

Q5

North Bristol Amateur Radio Club

S.H.E.7, Braemar Crescent, Northville, Bristol BS7 0TD
G4GCT, M0NBC, G6PNB

November 2022

The Christmas party has been arranged for December 16th. We hope this will be as usual a ticketed affair and will be for Members, partners and friends. The final decision will be made at our open meeting on the 4th November. Ben, 2E0RBK has agreed to be the organiser behind the event ably assisted by Alan and his wife June. They are generally in charge of the raffle prizes, I can assure you, we will have an event of some sort. If tickets are on sale just see your Secretary or Ben.



Ben's staff on the ticket line

The format and costings are to be set at our meeting on the 4th November so please make an effort and come to this meeting.

Choices suggested to me if a buffet is out of the question are:- A chip supper as we did earlier in the year or, visit a Gastro-pub / Restaurant.

Special Note

If we have the normal Buffet as in past years, Ben can sort out any special dietary needs. He will look after you but must tell him.

Notice of AGM

A reminder that the AGM will be held on 13th January (I do know it is Friday the 13th) If there is one meeting you should not miss it is the AGM. The AGM sets the club's direction for the year to come. Please give this some thought to register your intentions if you wish to stand yourself, or nominate a friend to stand for committee. A form for you to print out is at the end of this Q5. Forms can be given to the chairman or secretary at any club meeting or you can email it to the secretary whose email address is on the form.

Solar Power Your Shed / Shack

Some of you may know that my Shack is Solar powered. The panel on the roof is 100w and the charge controller I purchased from amazon. As usual for me the project once up and running it is never finished. (apart from my battery box in the last Q5). Forgive me for the unfinished appearance, although I have most of the bits to complete.

Stand by for the basics of the system that I have been using for about 5 years and this winter will be finally completed.



The panel on the roof of the shed, oops sorry, Radio Shack is a 100w panel. They may look heavy, but a panel like this one weighs next to nothing.

By the way, the white stick is the one used on the club nets and the sagging wire you see is my Doublet. The 10 element beam is for the 2m band and is on top of a pump up 25ft tower. In the background on the gable end of the house is an old disused 2m Slim Jim. Her Indoors has refused permission for me to get on the roof to remove it since by broken hip.

Getting back to the solar power story. The panel has a varying output voltage, the brighter the sun the higher the voltage. We therefore have to have a way of controlling the charge we give the battery. On the subject of batteries, I use a wet cell lead acid deep cycle battery of 70Ah (seen on the right). Two reasons why I use this technology. It is cheap, and I know what I am doing with these batteries. Yes, LiPo batteries are high power and light, but, why am I worried about weight, it is in a shed after all.

The panel in high sun light can generate 20v, too high for the 12v battery, so I had to get myself a controller. Luckily, there are lots of controllers on the market, I chose a 30A one at about £25.



Solar Power Your Shed / Shack (Continued)



The controller is programmed for lead acid batteries so the voltage is set at about 14.2v output out of the box. This is OK for cyclic use where we cycle the battery down to say 11v then re-charge it. But my system is more of stand by use. I therefore adjust the voltage to 13.2v to 13.8v for a float charge. That way I am not going to boil the battery dry.

In the winter time when we have a relatively low amount of sunlight hours, I do set the voltage up a bit especially if I have used the radios a lot and the battery needs a good charge.

In the photograph above you can see the charge controller reading off the battery voltage of 12.6v. After an evening on the air this drops to about 12.4v. The box on the left is the new fuse box I had recently fitted. This replaced the old one that didn't have a negative bus connection. Ok the wiring is not the neatest as this is still work in progress.

The battery is to be mounted in a box and more outputs are to be fitted. These will involve power pole outputs both at the battery box and the bench. USB charger sockets at the bench for Phone and Ipad charging. The power pole outputs at the bench will be mainly for Hand Held radio charging.

My high power radios are powered directly from the battery with quick release connectors and the in line fuses as supplied in the radio's leads. connecting this way is to reduce the voltage drop that can occur if I power everything via the charge controller. Unfortunately, by powering my system this way the charge controller doesn't calculate the current drawn or total KW hours it does however measure the voltage.

The current displayed will be everything supplied via the charge controller and it's new fuse box. This is all of the LED lights, security cameras, alarm and my new charging outputs as yet to be added to the bench. All this is only about 800mA, bearing in mind that the LED lighting is off when the alarm is on (not everything is on at the same time).

Another item on the back burner is a Raspberry Pi server, but this may have to wait a while.

When I require mains power for the printer or other low power mains usage I will have an inverter connected. I am not sure how long this would last on the battery alone but, used during the day the panel can provide enough power.

Solar Power Your Shed / Shack (Continued)

If the power is insufficient for all of this during this winter, the thoughts will be just to add another panel and or battery.

The Price The Battery is now about £90 the controller from (£10-£25) and the panel, depending the power and type £50 for 50w to £80 for 100w. You can however make a very cheap setup if you just require a light in your shed with an old car battery. By the way, a car battery is not really suitable for radio use although you can give it a go.

Measuring the power from the panel can easily be done by measuring the voltage with your trusty Digital multi meter, then set your meter to current in Amps. The 10A range for a 100w panel. Measure right across the panel and read off the current in amps. **DO NOT DO THIS FOR ANY OTHER POWER SOURCE.** In the height of this summer of 2022 I measured 6.5A That was around 130watt at the measured 20v ($V \cdot I = W$). In the winter sun I measure about 2 to 4amp. This has proved enough to keep the battery charged for all my radio and the security camera needs.

Shorting a solar panel does absolutely no harm to the panel and is how the current is measured. I wouldn't however do it to a large panel system on a house. I will stand by for letters to the editor for a, No, that's not the way to do it.

I started writing this column on my solar panel and shack system last month only to have my thunder stolen by Radcom. Yes folks, in this months Radcom there is a column on a solar powered shack. Even to the extent of using the same charge controller as me. Ah well, you can't win them all

Antenna Project from a Reader of Q5

A few weeks ago I had an email from one of our readers, some of you may know him. It is Paul, M6KQZ.



You may have seen one like this before. One like this can be seen in various radio ham books over the years but, the thing I like about this one is using the ring crimps instead of winding the wire over the screws.

All you require to make this is a chassis mount (Either SO239 or N type). Some ring crimps, wire stripped from mains twin & earth. And a couple of nuts and bolts.

The vertical rod in the middle is a $\frac{1}{4}$ wave on the band you want to work on. Generally 19 $\frac{1}{2}$ inches for the 2m band. If you would like to build one, we have an antenna building session in the next Calendar of events. My thanks go to Paul for the photograph and the project idea.

Special Events

I must say that Mat, G7FBD was most disappointed at the lack of response for the call for help at special event stations. The only one to be ran this year was Mills On The Air. The call in August Q5 went unanswered as was the answer to the spot the difference quiz edited also by Mat. Obviously, no one wanted the free prize on offer.

Mat has been suffering with MS for a long time now but still supports the club in many ways. From various articles written for Q5. A nice way to repay him for all his hard work chaps. I will leave it at that.

Friday Talks and Events You May Have Missed

Show & Tell

I had a great bit of fun with this one. I did say on the calendar of events that there would be a prize for the best display. With Paul, G8YMM we organised a prize, being a brand new SWR meter.

On the day the displays were placed on tables around the room but this time I asked each to give a small talk on what they had brought. Two judges were appointed. Paul, G8YMM and Richard M7RTK

I brought along a Plank, yes a plank. I thought I had won this one! The plank was what my lad brought back from his work. It was a plank from the bottom of a Racing Point F1 car as driven by Perez. The plank is used to make sure the car doesn't ride too low. If it gets worn down then there are penalties. The sparks you see during a race is the titanium blocks that poke through the plank stopping the car from bottoming out.

Tony, G8CKK brought a very historical QSL card album. There was a card from our very own Audrey, G4ULH (SK). She used to spend most club nights teaching Morse in the back room. There were even a couple of cards from F1 enthusiasts. Unfortunately they were Ferrari supporters, ah well.

Geoff M6GFM brought two things a mighty Acorn computer, don't tell me off Geoff, it may have been a BBC or PET either way it was a home built, very well home built. The other item was a micro robot built for robot wars. Not the large class of robot as used in the TV show Robot Wars but a smaller class. It was made of carbon fibre with the armaments being a flick up section powered by compressed air and used Lego bits to make it work.

Dave, M0HDJ brought his latest acquisition from the skip. Yes folks Dave finds lots of things that is thrown away in skips. A bit of tweaking and cleaned it up wow, it works, radio and CD player. I am always amazed at Dave's finds.

Show and Tell (continued)

And the winner is.....

Geoff. M6GFM I really thought I had won. Ah well better luck next time.



The prize was an SWR meter. A nice little unit for the shack or small enough for portable use.

This was great fun, with the slightly different format with prize. I would like to continue this sort of format if you are all in agreement. Perhaps resorting to putting this sort of thing in the winter calendar.

PS

I have been on an arm twisting session with Geoff and have provisionally set out a talk with demonstration on the Robot Wars.

Take a look in the Calendar of events after the New Year to see if the arm twisting worked.

A cheap GPRS Tracker

This little talk and demo was by yours truly. It showed what could be done using free software, old computer and either an old Android phone or a commercial Tiny Tracker. The Tiny Tracker is home made on vero board with downloaded software or buy one ready built.

Dennis's Other Hobby

Dennis gave an amazing talk on his other hobby, that is the sending and receiving data and video from model vehicles. A Hummer with a large camera on board to a tank that sped around the club room. The data he is developing is just like the driverless cars, learning the area and driving around using RADAR. Well, it is all smoke and mirrors to me.

The thing this could be used for is an automated lawn mower. Now that is just what I am looking for.

For this talk I think Dennis brought most of his test equipment form his shack, or maybe not. I think Dennis has the largest amount of test equipment known in the world of ham radio.

Show and Tell (a bit more)



Dennis in full flow. If you look just to his back you will notice the monitor that is connected by a radio link to the Hummer on the table. It is pointing at the assembled audience almost a full house for this talk.

Most of the frequencies used were ISM bands so were in effect all licence free.

If you require further information to have a go yourself, have a word in Dennis's ear, I'm sure he will only be pleased to help

Not only did he tell us how his systems worked but, we also learned about the charging of various types of batteries used in the powering of all of his vehicles.

Free Chip Supper

This was the first time this was tried at the club. Unfortunately, this event was not well attended as it fell on the unexpected Bank Holiday for Her Majesties Funeral which was on the Monday.

For those that did attend we had a good supper from the chip shop on the high street Near the club.

New Talks

I am trying my best to make Fridays enjoyable for all. I do however despair at some new licence holders and trainees failing to turn up as it is not a training night. If you really want to learn things about radio then please make an effort.

When I was new to radio, some things were, as I thought went way above me. However, as time went on things as mentioned in these talks began to make sense.

If you are new to radio, give me a call to arrange a talk on something you would like more information on.

Next year I will add some constructional on a Friday. This will start with a construction of an antenna of your choice. Take a look in the Calendar for dates.

Welcome Another New Member



Some of you may remember Rikki, M0YHF. He has been along to the club on many occasions and joined in our club nets. He always said that he would join the club, and now he has.

He took his Foundation licence during lock down. Then his Intermediate, and finally his Advanced.

I have never seen any body advance so quickly. Saying that, he's top at everything he puts his mind to. Why is he not a regular at the club you ask? His other hobby is archery, and his club unfortunately, also meet on a Friday. Recently he represented Wales in archery Well done Rikki.

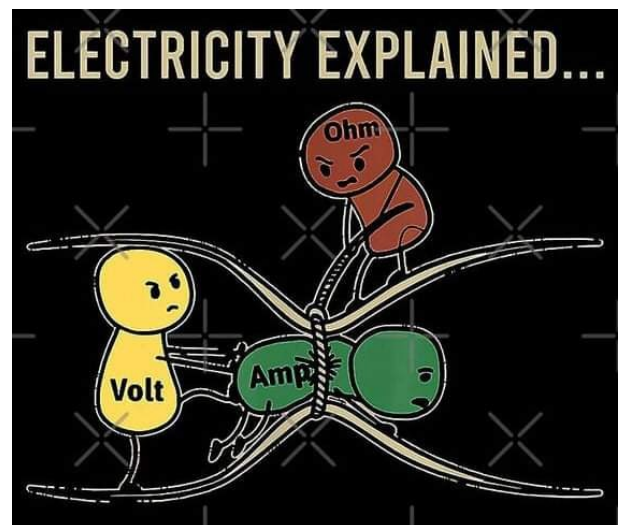
If you see him at the club, or hear him on air please make him and indeed all new members welcome.

Club Helpers

A personal thank you goes out to Nick, M7NCK for volunteering to collect and pack away the Coffee and cups after the club night. This assistance is very welcome as for some time it has been left to me to do all of the clearing up. Also thanks to Dave, M0HDJ who has, since covid, took on the task of wiping the tables down after the meetings as requested by the management of She7. In the word of a well known super market, "Every Little Helps"

This cartoon was sent to me by Paul, M6KQZ This is a very good way of describing Volts, Current and Resistance.

That reminds me, Dick, G0XAY has given me some cartoons. Some not suitable for the Children who read this. I will edit them for the next Q5.



Calendar of events

Nov 4 th	Christmas Meal Planning & open Committee Meeting	
Nov 11 th	Table Top Sale No sellers Fee (Just The Club's Door Fee)	
Nov 18 th	General Meeting (Remember the Christmas Meal)	
Nov 25 th	WSPR The easy way By Paul G8YMM	
Dec 2 nd	General Meeting (Remember the Christmas Meal)	Training
Dec 9 th	Round Table (Final prep for the Christmas meal)	Training
Dec 16 th	Christmas Meal This meeting is for ticket holders Only	
Dec 23 rd	No meeting (Too near Christmas Day)	
Dec 30 th	No Meeting. We all meet in the new year	
Jan 6 th	Start you Antenna project Sorting the Bits (4 week project)	
Jan 13 th	AGM (Important that you all attend if you can)	
Jan 20 th	Your Antenna Continued	Training
Jan 27 th	Your Antenna (Antenna Testing on the analyser)?	
Feb 1 st	Q5 published	
Feb 3 rd	General Meeting	Training

We do our very best to put on the events listed but, due to unforeseen circumstances, things can change. If the event is important to you, you can always phone the secretary just to check if it is still on or not.

Secretary's Phone Number 07533933831

Club Nets & Contact Details

To spice up our nets, the Wed net will be a Technical net (If we can). If members have a problem, or just want to know how something works, ask your question here.

This came about because some participants of our nets didn't want to spend the night talking about the weather and general chit chat. They said it was boring, so wouldn't come on any net. The Chit Chat evenings will be the Sunday net. We hope this will cater for all.

Wednesday net (This is the regular Net) GB3BS 20:00 to 21:00

Sunday Evening Net This is on GB3BS 20:00 to 21:00

As **GB3AC** is working, we may QSY there after ½ hr Always check both repeaters

Saturday Mat's DMR Net GB7BS 19:00 to 20:00 South west cluster TS2 (950) This cluster now consists of 10 repeaters in the SW

TS1(9) has now had some modifications check the GB7BS web site for the latest news. Details will be in the next Q5.

Club Contacts

Secretary and Q5 Editor

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Next Q5 Feb 1st

Q5 Publication

Last date for articles January 24th

Publication Date 1st Feb

It is hoped that I will get articles sent to me from time to time. I thank all of you that have submitted items over the past couple of years. All back issues are available on the club's new web site.

www.nbarc.org.uk



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Affiliated 1977

Nomination Form

Nominations for the following Positions:-

Chairman
Vice Chairman
Secretary
Treasurer

Shack Manager
Training Manager
Officer 1
Officer 2

To be returned electronically by email to g7byn@blueyonder.co.uk
Or handed to the secretary Dave G7BYN

I (Your Name).....Callsign:-.....

Nominate.....Callsign.....

For the position of.....

Nominations will only be accepted on this form