

**WARRINGTON AMATEUR RADIO CLUB**

**QSY WARC**

**JOURNAL SEPTEMBER 2006 ISSUE 56**

## Grappenhall Family Fun Day

Sunday 27th August was designated as a Fun Day at G Y C A with the intention of opening up and publicising the facilities enjoyed by members to the public at large as well as providing some entertainment for all. There was a good attendance bearing in mind that it was the bank holiday weekend when many families choose to go farther afield to celebrate.



The satellite antennas

**GOWRS G6WRC**

[www.warc.org.uk](http://www.warc.org.uk)

Warrington A R C was asked to run the barbeque (the expertise of some of our members when we have ours is clearly recognised) and Cliff M0MRC, John G0RPG and Ian M0BXR turned up with “pinnies”, appropriate food supplies and kitchen implements to do battle with the crowds.



Warrington Fire Service attended complete with a fire appliance and their proximity to our barbeque was pure chance and not a cunning plan to minimise hose length should there be a conflagration. In any case the carefully chosen low fat meat products ensured that flames were minimal. Most of us sampled the hot dogs or burgers and were well pleased with them.

This was also an opportunity to open the club shack to the public and it was decided that visually enhanced operations would be of greatest interest hence the arrival of Mike G4VSS with all the gear for satellite communications and Steve M1DOT with APRS and slow scan TV. Likewise the club’s Icom 756 Pro II on HF was linked to the display so that visitors had something to watch. Other club members were on hand to operate the HF station and meet visitors to explain what was going on.



Other attractions included skittle bowling and a “bouncy castle” – more a bouncy semi detached really but the kids seemed to enjoy it.

Some visitors were attracted to our shack display and there was a very interested group including a couple of firemen to witness Mike making a contact via satellite. The ability to put the satellite program on our big screen was



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Anyone wishing to contribute to the magazine should send or give their copy to the editor Ron, G0WJX preferably in MS Word, .txt format or e-mail.

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## Club Contacts

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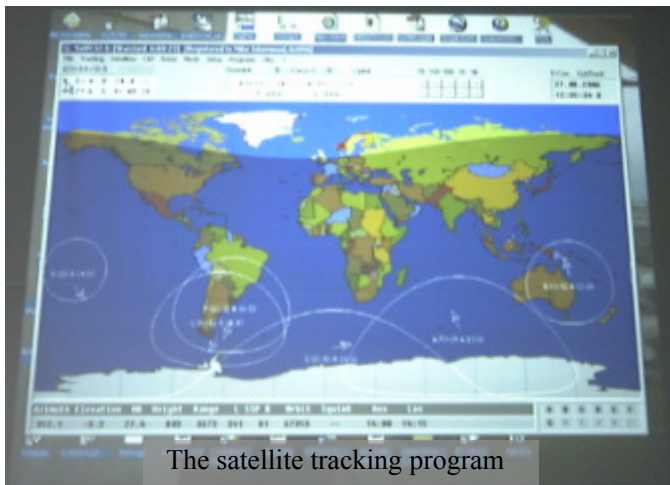
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## Club Programme

<u>Date</u>	<u>Title</u>	<u>Speaker</u>	
3 Oct	The New Licence	Cliff	M0MRC
10 Oct	Speaker Needed		
17 Oct	Autumn Social		
24 Oct	Speaker Needed		
31 Oct	The Hewlett Packard Interface Board	Dave	G8KBB
7 Nov	Speaker Needed		
11 Nov	Club calls Contest		
14 Nov	Speaker Needed		
21 Nov	Quiz Night		

Although there are several "speaker needed" entries above we normally manage to arrange a last minute presentation or discussion. Offers or ideas for talks to the programme coordinator Jim G3NFB

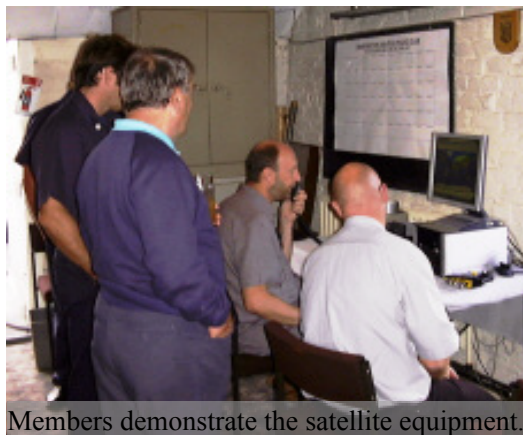
much admired and helped us to explain how timing was so vital when seeking to make contacts.



The satellite tracking program

The BBQ sales got off to a slow start and there was a fear of leftovers and a financial loss but all was well when the big match ended on the screen in the bar and a stream of customers arrived.

We were fortunate that the weather was fine on the day and there was a good attendance by members. Our thanks go in particular to those mentioned above all of whom put in a considerable amount of effort to ensure the success of the club's participation in the Fun Day.



Members demonstrate the satellite equipment.

**Ron G0WJX**

# Upgrades To The Club's Equipment

Members, especially newly joined, may not be aware of our Club station, due to the fact that we are not now meeting in our Clubroom. Whilst I hope that this is purely a temporary measure, I do hope that in the meantime, members will use the equipment as much as possible. The Club station represents one of the finest in the North West and is probably much better than that of any current member. (No doubt I will be corrected if this is untrue, and I will be delighted if it is).

The SteppIR is a very fine antenna and at the moment covers all bands from 20 metres to 6 metres. The Club has ordered a "bolt on" goodie which will extend the coverage to 40 and 30 metres. This involves a new driven element which looks like a folded element thus keeping the same turning radius as the present driven element. A new controller is also involved of course. Whilst there will be no more gain on 40 and 30 metres than a dipole, the possibility of beaming it in the required direction is a definite plus and worth probably 25 dB more gain in some directions compared with the nulls which are endemic with a wire dipole. It will also have the possibility of getting rid of some unwanted QRM. Finally, the 1:1 SWR will mean that every watt of power produced by the transceiver will go up the spout and be radiated.

Delivery should have been in August but the manufacturer (American) is having problems due to the greater demand than expected for its products and is in fact building a new factory. It's now September and no sign of it as yet. When it does arrive, we will need an erection party to make the modifications.

We have also recently fitted a Challenger III linear amplifier which will give us full legal power which combined with the SteppIR should give us command of the frequency.

We also have in mind to update and extend our VHF and UHF coverage and ideas are welcomed from all members, especially those to whom these frequencies represent the Holy Grail.

Whatever your interests the Club will endeavour to meet them but the Committee need to know where it is lacking in coverage. Let me have your ideas or criticisms and be assured that they will be acted on.

**George G3OGQ Equipment Officer**

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## **Remember!**

*We can always use more material for the magazine, and Jim is always pleased to receive volunteers for talks. As ever most formats of talk or article can be catered for.*

# The 80 Metre Club Championships 2006

Warrington Amateur Radio Club came 18th with 1785 points. This is the same position as last year but with about 300 less points.

I have been looking at the top 3 clubs and the location of their transmitting members on the 1st night of the contest in February.

De Montfort University ARS came 1st with 12296 points and had 12 SSB operators on the night. With a club based in Leicester they had 2 local and others in Tunbridge, Lutterworth (3), Lincoln, Winchester, Gloucester, Keighley and 2 locations withheld. They got 399 points on the night.

Grimsby came 2nd with 11197 points. They had 15 operators on the night 5 from Grimsby, 3 withheld, 2 in Nottingham and others from Grantham, Fleet, Brough, Hull and Immingham earning them 274 points on the night.

Bristol CG came 3rd with 14 operators, 8 from Bristol the others from Cork, Bradford on Avon, Bath, Honiton, Radstock and Chippenham giving them 569 points on the night.

WARC had 4 operators on the night G4VSS, M0BXR and G3ZHE from Warrington and G8WQE from Frodsham. We got 34 points on the night.

Perhaps a look at Contest groups with higher positions than WARC will give us some hints on improving our performance.

The Bristol CG already mentioned came 3rd with 8307 points and the two I am adding are the Three A's CG (they came 8th) and the Hadley Wood CG who came 13th.

On the 1st night of operation in the SSB section the Three A's CG had 3 operators, one from Newport, Wales, another from Weybridge and the last from Woking and their 1st night's score was 113 points.

On the same night Hadley Wood CG had 4 operators, one in London one in Cheshunt another in Cambridge and the last in Enfield. Their 1st night's score was 186.

Contest groups have the advantage of having widely spaced operators. This gives them the ability to take advantage of various conditions and, of course, puts their receivers out of range of local cross modulation. At WARC our 3 Warrington operators on the 1st night had very difficult conditions as their locations are less than a mile apart and cross modulation was clear to see on the Icom 756pro spectrum analyzer. Also at this latitude the MUF was less than 4 MHz at the start of the contest and was around 3 MHz by the end.

Does location have a bearing on success rates?

Clubs at similar or higher latitudes than WARC and with more points are Grimsby with 11197 and Scunthorpe Steel with 4976 as against our 1785.

The following clubs at similar or higher latitudes had fewer points:-

Wakefield, Lanark, Furness, Orkney, Ayr, Brimham, Cumbria, Buxton, Manchester WS, GMDX Yorks.

OK it's not a perfect method but I think the conclusions are:-

- 1 The further north you are the more difficult it is to get points during the FEB/MARCH period and then it's difficult to catch up.
- 2 WARC needs to hit the ground running with as many operators as possible to maximize our points in the early period.
- 3 We can and should improve our DATA segments again with more members participating.
- 4 Life is not fair., but let's have FUN anyway HI

**Albert G3ZHE**

P. S. Congratulations to Alan G8WQE who came 15th in the QRP section.

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## Elementary

**D**uring two club nights in mid August I noticed that the club HF beam was not going to zero SWR but was 1.5 to 1.7 to 1 on all bands. Thinking the STEPIR had drifted off it's calibration I did a reset, but it gave the same SWR readings

The Community Centre Family Fun Day was looming so I decided I had time to move the chairs and vacuum the carpet on the Thursday before the event. Via the morning net Mike G4VSS said he would be passing between jobs and so we met at the club about 11am to tidy up and take a look at the antenna.

A dummy load was fitted to the beam output on the change over coax switch. A short burst of transmission gave us zero SWR - so the route through the feed from the transmitter via the linear etc was very good.

The MFJ analyzer was connected to the beam coax and showed that the non zero SWR was in the coax or on the beam. Mike did another reset but it was no good. We then did a 180 degree beam reversal and things got worse. At first we thought the reflector element stepper was faulty then Mike said "I wonder if it's the roof?"

With the analyzer running we raised the beam and within a second the SWR went to zero. We then examined the proximity of the reflector element to the roof (remember that the new roof is sheet alloy not Asbestos). The beam had been parked about 30 degrees East of North. This left one element of the beam close to the alloy roof and was the cause of the problem.

We then tried lowering the beam with a heading about 10 degrees East of North. When lowered the SWR was still zero. So we now know that the beam will load well in the lowered position if it's correctly positioned.

Elementary my dear Watson!

**Albert G3ZHE**

## Did You Know That?

In 1786 Luigi Galvani, [1737 - 1798, Italian physician and physicist, who lived and died in Bologna] had been conducting some rather strange experiments and it can be fairly accurately said that the “application of electricity for useful purposes” has its origins in these activities.

Galvani found that a dead frog's legs would twitch when he put a copper hook into the spine and hung the frog from some iron railing [Fortunately (or otherwise) there were not any Animal Rights activists around] This phenomena which he had observed on a number of occasions previously when dissecting frogs and other small animals, he called “animal electricity”. This “twitching” was in his and some of his friends opinion, considered to be the result of an electrical fluid being carried to the muscles by the nerves. This phenomenon was called Galvanism after Galvani, on the suggestion of his contemporary and sometime intellectual and academic adversary Alessandro Volta.

Galvani's experiments and investigations led quite quickly to the invention of an early battery, but not by Galvani, who did not perceive electricity as a separate entity from biology. It was his contemporary, Volta, who built the first battery, which became known therefore as a “Voltaic pile”. However, the current produced by this device was, for many years called “galvanic electricity”, and the terms “galvanize” and “galvanometer” embody Galvani's name.

Alessandro Volta, a contemporary of Galvani lived from Feb. 18th 1745 - March 5th 1827. He became professor of physics at the Royal School, Lombardy, Italy in 1774. He was the discoverer of a number of important electrical instruments, including the electrophorus in 1775, (used for generating static electricity) the condensing electroscope, and most important of all, the voltaic pile or electrochemical battery, the first device to produce a steady electric current which he announced in 1800.

It was as a result of professional disagreement with Galvani, that Volta went on to develop his “Voltaic” pile, a forerunner of the electric battery. Volta had decided that the most useful pair of dissimilar metals to produce the required results was zinc and silver. In fact there is a reference to discs “consisting of zinc and copper separated by leather circles dipped in salt solution”.

In honour of his work in the field of electricity, Napoleon made him a count in 1810 after he demonstrated how his battery functioned. In 1881 an important electrical unit, the “Volt” was named after him.

**Tom GOMYN**



# **Batteries And You**

Here are a few tales of events around large and small batteries.

**I** was giving a talk at the Southport ARC about 15 years ago. One club member arrived and turned his trouser pocket inside out to show us a series of holes burned through the material. We asked how it had happened. He was bringing a fully charged 9v PP3 NiCad to the club. He put it into the pocket which had some loose change in it as well. The metal shorted out the PP3 which set fire to his pocket. **THE LESSON IS ALWAYS KEEP NICADS IN A PLASTIC BAG FOR SAFETY.**

I had a group of Instrument Apprentices at the CEGB training centre located at Bold Power Station. One of them had bought a late 1920s Rolls Royce from the ex mayor of Oldham. The dynamo had stopped charging the large 6v battery, so he charged it up at the centre putting it into a cupboard under the work benches to keep the bosses eyes off it. This practice went on for a few weeks until one day instead of switching the charger OFF before disconnecting the crock clips he opened the cupboard door and removed one crock clip. This caused a spark. The cupboards and drawer units along the worktops had filled with hydrogen from the gassing battery. There was a loud BANG.

The battery blew into 2 halves and acid spilled out. Luckily no one was hurt. Also by luck the Roller also had magneto ignition engaged via a dog clutch into the timing chain so it wasn't immobilised.

**LEAD ACID BATTERIES ARE VERY DANGEROUS. THEY MUST BE CHARGED IN WELL VENTILATED AREAS. A WELL CLOSED SHACK WITH A BATTERY ON CHARGE OVER NIGHT CAN CAUSE AN EXPLOSION WHEN A LIGHT IS SWITCHED ON. YOU COULD END UP WITHOUT ANY PLACE TO LIVE. THINK AND TAKE CARE.**

I am helping Tom to get his M3 Foundation licence. Tom used to drive a mini bus. One of his jobs was to drive a prison van. Tom had acquired a spare battery for this van and decided the only place to keep it was under the passenger seat. On one trip to court the officer sat with Tom in the cab. After a short time the officer said to Tom "I have to get out my seat is on fire".

The seat was smoking. The reason was the officer had pressed the wire springs of the seat onto the battery terminals.

**BATTERIES SHOULD ALWAYS HAVE AT LEAST ONE TERMINAL INSULATED AT ALL TIMES.** With small wires connected to ex car batteries a FUSE should be located very close to the battery positive terminal.

**Albert G3ZHE**

# Visit To Bletchley Park And The Duxford Imperial War Museum

Carol and I made a visit to Bletchley Park (BP) and the Duxford Imperial War Museum (DIWM) early in September.



Colossus with (above), Tony Sale, awarded an Honorary Doctor of Science degree by Lincoln University for his work on Colossus

Both of the visits were very interesting, but for me the DIWM was particularly interesting for reasons to be covered later.

At BP we were given a conducted tour of the facilities and told about the history of the code breaking done there during WWII. We even got to talk to Tony Sale who has rebuilt the Colossus machine and was tinkering with it when we visited the hut in which it is located. He said that about 20 of these machines had been built during the war 18 of which had been scrapped after the war. No one knew, officially what had happened to

the other two. It transpired much later that they had been spirited away to GCHQ and had been used for decoding Soviet Block traffic during the Cold War. The Colossus at BP has been rebuilt using the barest minimum of contemporary information (a total of seven documents) and bits and pieces scrounged from wherever possible. It is to the credit of Tony Sale and his small



team of retired engineers that they have been able to make a machine that will actually decode.

We also visited the room where two Bombe decoders had been re-assembled. About 200 of these machines had been built and deployed around the country. Other displays included various versions of the Enigma machine. We have all heard so much about the code breaking that went on at BP and it was very exciting to see the equipment and hear about the activities

There is so much to see at BP that we spent about 5 hours there. One of the display rooms houses an amateur radio station GB3BP run by the Milton Keynes ARC. There is a very fine collection of antennas on the roof of the main building.

At the DIWM there is also an amateur radio station (GB2IWM) run by the Duxford ARS and housed in an old barrack hut with a log periodic antenna on a lattice mast outside.

The DIWM is a must for anyone interested in air and land warfare but it is noticeably lacking in things naval. An exception to this was a midget submarine built at the shipyard at Barrow in the year I started my apprenticeship there in the mid 1950s.

Most of the hangers contain aircraft but there is one which is dedicated to land warfare, containing a huge selection of weaponry and vehicles, including Monty's staff car.

The aircraft hangers contain a superb collection of flying machines from all periods, many of which are still airworthy and fly in the summer months. Duxford's main role as an RAF station was mainly air defence and one of the hangers features a Battle of Britain exhibition complete with Hurricane and a "downed" Me109. Records on display inform that Bader was at Duxford for a short time.

Yet another hanger is given over to aircraft conservation where several planes of diverse vintage were being restored, to be ultimately put on display and flown.

"Airspace" is a new museum in the final stages of completion at DIWM. The story of British Aviation from the earliest days to the present time will be told in the displays. Unfortunately this facility was not open during our visit and we were disappointed not to see such planes as Concorde and the TSR 2 which are exhibited

Despite having seen so much, the highlight of my day was when a Spitfire took to the air and gave a superb display of flying for about half an hour. When the Spit landed I could see that it was a tandem dual seater. The pilot got out and walked towards a group of Air Cadets who were standing a short distance away from us. As the figure came nearer I recognised the pilot as a woman. She was Caroline Grace and had been flying the Grace Spitfire in which she and her late husband used to fly before he was killed in a single seater Spit a couple of years ago.

Caroline approached the Air Cadets who were applauding her. She then spent a long time chatting to the Cadets and autographing their logbooks. Eventually, they dispersed and a group of the cadets walked towards us. Imagine my surprise when I noticed from their shoulder flashes that they were from 128 Squadron – my old outfit in Barrow and of which I was Flight Sergeant in the 1950s. I introduced myself to the C.O. and we had a good chat resulting in an invitation to me to visit the Squadron.

Small world isn't it?

**Jim G3NFB**



Left

Caroline Grace signs autographs for ATC fans from 128 Squadron

Below

The tandem dual seater "Grace Spitfire" and 128 Squadron

Bletchley Park can be found on t'Internet at:-

[www.codesandciphers.org.uk](http://www.codesandciphers.org.uk)

including a chance to have a go at code breaking yourself.

