



**RAGCHEW**

**SEPTEMBER 2018**

## FROM THE EDITOR - G4CIB

On a pleasantly warm evening a large group of members, their families and friends met at **Saul Junction** for the **Summer Picnic**. **Anne 2E1GKY**, **Leta G4RHK** and myself wandered over to the Bridge House and met the now retired Bridge Keeper and had a long chat about his working life on the Canal and River Severn. Read more in this issue.

In his regular **RF Notes** column, **Tony G4HBV** gives an interesting explanation of how the recent **Surinam DXpedition** were able to simultaneously receive on one band and transmit on another using a single antenna which was mentioned in the recent talk given to the club by **Roger G4BVY**.

**Dave G4HJV** has supplied me with a selection of photographs taken at one of the DF Hunts recently held on the school field. Older members will recall that Dave donated the **DF Trophy** to the club prior to his departure for foreign shores in the 1980s.

On August Bank Holiday Saturday the club operated **GB4RSE** for the British Inland Waterways on the Air event. More in this issue.

Belated 90<sup>th</sup> birthday greetings to **Alan G1IFF** who celebrated with friends at Hardwicke Village Hall in July.

By the time you read this Leta and I will be heading off for our annual visit to Lundy Island in the Bristol Channel and I will be on the lookout for GARES members eager to win the **Lundy "Old Light" Award**. Over the years many club members have made our visits to the island even more enjoyable by keeping in touch through amateur radio and this small award recognises those efforts members have made in supporting our radio activities.

Finally just a reminder of the **Annual General Meeting** on **Monday 10<sup>th</sup> September**. I'm sure all the members will join me in thanking the Committee for all their efforts and hard work during the past year. We have much to be proud of, not least that we meet every week during school term time. Also we continue to attract new members and it behoves us all to make them welcome and help them to make the most of what the club has to offer.

Can I make my regular plea for articles from members on any aspect of amateur radio. Email your article to me at [g4cib@outlook.com](mailto:g4cib@outlook.com)

**73 and good DX!**

**Brian G4CIB**

## Contest Round-Up

Many congratulations to **Bob M0NQN** and **Gary M0XAC** for securing **1<sup>st</sup> Place** in the **Low Power Field Day 10w Section**.

**Bob M0NQN** is also to be congratulated on winning the **G3XTJ Memorial Trophy** for being the highest placed most accurate log in the RoLo (Rotating Locator) CW Contest 2017.

In the **UKAC VHF Contest Series**, the club is lying in 19<sup>th</sup> place, and as last year 2m is the most popular band with 8 members regularly contributing to the club score.

Following on from our entry this year after a long absence from **National Field Day**, we are hoping to enter again next year but operating the full 24 hours. If you are interested in taking part or helping in any way, please contact any Committee Member

### Antenna Workshops by Brian G4CIB

Following on from the popular Antenna Workshops held at club in the last session yours truly has offered to carry on this club activity. The numbers of participants will be strictly limited so if you would like to take part, please let me know.

Two dates have been arranged:-

**Monday 15th October - 2m Slim Jim Antenna using 300 ohm ribbon cable**

**Monday 26th November - 2m 3 element portable yagi.**

**An interesting eQSL received from G3PXT for his QSO with GB4LMG (Gloucester Life Museum)**



## Summer Picnic - Saul Junction

### By Leta G4RHK, Anne 2E1GKY and Brian G4CIB

Once again we were blessed with warm weather for our annual Summer Picnic. It was a welcome return to Saul Junction on the Gloucester to Sharpness Canal, but we did have a bit of a minor panic a few days before as we had called by on our way home from a visit to Owlpen Manor near Uley only to find the car park full of film unit vehicles. A few telephone calls from Rita to the Canal Trust shop and cafe were made and assurances received that they would be gone by the date of our gathering.

**Dave G4BCA** managed to get some operating in using his Yaesu FT991 running 70w into a 20m mobile whip antenna: he worked E725ZRHB on 20m CW, a Special Event Station celebrating the 25th anniversary of the Association of Radio Amateurs of Bosnia Herzegovina, along with a couple of Russians on CW. Also on 20m he heard but did not work a ZS6 (on SSB), a PP5 (on CW) – both quite weak. As Dave said he might have had a chance from Birdlip with the same setup but not from the 'flatlands' by the canal!

Most members and their families, however, socialised and we were pleased to welcome **Derek G3NKS** and his partner **Geraldine**, also the **Snell-Pym family**, father **Alaric** and his daughter **Jean** having both signed up for the Foundation Course to be run by **Les G0ULH** in the Autumn.

In between brewing tea and coffee **Anne 2E1GKY**, **Leta G4RHK** and myself wandered over to the swing bridge across the canal and got chatting to **Jack Workman** who, although now retired from being the Saul Junction bridge keeper, still lives in the adjacent cottage. He told us that the bridge is now controlled electrically from a small office alongside his cottage and the main method of alerting the bridge keeper of an approaching vessel is by monitoring video cameras placed strategically either side of the approaches to Saul Junction. The keeper can also be contacted via mobile telephone or marine radio (Channel 74 - 156.725MHz) and as a last resort - tooting your horn!



**Anne 2E1GKY, Leta G4RHK, Jack Workman and his dog Daisy**



After Jack left school he joined the crew of a tanker barge "BP Miller" which carried petroleum products from Swansea and discharged at Monk Meadow in Gloucester and also Worcester. He told us that he was working on the John Harker tankers when the terrible accident claiming five lives took place on 25<sup>th</sup> October 1960 involving two of the company's tankers Arkendale H carrying heavy oil and Wastdale H carrying petrol collided in thick fog into the Severn Railway bridge. The resulting explosion brought down one of the bridge spans and a few years later the whole structure was demolished. The wrecks of the two tankers can still be seen at low tide. Luckily Jack was on a delivery run to Stourport that night. In the mid-1960s he worked on the grain barges operating up the canal from Sharpness and delivering wheat to Reynolds Flour Mill in Gloucester also Healings Mill in Tewkesbury. He told us that he became the bridge keeper at Saul Junction in 1987, and although retired he is still a tenant in the cottage, the last one on the Gloucester to Sharpness Canal still owned by the Canal and River Trust (formerly British Waterways). Widower Jack and his dog Daisy continue to enjoy the peaceful surroundings and keeping a watchful eye on the canal traffic which of course is now mainly leisure craft.



**The busy car park at Saul Junction**



**Leta G4RHK, Brian G4CIB, Jack and Daisy**

## **RF NOTES BY TONY. G4HBV**

Sometimes an element of radio engineering can astonish you. For instance a couple of years ago, I heard, on BBC Radio Four, an account of how a small group of American amateurs undertook a project to listen directly to the UHF hand-helds being used by U.S. astronauts on the moon's surface. Even NASA had not attempted this, for UHF communications between the astronauts on the surface and the circling command module were relayed back to earth over a beamed microwave link. Well, those amateurs succeeded and the BBC recording showed that the received signal strengths had validated their path calculations and system design.

Likewise in the recent talk at the club "Dxpedition to Surinam" something in the talk astonished me. Perhaps you remember. Well, Roger, G4BVY, and his team had put together a station where a single multi-band HF beam could be used for receiving (on one band) and transmitting (on a different band) SIMULTANEOUSLY if necessary. How was this done? Well, thanks to Gary, M0XAC, who provided me with print-outs of the equipment specifications, we can take a closer look at this, to me, astonishing feat of radio engineering.

First we must understand decibels; because power levels in RF engineering range from that at the receiver inputs to transmitter power output, we need an easy way to deal with such a vast range of values – hence the decibel.

The decibel is a logarithmic measure of the ratio of two quantities - in this case powers. Because it is a logarithmic function, gains and losses are simply added and subtracted where appropriate. The logarithmic function also compresses the range of values encountered. It helps to remember a couple of significant numbers:-

A standard S-point is 6dB

Increasing TX power by four times is +6dB and 2 or 3dB is about the least in signal change that is discernible.

To explain how this simultaneous receiving/transmitting was done, consider a basic system. I imagine two transceivers, each connected via a bandpass filter to a diplexer, whose output is directed to the multi-band beam. Taking for example operation on the 20 and 15 metre bands, the band to band rejection figures, provided by each filter, are respectively –74dB and -58dB. We can ignore the negligible insertion loss.

The diplexer provides two "input" ports connected to the transceivers via their band pass filters and an "output" port connected to the beam antenna. The diplexer circuitry is not disclosed but is probably a transformer which, via phasing differences, provides isolation between the "input" ports whilst giving very low insertion loss from the "output" port to each "input" port. The isolation varies band to band but a typical figure given is 35dB.

So adding up the isolation between the two transceivers we come to the figures:-

20 metres to 15 metres = 109dB  
15 metres to 20 metres = 93dB

Now we need to convert these figures to the effect they have on say a 1kW transmitter power:

100dB(say) on 1 kW      = 10 to power of -10 x 1 kW  
                                     = 10 to power of -7 W  
                                     = 0.1 microwatts at a receiver input due to the "other" transceiver – or  
                                     700 microvolts at the RX input.

This level will protect the transceiver, but could be detectable – but of course the receiver portion of the transceiver will itself provide isolation by virtue of its selectivity. Fascinating isn't it?

## **British Inland Waterways on the Air - GB4RSE by Brian G4CIB**

Members of the club led by **Gary M0XAC** set up our latest Special Event Station **GB4RSE** (River Severn @ Epney) on Saturday 25<sup>th</sup> August. Luckily the weather was good, after all it was a Bank Holiday weekend and certainly the weather on both the previous day and following day was pretty poor. We were able to use the overflow car park / camping field at the Anchor Inn, Epney on the banks of the River Severn.

Using a TS590 into an inverted V doublet for 40m and 80m and an FT857 into a Slim Jim on 2m, some 40 qsos were made including on 2m an enjoyable contact with **G4ABC (Thornbury and S. Gloucestershire ARC)** who were having a club operating field day at nearby Berkeley. I did mention during my qso with them how we all miss the Thornbury and South Gloucestershire Rally. Sadly they were having difficulty attracting traders, particularly the larger well-known dealers, also the average age of those actually doing the work on the day was rising and their stamina waning.

Several members enjoyed lunch in the pub and reported that the food was excellent. During the afternoon **Rita M6RYL** and **Les G0ULH** arrived with their camping stove and served up teas and coffees along with doughnuts.

Stations worked on 80m included **G1RAF RAF Halton Radio Society**, **GB2MOP Internal Fire Museum of Power (near Cardigan, West Wales)**, **GB4MO Military Odyssey Show (near Maidstone, Kent)** and **GB3FOT**.



**Les G0ULH in QSO on 40m, Gary M0XAC in the background logging**





**Gary M0XAC taking a break from operating the HF station**



**Alan G4MGW and Dave G4BCA enjoying the refreshments provided by Rita M6RYL**



## **GB4RSE at Epney**

### **View towards the new Club gazebo from the end of the inverted V antenna**

Photo submitted by Alan G4MGW



## **Celebrating Alan G1IFF's 90<sup>th</sup> Birthday at Hardwicke Village Hall**

In this photo from Alan G4MGW - on Alan G1IFF's right - Roy G3VZR and Vernon G0HTO





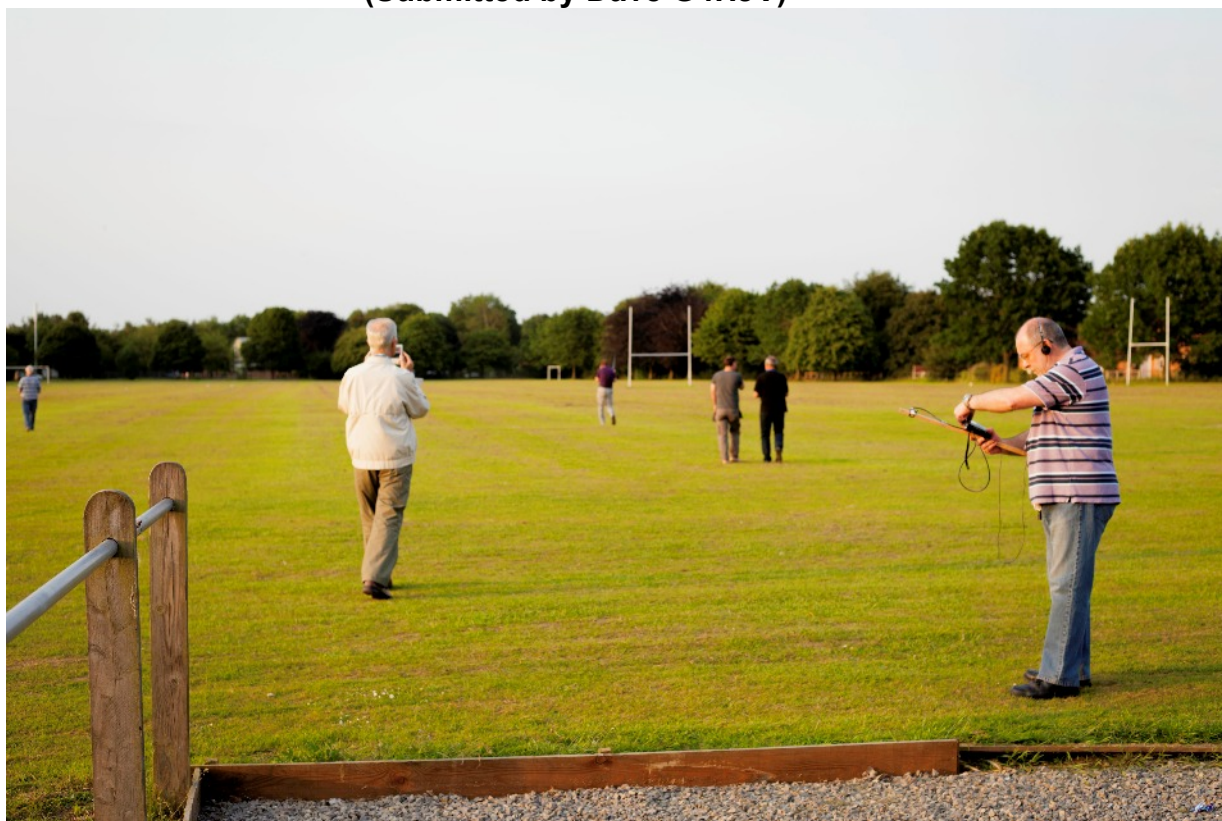
## A Selection of Photos Submitted by Members



### Preparing for a recent DF Hunt

**Vernon G0HTO, Tony G4CMY, Bob M0NQN and Tony G4HBV**

**(Submitted by Dave G4HJV)**



**Competitors on the field - near left Ian G4CLR and right foreground Gary M0XAC**

**(Submitted by Dave G4HJV)**





## **Les G0ULH/A in Cornwall**

(Photos and text by **Rita M6RYL**)

These two pictures are of **Les** operating as **G0ULH/A** while we were at Trebarwith near Delabole in Cornwall. He is using an FT857, manual ATU and his tripod base holding a 10m vertical antenna tied to the decking/seating area outside the bedroom window. A good all weather shack!! These photos were taken on one of the dry days while we were there in the spring. Les spent time speaking to **DJ2XB, Gunter**, in Germany and just managed to pick up **Gary M0XAC** on a planned contact to see how the UK propagation was. Unfortunately Gary couldn't hear Les.

