



**RAGCHEW**

**NOVEMBER 2019**



**This issue is dedicated to all Radio Society of Great Britain members who have given their lives in the cause of freedom**

**We Will Remember Them**

## From the Editor

Since the last "Ragchew" was published the club has lost one of its stalwart Life Members **Stan Gibbs G4YYR** who died on 22<sup>nd</sup> October.

Stan was one of the club's National Field Day operating team for many years and was always willing to help newcomers to the hobby. He will be sadly missed.

**Mike G0XAE** has now started "on-the-air" Morse training on Wednesday evenings at 20.00 on 2m FM - 145.250MHz or if busy try adjacent channels.

In this issue **Tony G4HBV** gives a non-mathematical explanation of the Friis Equation in his **RF Notes** column.

In "Before Amateur Radio", **Anne 2E1GKY** tells us all about her experiences in the **Sea Rangers** in the early 1960s. Perhaps you were involved in another activity or hobby before coming into Amateur Radio? If so, do put pen to paper or fingers to keyboard and let the other club members know about it!

**Malcolm G6UGW** continues with his Amateur and Broadcast band series and this month covers the 15 metre Amateur Band and the 16 and 19 metre Broadcast bands.

**73 and good DX! Brian G4CIB**

## Contest Update

**By Brian G4CIB**

The latest standings in the **VHF UKAC** series, GARES is in 24<sup>th</sup> position in the Local Clubs table so no change from the last issue of "Ragchew". In the September 144MHz contest **Gary M0XAC** running 10 watts clocked up 16 qsos, his best dx being **GD8EXI** at a distance of 301km. I used 50 watts and scored 23 qsos, the best dx being **GM3SEK** at 341km. In the October 144MHz contest, **Gary M0XAC** clocked up 14 qsos his best dx once again **GD8EXI**. I managed 21 qsos again with 50 watts, the best dx being UKAC regular **GD8EXI** at a distance 290km.

A small group of members set up at Crickley Hill Country Park for the **Practical Wireless 70MHz** contest using the Club callsign **G2HX/P** in September.

It lashed with rain and propagation was bad. Thanks to the operators Matt 2E0MFH, Barry M0HFY, Dave G4BCA. Anne 2E1GKY and Barrie M6UBJ also called by to give support.

A total of 32 QSOs were logged from Guernsey to Yorkshire, but sadly no Scottish stations were worked.

I managed to work **G2HX/P** from Lundy using my FT817ND driving a Microwave Modules 70MHz transverter, 10 watts into a 3/2 wave wire dipole.



28<sup>th</sup> March 2005 - Easter Monday Bank Holiday operating at Birdlip.

L-R - Mike G0VWH, Tony G4HBV, Anne 2E1GKY and Stan G4YYR

Anne is using an FT1500 2m transceiver, Mike and Stan handhelds.



## Stan G4YYR - From the Archives



Left - Club visit to Radio Gloucestershire - 28<sup>th</sup> August 2005

L-R Graeme G0EEA, Mike G0VWH, Tony G4HBV, Steve G8IUN, Brian G3DXY, Cliff G8CQZ, Brian G4CIB, Anne 2E1GKY, Don, Stan G4YYR.

Below - a lovely photo of Stan G4YYR and Walter G8WCP

National Field day 1985 on the Gordon League Rugby Ground

Below - Anne 2E1GKY and Stan G4YYR relaxing during a club visit to Coleford



A group photo at the club picnic - Newnham-on-Severn 15<sup>th</sup> August 2005 - Stan G4YYR on the far right

## **RF NOTES BY TONY, G4HBV**

In September's RadCom there was a good article explaining how the Friis equation for free space transmission loss is derived. Here I hope to explain how this loss comes about in general terms without the use of mathematics. The Friis equation defines how the strength of a radio signal is determined over an idealized transmission path.

First of all we must understand that antennas are transducers, that is devices which turn one form of energy into another. In the case of antennas, the energy change is from electrical (in the form of RF currents) to RF radiated fields for transmission and in reverse for reception. The RF fields under consideration are electric and magnetic fields which are linked so that they are self supporting – change in one causes the other to change and the whole field moves outwards from the transmitting antenna.

Taking the transmitting antenna first, the electrical RF energy is converted into an expanding RF field. Whatever the directional properties at this antenna are, only a portion of the resultant field energy will be able to be intercepted by a receiving antenna. At such a receiving antenna, again regardless of its directional properties, only over a specific area will the antenna be able to extract energy (in the form of RF electrical currents) from the field, so we have identified two factors which will determine how much signal can be passed over the link. This forms part of the Friis equation.

What determines both these factors is how well the two antennas couple into the transmission medium. This medium is called free space – it is assumed to be without any obstacles or complications to interfere with the progress of the RF field. Now it turns out that how well the antennas couple into the medium is determined by their physical size. Imagine both the transmit and receive antennas to be dipoles. A dipole at 100MHz is going to be larger than a dipole at 300MHz and thus better able to couple into a transmission medium. You can see therefore how wavelength (and thus frequency) enters into the Friis equation.

Now here, the terms free space loss and transmission loss, when shown as graphs or charts in radio engineering books unfortunately might suggest to a casual glance that the medium itself produces a loss which is dependent on frequency – but of course the passage of the RF fields through the medium is exactly the same whatever the frequency. It is the coupling of the antennas into the transmission medium which is frequency dependent. We can call this the coupling loss.

The other term in the Friis equation is distance between the two antennas – this is more obvious since we know that as the fields progress, they are expanding and so with an initial fixed amount of energy, the fields must weaken over distance. We can call this the spreading loss.

Separate to the transmission loss is that at the receiving antenna, only a maximum of half the energy intercepted by the receiving antenna can be delivered to a connected receiver. I have explained the reasons for this in a previous "RF Notes".

### **RadCom Plus**

RSGB members are now eligible to receive RadCom Plus which is a digital publication exclusively in addition to their regular RadCom. It is designed to bring forward articles that are perhaps more technical in nature and thereby need more explanation and detail than is available with the limited pages of RadCom. If you would like to receive these email alerts then you will need to complete the short sign up form which can be found on the Members Section of the RSGB web site.



## **Before Amateur Radio**

**By Anne 2E1GKY**

The nostalgia articles and photographs which appear every week in the Gloucestershire Echo and Gloucester Citizen have been of great interest and two recent ones have personal memories for me, the first being E R Crabtree's Motor Factors in Winchcombe Street where I worked for 12 years and the feature on David Soo whose father ran the laundry next door.

Before moving to Cheltenham in 1961 from Ruabon, near Llangollen in North Wales, I was First Mate, Ruabon Sea Rangers. Here we had the full use of the large lake at Chirk Castle by kind permission of Lady Margaret Myddleton who was then the Guide County Commissioner as the Sea Rangers were part of the Girl Guide Movement.

Although Cheltenham is an inland town there was still plenty of sea-faring activities on the canals and rivers nearby so I soon became involved in the Sea Rangers here. The laundry in Winchcombe Street mentioned earlier was ideally located for me to get my Sea Rangers Skippers collars and Tricorne hat white starched to perfection!

My training consisted of a week on board our MTB (Motor Torpedo Boat) on the River Dart, moored below the Royal Naval College at Dartmouth. Full watches were implemented for the duration of our stay and the BBC came along to do a documentary - I still have a DVD of the original 35mm film. Swimming in the River Dart, however, was not to my liking as the depths were unknown! However a special visit to the Naval College, HMS Ark Royal and a course at the Gunnery Training School made up for this.



The Cheltenham Sea Rangers - SRS Bellerophon - taken outside Cheltenham Town Hall and about to depart to an All England Rally in London in 1964. I'm 5<sup>th</sup> from the right in the back row and next to me on my right is the First Mate Mrs Brenda Rowell along with the usual Bosuns and Cox.

Brenda worked at E L Ward's Department Store and in those days towns had "half-day early closing". In Cheltenham this was Wednesday when she and I could finish work at 1.00pm and this meant we could go to Tewkesbury for some boating practice. My permit was for a 14 foot dingy and this was quite large.

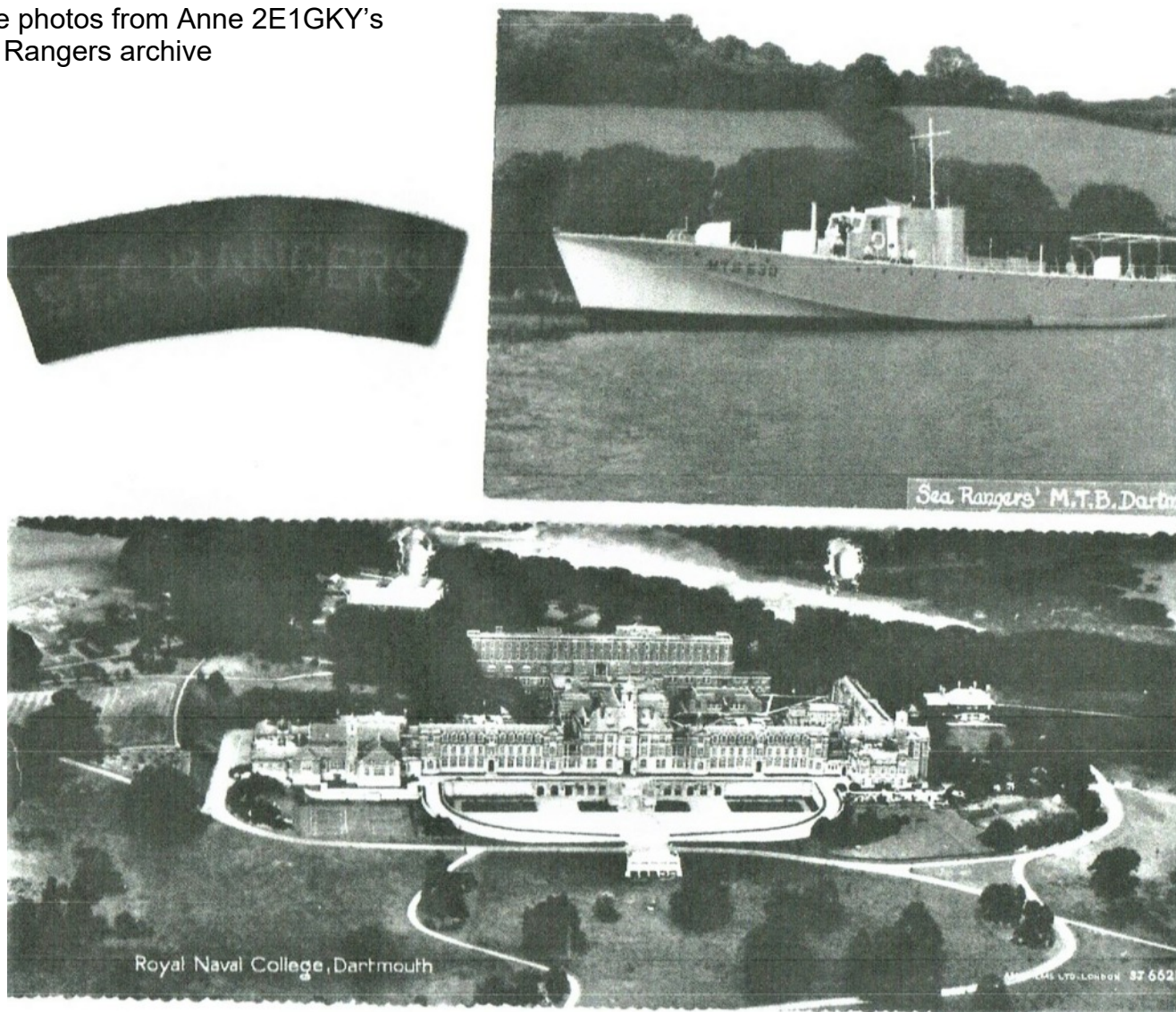
We also used to meet on a quite regular basis with the Cheltenham Sea Cadets when they were in Stoneville Street and a Lt Williams was most helpful. We also enjoyed Sharpness meetings with them. We had our own Davison boat which was kept at Fairfield Park Road, Leckhampton.

At one stage we even helped clear part of the of the Coombe Hill Canal under a Mr Picken who had his houseboat moored there.

After the Sea Rangers were disbanded as an alternative I continued helping with Up Hatherley Guides and the then re-named Senior Section, acquiring my 25 year award in 1985.

Guiding gave me opportunities that were not always available in the earlier years and this is Nostalgia at its very best!





Montage showing Anne's Sea Rangers badge, MTB "Dartmouth"  
and the Royal Naval College at Dartmouth

### **Stan G4YYR at National Field Day 2005**



In this group photo  
taken at the 1985  
National Field Day on  
the Gordon League  
Rugby ground, Stan  
G4YYR is second  
from the left

## GARES on Facebook

**Dave G4HJV** hosts the club's Facebook page and reports that a small but dedicated number of members are posting on the Closed Group with some interesting material. If you wish to join the Group, contact Dave who will get you added.

Recently postings in the Closed Group have discussed the possibility of a club 2 metre AM net - and the frequency being proposed is 144.480MHz. Postings about vintage rigs also attract lots of interest especially when images of an R1155 receiver and T1154 transmitter as used on Avro Lancaster bombers appeared! Also creating a stir was a posting by a member who just acquired an FT221R - a rig I lusted after in the early 1980s but with a mortgage, could not possibly afford!

### The Bands Explained - Part 4 - 19, 16 and 15 metres

**By Malcolm G6UGW**

#### **19 Metre Broadcast Band - Frequency range 15.1MHz - 15.45MHz**

Signals over extreme distances are heard after sunrise and throughout the daylight hours. Some night reception is possible during the summer months.

#### **16 Metre Broadcast Band - Frequency range 17.7MHz - 17.9MHz**

Signals at this end of the radio frequency spectrum are significantly subject to changes in sunspot activity. The generally accepted theory is that, as the number of sunspots increase, the higher frequencies are received over longer distances. Therefore at the peak of the solar cycle (*which is definitely not now! Ed*), this band should offer wonderful possibilities of daylight DX. Note the solar cycle peak occurs at roughly eleven year intervals.

#### **15 Metre Amateur Band - Frequency range 21.0MHz - 21.450MHz**

Normal distances that can be expected from this band are from 800 to 4000 miles with occasional openings up to 8000 miles. This is a daylight band with peak distances occurring during the daylight up to sunset. Summer time produces a combination of long distance and short distance "skip". During winter evenings the band is usually dead with signals limited to line-of-sight, referred to as ground waves.



### **Morse Practice on the Air**

**By Mike G0XAE**

We now have 6 people taking part on 2 metres FM on Wednesday evenings at 20.00 on 145.250MHz - 2E0GKN Jim, M0UPA Jan, M0OLO Chris, Matt 2E0MFH, Ray G1NVS and Nick G3MA, with possibly more listening in. Several of the group have expressed interest in having more tuition at club on Monday evenings.



## G4CIB/P & G4RHK/P on Lundy

**September 21<sup>st</sup> - 28<sup>th</sup> 2019**

This was our second trip to Lundy this year. In March we were in Stoneycroft, up by the Old Lighthouse but for this week were in Castle Cottage, located on the North outer wall of the Castle on the south east corner of the island. With limited space for antennas, HF operation was restricted to a 6m vertical "roach-pole", a dipole for 2 metres and a three half wave dipole for 70MHz. The latter was used for the Practical Wireless 70MHz on the Sunday afternoon.

The crossing from Ilfracombe was fine bit but a stiff easterly wind, the landing at the jetty on Lundy was difficult and it took the Master of the "Oldenburg" several attempts to come alongside safely. Eventually the gang-plank was secured and we were able to disembark.

We didn't set up the station until later Sunday morning in time for the 70MHz contest and using just 10 watts from a Microwave Modules transverter I was pleased to notch up nine qsos including G2HX/P, G3MXH (JO02LF) and G4BWP (JO02FH)

HF operation for the rest of the week was mainly on 40m and 20m using my FT817ND on CW. Nothing exciting was worked but I did enjoy qsos with ON4KCY/MM and DL0CUX/MM. On 2 metres **Jim 2E0GKN/M** made several excursions to Haresfield Beacon and we just about made it on ssb. I realise now I should have taken a small beam for the band. In recognition of the effort put in by Jim to work us, he wins the **Lundy Old Light Award** for 2019.

On the Thursday evening I listened out on 80m for the COTA net and all stations were putting in good signals but my meagre 5 watts was not enough to be heard

All in all a low-key week in terms of amateur radio. Suffice it to say the crossing back to the mainland was pretty smooth and we look forward to more visits to the island in 2020



**G4CIB/P in qso with 2E0GKN/M located on Haresfield Beacon.**

I was using an FT817ND (5 watts) into a vertical dipole.

We just about made it. In retrospect I should have taken my 30 watt amplifier - perhaps next time!

This view is taken looking east from Castle Cottage with Woolacombe on the North Devon coast on the horizon.