

# Q5

## North Bristol Amateur Radio Club

The Proactive Radio Club  
Page Community Association  
Page Road, Staple Hill  
Bristol BS16 4NE

February 2025



### Events Planned for 2025

We are getting ready for our first Balloon Launch. It is envisaged that we incorporate the launch and initial tracking from the Mill site. A computer and associated tracking transceiver will be set up in the club's gazebo as a command centre, along with the HF radio for the normal activation of the Mills on the Air. This is not set in stone at the moment. The project is subject to the weather, completion and testing of the hardware. The software is at the moment is being written by Mat, G7FBD.

### Mills On The Air

The beginning of the season always start of with MOTA. We have had great success at the Ashton Mill on the Somerset Levels. Last year however, the HF band was killed off by a massive solar flair that hit the earth. The weather is generally good and I believe an order has been placed this year.

### Meals on the Hill (A play on words again)

will go ahead again in the same format as last year. Hopefully, the weather will be better and we can incorporate another radio event such as 6m contest, club POTA or just radio.

## A New Ham On The Air

Congratulations to young Ethan for passing his Foundation Licence. Look out for his call sign **M7YPZ** If you hear him on air please return the call.

## A New Year For The Club. Here is Your Committee.

### Club Management

**Chairman:- Paul, G8YMM**  
**Secretary:- Dave, G7BYN**  
**Treasurer:- Shaun, G8VPG**  
**Vice Chair:-Mat, G7FBD**

### Other Committee Members

**Membership Secretary:- Geoff, M6GFM**  
**Joint Training Manager Ian, G4TAH**  
**Joint Training Manager Dennis, M0IYQ**

**Time To pay your subs** Sorry to bring this up, a lot of you paid up at the AGM. For those that haven't, please pay ASAP as knowing membership numbers helps with the club planning.

Membership fees are kept the same as the last couple of years with no increase.

£30 per year with a door fee of £2 on each visit. Gold membership is £120 per year with no door fee.

Family membership this is 1.5 times the type of membership chosen for details see the Chairman / Secretary / Treasurer or Membership secretary for full details.

The way to pay is either by **cash** at the door or by bank transfer. If you pay by bank transfer please use the details below.

### **North Bristol Amateur Radio Club**

**Sort Code 51 70 08 Account 77178491**

Please use your call sign and name as reference so the treasurer will know who has paid.

Shaun, our treasurer will then pass the information to the membership secretary, Geoff who will then issue you with your membership card.

We are sorry that due to Banking issues at our end **Cheques Cannot be Accepted.**

Because we have a lot of new members, we take another look

## The Mystery Of The J pole Made Simple

It was 5 years ago that we talked about J-pole and this form of matching. The top section can be folded over to form a "Slim-Jim". The Slim Jim can be found in a book called Out Of Thin Air. The ideal frequencies for this antenna is 2M and 70cm although I have seen some on 6m.

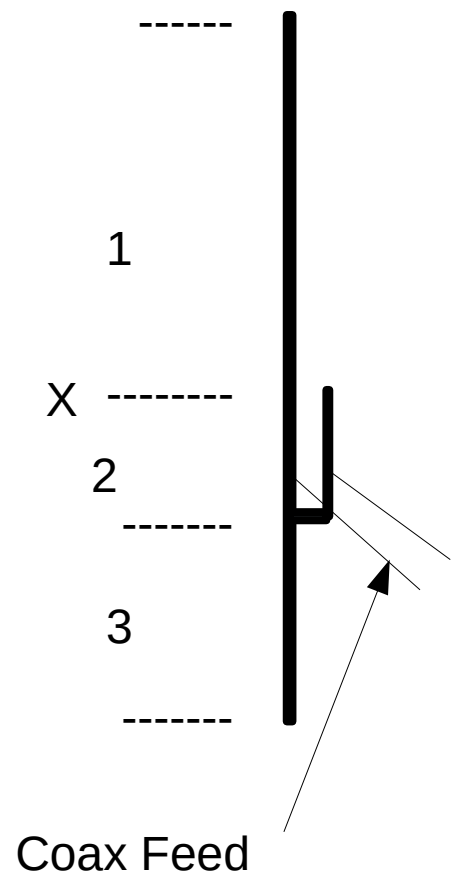
Most of us know the J pole, but how does it work? With no radials or ground plane. If I said it is an end fed antenna you may laugh. That is exactly what it is. I will split the J-pole into 3 sections so you can understand each section.

**Section 1** is a half wave section at the operating frequency. It is just a rod or wire. The impedance at the end marked "X" is several thousand ohms. Now we need to match to our rig of 50Ω, this is where the matching section the "J" comes in.

**Section 2** is the  $\frac{1}{4}$  wave matching section. Shock, Horror, It Is Short Circuit. Well, it is at DC but, we are dealing with AC at Radio frequencies. The section being  $\frac{1}{4}$  wave in length has an impedance at the open end of several thousand ohms and at the shorted end it is well, shorted i.e. 0Ω. Somewhere between the two ends must be 50Ω. This is just what we are looking for to attach our coax to the rig. In practice we make the tapping point adjustable. When the correct point is found mark the points, solder or fix the coax feeder by your favourite method. Remember, as it is a balanced antenna don't forget to choke off the RF with a few turns of coax formed into a coil or a 1:1 transformer by the feed point.

**Section 3** Just for mounting to a mast or pole Length doesn't matter.

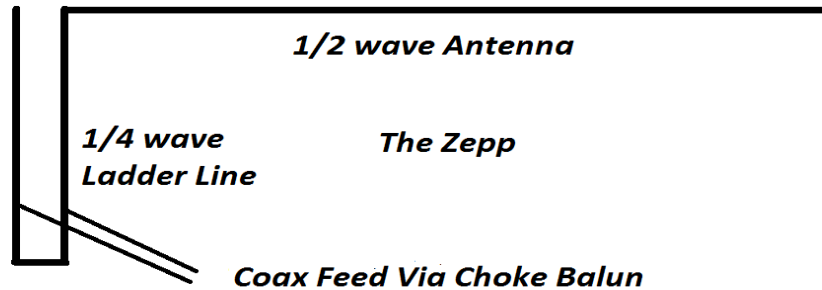
There are other forms of this antenna, the Slim Jim, we have mentioned, and the old HF antenna called the Zepp.



As you can see, the concept of how antennas work is not as difficult as you may think. Most antennas can be split down as individual components.

Most antennas can be calculated for different bands. This antenna is also made for the HF bands but, a lot bigger. The matching stub being  $\frac{1}{4}$  wave on the 40m band will be 10m in length. Not too bad a size if you are trailing it from a Zeppelin airship as that is what it was designed for.

## J-Poles continued



Here is the Zepp. You notice it is the same as J-pole. The "J" section is turned through 90 degrees to the radiating section and is generally made of 400Ω ladder line. Again you find the feed point to be at 50Ω

I hope that this has helped you, give these antennas a try, experiment and have some fun.

The advantage of these antennas is you will notice that there are no radials or ground plane. To discuss any constructional techniques, see me at the club. They can very easily be made using 300 or 400 ohm twin feeder or, using 14mm copper plumbing tubing (for VHF and above) The Zepp can be hung in place of your long wire for HF. If you use a long wire at the moment hang this one up and give it a try. They are generally tuned for only one band but, experiment and let us know how you get on.

## Talks coming to the club & The Calendar

You will notice that we have a talk at the end of February showing many of the details of GB3BS / GB7BS repeater. It also has a few hidden systems up it's tower that some of you may not know is there. To find out more you will have to turn up on the night.

This repeater is the best repeater in the country. It doesn't just appear, it takes a lot of effort and money to keep running and maintained to this extraordinarily high standard.

Please make Mark, G4SDR the repeater keeper, welcome at the club. He will be ably assisted by our very own Mat, G7FBD.

We also have our quiz evening. Don't be afraid to join in with us. It is just a bit of fun and there is a prize for to winner.

We are also going to progress with the Balloon Project.

For new and old hams who may not have tried It here is an item on SSTV. That is Slow Scan Television. This can be fun to receive and latter on it is easy to transmit without too much difficulty.

Please support events that we put on for the club to enjoy.

## Errors that crept into The Last Q5



Mat. I keep making mistakes in Q5.  
Please Make Them Fire Me?

I apologise to Paul M7LZG, whom I called John, He should have been called Dave, it would be easier as there are more Daves in the club than any other name. Also an apology to Tony, Who's call sign changed it's self to G8TJZ instead of the correct call G8CJZ.

Another error that no one noticed was the date for the next Q5, I marked it as being May 1<sup>st</sup>, also Jan 31<sup>st</sup> disappeared well, we are on course this Q5 being February 1<sup>st</sup> Not May 1<sup>st</sup>

I am however, not alone. In Key lines of Practical Wireless fame, December 2024 edition, there was an apology, they also got a call sign incorrect. Mistakes are easily done, I have an excuse though, PW has proof readers I don't,,,,, until now. My idea is:- The next member who finds an error will volunteer themselves to proof read future copies, problem solved.

## Dick's award from the RSGB

We are very privileged to have Dick, G0XAY in our club. Dick used to be the regional rep for the RSGB, and of late was the man to go to for planning advice if you have antenna planning problems. It is because of his hard work the RSGB chose to reward him. May we also pass on our congratulations.



## The Christmas Meal



The members who turned up for the Christmas meal. As last year **it was free with a free bar**. The deposits were duly returned to those that turned up with only two members failing to turn up so, as per the rules, they lost their deposits. Bob, G7CFD donated his deposit to the club funds and was duly noted on my monthly returns to Shaun, the club's treasurer.

As last year, the event was prepared by Geoff and Sally. (Sally being Geoff's wife). Both Sally and Geoff Did an excellent spread. We thank them once again for all of their hard work, without them there wouldn't be such an enjoyable event.

Your committee may be planning another free event, being Meals on the Hill. If you remember, we did that in 2024 at Tog Hill. Unfortunately the weather was not the best with highish winds and the rain coming in at close down. This year we have ordered good weather.

## A bit More Fun



The above cartoon How true this is.

# A Mains Bench Power Supply You can Safely Make For £10-£15

This project uses pre made relatively cheap modules from China Via Amazon or Ali Express. This is not to power your Ham radio but for testing projects that you would normally use dry cell batteries for. It is not my design as it is to be found on YouTube.

I say safely make, because it uses an old redundant laptop power brick. These are normally 19v but can be any voltage up to 24v. The voltage really doesn't matter because the module will do all of the voltage control. What you should be looking for is the power in amperes, 3.5A or 4A is OK but, if all you have is a 2A device this will obviously lower the total current drawn from the final project.

My old PSU that I have used for years was a very noisy Maplin 2A bench supply. I say noisy because it has a very large ripple on the output voltage that would give a slight "Hum" on any audio amplifier I built. I could have sorted it out however it was a project that moved further to the back shelf. The meters were the old analogue type reading voltage up to 35volt and an adjustable current limiter to 2A.

The New PSU has to be an improvement on the old one. An output of just under 3A is more than enough for what I play around with, bear in mind all I had before was 2A PSU from Maplin.



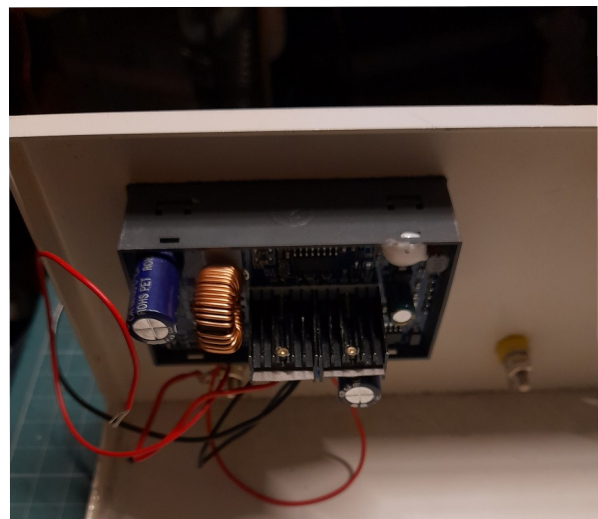
On the left you see the PSU in the making. The outputs are entirely up to you. It could be just the Black & Red binding posts for the variable voltage.

I have included a fixed 5v on the extra outputs, a Yellow and there will be a Black binding post added to the vacant hole.

There is a smaller hole just above for a switch to turn off the 5v. The adjustable section has its own off switch included.

You will see that I mark my drill positions (above) with duct tape. Of course, masking tape could also be used. The opening for the module was cut with my "dremel". This is how I do things and I am not going to teach you any metal working skills here.

The rear of the module is shown on the right. There is a choice of modules on Ali Express or Amazon the final choice is up to your needs. The case you will want to consider how many outputs you require. Also if the brick is fitted inside or out.



# A Mains Bench Power Supply Continued

if you wish to mount your laptop brick inside the case, think how you are going to safely route the mains lead through to the outside. Make sure that the lead is clamped inside and it exits through a grommet. The best thing to do for most of you is have the brick outside plugging into your project via a power socket, the size that fits the plug on the Laptop brick. By having brick outside, it could also be used on the original laptop or any other project when not in use on the PSU.

Additional voltages can be added by adding things called “Buck” converters. Little modules adjustable or trimmed to the voltage required. The one I fitted was 5V with another one to be fitted at a latter date for 3.2V.

## Some Parts Required

Case to Suit

Old Laptop Brick preferably 19V 4 Amp (My brick was 3.5A)

Variable Converter With Meter (Ali Express)

Buck Converter(S) (Ali Express)

Binding Posts for Banana Plugs (Bag of 20 from Ali express)

Socket for Power Brick (From my spares kit)

Wire and Screws to suit

This project will also be covered on February 14th during one of our workshops. I will have on display the finished PSU with the modules as are available on Ali Express, or Amazon.

PS. February Practical Wireless was delivered to me January 8<sup>th</sup>. In the what's coming up, March edition, guess what? Yes a PSU. Q5 has beat it by a week or so.

To see the finished power supply, the meeting on February 14<sup>th</sup> I am holding a constructional workshop.

As with all projects, how it is constructed is up to the person doing the constructing. If that makes sense.

Please come along to the evening and see what can be done.



## A Device to Calibrate your Test Gear Sourced by Dennis MOIYQ

Calibrator.

How many times have you wondered when taking a voltage measurement that your instrument is telling you the truth?

Low and behold there is a solution. The AD584 from analogue devices.



Application note can be found on the Analogue device's web site:

<https://www.analog.com/en/search.html?query=AD584>

The cost of the chip is around £21-00 but there is light on the horizon in buying it as a module from such sites as Ali Express, eBay etc with prices ranging from £4.40p to £9-00. I have one and tested it with a fluke 8060 and is very accurate.

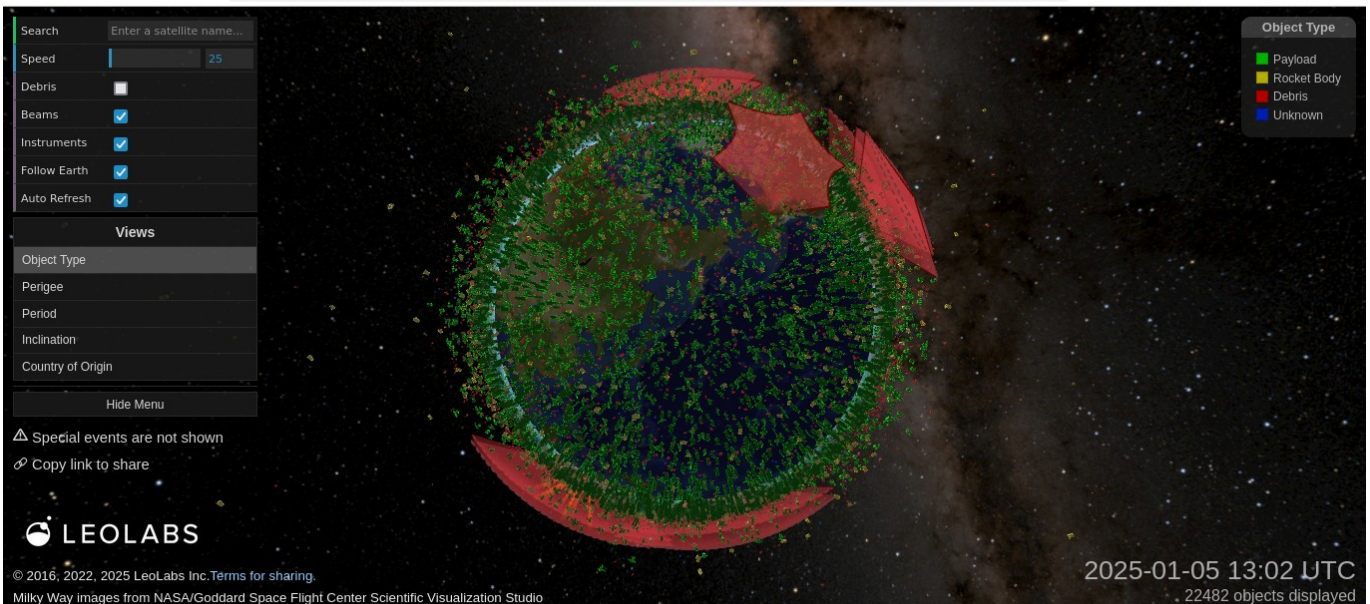
As you can see each one is calibrated with an accuracy of within  $\pm 0.1\%$

A note from the editor.

For Dennis to give his endorsement to this device speaks for it's self. In my next order to Ali Express, I may add this little board to the shopping cart.

## Space News from Dennis MOYQ

The following link was sent in by Dennis. It shows the vast amount of space junk flying around the globe. It is colour coded as shown on the top right of the screen.



It is very difficult to show you all of the details here so, if you follow the link, it is possible to view it all for yourself.

click on the link. <https://platform.leolabs.space/visualizations/leo>

### Fact file

Do you own or think Heil microphones and headsets are the best thing since sliced bread? I personally think it is a good marketing rouse. I looked up who actually own Heil sound. Wiki told me it is The Dover Corporation, a manufacturer of garbage and recycling trucks.

Say no more.

### Silent Key

It is with great sadness to report the passing of G4KUQ, Phillip Goodfellow, also known as Mark, Our thoughts go to his friends and family. The following link is a Tribute to his life.

<https://philipgoodfellow.muchloved.com/>.

# Calendar of events

Feb 7 <sup>th</sup>	On Air night
Feb 14 <sup>th</sup>	Power Supply Workshop. Project As published in Q5
Feb 21 <sup>st</sup>	General Meeting
Feb 28 <sup>th</sup>	The Lansdown Repeaters in slides and film By Mat G7FBD/Mark
March 7 <sup>th</sup>	Antenna workshops
Mar 14 <sup>th</sup>	Balloon Project Introduction By Mat G7FBD
Mar 21 <sup>st</sup>	General Meeting
Mar 28 <sup>th</sup>	Quiz Night (With Prizes)
Apr 4 <sup>th</sup>	On Air Night
Apr 11 <sup>th</sup>	Fun with SSTV (Slow Scan Television)
April 18 <sup>th</sup>	Good Friday No Meeting
April 25 <sup>th</sup>	Film Night
May 1 <sup>st</sup>	Q5 Published (Thursday)
May 2 <sup>nd</sup>	Balloon Workshop with the Balloon Team.

Saturday-Sunday May 10<sup>th</sup> & 11<sup>th</sup> Mills on the Air including Balloon Launch

If an event is important to you, and are not at the previous Club Meeting to hear Announcements, Please make contact to check if the event is continuing or any changes to the details.

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

Please remember, we are trying to keep the Wednesday net a Technical net (If we can). Members may have a problem, or just want to know how something works, ask your question here.

This decision 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.

Participants of nets can always change the conversation of a net. Therefore, if the conversation said to be boring, you only have yourself to blame.

**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 However, GB3AC may be the repeater of choice in the forthcoming month or so. Stand by for an announcement at the club.

## Additional nets By Dave G4FJH

**Mondays** 2m ssb (144.340Mhz) Vertically polarised @ 20:00

**Thursdays** 6m via the GB3ZY repeater @ 20:05

## Club Contacts

### Secretary and Q5 Editor

Dave G7BYN

Phone 07533933831

Email [g7byn@outlook.com](mailto:g7byn@outlook.com)

*Please Note a reply may be from another email address as I use this as an inbox .*

### Chairman

Paul Stevenson G8YMM

Phone 07921942922

Email [g8ymm@nbarc.co.uk](mailto:g8ymm@nbarc.co.uk)

**Next Q5 May 1st**

## Q5 Publication

Last date for articles April 24th

Publication Date May 1st

I hope 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](http://www.nbarc.org.uk)