



RAGCHEW

DECEMBER 2017



FROM THE EDITOR

Firstly many apologies to Graeme G0EEA who submitted an item under the heading "Hints for Hams" which I mentioned in my Editorial in the Autumn "Ragchew" and then managed to omit. Graeme has since submitted more items under the same heading so he gets a triple bill this time!

Tony G4HBV rounds off 2017 with some interesting thoughts on how to avoid interference. I'm sure that all "Ragchew" readers will join me in thanking Tony for his contributions and we look forward to many more articles based on his down-to-earth explanations of the mysteries of RF.

Many thanks to Mike G4IZZ who has evaluated some logging software suitable for Apple Mac devices.

Members and their partners gathered together at the Toby Carvery, Brockworth recently to enjoy a Festive meal in convivial surroundings. Many thanks to Anne 2E1GKY and Gary M0XAC for organising what has become an annual fixture in the club calendar.

G4CIB

Congratulations!

Many congratulations to Leta G4RHK on being a licensed amateur for 35 years. She obtained her call sign on 1st December 1982, having passed the Radio Amateurs Examination which she took on Monday 17th May 1982 at 6.30pm in Room B44 at what was then the Gloucestershire College of Arts and Technology at the Park Campus, Cheltenham. Leta then took her 12 wpm Morse test at Portishead Maritime Radio Station on 23rd November 1982. Leta was awarded the Morgan Key in 1985.

Do let the Editor know of any of your significant Amateur Radio anniversaries or milestones.

The Editor wishes

A Happy Christmas

and

A Peaceful and Prosperous

New Year to all GARES Members

and their families

HINTS FOR HAMS

Labels for Cables in The Shack

There are many options available but I have only a few cables to label, and I found that a piece of Elastoplast works well. Alternatively, a piece of Micropore. You can write on both these with black ball point pen. I find the Elastoplast is more pleasing to the eye, and experience tells me that it lasts a long time. I had Micropore to hand last week, ask me years from now whether it lasted or not!

Rusty Nuts and Bolts

Of course, you should have prevented those outdoor nuts from rusting, the ones holding your aerial up, but at the erection you didn't coat them with Waxoyl (other treatments are available) for whatever excuse or reason. All these are well known removal ideas, short of destructive use of splitter, hacksaw and angle grinder:

1. Wrap rag around nut, soak rag with old engine oil, apply spanner 24 hours or more later. Gain extra leverage, put long metal pipe over spanner handle.
2. Apply heat from blowtorch - rust and metal have different expansion rates - sorted!

The nut is off, but it is stiff for re-use? Apply valve grinding paste to thread, work nut up and down until no longer stiff. Clean off paste with white spirit. Bring suitable container if you want a free dollop of Waxoyl for your project.

Spanner Slip Safety 3s

You may have heard of **5s**, so think of **3s** if that will remind you about the safety of your hands when you are using a spanner. I will spell it out: you can lose skin from your knuckles if the spanner slips, so be careful. Ring spanners, tube spanners, and socket spanners are all less prone to slipping than open-ended types, so use these if possible. Extra leverage makes slipping more likely, so be extra careful. Extension bars also raise the risk of slipping off the nut, so beware.

Graeme G0EEA

Reading the above about **3s** reminded me of the Morse sending exercise "The word possesses possesses more esses than the word possess possesses"- **Ed**

Any Mac users out there?

One of the problems faced by us Hams who use Mac computers, whether 'desktops' or laptops, is the apparent lack of general, and contest, logging programs. Should you be in this position, or think you might be if you're considering changing from Windows to OS X, let me assure you that there is some excellent software available to perform these tasks.

So with respect to contest logging, I have had the slight issue of having to 'manually' convert ADIF files into Cabrillo for log submission after taking part in the UKAC contests. No big deal, I know, but the best Windows contest logging programs, such as N1MM, convert logs into Cabrillo format in one operation. So I was pleasantly surprised a short while ago when I found (via the UK-Irish Amateur Radio website ukeicc.com) a program very similar in operation to N1MM, but for Macs.

The download website to obtain this program (URL below) says you need 'Winkeyer' to send CW – but that's only if you want the software to send morse for you – if you're using a key of some sort, (as do I) you do not need 'Winkeyer'.

So, the program I'm taking about is called SkookumLogger (and 'no', I don't know where that name came from). I've used it a couple of times, and it's worked well, and importantly, provided me with a Cabrillo log for submission only minutes after completing the contest.

To find this program, use the following link: <http://www.k1gq.com/SkookumLogger/>
And if you want any other info' on it, please don't hesitate to ask me. I'm no expert, but will happily tell you what I know.

Mike G4IZZ

CHRISTMAS CROSSWORD

ACROSS

2. Repartee on this

7. This is where we start

8. A poem penned by a
Welshman?

DOWN

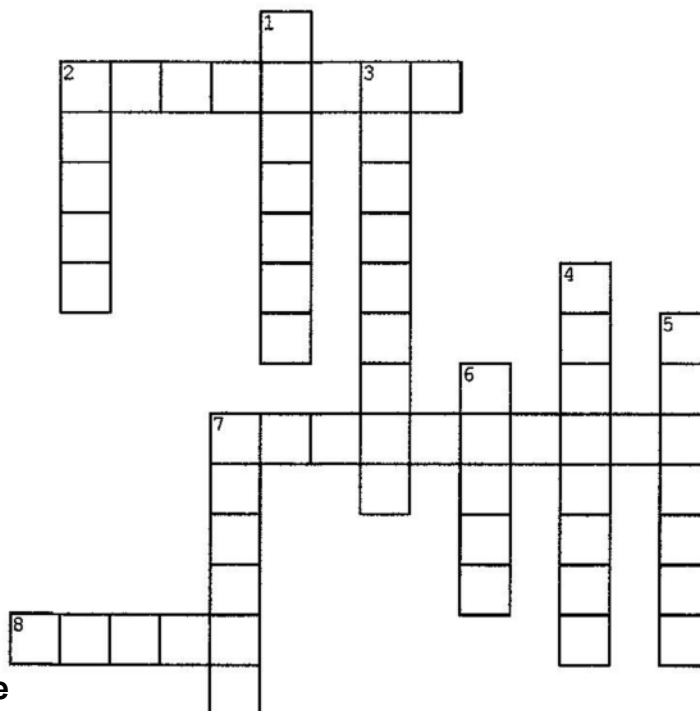
1. We celebrate the life of this
Marchese with a special day
every year

2. GBR by another name

3. The flow of these can make it
work or not as the case may be

4. Reject the advances of a lady
perhaps?

5. Radio and TV star who upset
some Hams



6. Better to be safe than sorry with one of these

7. A trifle will narrow it down

RF Notes by Tony G4HBV

I thought that in these "Notes" I would summarise what you can do to avoid causing interference, bearing in mind the very high field strengths which you will be subjecting to any nearby consumer equipment. The most obvious method is to reduce power – for it is still possible to operate successfully on low power. Certainly using high power with indoor antennas, such as in the loft, is asking for trouble. Certain operating modes are more likely to cause interference – these are modes that use sharp transitions, such as SSB or CW whereas narrow band FM is relatively benign.

Most HF operating will be with a "so called" ATU - but a relatively simple ATU can be used at VHF and is easily made at home. I use such a one on 2-metres; it is a pi-network, with the inductor being a 2-inch strip of brass or copper and each end of the strip taken to ground through panel-mounted 30pF ceramic air-spaced variable capacitors. Mount it all in a die cast box with RF connectors and as well as matching the TX the pi-network acts as a low pass filter adding to the suppression of harmonics. A point about using filters is to avoid getting input cables and output cables close together – co-ax is not a perfect shield and if you run the cables together you may well be bypassing the filter at higher frequency harmonics. I once saw a brilliant example of this in an industrial application where the output cable of a filter had been neatly looped back into the cable harness carrying the input cable.

At HF a separate installed RF earth is good practice, but make sure you have a 50Hz isolating RF type capacitor. One thing to be aware of is that simple low-power HF TX designs, without adequate filtering of Class C solid-state PA stages will certainly produce a comb of harmonics across the VHF spectrum.

Our licence used to specify that we should be able to carry out tests to ensure that we were not transmitting outside our bands – whether this is still so I do not know, but it is a good idea to check your transmitters to see what harmonics are present. Almost certainly you will be able to detect some. I have used an old tunable portable black and white UHF TV to check my 2-metre TX. You could also use a scanner. Without professional equipment it will not be possible to make any sort of measurement of harmonic levels relative to the fundamental. I once tried to make a wide-band measuring receiver to check a couple of home-made transmitters, but I gave up after I found the fundamental was overloading the input stage causing it to generate even more harmonics. At least you ought to be able to demonstrate that your own consumer equipment is immune to your transmissions. This will be a defence against "the nightmare neighbour". This neighbour will have several TV's and/or phones all around the house, all connected with poorly maintained long lengths of cabling. I know of two club members who have had to face precisely this situation.

A dodge when testing transmitters is to make a "leaky" dummy load. Use a coaxial T-piece to connect the dummy load as per usual. The extra socket on the T-piece can be used to connect a short (in wavelength terms) piece of wire to act as a sampling probe. The wire length should be short enough so that it doesn't significantly upset matching to the dummy load.

Finally it is good practice to have your SWR meter connected up only for setting up and checking. This may be difficult for working HF, but on VHF/UHF when you are working into narrow band antennas it is quite practicable and will avoid the diodes in the SWR meter generating harmonics (in the UHF TV band) from the fundamental.

Hints for Hams

As 2017 draws to a close and after the Christmas Day festivities have subsided, don't forget to check all those bits of equipment and gadgets that contain batteries, particularly those items which are not regularly used. We can easily forget when the batteries were last replaced and there's nothing worse than discovering that they have corroded and leaked. Visually check the batteries and holders for signs of corrosion also check the voltage and if possible do a simple load test and note any voltage drop. It's also handy when replacing batteries to put a small sticker on the item with the date.

An Interesting Trip to the Isle of Wight

Some of our younger members may be unaware that in the 1960s the United Kingdom was for a short period of time in the forefront of Space exploration and technology. The Government formulated a policy which would see the defence of our country become less reliant on manned aircraft and more on guided missiles. To this end several research projects were initiated amongst them Blue Steel, Blue Streak and Black Knight. Blue Steel was an air-launched rocket propelled nuclear armed missile carried by the V-bomber force; Blue Streak was a medium range ballistic missile and which was later used as the first stage of the Europa satellite launch vehicle. The rocket project Black Knight was developed to test and verify the design of a re-entry vehicle for the Blue Streak missile and it was the United Kingdom's first indigenous expendable launch project.

The main contractor for the Black Knight project was Saunders Roe based at Cowes on the Isle of Wight, and the rocket motors were tested at a site on the south-western tip of the island near the Needles at High Down. This location enabled the testing to be carried out in comparative secrecy as it was not visible from the Hampshire and Dorset coastline, indeed it was fairly remote from other habitation on the island. After testing, the rockets were shipped to the launch test site at Woomera in Australia. Indeed it was a Black Knight which launched the Prospero, the first British satellite to be launched by a British rocket. This took place at Woomera on 28th October 1971. The Prospero satellite was designed to conduct experiments investing the technology required for communications. Indeed this was to be the first and last launch by a British rocket as the contract was cancelled because the Government could see no commercial future for launching communications satellites.



The coastline here is now owned by the National Trust and the site of this test station shown above is now open to the public. While we were on the Island at the end of October we took the opportunity to visit High Down.

The underground bunkers which were abandoned and filled in after the cancellation of the project have now been cleared and have been fitted out with control and measuring equipment typical of the period. One of the National Trust guides John Elliott (see pictured below with your Editor) was an Instrumentation Engineer with Saunders Roe and worked there in the 1960s and also spent six months in Australia at the Woomera range.





The entrance to the Underground Bunker at High Down



A selection of equipment on display. Some of our older members will recognise the Marconi LCR Bridge as the club possessed one many years ago

A Small World!

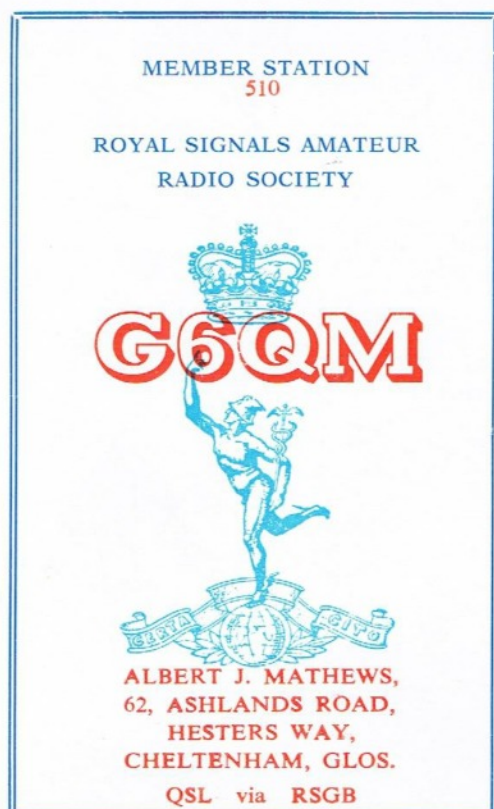
Your editor was at a function in Cheltenham recently when I let slip to another guest that I was a radio amateur.

"My Dad was a radio amateur too!"

"What was his call sign?"

"G6QM - Bert Mathews"

Suddenly the years rolled back and it was 1970. I had only been licensed as G8CIB for nearly a year and my "Elmer", Arthur G8BRN had invited me to the Annual Open Day of the G.C.H.Q. Radio Society, G3SSO held in the Canteen there. All the local amateurs were there and who should I bump in to was Bert G6QM who at that time was the QSL Manager for the G8Cxx series of call signs. I thanked him for the QSL cards that he had recently forwarded to me. The highlight of the evening was the Grand Draw. The prizes appeared to be the contents of the G.C.H.Q. Redundant Stores and such were the number that you were almost guaranteed to win something - a bit like a GARES raffle. I remember winning an enormous transmitting valve which at the time I had no use for and passed it on to a delighted G3 who was building a linear amplifier and could make use of it. After the meeting I ran into Bert quite a few times on 2 metres and we exchanged QSL cards.



To RADIO	G8CIB	at last we made it
Confirming our QSO on	10 + 72	73
	at 1910	GMT
Band	144	Mc/s AM/SSB/CW
Ur Sigs were R	5	S 6 T
Tx	HW30	Input 5 W
Rx		Ant Hale at 14 ft

The HW30 rig that Bert was using was a compact 2 metre valve transceiver produced by Heathkit and because of its shape was affectionally known as the "Benton Harbor Lunchbox".

Bert's son Philip fondly recalls:-

"I remember the Heathkit HW30. Dad built it from a kit, I helped with some of the soldering!! Spent many an evening with bits scattered over the dining room table.

We had an old style kitchen cupboard unit with cupboards top and bottom and a central section with pull-down flap to form a work top. All the radio kit was in that, suitably wired in. The main set was an HRO of some sort (bit like the things you'd see in the Wireless Operator position in a Lancaster or similar)."

Should I sign /P or /M?

The item I published in the Autumn "Ragchew" certainly resulted in a flurry of emails, a selection of which I have reproduced below. The original question I posed is also reproduced:-

"Following a recent 70cm Friday evening Club net where I signed G4CIB/M I received an email from Anne 2E1GKY querying whether I should have signed G4CIB/P. On digging into the subject I realise that there is much ambiguity in our licence conditions. So I am sat in my car, parked up in a lay-by. I have a mag mount antenna on the roof of the car and my small rig is mounted in the centre console of the car and I am chatting for half an hour or so on the club net. Should I have signed G4CIB/M or G4CIB/P? I would be interested in your thoughts and the reasons why you came to that decision?"

"All /M operations require that the antenna, rig and associated power supply are **capable** of moving as a complete unit although they don't have to be in motion. A portable station, /P has at least some fixed elements and constitutes a temporary location which is not a premise with a post code. In that instance it becomes /A as an alternative location. This is the information given during training for radio licences. Since your antenna was a mag mount with power from your vehicle and the rig in the vehicle, signing /M was correct. Moving or not is not an issue."

"As far as I am concerned if all your equipment is mounted in the car you are mobile and should sign /M even though you don't have to these days. If you take something off the car ie the aerial and mount it away from the car, then you would be portable i.e. /P. That's my understanding of the licence conditions anyway. It doesn't say anything about moving"

""Mobile" means the Radio Equipment is located in the United Kingdom:-

I. In or on any vehicle or conveyance; (From the licence conditions).

I always use /P from outside a vehicle and in a location without a postal address."

"The answer is in clause 17(1) of the licence:

- **No suffix** (t) "Main Station Address" means the main station address stated in Section 1 of this Licence;
- **/A** (b) "Alternative Address" means a fixed postal address in the United Kingdom other than the Main Station Address (i.e. a location where a letter can be delivered/that has a postcode);
- **/P** (jj) "Temporary Location" means a **fixed location** in the United Kingdom which is not the Main Station Address or an Alternative Address (i.e. you will not be there long enough to receive a letter or it doesn't have a postcode);
- **/M** (w) "Mobile" means the Radio Equipment is located in the United Kingdom:
 - I. in or on any vehicle or conveyance (but not necessarily moving);
 - II. on the person of the Licensee where the Licensee is a pedestrian; or
 - III. on any Vessel on Inland Waters;

Therefore, you were quite right to sign /M but most people sign /P when using a handheld when they should sign /M."

So it would seem pretty clear that I was correct to sign as G4CIB/M, but an interesting point has emerged and that is in the last comment posted above, that as a pedestrian using a handheld, the suffix /M should be used. I must remember that during my ramblings over Dumbleton Hill on Boxing Day!

Brian G4CIB

I Saw The Light - A Jackanory with a Happy Ending.

A lot of years ago, in the mid 1970's, I had a Kodak snapshot camera, an Instamatic 32. It was cheap, and easy to use because it had a) cartridge loading of the film, b) a flashcube comprising 4 magnesium flashbulbs, complete with reflectors, all in a throw-away, plug in, rotatable plastic cube, c) a simple fixed lens and d) no adjustments whatsoever ! As a matter of fact, it was so cheap that I had bought it from an "engaging" offer on the back of a Kellogg's cornflakes packet.

Everything about it indicated the "Razor & Blade" sales strategy, a term I hadn't heard of back then, so the cheap camera was probably subsidized, and the consumables: film, flashcubes, batteries, develop & print the photos, was how the profit was made. Not that this mattered, the only alternatives at the time were either cheap snapshot cameras, or expensive upmarket cameras, expensive electronic flashguns, and the consumables still ate up your money anyway, especially if you chose to use colour instead of black & white film.

This camera had an irritating weakness which I suspect was common to the whole range of Instamatic cameras: the flashcube connection was unreliable. Readily available and cheaper colour film was slow, just 200 ASA, if my memory serves me, and therefore the flash was essential at night, and indoors, and outdoors in winter where the daylight isn't very bright.

The circuit in this simple camera was very simple. The batteries, the flashbulb, the lens shutter-switch, were all in series, and I had a plan to overcome the dodgy flash. LEDs were very new at the time, a bit pricey, and came in every colour so long as you only wanted red. I acquired a secondhand LED, took the camera apart to drill a hole to fit the tip of the LED just within view inside the viewfinder, and wired it in series with a higher value resistor, across the shutter switch. The higher value resistor was higher than would typically be used, restricting the current so that a) the flashbulb wouldn't ignite and b) the light would not prevent me seeing anything else through the viewfinder ! The low current also promoted battery life, but anyway twisting the cube to the 45 degree position also turned the current off whenever dormancy was desirable.

This arrangement worked a treat, the dim red LED telling me flash connections were good, until, one day, on holiday, the film could not be wound on, as the internal plastic drive chain had worn out, and the camera became useless. The story has a happy ending, however, because my brother-in-law lent me his top of the range Canon camera, and the rest of our holiday photographs were of excellent quality!

G0EEA

(Editor's note - I too had a camera similar to this. It was early 1970's and I remember going into Jones Camera shop (which I think was either in Northgate Street or Worcester Street) and enquiring about a camera. The sales assistant asked me whether I wanted a "point and shoot" camera or one with all the bells and whistles. I opted for the former and he sold me an Agfa equivalent of the Kodak Instamatic. That camera did sterling service for many years and I still have the slides I took with it - I must transfer them into digital format sometime.)

A Final 2017 Hints For Hams - Hairgrip Iron Tip

I have a pistol style soldering iron, the sort commonly referred to as a Weller Pistol type, mine is an Italian copy which proves the modern diversity-promoting statement "other makes are available", but I digress. For a long while I couldn't get a replacement for the tip I had broken until a few years ago I bought a packet of two in B&Q - other DIY stores may also sell this spare part. There is a quick temporary fix, though, a hair grip with the varnish scraped off at the ends and tip, works fairly well until you can get around to buying the proper thing, which definitely works better!

G0EEA