, providing everything is there, valve sockets, IFTs and coils, etc.

I've partially rebuilt a couple of Eddystones, a 740 power supply chassis and a very heavily modified 750, that is still being worked on slowly.

I was recently given a Hammarlund BC779 ("Super-Pro" SP210X) in pieces. The previous owner originally

set out to rebuild it, about 1970, but ran out of interest. The set has been completely dismantled and the chassis and other sheet metal parts re-plated. The main tuning gang and coil box assembly is all together, but otherwise we have an empty chassis. I work on it, in small increments at a time.

Regarding the 750 (p 25), my good 750, painted grey and with a stel cover on top of the tuning gang, when I acquired it, had been fitted with a 6AQ5 in the output stage and had a 25µf by-pass electro fitted.



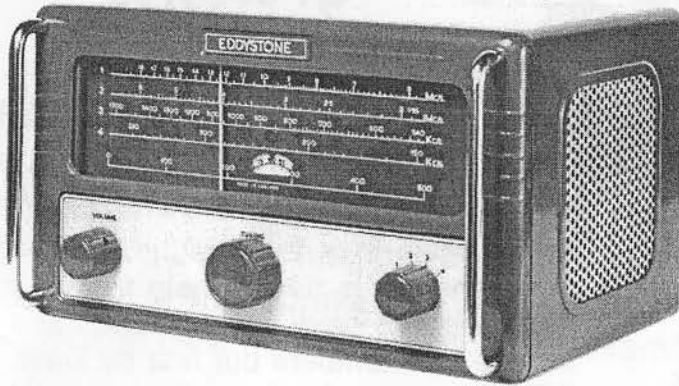
S.750

Luckily I had a couple of good N78s, so was able to put the output stage back to original. Not a very reliable valve, the N78, and hard to get hold of these days. U.S. B7G output valves, like the 6AQ5 are much easier to find. For example, AES, on their current sale list are offering the 6BF5 (heater current 1.2 amps, in a B7G envelope!) at \$1-30US each.

Also, for all you Racal Ra17/RA117 fans, 6688/E180F at \$3-20 each and 6489/EA76 at \$1-40 each and 12AT7WA (6201) for \$5-40 each. There must be a few of you in the EUG ranks. I've got an RA117 myself, it's part of an RA220 marine terminal, as its manual describes it, it's ex-RNZ Navy.

ARS also offer 6AS6 or its Mil Spec counterpart the 5725/6AS6W for \$2-00

each. In past sales, they have offered them at \$0-50c each! The synthesizer in the RA220 uses 19 of these!



S.870

The 19AQ5 output valve in my 870 has developed what sounds like intermittent heater-to-cathode leakage. The only other 19AQ5 that I have also has this condition permanently. Why didn't Stratton's use the standard "All American Five" valve line-up (12BA6, 12BE6, 12AY6 or 12AU6, 50B5 or 50C5, 35W4) in the 870, or, if they must use Brimar valves, use the 12AH8 triode-hexode F/C along with the Brimar-made only, 19AQ5?

Then the 870 would have been quite a goer, rather than the slug that my one is. The 50B5 and 50C5 are also rather unreliable, I understand, as high-GM, AC/DC output valves generally tend to be, but the US electronics industry made millions if these valves, for all those millions of small table radios, along with Hallicrafters S38D & E, S120, etc., and National SW54s, sold in the US, thus, they are still easy to obtain.

If the 19AQ5 in my 870 gives up completely, I will have to find something else to work in it, possibly the 30A5/HL94. I've got a few of those. The 870 would have been a brilliant little performer if they had used the Mullard U80-series of valves in it, viz:- UCH81, UBF80 or 89, UCL82 and UY85 or 89 (or a UCL83 instead of the 82) This valve lineup performs very well in Philips radios of the period.

Ross



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RADIO RAMBLINGS

Gottings from my Notebook



By
Graeme
Wormald
G3GGL

Bewdley, June 2005.

Greetings of the Summer Solstice, fast approaching and soon gone. But the season is with us in Bewdley, the wx and the visitors are booming.

SHOCK NEWS

News of Ted Moore's dreadful accident came through as I was writing this column. (See announcement on Page 3). It seems he was cycling in the park when a stray dog ran into his front wheel, catapulting him to the ground.

Although he was recovering from this mishap he was unaware that a dangerous blood clot had formed and was creeping towards his heart. It lodged there on 24th May (I think) and the heart attack struck as Ted was retiring.

He was alone in the house and when he came round was unable to speak. Fortunately he was within reach of his bedside telephone. A 999 call alerted the rapid reaction team who traced his QTH from the phone number and reached the house seven minutes later. It was, of course, locked, but they gained access through the back roof and open bathroom window.

Following emergency treatment at his local hospital he was taken to Papworth for investigation. A valve was found to be virtually inoperative and after a week's treatment he has been sent home for recuperation ready for heart surgery next month when a new valve will be fitted. The prognosis is good, with opinion that he should be

active again in a few months. In the meantime he is having help from his neighbours to produce handbooks and circuits for members but first try Dave Simmons (page 2 column 1).

In the meantime Ted's doctors have advised him to avoid using the telephone as it is too tiring and will slow his recovery. Members are welcome to send him wishes by mail but please don't call him.

I shall take the opportunity here to wish Ted "Many Happy Returns" for his birthday on 17th June and the best of improving health in *HIS* new year.

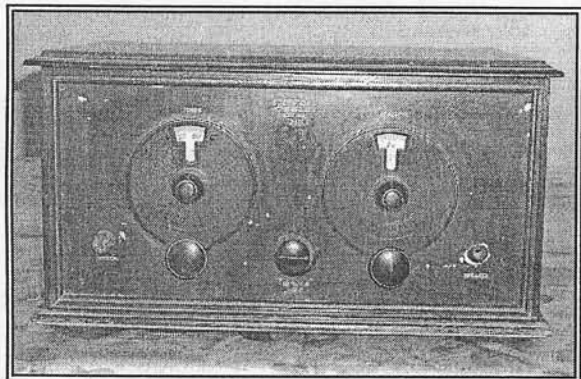
ANOTHER NEW MODEL

News of a "new" Eddystone reaches us about every other year, at the most. Well, this year I've had news of a new one from India via the USA. A bit round-about, but earlier this year I had an e-mail from Percy Mistry, KCØGVT in Minnesota :-

"I am writing to you from USA. I tried many places but I couldn't identify this Eddystone radio that I have. Would you please take a look and let me know if anything strikes you.

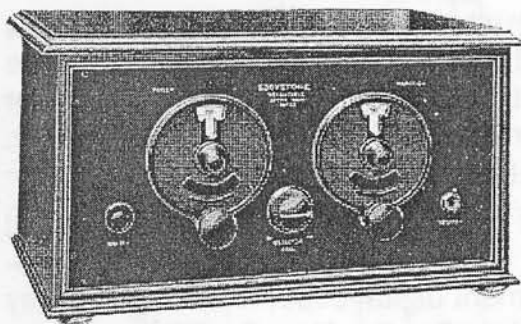
Basically it's a 3 tube regenerative set using 2 volt dc direct heated filaments. The first (rf amplifier) valve is a screen grid VS2 and the second (detector) and third (audio) are HL2 triodes. It has plug-in coils. On the front it says "Eddystone Screened Grid Short Wave Three"

I'd appreciate if you could help me find ANY information about this radio. What year is this radio? Even a catalogue/magazine ad or article would do. Schematic would be best."



Percy Mistry's Eddystone

Before you all rush to your latest copies of QRG I'll tell you that it's not there! But what is there is the Eddystone "Scientific Screened Grid H.F. Short Wave Three" kit set of c.1928.



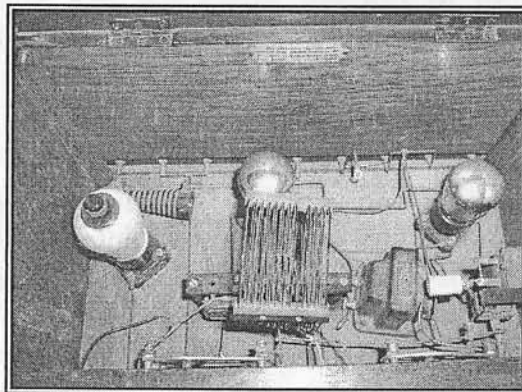
Eddystone Scientific Screened Grid H.F. Short Wave Three (c.1928)

You could be forgiven for thinking it is the same set. The same goes for the innards

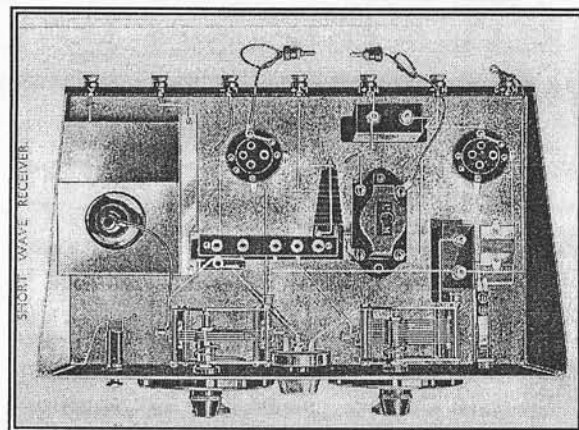
A little bit dusty but distinctly a short-wave plug-in coil in the middle and a licence plate at the top of the inside back.

"This instrument has been manufactured under Marconi Patents

for the reception of broadcasting outside Great Britain. 3 Valves"



Percy's set inside



The inside of the "Scientific" from the handbook

Bearing in mind that this picture is without cabinet, valves or plug-in coils the only major difference is the presence of a shield round the screengrid RF valve and associated high frequency choke in the grid circuit.

Remember also that this was a kit-set and Percy's is factory-built, and I reckon it's the same set. I've seen greater differences between Eddystones bearing the same name than in these two!

I asked Percy how it came into his possession.

"I was born and bred in a town called Surat in India, so was my uncle Mr Nariman Jesung, who is

also a radio ham. He acquired the Eddystone around 1950 from someone in the same town. He has lived in the US since around 1970 and I came to live here about six years ago and work as a computer software programmer . . . “

So there we have it; without a doubt a relic of the British Raj. It is interesting in being the only known factory-built set with an aperiodic aerial circuit (untuned). It is also complete with an HF plug-in coil, unlike the New Zealand “Atlantic Two” which was fitted with a medium wave plug-in coil (although that could have happened at any time).

THE AGE OF COINCIDENCE

Coincidence is one of those things that crops up in the least expected place. It happened to me last week at the reception following the annual meeting of the Bewdley Town Council, commonly known as “Mayor Making”.

One of those Victorian ceremonies still left over in some of the old former Royal Boroughs. A bit like a wedding breakfast really where you find yourself sitting by a total stranger who lacks a partner to speak to.

After ten minutes of non-conversation - - you know what we Anglos are like; very insular -- common courtesy caused me to speak to the gentleman beside me. I asked him what organisation he represented. The reply was slightly unexpected; “The British Legion”. I thought I knew all such in our town but in turned out he resided in one of the outlying villages.

Anyhow, it was enough to spark a common interest in the matter of military history and he made reference to one of his colleagues in Kidderminster, one Roland Reid-Jones.

Now I used to know Roland very well

over 30 years ago. To be quite honest I thought he'd passed on to pastures greener. He was mayor of the Royal Borough of Kidderminster in 1971, the same year that my Xyl, Eda, was the mayor of the Royal Borough of Bewdley. This was all before government meddling did away with such gems of history. Well, anyway, we were continually meeting up at civic functions and whilst the two xyls got together discussing family activities Roland and I made tentative conversation.

Now anybody who knows me will tell you that I am hopeless in the social conversational arena. I know absolutely nothing about footballers' wives; cricket; stars of stage, screen and radio; nor the latest gossip from the race-track.

So you may imagine my delight when I discovered that Roland was in signals during W.W.2. I was profoundly impressed to hear that he parachuted with a “B2” into the mountains of Yugoslavia to join up with Tito's resistance forces.

But what really made my eyes glow bottle-green was his throw-away line that he could read radio-teleprinter Murray-code from the loudspeaker. No need for a Creed 7B to do the job.

For those of you who've never dabbled in RTTY, teleprinters use a five-element digital code, known as ‘Murray Code’ after the New Zealand engineer who devised it. It's the same as the ‘Baudot Code’, named after the French engineer who also devised it (*don't ask me!*). It's not unlike the ASCII code used by modern-day computers. (*American Standard Code for Information Interchange*), except that ASCII has eight elements.

When transmitted on-air, FSK, or frequency shift keying is used. When received with the BFO (as for Morse)

the result is two-tones playing a very rapid and ever-changing tune! Standard speed was 50 Bauds which works out at 66 wpm. I ask you!

The best that most of us could do was to decipher "RYRYRYRYRY . . . " because this was used as a tuning signal for teleprinters. It used every mark/space of the code in alternate sequence. Roland was not a boastful man, in fact the very opposite, but when he then mentioned also that he was fluent in Serbo-Croat I realised why Tito's forces were so successful. He must have had the best signals officer in Western Europe.

Just to illustrate his "amateur" status, he was a metallurgist in civilian life. (Roland, that is; not Tito.) He worked for I.C.I. at a secret research station near Kidderminster until he retired. Ah well. Such is the stuff of history.

THAT NEW AERIAL

I seem to think that some issues ago I mentioned that I was playing about with a "GØCWT Magic Loop".

Ben Edginton, GØCWT, is a near neighbour of mine and is by way of being an inventor. He's still waiting for the world to beat a path to his door but one of his many clever devices is his "magic loop" for which he holds patent rights, no less.

He welcomes and encourages its private use by hams and details will be found if you punch the above description into your favourite search engine. It's a callsign you're never going to forget!!

For those without the www facility I'll explain that Ben believes that the conventional magnetic loop, as used and described over the past 20 years is inherently flawed in its matching arrangements. He says that the incredibly low radiation resistance is a miscalculation and that the loop should

be fed adjacent to the tuning condenser, not opposite it, using a ferrite core RF transformer.

The loop used is $\frac{1}{4}$ to $\frac{1}{8}$ wavelength in circumference and, says Ben, is particularly useful for the LF bands (80 and 160) where the normal dipole is untenable in a suburban plot. The loop is made from wire (thick, thin, both seem to work). And I've just erected one on my bungalow, fed through the brick-work with the transformer and tuner inside the shack (which is a room in one corner of said bungalow).

In my case I've put up 64 ft, which may sound excessive, but it is a vertical square of 16 ft each side (more or less). It looks very much like the Heath Robinson cartoon in the 1929 BBC Yearbook. "Father erects a new aerial".

It's actually made out of the outer sheath of co-axial cable, for lowest RF resistance. It's held up by two old 5/8 wave 27 mc/s CB aerials (about 17 ft high) and 25 ft apart. The loop, of course, is far too heavy for the "masts" and they droop alarmingly. But it tunes up to an SWR of 1:1 on eighty & Top.

I have an instant rig-to-aerial switchbox (Eddystone die-cast, of course, with the switches out of a TU5B) and comparing it with my 240 ft horizontal loop (20 ft high), which fetches 5/9+ from all parts of the UK when condx are normal, it is its equal in 8 out of ten cases of reception in the band. Of the other two stations one is stronger and the other is weaker.

I tested it on this month's "First Sunday" EUG Net (conditions were far from favourable) and reports varied from "No different from your big loop" to "About an S-point down". Not bad for an aerial a quarter the size. The next step is a 32 ft loop on Eighty (i.e. 8 ft in diameter!).

Ben tells me that he offered

constructional articles to both RadCom and QST but publication was refused on the grounds that nobody could comprehend the theory of it. And this for an item which holds a British Patent!

I shall bring members up-to-date next time.

EGNILSH AS SHE IS RAED

Have you read the recent news item from that cradle of science, Cambridge University?

The Pomninehal Pweor
of the Hmuan Mnid

Aoccdrnig to a rseacher at Cmabrigde Uinervtisy, it deosn't mtttaer in what oredr the ltteers in a wrod are, the olny iprmoatnt thnig is that the frist and lsat ltteer be in the rghit pclae. The rset can be a taotl mses and you can still raed it wouthit porbelm. Tihs is bcuseae the huamn mind deos not raed ervey lteter by istlef, but the wrod as a wlohe.

Licence for Life?

What do you make of all this posturing by Ofcom? I must have read about four different versions of their proposals; none of the alternatives seem to be in the same order as the previous ones. In fact, the more I study it the more it seems to be a dog's breakfast.

Could it be that we are seeing the very best (worst) efforts of a Quango trying to baffle Parliament's brains so that they may employ more and more grey figures to meddle in our lives.

Are we seeing a short term solution which we will accept, but which will then be cast aside as a failure, like the urban colleges? We can then have the worst of all worlds foisted upon us and

anarchy will reign over the air waves!

The excuse for change is to reduce the burden on **US**, with the bait of a free licence. The more I read it the less I wish to behold it. Can we seriously consider Option 4 – no licence required? Who's fooling who? Look again!

830/4 TUNING KNOB

In our last Issue of Lighthouse Brian Cauthery, VE3DFC, presented a feature concerning his restoration of his old "Canadian specification" 830/4. In it he commented about the unusual tuning knob (pictured here) and made the following comments:-

"In the picture of the front panel (see below) note the unusual tuning knob with the stainless steel backing flange, the white graticule line at ten o'clock and the two holes drilled through the finger-plate with BA tapcons set into the cast frame.

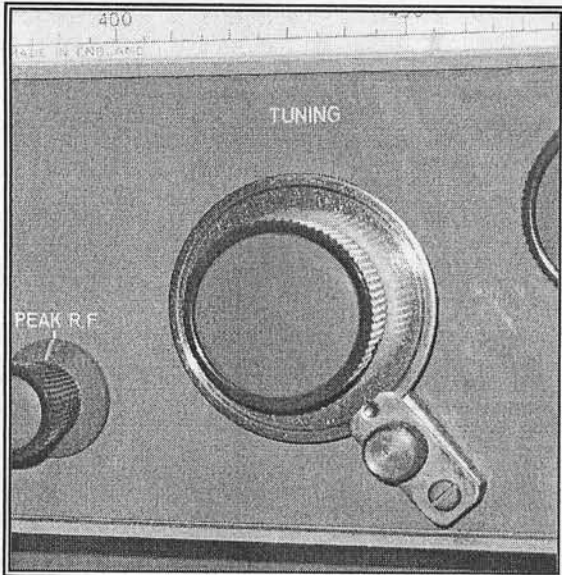


"The edges of the holes in the finger-plate are painted the same colour as the plate so I conclude that it is an Eddystone modification. But what did these holes support? Marks on the finger-plate indicate that a plinth had been bolted there and the outer edge of the SS flange

behind the drive system of some kind . . . could it have been an autotune addition?

"I cannot think of anything else which would leave these marks. I have never come across any other 830's with this mark and hole combination or this type of tuning knob. Any ideas?"

Well, this question produced the following snapshot from Tor Marthinsen, our Norwegian correspondent. This is the tuning control on his 830/5 that he acquired from a Swedish contact.



The tuning lock on Tor's 830/5

All is revealed! It is a brake or lock on the tuning control. Simple when you know, isn't it!

WIRELESS-GENERATED QRN

Actually the terms QRN/QRM provide a continuing debate between myself and Ted '7AIR. He says that if the interference is man-made it is QRM as opposed to 'static', which is QRN.

I say that it is QRM only if it comes from an actual transmission (i.e. a QSO going on at the edge of my receiver's bandwidth). If it comes from a spurious source (e.g. a vacuum

cleaner, I say that it's also QRN.

No matter. Tony writes from South Wales the following e-mail:-

"Your comments in Lighthouse issue 90, (More Reverse TVI) prompted me to think again about my problems relating to QRN and its seemingly never ending increase in output.

"For about three months commencing in February this year there had been a noticeable increase in background noise in the form of waves lapping onto a shore. It remained a constant and irritating drone.

"Now back in February I had problems with my dial-up internet connection, resulting in my move to Broadband to overcome the difficulties I was experiencing. It was duly installed but not without hiccups – the connection would only work from the BT socket in the hall, and not from the connection in my study. I considered having a special Broadband cable wired from the hall to the study, but the whole thing seemed rather messy.

"In the end, a guy who knows far more about computers than I do, suggested fitting a Wireless Broadband to overcome the need to renew wiring. All you have to do is send off for this box, plug it in and away you go – marvelous.

"But, and it's a big but, this wonderful system radiates all the noise associated with the waves lapping onto the shore.

"However, the good news is that I can switch the Broadband facility on and off at will as and when I need to use it. I'm just grateful that on this occasion I've managed to achieve a result prompted by your useful remarks."

I asked Tony about the range of these "waves" and the answer came back "They fade out about 11 yards away from the building." ♠

NOVEMBER, 1944

WIRELESS WORLD

9

EDDYSTONE

RADIO TELEPHONE EQUIPMENT



Operates like your ordinary telephone; two-way voice communication between moving vehicles, or from fixed to mobile stations.

LONDON AGENTS

WEBB'S RADIO

14, SOHO STREET,
OXFORD STREET, LONDON, W.1

Telephone: GERRARD 2089

Manufactured by

STRATTON & CO. LTD.

EDDYSTONE WORKS

B I R M I N G H A M

'Phone PRIORY 2231. Cables: 'STRATNOID' Birmingham

Just look at the date on this wartime advert and see the blackout shade on the headlamp. Stratton were beaten at this game by rivals offering rental systems, but so far as I'm aware nobody was offering Duplex for ages after this.

Police Information Required

EUGER STEVE KINCH IS AN ENTHUSIASTIC POLICE CAR RESTORATION BUFF BUT HAS COME TO A FULL-STOP WITH HIS LATEST PROJECT. CAN ANY MEMBER HELP SUPPLY EDDYSTONE RADIO EQUIPMENT FOR THIS BEAUTIFUL RILEY? IT DOESN'T EVEN NEED TO WORK, IT NEED ONLY BE THE CASES, BUT IT MUST LOOK RIGHT WHEN THE BOOT IS OPENED! READ STEVE'S CRY FOR HELP AND THEN LOOK IN YOUR ATTIC.



1953 RILEY 2 1/2 LITRE POLICE PATROL CAR

"I have nearly completed the full re-build of this, the last surviving Portsmouth City Police patrol car, but now I need the help of Lighthouse readers. The car was fitted with a mobile radio telephone possibly Eddystone similar to Wireless Station No.57 (Sender No.57 and Reception set R408, alias S440B and S.450). These were powered by two additional 12 volt batteries behind the rear seat with the radio equipment boot-mounted.

I understand the Gloucester force used Marconi VHF 100 Mc/s Radio Telephone equipment. If anyone can assist me with the supply of either make it would complete this truly classic police vehicle.

Thanking you all in advance, STEVE KINCH,

Telephone me on 01263 514 880 (Cromer, Norfolk)"

E.U.G. Masters' Crossword News

By Colin G4HNNH

GREETINGS

First of all, now that it has fallen to me to write the crossword news page, I should like to thank Graeme for inviting me to do so and for his continued support and encouragement over the last four years.

As a start to my contributions I thought some readers might like a few pointers to help solving the EUG xwords and other cryptics, so here goes!

THE MASTERS' GUIDE (Part 1)

Is the EUG crossword a cryptic? I hear you ask. The answer is increasingly so, if recent comments are anything to go by. In my own humble opinion the EUG crossword is a combination of cryptic and the more common (and easier) synonym based type such as T2 in the Times. In the EUG crossword highly technical clues are not usually encrypted as this would make it too difficult, but the easier ones may be.

CRYPTIC CROSSWORD CONVENTIONS

While synonym based crossword clues are straight forward, cryptic ones can be quite involved. Almost every cryptic clue has a straight definition (or synonym) in one part and a pun, anagram or container etc. in the other. (more about these next time). Occasionally, two straight parts are evident, less often two cryptic ones.

The straight definition may come before or after the cryptic one, it's not always easy to tell. Sometimes a brief pun or quip is the only clue. The main rule is to consider words as assemblies of letters and sounds even more than as units of meaning. The general rule is "Mental re-punctuation of all clues is a necessity." Don't take punctuation, capitals or spacing too seriously.

The best cryptic clues have a smooth and sensible surface meaning suggesting a reasonable scenario, albeit one that usually has no connection with the solution.

For example, the clue "Spoils comeback drive" is clearly connected with sports, but words can have two meanings. In this clue "comeback" indicates that a word is to be reversed. A synonym for "drive" is "tool" which, when reversed, gives the answer "loot", a synonym for "spoils." More about puns, anagrams reversals etc. next time.

Now we come to the results for the entrants of EUG Masters' Crossword No. 25. First of all here is the solution:

Across

1) THERMISTOR. 8) AYR. 9) EXACT SUM. 10) EPOXY. 11) ESSELLE. 12) USERS. 15) TENSE. 18) CARBIDE. 19) LEWIS. 21) LICENSED. 23) GDO. 24) NEWSLETTER.

Down

2) HEX. 3) ROCKERS. 4) IN SALE. 5) TIME. 6) RADOME. 7) XRAY. 9) ELECT. 13) SUB UNIT. 14) SPEED 16) NEWTON. 17) PASCAL. 19) LAGS. 20) SLEW. 22) EME.

And now for this month's roll of honour. We had twenty entries this time. Four e-mails of which two were correct. Sixteen entries by post of which twelve were correct making a grand total of fourteen correct entries. They were from:

Ted Moore G7AIR of Wisbech (Cambs)
Roger Bracey G4BZI of Crewe (Cheshire)
G. Oakes G3WRK of Congleton (Cheshire)
Les Cates G4AVE of Reigate (Surrey)
Keith Seddon of High Peak (Derbys)
Garry McSweeney G14CFQ of Belfast (N.Irl)
Graeme Wormald G3GGL of Bewdley (Worcs)
Brian Blake G3JOS of Rugby (Northants)
John St. Leger G3VDL of Okehampton (Devon)
T. Emeney G3RIM of Claygate (Surrey)
Brian Blackford ZL1TNG of Upper Hutt (N.Zealand)
Oliver Barnes M1DYW of Wivenhoe (Essex)
Roger Roycroft G1NXV of Macclesfield (Cheshire)
Tor Marthinsen of Tønsberg, Norway

Vy 73, Colin G4HNNH.

EUG MASTERS CROSSWORD 26

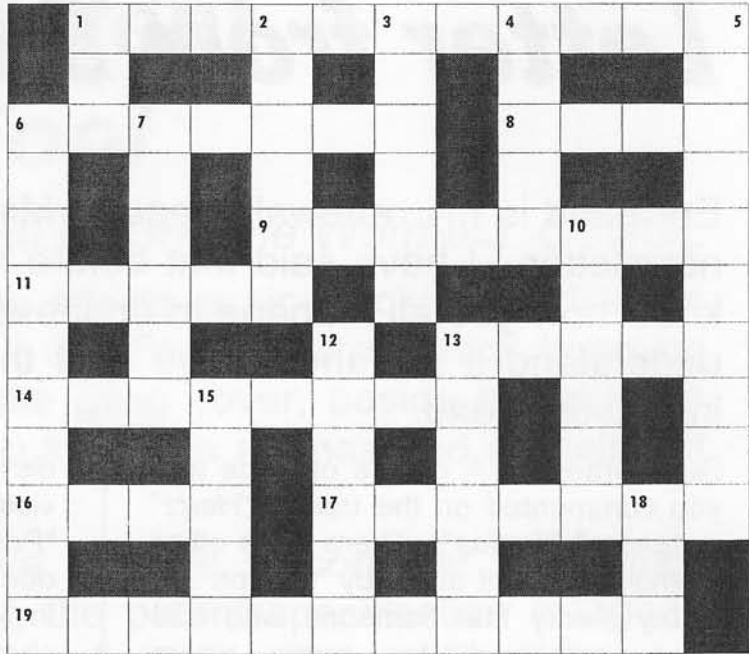
Compiled by Colin
G4HNNH

ACROSS

- 1) Graeme's recent "spare time" mini-rig (4-3-4)
- 6) Gunners team up to learn, as mixed up supplies are discovered (7)
- 8) "Deceive" into a false sense of confidence (4)
- 9) Wading bird exhorted to proceed (8)
- 11) Farewell to France 5)
- 13) Sweetcorn enjoyed "au naturel" -- the --- (2,3)
- 14) Useful spare for repairing broken "slide-rule" Eddystone drives (8)
- 16) Poetic foot, could be extended to describe electronic keyer (4)
- 17) Licenced condition necessary to become an xyl (7)
- 19) Designated users of 136 and 151MHz (11)

DOWN

- 1) Leyden ---, an early form of capacitor (3)
- 2) Chinese art form with a fighting chance (4,2)
- 3) Suitable servicing aid for 14 across (3,3)
- 4) Kashmiri style curry, famously introduced to this country in Birmingham (5)
- 5) Resistor code marking for the value of 4 (6,4)
- 6) It'll be a cold day before you make contact with CE9 or KC4 (10)
- 7) Clasp rings and move laterally to fix tuning drive tensioning device (6)
- 10) We perceive nil UCE information on atomic central cores (6)
(UCE = University of Central England)
- 12) Ram gen could be difficult to decipher when supplied by Siemens, for example (6)



- 13) Common cause of problems when upgrading PC memory (3,3)
- 15) The SI unit of magnetic flux (5)
- 18) German Ice-Cream (3)

Please send your entry, to arrive not later than 15th. July, direct to:-

Colin Crabb G4HNNH
41 West Drive
Edgbaston
Birmingham
B5 7RR

e-mail (no attachments please):-
g4hnh@smartemail.co.uk

Your name.....
(Call sign).....
Address.....
.....
.....
.....
.....

Letter from Sunderland

by Roy Elwen

Enclosed is my renewal cheque. Many thanks for an excellent newsletter. I have said that before and I say it again. I don't know how you all manage to do it every other month. Not that I understand it all, and I have said that before, but it is still an interesting read.

Dear Graeme, A couple of issue ago you commented on the use of "Hertz" instead of "Cycles". There were other changes brought about by "Europe". It is my theory that someone who had been employed for many years suddenly decided that he should show something to let his (or her) superiors that they had managed to find something to do.

He may have overheard someone talking in whatever they use for pubs in Brussels. This set him off thinking that if *Faraday* had his *farads*, and that *Volta* had his *volts* why shouldn't *Hertz* have *hertz* instead of *cycles*. And of course *Celsius* to have his degrees instead of *centigrade*. Just in case we Brits complained he decided that *Newton* should have *newtons* instead of *PSIs*.

Now I can 'see' a 'cycle'. The word, in a way, is descriptive of what it is. The same applies to 'psi'. But a 'hertz' is what happens when you drop your heaviest Eddystone on your toe, and a 'newton' is the name of my mother's best friend. So why change it all?

The old saying "The devil makes work for idle hands" come to mind.

Now to the use of "Polypropylene Rope" as mentioned in the last Lighthouse. Did you know, and I didn't until I got a book on ropes and knots, that "polypropylene" ropes "should be stored away from light, since they will

disintegrate when exposed to ultra violet light." The book also mentions "Polyester Rope" and "Nylon Rope" but does not say whether they self destruct in UV light. Perhaps you should get chatting to your friends and get a stock of rope in hand so that you can do a quick change when your aerial falls down. I shall have a good look at mine.

I should have written this long before now but I have been having cataract surgery. After having worn glasses for over 60 years, because of extreme myopia, I can now see distant objects like an eagle. Perhaps! But I shall need glasses for reading. I hope to be tested for these in the first week in May. . . .

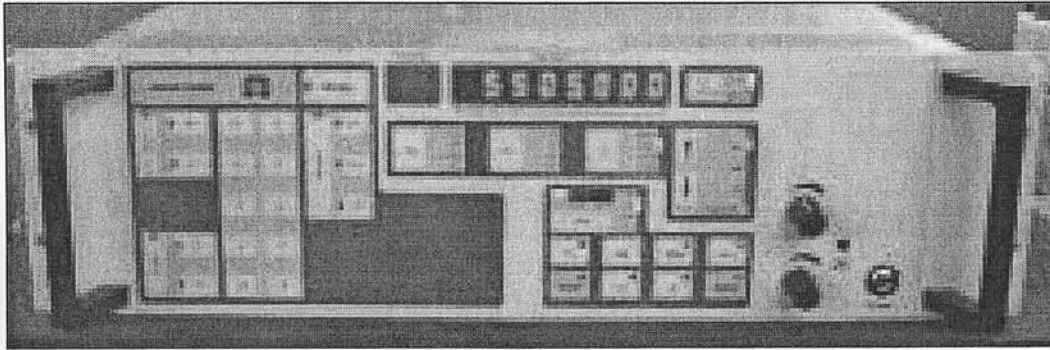
Thank you, Roy, for your timely advice. It so happens that somebody warned me of the UV risk two or three years ago. The halyard had been in use since 1978, and even at that time had been rejected by the telephone company as being passed its 'use by' date.

I decided in my wisdom that the UV depreciation was a slow business and not to be taken too seriously at my age.

If the new halyard lasts as long as the old one I shall have passed my hundredth birthday when next my aerials falls down! Graeme. ♠

E Bay Watching

by Chris Pettitt GØEYO



This 1650 receiver caught my eye after the NVCF Vintage Fair. It was the /6 version which was supplied to an organisation with big ears who used a computer to drive it.

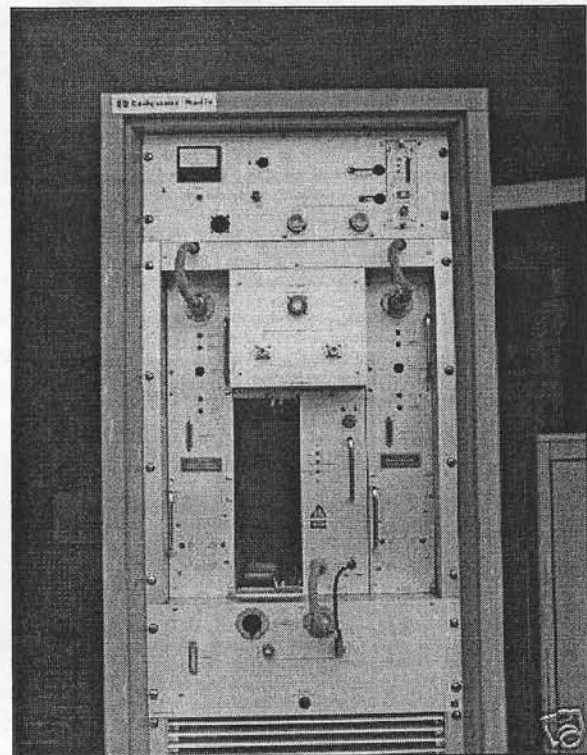
Funnily enough, one of the customer's engineers came by the EUG stand and reminded us of why they came to Eddystone for the project. Anyway these receivers have been coming on the market in the past few years and Geoff Steedman, one of our members, offers a service to enable purchasers to modify them to make them operable from the front panel (see Lighthouse inside cover for his details).

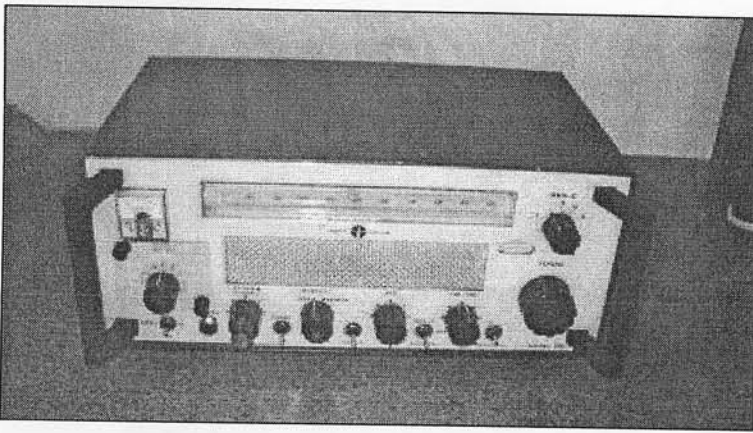
This one sold for £194 which is a fair price for an unmodified set. An Italian amateur looks to have made the purchase.

Another unusual item to appear on E bay was this incomplete 1000W FM transmitter Model 1706/1 manufactured by Eddystone in the '90s.

It went for £370 (original price around £12,000) but was missing a 500W power amplifier so was only 500W output (actually 250W because of the Wilkinson combining circuits).

It looked as if it might be sold to a pirate broadcaster but in the end SBS-Eddystone's current MD Marcus Bekker stepped in and purchased it, probably for spares, I will try and find out sometime.

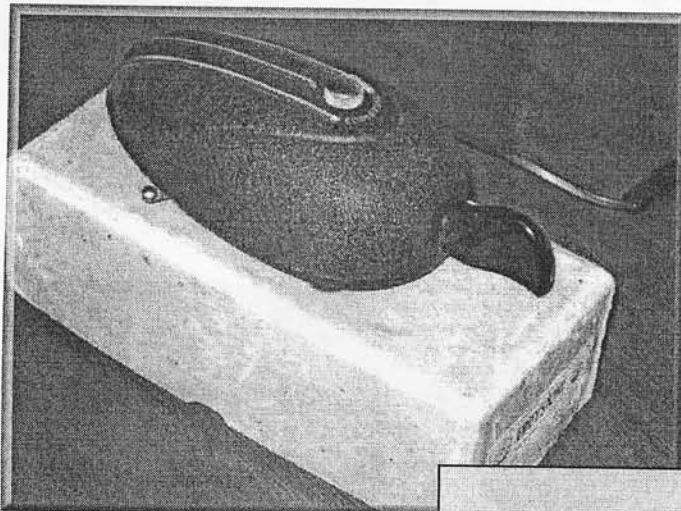
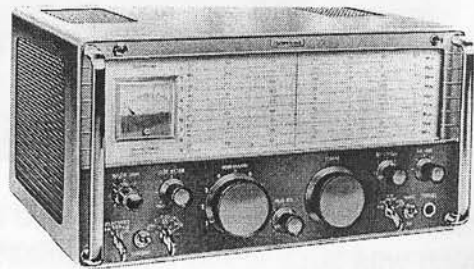




A very nice example of a quite rare 1001 general coverage receiver was sold to an EUG member for £151.

Quite a few people were after this including someone from Waters and Stanton.

EA12's continued to come up on E-Bay with one selling for £290 and another for £206.

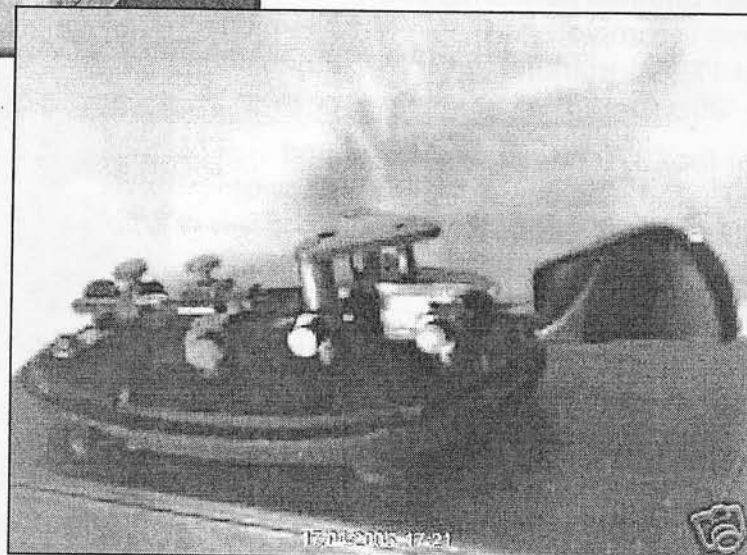


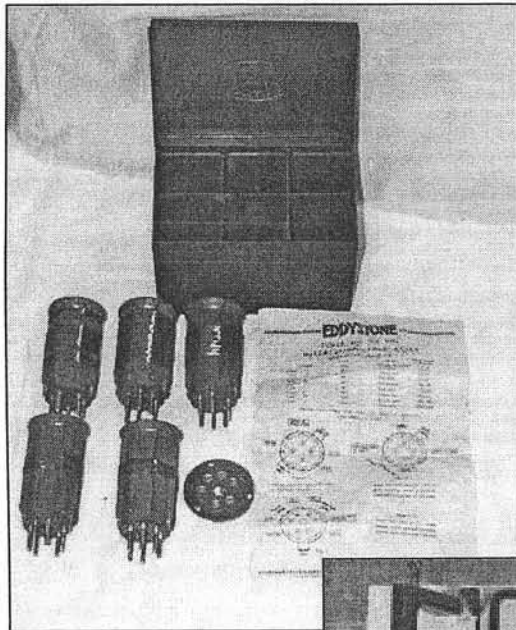
A very nice Eddystone bug key came up and went for £170 which is a record on E bay.

It also had its original box.

However this was soon eclipsed by another one selling for £190.

Who would have believed it, Bug key prices doubling in a year!

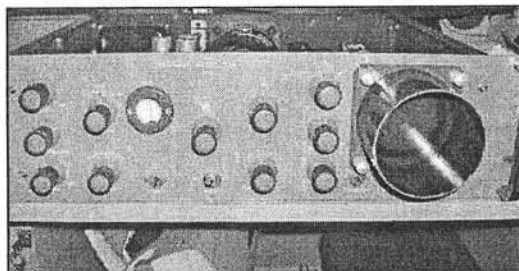
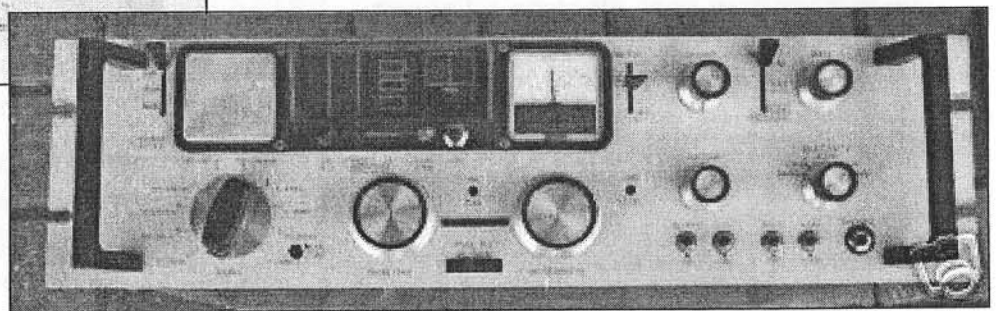




Sets of coils in their boxes seemed to be very popular with a number being sold in the region of £26-£32.

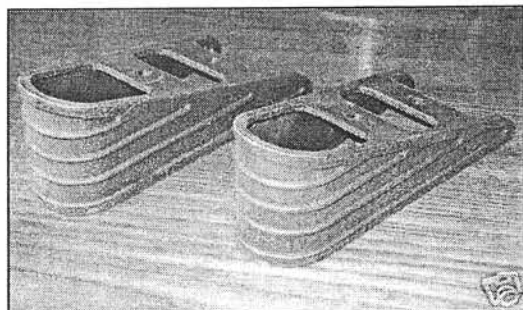
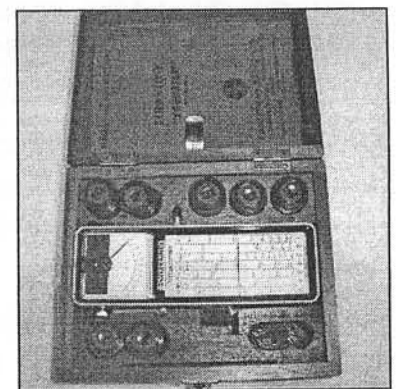
958 receivers don't come up very often on E bay and a particularly nice example went for £260.

Not much of a description by the seller so I don't know what version it was but it looked a clean example and its only reported problem was a jammed tuning knob!!



Two other fairly rare items came up during this watch. One was the EP14 Panoramic Receiver which sold for £124 to an EUG member

The other item was that old favourite the Edometer Mk2 which went for the fantastic price of £290. It was complete and looked in very nice condition.



Finally I was amused to see a pair of diecast feet originally intended for an 888A go for £35.

Well E -Bay continues to fascinate and amuse, keep watching and good hunting

Vy 73 Chris GØEYO

Lifetime Licences for Radio Amateurs?

Ofcom is the independent regulator authority for the UK communications industries, with responsibilities across television, radio, telecommunications and wireless communications services (including Amateur Radio).

On 26th May 2005 Ofcom announced proposals to reduce the regulatory burden for amateur radio users by replacing the current paper-based system of licensing, renewed annually, with a new, low cost electronic licence for life. Response must be made by 18th August 2005.

Ofcom does not propose to remove the need for amateur users to hold a Wireless Telegraphy Act licence. (***But what about Option 4?***)

Neither will it remove any regulation which safeguards the integrity of radio spectrum used by the amateur radio community. (***But Option 2?***)

It is, however seeking to achieve the correct balance between maintaining sufficient regulatory control to avoid undue interference whilst removing unnecessary bureaucracy and cost.

Ofcom has now commenced the appropriate consultation with all licensed amateurs, regardless of their licensing level.

My own views on the subject are rather conservative (***see Radio Ramblings***), as befits an elderly gentleman who has held a Class A Licence since 1949.

In those days the Postmaster General was the issuing authority and we really were regulated! Logs were inspected annually as well as the station equipment and frequency measuring devices.

But times change. I am the first to accept that radio amateurs, of all people, should not remain in the dark ages of obsolete technology.

Our hobby may include the study and use of vintage technology, but that doesn't mean we have to embrace it for our official administration.

My own particular worry is that the use of on-line technology for keeping track of licensees may be doomed to disaster. My experience is that if I fail to communicate with one of my contacts for more than a year there's a fifty-fifty chance that my mail will be returned as "not found".

I have a dreadful vision of the ham bands spinning out of control . . . am I worrying needlessly?

I urge all members to study closely the alternatives given and make representation before the due date.

Full details may be found on Ofcom's website at www.ofcom.org.uk

The full document is 32 pages long. Those without www facilities should write or telephone for full details from:

***Amateur Radio Licensing
Ofcom
Riverside House
2A Southwark Bridge Road
LONDON SE1 9HA***

Telephone 020 7981 3169



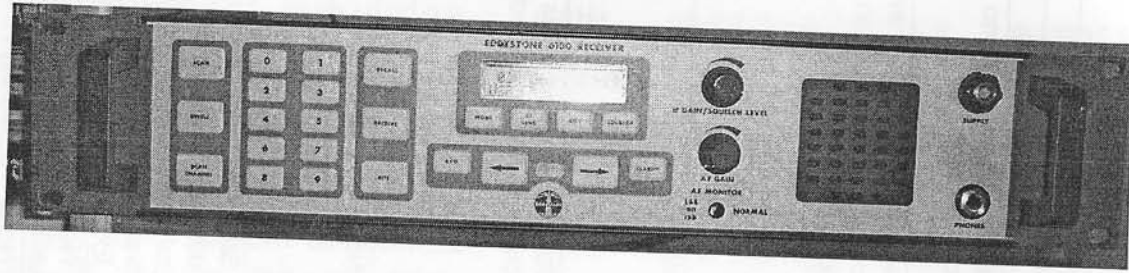
INFORMATION SHEET**Summary of options for the reform of amateur radio licensing**

Ofcom is considering four different options for the future of amateur radio licensing which are outlined in the table below:

	Option 1	Option 2	Option 3	Option 4
Aspects of Licensing:				
Validity of licence	Annual	Life of licence holder	For a period longer than annual but requiring renewal on a regular basis	Licence exemption – no licence required.
Cost and form of licence	Paper – currently £15 per year	Free – electronic, printable licence (probably PDF® document) Option of a paper licence – for which an admin fee would be charged	Paper or electronic Fee to be confirmed	None – therefore, not available for inspection by foreign administrations
Method of applying for or issuing licence	Postal	On-line, web-based self-service licensing system Postal option retained	Postal or on-line	None
Notification of changes to Terms and Conditions	Notification by post	On-line notification Postal notification – a one-off charge at time of issuing licence would be made to cover all further notifications	Notification by post or on-line	Responsibility on users to check Terms and Conditions
Amendments to licence	As existing, notification by post	Licence re-issued electronically if licence details (name, address or type of licence) change	Postal or on-line	None
Safeguards on standards and competence to operate	As existing, by examination	As existing, by examination	As existing, by examination	Still need for conditions to be attached to licensing exemption regulation (e.g. valid Radio Amateur Examination pass certificate)
Database	Yes, names and addresses	Yes, names and addresses	Yes, names and addresses	No – call signs would still be allocated
Ofcom access to database	Available to Ofcom regional staff to investigate reports of radio interference	Available to Ofcom regional staff to investigate reports of radio interference	Available to Ofcom regional staff to investigate reports of radio interference	None – potentially hindering investigations of radio interference.

THE EDDYSTONE 6100 RECEIVER

BY A VERY SATISFIED DAVE JONES - MW1DUJ.



This short article will hopefully enlighten the prospective purchaser on both the joys and the pitfalls of owning one of the very last HF receiver designs to be produced by The Eddystone Radio Company. The example that I own was purchased around a year or so ago, and, I must admit, was a decision into which I jumped feet first, with no real idea of what to expect, and by pure luck alone, ended up with a receiver that suits me just fine! A word of warning however, be very careful, and unless you want it for purely ornamental purposes, you could well be bitterly disappointed. Read on!

Looking at the receiver reveals a very smart, functional design, and this appeals to me to a greater degree every time I see it, and also, whilst the membrane type keys fitted to it often receive a less than favourable reception from users, I find that in my radio room, they are by far more reliable than the normal push switches fitted by just about every other manufacturer as a matter of course. Although these normal type switches provide a better action, the warm dry and sometimes dusty atmosphere in my room can cause all sorts of switch actions to malfunction.

Let's get a few specifications down here, and it should be noted that as I have no facilities to check them, all these will be sourced from the sales brochure. Frequency coverage, in 10c/s steps, is 1.6 to 30Mc/s, (unless it is fitted with option /f, which allows coverage down to 10Kc/s), operating modes are AM, USB, LSB, and CW (also ISB on the /3 and /4 variants, and FSK on the /k option) The BFO

is derived from the master oscillator, and works in 100c/s steps over the plus or minus 2.4Khz range. Freq. stability is 1PPM over the entire operating temperature range, but for those more demanding users, the /s option takes this down to 0.1PPM. The RF Attenuation is 0dB, 10Db, or 30-50dB, depending on the setting of the RF SENS switch. The squelch is carrier level derived and it will operate in all modes, with its level adjustable from the front panel.

The aerial input has a 50 Ohm impedance, and has relay protection from up to 30 Volts continuously. The operating voltages are: 100/150V and 200/260V, and also they can be operated from 24VDC with negative ground and reverse polarity protection. Power consumption from a DC source is not specified, the AC consumption is 30VA.

The sensitivity is: AM, 1.8uV: SSB 0.6Uv: CW 0.4Uv. The AGC HAS 4 SETTINGS, (OFF, FAST, SLOW, AUDIO) and has less than 4dB change in output for 100dB increase in input level from threshold. Image rejection is 100dB from the 1st, and 80dB second. Third order intermodulation (in-band) will be at least 45dB below the level of either signal. IF Rejection is 100dB. Enough of these details, onto more user-friendly stuff! First, below is a variant table, so that these numbers can be used to find out what your set has fitted to it.

VARIANT	FACILITY
6100/1	Parallel remote only 99 channels
6100/2	Full ser. remote only 50 channels
6100/3	ISB, full serial remote only 50ch
6100/4	ISB with par. remote only 99ch

Now, there follows a table of the options available to the original purchaser at the time of purchase:

OPTION	FACILITY
/B	Ext preselector output
/C	With extra filter
/F	Freq coverage down to 10Kc/s
/J	Programmable from front panel
/K	With internal FSK demodulator
/S	External freq standard operation
/X	High stab. Internal ref. osc.

It is from this table that the buyer needs to be very aware of what they are purchasing. The "standard" 6100 has, depending on the variant (see variants table) either 50 or 99 FIXED channels, which store the operating frequency and other parameters. The problem with this arises because these channels must be specified by the customer before purchase, and they are then programmed to requirements AT THE FACTORY, and need EEPROM reprogramming, and are therefore beyond the control of the second user. You might be extremely lucky, and get some fixed to maritime or coastal channels, maybe GHFS channels, but unless you are, then your receiver, without the attention of an expert EEPROM programmer, will be an expensive ornament. The only slight tuning allowed is by the clarifier control, which allows you to tune to 10Kc/s either side of the channel frequency. This will not do you much good though, as 10Kc/s is not enough to get you far! There is but one option, listed in the table as **OPTION J**, which will turn your purchase into a fully useable HF RECEIVER. This option adds the facility of operator programming from the front panel, which means that you can enter any desired frequency within the coverage, any desired mode, AGC time, attenuation, squelch, etc. It is not obvious how to do this, as it is not listed in either the user instructions or service manual that I have, but all you do is hold down the **CLARIFIER** button for a few

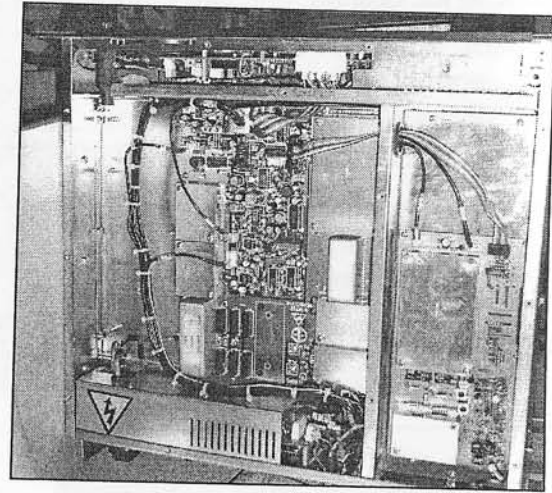
seconds until the first digit of the receiving frequency starts to flash. Entering a figure here will cause the next digit down to flash, allowing the complete frequency down to 10c/s to be entered. All the other parameters can be entered by their respective keys without the need of the clarifier button function. A point to note here, as I have never owned a non /J 6100, I do not know whether it is only the operating frequency that is fixed on the standard receiver, or whether it is possible to change the other operating parameters. Maybe someone could enlighten me here. Also, beware of a unit labelled 6800 instead of 6100, as despite its appearance, it is purely a remote controller for use with the 6100, and as such contains no receiver circuitry! Another variant that might well turn out a problem is those units fitted with the /S option having operation only from an external frequency standard. This is not normally a problem, as the frequency required is usually 5 or 10 Mc/s, but in the case of the 6100, the required standard will have to be 8.72Mc/s, try finding one of those in a hurry!

That's the caution bits over with, the set itself is a dream to use, everything is ready at hand to help you get the best performance from it, one thing I have noticed is that compared to lets say the 1650 series, it seems much quieter in terms of noise burying the wanted signal, tests on air have proved this to my satisfaction, being one of the quietest sets I own, sensitivity is fine, and I get a fresh thrill every time it is switched on. Hopefully, the sets sold to military and commercial buyers will be starting to trickle out onto the second user market soon; I have no idea if they sold well, but let's hope so. Below is a picture of the inside of the set with the top cover removed, showing on the right, the preselector board which is curiously named, as there are many other functions provided by it, such as attenuation, etc, but not necessarily preselection, as this facility need not be fitted.

Underneath this board is the main receiver board, containing most of the other receiver sections, IF filtering, AF stages, etc. Also seen is the neat power unit, which runs at a nice cool temperature, and the rear of the

front panel board, containing all the operating logic sections and the CPU. Also visible is a space for 1 optional IF filter to be fitted, I intend to fit one shortly, but it might be a waste of time, as I can see no way of selecting the optional filter from the front panel, and I suspect that more EEPROM changes might be necessary to implement this feature!

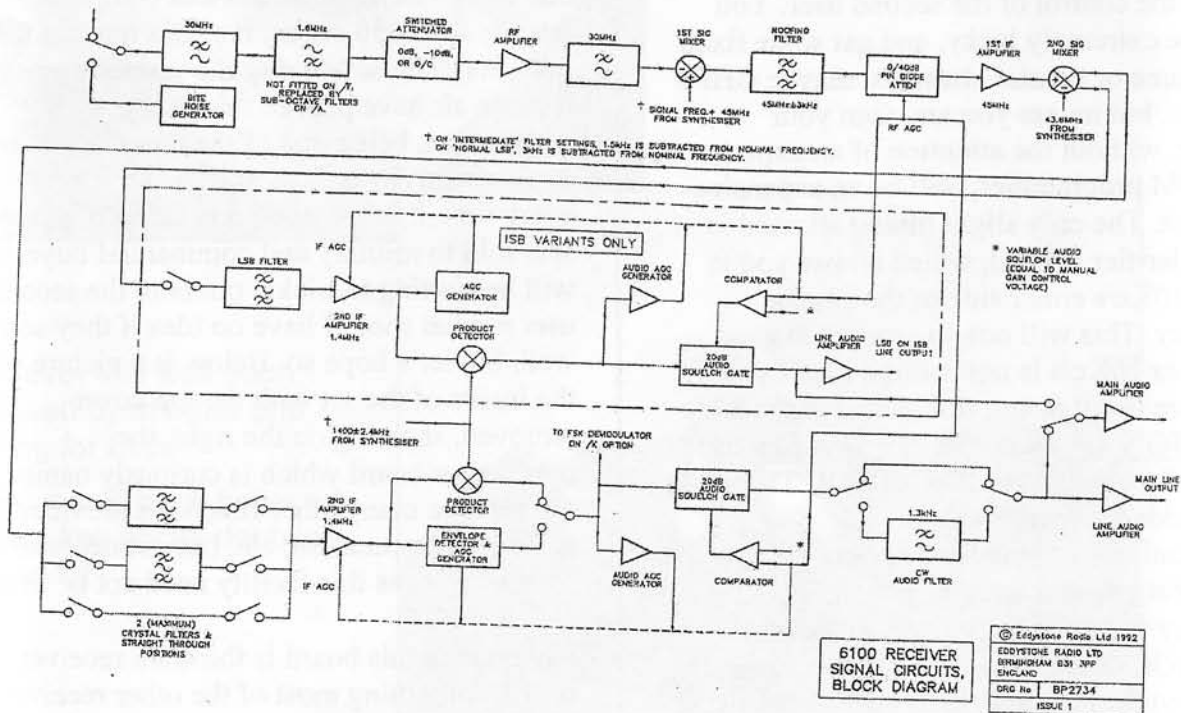
The receiver also has BITE (Built-In Test Equipment), which first works each time the receiver is switched on, checking power supplies, memory content etc. After switch on, the BITE button can be depressed, and a 2 digit number from 00 to 99 then entered, whereupon the BITE system will check the BITE function associated with that number. Sadly, I do not have a complete list of these functions, but if everything is ok, BITE PASS will be displayed. After this point, the system is still running in the background, and if you ever see the letter "B" displayed in the top left hand corner of the display, you will know that it has found a problem.



INTERIOR VIEW TOPSIDE

I wish you well with your efforts to get one, if you succeed, lets hope it does everything that you require of it, and I hope that this short introduction to the 6100 has been helpful in making up your mind!

A BLOCK DIAGRAM OF THE 6100 SIGNALS SECTION



Stratton's Patent Trimming Tool

Described by Graeme Wormald G3GGL

One of the thrills of coming across a nice-looking Eddystone Model 730/4 is to lift the lid and find the large black trimming tool present in its clip on the gang cover, beside two pristine 1¼" spare mains fuses. You know the set has had a sheltered life and been in safe hands.

But how many of you have stopped to consider how much thought went into preparing the patent specification in 1943? Can you believe that such an indigestible piece of English prose was needed to describe a *Screwdriver*. (and I haven't given the FULL spec!) For legal reasons it was absolutely essential, or a rival would crib the design, patent it and sue Stratton & Co. for using it! Take a look at this . . .



PATENT SPECIFICATION

570,682

Application Date: Sept. 20th, 1943. No. 15381/43

Complete Specification Left: Sept. 20, 1944.

Complete Specification Accepted: July 18th, 1945.

PROVISIONAL SPECIFICATION

Improvements relating to Tools for the Manipulation of Connections or Instruments of Sensitive Electrical Apparatus and in the Manufacture thereof

We, Stratton & Company Limited, a British Company, of Alvechurch Road, West Heath, Birmingham 31, and Harold Norman Cox, a British subject, of the

Company's address, do herewith declare the nature of this invention to be as follows:--

Electrical apparatus such as radio receiving and transmitting sets

include components and instruments in which induction and capacity effects are of a very sensitive character and the presence of a metal tool and a band (*I think this should be "hand" – Graeme*) close to the instrument causes substantial variations to occur.

Metal tools such as screw-drivers on which more or less thin coverings of insulation have been moulded or secured have long been known for use in connection with electrical fittings and apparatus, motor ignition devices, and the like to avoid shock to the user. But in such cases the body and strength of the tool is provided throughout by the metal article and the insulation is merely a sleeve or casing moulded or drawn thereon.

In accordance with our invention we mould the whole tool, except possibly small keying or engaging parts, in a suitable plastic substance such as one of the artificial resins loaded with cellulose, flock, or other fibrous filling which adds the desired strength so that the article will stand up to the torsion set up when turning at the operative end some resisting component, or a setting or attachment screw or the like under a force applied at the other end by the fingers of the operator.

As an example of construction the tool may comprise a thickened handle portion provided with ribs, flats, angular section parts, or the like at the manipulating end so that it may be gripped by the fingers, and a

tapering stem or shank finishing in moulded flats on each side to give a moulded screw-driver end; or with a hollow cylindrical end provided in its ring face with projecting pins, or other projections, for engaging holes or notches in the part of a component or attachment which is to be engaged thereby.

As a further example, the tool may be moulded as a hollow cylinder closed at one end only where some form of external hand grip will be provided and open at the other end where external projections on the cylindrical face, or on the end face, are provided. Such a tool may be of a diameter enabling it to be passed over a valve or component to bring its operative end into engagement with a lock ring or attachment ring by which the component is mounted, or by which it may be adjusted.

In some cases a small end plug of metal may be embedded in the operative end of the tool and may be given a screw-driver form, or that of a hollow key to make the desired turning engagement but the metal will only provide the actual engagement face and the moulded body will support it and provide the strength required.

Dated this 3rd day of September,
1943.

BARKER, BRETTELL &
DUNCAN.

Chartered Patent Agents,
75 & 77, Colmore Row,
Birmingham, 3.

570,682 COMPLETE SPECIFICATION

1 SHEET

FIG. 1



FIG. 2

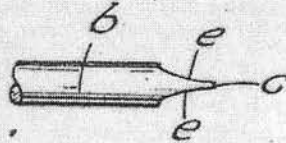


FIG. 3



FIG. 4



FIG. 5



FIG. 6

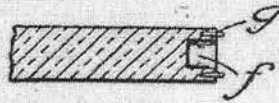


FIG. 7

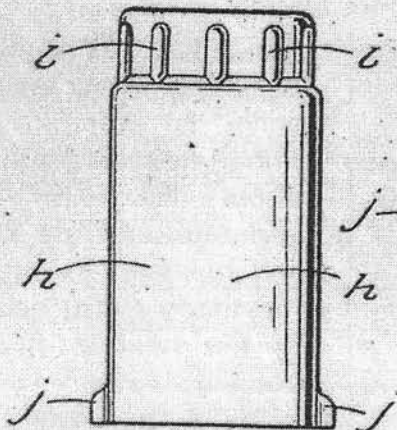
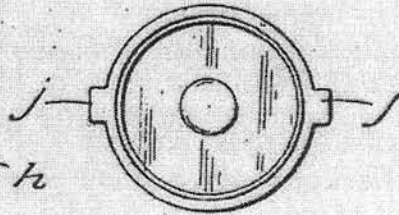


FIG. 8



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

Malby & Sons .Photo-Lith.

The Duffers' Guide to Valve Set Fault-finding – (part six).

By Graeme Wormald G3GGL

In our last edition of "Duffers' Guide" we examined the nature of the variable oscillator and mentioned that every valve set made by Eddystone after WW2 used one as a "local oscillator". (*Actually there's a 'typo' on page 18 at the bottom of the RH column. For (L1) read (L2). Correct it now whilst it's in your mind.* Take another look at and let us consider the whole question of the "Frequency Changer".

By the mid 1930s the "Superhet" had become dominant among commercial receivers; but what does it mean? The word itself is a corruption of the term "supersonic heterodyne", the first word of which has actually been overtaken by events in current meaning, which is "faster than sound". In the early 20th Century, however, the word was used to mean "beyond sound", indicating radio frequencies.

"Heterodyne" refers to mixing two frequencies together thus producing the sum and the difference of these, but in our case it is only the difference which is of interest. The same principle is used by the musician to 'tune' an instrument with the help of a tuning fork. When the instrument is out of step with the fork, a low note equal to the difference in frequencies will be heard. The same effect is heard by the pilot of a twin-engined piston aircraft; a low droning pitch indicates that the engines aren't synchronised. One of the throttles will be adjusted until the drone gets less and then disappears.

So we are dealing with producing a third, usually fixed, frequency from the signal entering the set via the aerial.

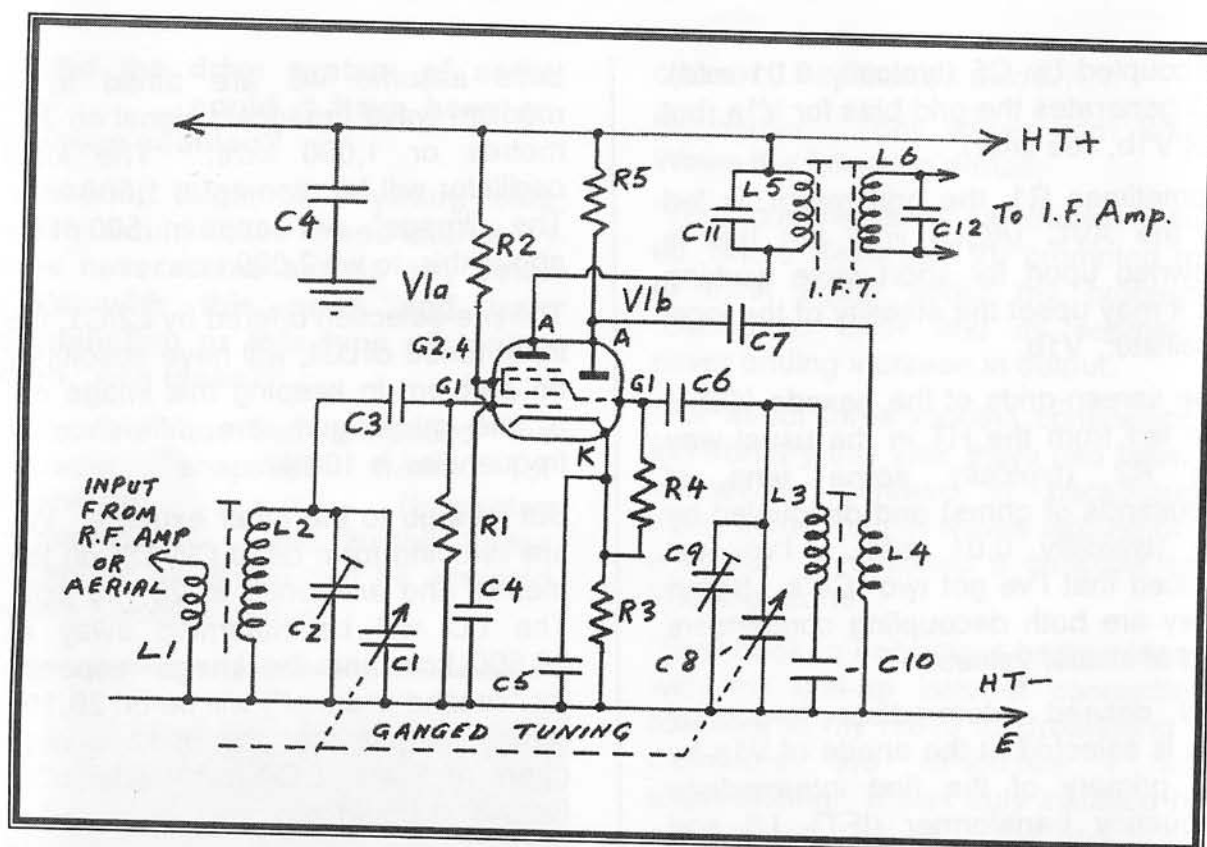
The technology of "frequency changing" is complicated in the extreme and fills many columns in designers' handbooks but we shall take most of it as "read".

Our circuit illustrates the most common type of single-valve frequency changer which evolved out of many types in the 1930s and which will suffice to be analysed here.

The valve itself is a dual type, one half being the "mixer" (V1a). It has six electrodes, anode, cathode and four grids and is termed a "hexode".

The other half is a normal triode, as described in our last Issue. The whole valve is therefore described as a "triode-hexode". The special thing about this valve is that the two separate units are interconnected by a link between the control grid (G1) of the triode (V1b) and the "mixing grid" of the hexode (G3). This hexode actually has two screen-grids, connected internally, but no suppressor grid (as in a pentode RF amplifier).

Don't ask me why, because I've no idea. All I know is that the hexode



behaves like any other amplifying valve, but the signal being amplified is "modulated" by the oscillations from the triode. The effect is much akin to low-level amplitude modulation but with a higher modulating frequency, and one of the sidebands is selected in the anode circuit of the hexode. This is termed the "intermediate frequency" and, normally being fixed, is then easily amplified to any desired degree of selectivity. That is the secret of the superhet.

If you look back to "Part Two" of this series (Issue 87, October 2004), you will find a "universal radio frequency amplifier", which looks very much like the mixer part of our circuit and it operates in a similar manner, with similar trouble-spots. Have it beside you.

Let's start at the input end and go through each component. L1 is the aperiodic (untuned) coupling coil from the previous stage(s). In the simplest of all superhets this will be direct from the aerial.

Perhaps I should point out at this stage that all band-switching is ignored. It would make the analysis impossible to follow. But remember that on an Eddystone circuit you will need to find your way through the jungle of extra coils.

L2 is tuned to signal frequency by C1, part of the tuning gang. L2 has an iron-dust core and a pre-set trimmer, C2, both of which are used in the alignment procedure and then take no further active part in the operation.

The signal is fed to the control grid (G1) of the hexode (V1a) via condenser C3, typically 100pf, silvered mica. The grid is returned to earth (for standing bias) via R1 (typically 470k).

It looks like a leaky-grid detector, and, in fact, our North American cousins always call this stage "the first detector" (and the *real* detector is called "the second detector").

The cathode is common to both valves in the envelope and is returned to earth via R3 (a few hundred ohms) and

decoupled by C5 (typically 0.01 mfd). R3 generates the grid bias for V1a (but not V1b, see later).

Sometimes R1, the grid return, is fed to the AVC (AGC) line, but this is frowned upon for short-wave working as it may upset the stability of the local oscillator, V1b.

The screen-grids of the hexode (G2,4) are fed from the HT in the usual way via R2 (typically some tens of thousands of ohms) and decoupled by C4 (typically 0.01 mfd). I've just noticed that I've got two "C4"s. Sorry! They are both decoupling condensers and of similar values.

The desired intermediate frequency (IF) is selected at the anode of V1a by the primary of the first intermediate frequency transformer (IFT), L5 and C11. The former has an iron-dust core, used for adjusting the alignment, and the latter is usually silvered mica of a few hundred pico-farads.

So far we haven't mentioned the actual frequency of this newly acquired "intermediate frequency". In an ideal world it would be about 10% of signal frequency, but in a general coverage receiver working from (say) 150 kc/s to 30 Mc/s then a compromise must be made. Convention has decreed that a frequency of about half a megacycle is suitable. Different makers have their favourites but Eddystones usually operate on 450 kc/s.

It's probably best to mention one of the uglier sides of superhets at this point. This is known as "image" or "second channel" interference. As this explanation contains some simple arithmetic I'm going to assume an IF of 500 kc/s to avoid confusion.

In practice (for reasons which will become obvious later in the debate) the local oscillator (V1b) always operates on the high frequency side of signal frequency.

Let's assume we are tuned to a medium wave broadcast signal on 300 metres or 1,000 kc/s. The local oscillator will be running at 1,500 kc/s. The "image" will appear 500 kc/s above this, to wit 2,000 kc/s.

The pre-selection offered by L2/C1, the input tuned circuit, will have absolutely no problem in keeping this image out of the mixer grid, the difference in frequencies is 100%.

But let's go to the other extreme. We are listening for a bit of CW DX on ten metres and are tuned to 28,100 kc/s. The LO will be humming away at 28,600 kc/s and the image response (or "second channel") will be on 29,100 kc/s. Imagine that the band is wide open and the CQ-World-Wide SSB Contest is under way . . .

Poor old L2/C2 is having to separate signals less than 4% of frequency apart. And it can't do it. It will need a lot of help which is why any top-grade Eddystone (or anything else for that matter) will have two signal-frequency tuned circuits ahead of the mixer. Even then it has a hard job to sort the sheep from the goats and that's where we enter the territory of the double superhet. But not tonight, Josephine.

Now let us turn our attention to the actual circuitry of the local oscillator. You will find it virtually identical to that shown in last Issue's "Duffers' Guide." The reason that the grid leak (R4 in today's cct) is returned to the cathode of the valve and not earth is to avoid it being biased by the auto-bias resistor of V1b (R3). The actual tuned circuit is in the grid circuit of V1b instead of the anode circuit of last month. This is fairly academic and follows convention.

The one item which is unique to a superhet's local oscillator is C10, the "padding condenser". The reason for its presence goes like this: go back to the paragraph at the top of this

column. Let us assume (for the sake of simplicity) that the medium wave broadcast band which is being covered goes from a high frequency of 1,500 kc/s (200 metres) to a low frequency of 500 kc/s (600 metres).

This means that the mixer grid (and any previous stages of amplification) are covering a frequency ratio of 1,500/500 or 3 to 1.

The local oscillator will be covering a range of 2,000 kc/s (when the signal is 1,500) to 1,000 kc/s (when the signal is 500 kc/s). This means a frequency ratio of 2,000/1,000 or 2 to 1.

This is a difference which will not be accommodated by using the same value of variable condenser for C1 and C8. This condenser and its strays will typically cover the range 50pf to 500pf.

In the case of C8 it will only have to cover from (say) 40pf to 400pf over its 180 degree swing.

This condition is achieved by placing a "padding condenser" in series with C9, which is what, in effect, C10 is doing.

Its value "Xpf" will need to be calculated from the conventional formula for the value of condensers in series, C10 multiplied by C9, divided by C10 plus C9.

This will give an answer of something like 1,000pf and should be of the best quality silvered mica. It will, of course, be a different value for each waveband and will come in part of the bandswitching circuit.

So far in life I've never come across a set with a problem condenser in this area. Keep your fingers crossed and hope it will be the same for you. The values of these padding condensers in a circuit have to be accurate to less than 1% and they are all "special" (i.e. "odd") values. A replacement would almost certainly mean building one up from several selected smaller ones

and then putting a trimmer in to get it spot on.

Now I don't want anybody working it all out and telling me I've got the values all wrong. I've already explained that I'm a duffer too and I just don't "do" mathematics. For the purpose of illustration the figures will do

Anybody really wanting "the goods" had better look in "Langford-Smith".

The next pitfall for the unwary is the question of "tracking" on the higher bands. I've already explained that the local oscillator operates on the "high" side of signal frequency. This gives no problem on the bands up to, say, 4 mc/s.

But above this frequency, and getting progressively worse as we go up to the 30 mc/s limit of most general coverage receivers, there is a great risk of getting the oscillator *BELOW* the signal frequency at one end of the band, usually the HF end of the band.

When doing a full re-alignment of any general coverage set the concentration needed to pull everything into line, with the accompanying back and forth frequency setting, can addle the brain.

It's dead easy to set the LO high at 30 mc/s and low at 13 mc/s. I've even managed to do it on the next band down, getting the LO low at 12 mc/s and (correctly) high at 6 mc/s. The set behaved very oddly around 9 mc/s, believe me!

After many embarrassing episodes I've finally discovered the answer to this pitfall. Here it is . . .

You don't track the LO on the signal generator like the book says. You get a general coverage digital receiver and *LISTEN* to the LO on that. You know exactly where it should be and there's nothing easier. I use a "Lowe" HF 150 for the job.



In Consideration of Amplitude Modulation

Graeme Wormald G3GGL

One thing that our EUG A.M. skeds has brought to my attention is the matter of "Critical Frequency". Quite honestly, in nearly 60 years of hamming, I don't ever recollect coming across the term.

"Maximum Usable Frequency" (MUF) was dinned into us young hams like the Lord's Prayer. When the sun was buzzing with spots we could work the world on 10 or 15 metres with 25 watts to a piece of wet string. But "Critical Frequency"? Mmmm. Not so sure.

Well it's like this. "Critical frequency" is more or less the opposite of MUF. Well anyway, it is to my simplistic mind. It may be defined as the highest frequency signal which, when sent vertically to a layer of ionised gas will be reflected straight back and arrive from whence it came. Anything over this frequency will penetrate the layer and be lost into space.

Not terribly interesting, I hear you say. The whole idea is to get out as far as possible, isn't it? Well, yes, it is, to the DX hound. But if you wish to converse with somebody the other side of a big hill, for instance, the matter is crucial.

And this is where we discover the sudden interest in NVIS (another 'new' term) – "Near Vertical Incidence Skywave". The military and security services are most interested.

The fashionable VHF field radio is fine if you don't have to go through several miles of solid earth.

The UHF mobile phone is splendid if you have the repeaters in situ with power feed.

Microwave satellites are excellent as long as they don't drop out of the sky.

So what do you have as a last resort? Good old short waves. So long as you

can get them to bounce back again. And that's why hams in the UK and USA have been given these new sixty metre channels to play about with.

Why sixty metres? Well we already have forty metres and eighty metres, and sixty metres lands spot in the middle; didn't you notice?

So let's go back to where we started. In previous writings I've been seen to be bemoaning the poor conditions on the newly enlarged (to we Euros) 40 metre band. That all we could hear was faint and distant signals and virtually no EUGers at all.

I claimed the 'record' for working Jim, GM4CHX, up there in Ross-shire, about 400 miles away. 5/9+ both ways but nothing from members known to be active much closer.

It seems that the "critical frequency" was lower than 7 mc/s and this is becoming more common. On our April sked I heard nobody, although members reported being active but "alone". On our May sked I heard nobody, BUT, when I checked my e-mail a little later on there was a message from EUGer Peter Nolte, DC6BN/G7IZG, to say that I was coming in at 5 & 9 on 40 metres AM in Hude, near Bremen!

Now that's 500 miles (800 km) away from Bewdley. Members 30 miles away heard nothing from me. Unfortunately Peter is not rigged for on-air activity.

We all know that 20 metres is like that most of the time (when did you last hear a "G" on twenty other than a neighbour?), but forty metres never was.

Who can explain the changes of this season?

BACK TO the JUNK-BOX BABY

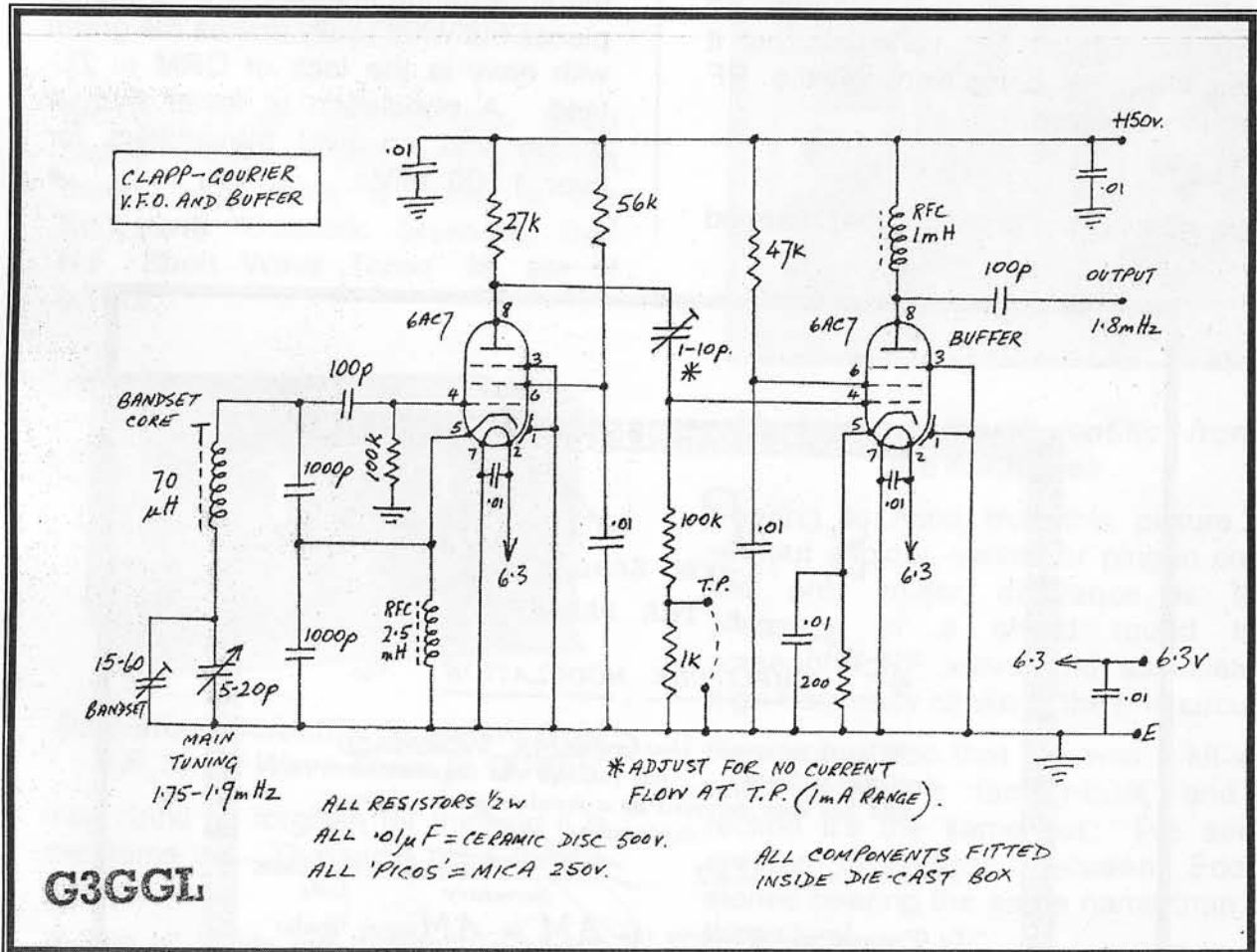
Several members have asked about a VFO for the Junk-Box Baby to obviate the need for quartz crystals and allow

them to net anywhere in the bands.

Now the reason it was made rock-bound in the first place was to keep things simple, but the customer is always right, so let's look into the matter.

Some years ago I designed a transmitter to celebrate the use of the classic 807 beam tetrode, the world's first successful HF power tetrode and still going strong.

This was published in "Radio Bygones" Issue Number 29, June 1994. The Clapp-Gourier v.f.o. and buffer are exactly what I should use to drive the "BABY", so I shall give the circuit here.



1800 kc/s stable vfo and buffer suitable for multiplying to 80 and 40 metres for any valve AM or CW transmitter

The modifications to the crystal oscillator of the "Baby" are minimal and are easier to describe than to re-draw the circuit.

So turn to Page 12 of Lighthouse Issue 89 (Feb 2005). Remove the following components; - the crystal (*naturally!*); C3 and C4; and RFC 1. Connect the cathode (pin 5) to earth. Note that R2 remains in situ.

Feed the input from the vfo/buffer to V1 grid (pin 4) via a 3-30 pf beehive concentric trimmer. Adjust this for sufficient drive to reach the 6V6GT power amplifier grid (about 2.5 mA).

The former crystal oscillator (V1 on page 12) now becomes a doubler on eighty metres and a quadrupler on forty metres. It will work fine, but it increases the complexity of the RF circuitry involved.

S.P.A.M.

No, nothing to do with that canned

delicacy we all learned to love and enjoy in fritters and sandwiches in 1943; nor anything to do with that strangely named unwanted e-mail which sometimes clogs up our PCs.

I am referring to the Society for the Preservation of Amplitude Modulation. I've been hearing about this curious acronym for some time but it's only in recent years that I've discovered an active Group in New Zealand.

Thanks to the generosity of EUGer Peter le Quesne, ZL4TCC, of Napier, I have become Member No 257 of this illustrious group and receive their e-mails regularly.

Admittedly most of them announce mouth-watering flea-markets of vintage pieces but what really makes me green with envy is the lack of QRM in ZL-land. A population of fewer than 4 million and no rival transmitters for over 1,000 miles. ♠



RETREAT IN THE DESERT

More Memories from Bill Cooke GWØION

Readers will recall that EUG President, Bill Cooke (former chief engineer and MD of Eddystone Radio) got involved with preparations to protect the Sphinx and the Great Pyramids against the forthcoming onslaught of Rommel's Afrika Korps. After taking much of Mussolini's desert army prisoner in the spring of 1941 the British forces in the Western Desert were met by an onslaught of Hitler's famous Afrika Korps.

“We had spent many weeks waiting for the start of the new desert campaign. The Luftwaffe had started to send photo-reconnaissance aircraft over the British lines and they weren't doing it for amusement.

“They wanted to see what we'd got and the truth was, not enough. British High Command prepared for an orderly retreat when the time came. Or as orderly as any retreat can be (remember Dunkirk?).

“1941 continued as a see-saw war with the forces of the British Commonwealth gaining ground, then losing it to the Axis troops.

“I was a fully trained and experienced radar fitter with one of the RAF's secret mobile radar units. They were known as AMES (*Air Ministry Experimental Station*) to confuse the enemy. At this particular time I was with AMES 846 which was the equivalent of one of the British Chain Home fixed radar stations, which enabled the RAF to win the Battle of Britain.

“Except that our units were on wheels and operated at around two metres, as opposed to Chain Home which operated on around 12 metres. Come to think of it, the use of such a ridiculously long

wavelength was probably its saving grace.

“In 1939 the German Kriegsmarine (who knew all about radar) sent the giant “Graf Zeppelin” airship on patrol along the eastern coastline of Britain to monitor the signals from all the new RAF radar towers. They failed to



This is me after the big retreat, feeling absolutely whacked!

receive any signals on the bands which Germany used for radar and reported back that the British had not yet got the system to work.

"They couldn't believe that the RAF would be using a wavelength of **Twelve Metres** for radar! But we were, and it saved our bacon.

"Back now to the Western Desert. The to-and-fro campaign continued into 1942 with both sides losing troops and equipment.

"Benghazi, Tobruk, Mersa Matruh; the towns were taken and re-taken so often they became the butt of radio jokes on the BBC. "What's the Mersa Matruh?" asked Tommy Handley in "ITMA". (*That's meant to be taken as "What's the matter with you?"*). It was met with gales of laughter from the studio audience, who knew exactly what he meant.

"In the summer of 1942 Rommel mounted his biggest push of the campaign. We were sent helter skelter back east and were only a bare 25 miles from Cairo when Rommel over-reached his supply lines.

"After several hundred miles of retreat we were absolutely whacked. We got the tent up and started the Lister diesel generator. At least we had power. You can see the absolute exhaustion in my eyes when George Silver snapped me in the light of a bare bulb.

"New Zealand Engineers came to dig us in and establish our radar control beneath the sand, using a massive earth mover to scoop it out.



New Zealand Engineers digging a giant foxhole to hide in the Western Desert

"You'd think that after more than a year in the desert we'd have got the measure of it, wouldn't you? But no. The next day when we were establishing our gear below the parapet a breeze sprang up. Before mid-day the sand was filling our giant fox-hole faster than we could scoop it out. Another big failure. That desert sand got everywhere.

"But the line held. The next big push was ours and it entered the history books as "Alamein". It was the beginning of the end for the Axis powers."



Readers Write . . .

Readers may recall that in our last issue of Lighthouse (April, page 42) I included a small piece in "Ramblings" under the heading "Human Interest". It concerned a perfectly legitimate reason, quoted by a PAØ, for not subscribing to EUG. To wit, that we carry too much Human Interest and not enough Technical material. Now so far as I'm concerned Human Interest is the very stuff of EUG. Trying to get human interest out of (say) Murphy; would be an uphill struggle. It has triggered off quite a flurry of reaction varying from a page to a sentence.

The first one came from Ben Nock, G4BXD, and he made the following suggestion: - "A letter page where members' unedited opinions can be aired. I'll start the ball rolling if you like." Thank you, Ben. Unedited opinions are fine, but unedited general material is a different matter. I'm afraid I must restrict published letters to basic opinion, or they would fill most of the Lighthouse (no offence; I just have to keep comment to Eddystone-related matters). *Graeme Wormald G3GGL, Editor.*

**From Ben Nock, G4BXD,
Kidderminster, Worcs.**

Re Issue 90 p42, Human Interest. The chap may well be right. The contents of the newsletter, or more correctly I guess magazine, can at times be "human" with little technical content. The only problem there is, as with nearly every other club magazine, that if members do not write any technical articles and send them in they can't be published. Most times it seems there are in fact only three contributors to the magazine.

I have to hold my own hands (sic) up and plead guilty to not submitting anything to EUG myself but this is purely on the basis that there are many out there who know a lot more than I do. With the limited field of interest that EUG have it's always going to be hard to write something that has either not already been covered or that is a common mod or fix that most already know.

For what we have received so far

though, I think we need to be eternally grateful to the likes of Ted, Graeme and Chris. Let's all try and help them out.

* * *

From Paul Wright G3JDM, Stafford.

Greetings, Graeme, haven't seen you for several years. Don't get about so much these days, hope you are alright - enjoy the Lighthouse a lot.

* * *

From Greg Powell, Leek, Staffs.

In reading your "Radio Ramblings", I just had to put pen to paper, or should I say finger to key.

As a relative newcomer to the Group, I find the "Lighthouse" a well-balanced mixture of technical, anecdotal and of historic interest.

I find "The Duffer's Guide" excellent, Ted's "MailBox" enlightening, I thoroughly enjoy the articles submitted by members from home and abroad; I particularly like the articles from Tor, in

Letter from Auckland

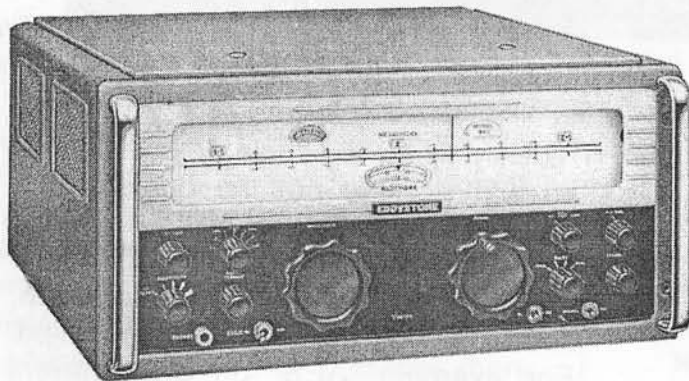
Ross Paton Reports

Members will recall Lighthouse Issue 83, February of last year, where Ross reported the disastrous fire at his home which caused much smoke and water damage to his collection. Readers will be pleased to hear that he is back on the collecting scene and will enjoy reading his latest report.

"Hullo Graeme (& Ted),

Received Issue 90 on Monday. Please note that I'm back at my old address at Glen Eden, though not back in my house, which is still being worked on, but in the house next door, the letter-boxes are side by side as we share the same drive.

Recently I acquired an Eddystone S.880, an early one by the look of it.



S.880

Don't know if it's working, the permeability tuning mechanism appears to have seized. Does anyone out there know whether this is the cores in the coils seizing or the mechanicals which move the cores in and out of the coils, or both?

(Note from Graeme, I've had a word with Bill Cooke, chief engineer at the time of the 880, and he says it won't be the cores; they could not all jam at

once, and if one got stuck it would be broken by any attempt to tune. He says it will be to do with the bevel gears.)

The tuning knobs can be turned by hand, but no pointer movement. I assume that there is a clutch in there somewhere. *(Not according to Bill).*

The only work I've done to it so far has been in the power supply as this was in a mess. All the original TCC Metalmite capacitors are still there, so, my efforts on the psu excepted, no, or very little electrical work has been done. No doubt the presence of these TCC Metalmite tubular capacitors date it somewhat. *(Can you see the date code on the serial plate, Ross?)*

A service manual came with it, but in common with other Eddystone models, and other makes of communications receivers, e.g. the AR88, CR100, SX28 etc., there is no mention of, let alone any diagrams, data, of the mechanical side of these receivers.

Incidentally, on the Internet there is a 13-page article on SX28 gearbox overhaul, by Doug Moore KB9MTY address as follows:-

<http://www.w9wze.org/df.php?dn=restorations/SX28gearbox.wp>

complete the Daily Telegraph cryptic crossword in under 30 minutes. The EUG crossword has words in it that I simply have never heard of – once again if it was equivalent to the Sun's coffee-time crossword then it wouldn't be worth doing.

All in all I think EUG and Lighthouse have an excellent balance, something for everyone. Perhaps one or two more general articles wouldn't go amiss. These however would only come about when someone like me puts pen to paper! I keep meaning to but always get sidetracked.

Can't think of much else to comment on – I think your recent concentration on antennas is interesting. One's Eddystone is only as good as the piece of wire attached to it. I spend a lot of time playing around with wire – there is aerial theory then there is what happens in practice! So many external factors can come to bear.

For the last 5 years I have been licensed and only use a 20M loft dipole (V-shaped) with about 70 watts. When conditions are good anything is possible. I have worked Japan, Sth Africa, Oregon, and the Caribbean etc. Who needs a linear?

Anyway, keep up the good work – most appreciated.

* * *

**From John de B. Pollard MØJDB,
Kenilworth, Warwicks.**

All the best, Graeme, keep them coming. The EUG magazine, I mean!

* * *

**From Gerhard Strößner DJ2VN,
Coburg, Germany.**

I always enjoy every new issue of Lighthouse. Thanks for your good work.

* * *

From Jim Duckworth, Norfolk.

Herewith a cheque for £16 in respect of the best value and best read in the Vintage Wireless world!

* * *

From Ian Evans, Ebbw Vale, South Wales.

I thought I'd drop you a couple of lines after reading about the comment you received regarding "too much human interest and not enough technical material" in Lighthouse.

As a technically ignorant broadcast listener find the human interest content of Lighthouse a delight.

Articles in issue 90 that I have particularly enjoyed include "The Eye of the Storm" on p.9, "E-Bay Watching" on p15 (my mouth actually began to water when I saw the mint EC10!) and "A Brush With The Customer" on p.46.

Brian Cauthery's story about his 830/4 was heart-warming and I never cease to be amazed at the patience with which people restore vintage and classic radio sets.

"Per Ardua ad Adastra" by Jack Read was absolutely fascinating, fancy 'listening' to Jupiter! I was aware that all kinds of cosmic phenomena are audible on radio but I've never really gone looking for them myself. I do find the atmospheric noises on short-wave strangely soothing though.

I loved "A Voice in the Night", it was such a witty informative article and it held a particular fondness for me because I too have been the owner of an 888A (AL 0478). When I wanted to mute my set I usually used the 'send' switch. As you probably remembered afterwards the 888A also covered the short 75 meter tropical or European band of 3.9 – 4 megacycles. "Ted's MailBox" is always a great mix of the technical and practical as well as the

humorous and occasionally angry!

I've often wondered if it's possible to take a valve set and convert it to transistors, and now I know! (see "Sickening" on p.25).

Radio Ramblings is always a good read and I also enjoy the new "Amplitude Modulation" section.

All in all I have no complaints whatsoever regarding the content or presentation of Lighthouse and I am proud to be a member of the EUG even though I only have the one set (EB37 No 1386) and am probably a very non-typical example of our average member.

I shall close now by once again expressing my grateful thanks to you, Chris, Ted and the rest of the EUG team for making my radio hobby so much more interesting and enjoyable than it would otherwise have been.

* * *

**From John St Leger G3VDL,
Okehampton, Devon,**

An excellent read; well written.

* * *

**From Peter Lankshear, Invercargill,
New Zealand,**

I note that on page 42 of "Lighthouse" Issue 90 that you ask for readers' responses to PAØ's comment that "(LH) contains too much human interest and not enough technical material." I don't subscribe to his attitude at all! People belong to a group or club or society to share common interests and experiences, and their collective knowledge and expertise will be likely to cover a wide spectrum of the subject.

In the case of the EUG, on one hand will be the single Eddystone owner whose main enjoyment is actually using his and listening to the World.

He (or she?) may not wish to have any great technical knowledge but will enjoy the sharing of other members' experiences and in the process will learn a bit about Stratton's technology anyway.

Conversely, there will be the case-hardened engineer with a large collection of receivers, who appreciates fine engineering, and who spends as much time delving into his treasures as actually using them.

Neither would appreciate a monotonous diet solely of technicalities, although both are likely to enjoy having a balanced number included in a mix of Eddystone related topics.

In any event it would not be possible to sustain for any length of time an Eddystone magazine devoted entirely to the technicalities of a somewhat specialist field. There is a considerable similarity between many of the various models, for there was no need when there was already a proven design based on good standard engineering practice, to "reinvent the wheel" for each new product.

I for one am very happy with the mix of articles that we do have. But I do urge EUG members to lighten the burden on Chris, Ted and Graeme by writing about some of their own Eddystone interests and experiences.

* * *

**From Dr Peter Walker G4PLW,
Bendish, Herts,**

Thank you Graeme for a mixed medley you produce in Lighthouse. It is always a good read.

* * *

**From John White GW8IQC, Newport,
South Wales,**

Graeme, Tnx for a Great Mag., Keep up he Good Work! 73.

**From Keith Thomas GW4AZI,
Swansea.**

Thanks for the magazine. It's always a good day when it drops through the letter box.

Interest has renewed here too since the re-emergence of AM on the bands. I've got a KW Victor here which I've managed to repair. I've also started building your AM rig as in Lighthouse. Got the crystals, punched the chassis. Found the valves in my junk box. Sent to Maplins for a valve transformer giving 250 @ 100 mA and 6.3 @ 1.5 A. -- £12.99.

Heard you on Sunday morning; you were a good 5 & 9 here. The station from Birmingham was also 5 & 9 as was the station using a KW Victor. I've got an 840C and a 640. Just a rather poor inverted vee up at the moment but I'll have to sort the shack out before I can get back on the air.

Please find enclosed subscription for another year. Thanks for everything you do for the Eddystone Group.

**From Ernie Wakelam, Blackheath,
London,**

Many thanks for a magazine that I always look forward to receiving. Your efforts are much appreciated.

**From Joe LeKostaj, K9LY,
Evanston, Illinois.**

Enclosed is my renewal for another year of EUG membership.

Regarding the content of "Lighthouse": I think the current mix of technical info and human interest is just fine. The satisfaction we enjoy from using this wonderful "hollow state" equipment can be appreciated best when we share our experiences with other like-minded users. Keep the mix as it is!

I've really enjoyed the articles by former Eddystone employees, and articles describing end-user applications of this equipment during its heyday. Your column and Ted's are always educational and entertaining. The crossword puzzle is fun too, although I don't always find the time to work out the last 2 ~ 3 clues that prevent me from finishing it!

Keep up the good work. Wish I could visit the EUG table at NEC; maybe next year.

**From Tom Clark K4SHY, Knoxville,
Tennessee,**

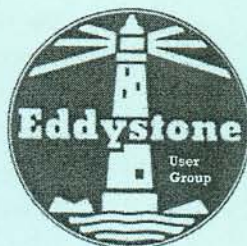
Graeme, I really enjoy the "Lighthouse", Keep up the good work.

**From Dr Andrew Thomas G8GNI,
Stony Stratford, Buckinghamshire.**

Just thought I would write and let you know that at least one person gets to page 42 of the magazine! As a regular writer for DATACOM and a committee member of BARTG I am always bemused at the lack of contact from members, so I thought you might appreciate an e-mail to let you know that I think Lighthouse is terrific.

Issue 90 – Human Interest. I'm only a relatively recent member but I do look forward to Lighthouse. It's a great read and I particularly like the mix of technical and human interest material. This probably reflects my background, which is totally non-technical (in the radio and electronics sense). The nearest I get to technical is my amateur radio interests, but I'm a social policy research director by profession, which is probably why I like the human interest angle of Lighthouse. So, from my point of view – please keep it coming . . .





“EUG on the Air”

PHOTOCOPY THIS PAGE AND STICK IT UP IN THE LOO!!

**The next “First Sunday” nets will take place on
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