

# Newsletter

## Chesham & District Amateur Radio Society

[www.g3mdg.org.uk](http://www.g3mdg.org.uk)

May 2021

We meet the 2<sup>nd</sup> and 4<sup>th</sup> Wednesdays of the month at the Ashley Green Village Hall, Ashley Green, HP5 3PP

### Welcome

With coronavirus restrictions beginning to lift we're on the road to being able to meet as a club again, fingers crossed it stays that way.

Better weather on its way, why not get the wire out and try those antenna's you've dreamed of making over the winter months?

Problems getting that 70cm antenna working? Peter (2E0PTH) has written an article on a 70cm ground plane antenna, why not give it a whirl?

At last, the parts have arrived for the QRM Eliminator, see pages 7 and 16.

Now that restrictions are being lifted it's a great time to think about Beyond Exams again, in case you've forgotten (we did!) I've included details in "Beyond Exams, what's it all about then?", I think we would do well, both as a club and individually.

Air Miles this month has seen a change, FT8 is no longer the mode of choice, SSB has taken the lead. The band of choice seems to be 6m, and the country of choice, the UK!

Bryan M0IHY

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### Contact details

Chairman - Jeremy Browne (G3XZG)      Secretary - Malcolm Appleby (G3ZNU)  
Treasurer - Matt Whitchurch (M1DTG)      Editor - Bryan Page (M0IHY)      Angie Page (M6WTL)

All the above are members of the committee and can be contacted on [cdars\\_committee@googlegroups.com](mailto:cdars_committee@googlegroups.com)

# Chairman's Ramble

Looking at my log, I don't seem to have spent much time on the air this month. This does not have so much to do with the gradual easing of lockdown, as the weather has not really encouraged garden parties or picnics, but more because of some fairly dire conditions on occasions on the HF bands, due to solar activity and also what feels like more than the usual number of remote meetings during the day. Some of them seeming to extend well beyond the business they were supposed to transact. Perhaps that's just me grumbling. Highlights though were VU2TMP and BV4E one afternoon, within a few minutes of each other on 14 MHz CW. Buses and DX have something in common then.

Reviewing the month's club activities, I am once again very grateful to all those who have taken part in many ways.

You will see in the newsletter a note about Jim, G3VRY and his generous donation of antenna equipment. It took a couple of working parties to take down and shift what was clearly a longstanding and well set-up (and also heavy) antenna arrangement which had served Jim well for many years. On the subject of things being moved, following the installation of two large cabinets for storage at Ashley Green we have started to clear the cupboard at the Whitehill Centre, though when contacted, I could not resist pointing out that the club had paid for and built the cupboard in the first place. We plan to re-position the cabinets at Ashley Green next month, and clear the rest of the items, deciding at the time what to keep and what we don't need. We will be looking for a bit of a working party at some point on 12th May to complete that job, but will circulate more about it nearer the time.

We have had two more good meetings on Zoom, the first being mainly a planning meeting for Brill and the second an excellent presentation from Malcolm, ably assisted by Guy, James and Dave, on AirScout, to which we were glad to welcome guests from other clubs. One advantage of remote meetings at least. We have also continued with the nets and CW practice.

On checking RadCom, it seems that we are one of a very few clubs whose activities are mentioned, that have succeeded in putting together a programme of events during lockdown, which, given the ability to meet remotely, download and watch RSGB lectures etc, I find surprising, but very encouraging from our point of view.

Let's look forward to the summer, hope for a dry (and warm) weekend at the windmill and a successful, albeit still socially distanced meeting on the last Wednesday, when we plan to be back at Ashley Green. One innovation this year will be that the windmill activity, should, all being well, be on our youtube channel, so we will have to remember to behave ourselves, on camera at least.

73, Jeremy.

# Editor's Muse

With Angie and I now out of isolation we're looking forward to attending club meetings at Ashley Green Village Hall soon.

My QRM Eliminator has suffered a setback (page 7) but as soon as I get the parts (some have already arrived) I'll get on and test it (page 16).

I've included a section on back garden antenna's because questions were asked on the GB3TU net, hopefully it will give you some idea of what is possible. If you're looking for ½ wave horizontal dipoles, you'll need a fair run if you want to try half-wave 80m and lower, unless you bend it, or use loading coils, which maybe an article for another time. The trusty cobweb, verticals and mag loops will work well within a smaller space, even your loft, especially if you're looking for 'stealth' operating!

Bryan M0IHY

# Proposed changes to the Constitution

We have generally simplified the language of the constitution, but I summarised the more substantial changes here.

## **Membership.**

We have proposed changes.

1. Student membership is now defined as under 18. This has the consequence of broadening the full membership to those who are 18 or over.
2. A new category of associate membership. This is to cover such situations as the CDARS - NRC contesting link and the idea is that the committee will grant associate membership on an annual basis. The secretary will keep details of the associate members. It has been drawn fairly widely and is not intended just to apply to the CDARS - NRC link.
3. Guests. This has been relaxed somewhat. Previously the constitution stated that in effect visits were limited to 3 if the person did not join as a member.

## **Subscription.**

This will now be set by the AGM, where formerly it was to be set by the committee.

## **Finance.**

We have removed the sentence requiring that all deposits shall be paid promptly into the bank account by the treasurer, as most transactions are now by direct transfer.

## **Committee.**

We have relaxed the previous prohibition on a chairman being in place for more than three years. The AGM can now take the decision in effect to go beyond that period.

The treasurer's duties have been altered slightly, principally by moving some of these from finance.

## **Meetings.**

We have included provision for committee, meetings, annual general meetings and extraordinary general meetings to be held remotely if appropriate.

## **AGM.**

We have changed the requirement from holding this normally on the first Wednesday in February, to a Wednesday before 1st March.

Jeremy Browne G3XZG

## Chesham & District Amateur Radio Society Constitution April 2021

### **Name**

The name of the society is the Chesham and District Amateur Radio Society.

### **Aims**

The aims of the Society are to further the interests of its members in all aspects of amateur radio and directly associated activities.

### **Membership**

Membership is open, subject to the discretion of the Committee, to all persons interested in furthering the aims of the Society. There are the following categories of membership:

1. Full members are 18 years of age or over.
2. Student members are under 18 years of age.
3. Associate Membership may be granted at the discretion of the Committee to persons who wish to assist the Society. Associate Members have no voting rights at CDARS. Associate Membership is free of subscription and is renewed annually.
4. Honorary life membership may be granted to any person who, in the opinion of the Committee, has rendered outstanding service to the Society, either directly or indirectly. Such membership shall carry the rights of full membership but shall be free of subscriptions.
5. Members are encouraged guests to meetings. Visitors will be asked to make a contribution towards the Society's running costs.
6. All members shall abide by the constitution of the society. The Committee has the power to expel any member whose conduct, in the opinion of at least three quarters of the full committee, renders that person unfit to be a member of the Society. No member shall be expelled without first having been given an opportunity to appear before the Committee.

### **Subscriptions**

The annual subscriptions for membership shall be set by the Committee.

All subscriptions are due and payable at the beginning of the financial year. Members more than two calendar months in arrears will lose their voting rights.

The financial year runs from 1 January to 31 December.

A member is deemed to have resigned from the Society if, by the end of the financial year, the subscription has not been paid.

Subscriptions for members joining more than three calendar months after the start of the financial year shall be determined on a pro rata basis.

### **Finance**

All money received by the Society shall be promptly deposited in the Society's bank account. The Treasurer is responsible for any financial transactions made on behalf of the Society, and is accountable to the Committee for all such expenditure.

# The Constitution

## **Membership of the Society's Committee**

The Society's affairs are administered by a Committee elected at the Annual General Meeting.

**The Committee**, in whom the Society's property shall be vested, consists of :

A Chairman who presides at all meetings at which he/she is present. It is expected that a member will not hold this position for more than three consecutive years, but this may be extended at an AGM. The Chairman shall appoint a person, usually another Committee member, to act on his/her behalf on each occasion at which he/she is unable to attend a Committee Meeting, Annual General Meeting or Extra-Ordinary General Meeting.

**A Secretary**, who is responsible for:

1. keeping the minutes of meetings of the Society
2. ensuring that correspondence is correctly handled
3. maintaining a roll of members and honorary members
4. maintaining a register of Society equipment

**A Treasurer**, who will be responsible for:

1. the Society's accounts
2. advising the Committee on all financial matters
3. preparing the accounts for audit and presenting them at the AGM

Not less than two, and not more than five, Ordinary Committee Members.

Not more than two co-opted members who have full voting powers, and not more than three co-opted members who are not permitted to vote.

During or before the first Committee Meeting each year the Chairman shall assign portfolios to committee members, appropriate to the activities of the Society at the time. These may include, but not necessarily be confined to:

1. Contest Coordinator
2. Events Manager
3. Licence Course Manager
4. Programme Diary Manager
5. Publicity Manager
6. Purchasing Manager
7. QSL Manager
8. RSGB Exam Secretary
9. Webmaster

## **Committee Standing Orders**

The quorum for the Committee shall be at least half of those members of the Committee with voting rights. In the absence of a quorum business may be dealt with but any decisions taken only become valid after ratification either at the next meeting at which a quorum exists or similarly by electronic communication.

Committee meetings may be called by the Chairman, the Secretary, or any three elected members of the Committee.

Committee meetings may be held in person or using an online service at the discretion and with the agreement of the whole committee.

The Chairman may vote. In the event of a tie the Chairman has a second, casting, vote.

At the discretion of the Chairman, Committee business may be conducted by means of electronic

# The Constitution

communication such as email, telephone, online meeting or texting.

## **Annual General Meeting**

The AGM shall normally be held on a Wednesday before 1st March each year. At least 21 days' notice shall be given to each member in writing or by electronic communication and an announcement on the Society's website.

The AGM may be held in person, or using an online service at the discretion of the Committee.

The quorum for the meeting shall be at least one third of the membership.

The agenda for the meeting is:

- a) Register of those present
- b) Apologies for absence
- c) Minutes of the previous AGM
- d) Chairman's report
- e) Secretary's report
- f) Treasurer's report
- g) Election of the new Committee
- h) Appointment of auditors
- i) Other business

Items a) to f) are chaired by the outgoing Chairman, item g) by an acting Chairman who is not standing for office and the remaining business by the newly elected Chairman.

Nominations for Committee members will only be valid if confirmed by the nominee at the meeting or previously in writing.

Items to be raised by members under Any Other Business should be notified to the Secretary not less than 21 days before the AGM. Items not pre-notified may be accepted, at the Chairman's discretion, but may be held over to a later date.

## **Extra-ordinary General Meeting**

An Extraordinary General Meeting may be called by the Committee or not less than one fifth of the members of the Society, the date of the meeting being the earliest convenient as decided by the Committee. At least 28 days' notice in writing must be given to the Secretary who in turn shall give members at least 14 days' notice in writing or by electronic means of the agenda. No other business may be transacted at the EGM.

The quorum for the EGM shall be at least one third of the membership of the Society.

Members may authorise a proxy to vote on their behalf at an EGM after notice in writing to the Secretary.

## **Amendments to the Constitution**

The Constitution can be amended only at an EGM called for that purpose.

## **Winding up of the Society**

The decision to wind up the Society can be taken only at an EGM.

The funds of the Society shall, after the sale of all assets and the payment of outstanding debts, be disposed of as directed by members at the final EGM.

Malcolm G3ZNU

# QRM Eliminator - hmmm...

Well, I promised you a review on the QRM Eliminator I ordered from China, I was going to ask you to wait a little longer (however, more to report on page 16), the reasons are as outlined below.

On initial inspection of the unit I noted the following:

1. It was not the same model as ordered (I could live with that).
2. The 8 countersunk screws securing the front and back panels were not in square, this was due to the holes in the front and rear panels being slightly off, I corrected this (copious filing with needle files) and replaced the countersunk screws with stainless steel Allen screws, now it looks the business - the holes in the panels were not countersunk, so I have to question the use of the screws they supplied.
3. The 3 potentiometers were a 'loose' fit, this was because the nuts on the potentiometers were missing and the PCB was 'floating' (it was the knobs that prevented the PCB disappearing into the case, there was an insulating foam patch under the PCB to prevent it shorting out on the aluminium case). I had to drill indents into the rear of the front panel to take the locating lugs of the potentiometers and then replace the missing nuts, now everything was square and fitting properly.
4. The 3 SO-239 sockets on the back panel were not tight. Before I tightened them I checked inside and noted that one of the coaxial cables would not allow its the rear socket to align straight as it was too short, this was caused by item 3 above.

Having made adjustments I was not able to return the item (silly me), it was a shame as the quality of the case and front and rear panels were good (apart from the misaligned holes).

Tackling the short coaxial cables is not a simple job, the SO-239's are crimped and are unusable once disconnected, these I have to replace, hence the delay in reporting.

Hand soldering on the PCB left a little to be desired as there was flux residue remaining, this was not in itself a problem as I have the appropriate cleaners to deal with that.

Would I recommend the item, NO. What I've done is order parts that would enable me to build my own, I can then report back on the build and how it works, I'll get the parts to put right the problems with the first one and report back on that too. The initial reason for purchasing the 'built' item was that I couldn't purchase the parts for what I paid, on reflection it would have been cheaper to purchase the parts in the long run.

I think the Chinese and I have a problem with purchasing items on eBay, purchasing something cheaper does not necessarily mean better quality, point noted!

Bryan M0IHY

Good news... The parts have arrived, I've built it (pages 16-17), primarily tested it but will thoroughly test it before next month's newsletter and report back.

# Back garden antenna's

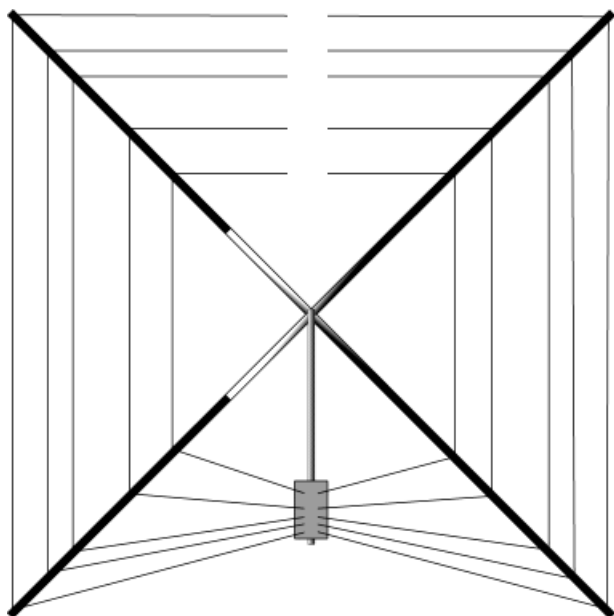
In one of the net meetings on GB3TU a question of what sort of antenna's can be mounted in your back garden was asked, following are a few examples of what is possible.

## Cobweb

There are two main configurations for the Cobwebb: the original T-match version as developed by G3TPW using twin speaker wire and the 1:4 balun version as developed by G3TXQ.

Comparing the two versions it appears the G3TXQ version was easier to build and tune with no apparent disadvantages.

Multi-band, the number of bands varies from 5-9 covering 40m, 30m, 20m, 17m, 15m, 12m, 10m, 6m and 4m, the standard 5 band 20m-10m version is approximately 8 feet square (approximately 2.5 metres), the 40m version is around 16 feet square (5 metres).



A 5-band cobweb

All elements, with the exception of 6m and 4m, are omnidirectional thereby removing the need for a rotator.

There are many options available to either purchase a complete antenna, or build your own, I built my first cobweb using hardware from [Aerial Parts of Colchester](#) (see below for the URL's), a balun from [Ham Goodies](#) and 22mm plastic plumbing pipe for the arms of the cobweb from Wickes.

If you purchase a cobweb be prepared to pay up to several hundred pounds, the MFJ18-38 40m-6m cobweb is, at the time of going to press, £499.99.

Building your own is less expensive and should you go down the G3TPW route you will not require a 1:4 balun.

Tuning is very simple with either configuration, simply fold the excess wire back on itself, and like all antenna's, start with a little too much wire, "easier to shorten than to lengthen".

Cobweb's work well just a few metres above the ground, say 5 metres. Running just 10W (when I was an M6) I managed Canada, Brazil, Canary Islands, Argentina, etc., they're a good antenna that will get you on the air with a minimum of fuss.

Aerial Parts of Colchester - <http://aerial-parts.co.uk/> - their hardware is currently £38 + P & P, it's good stuff.

Ham Goodies - <https://www.hamgoodies.co.uk> - their balun is resin filled, 5-band and is currently £60 + P & P, again it's good quality.

<http://www.m0pzt.com/cobweb-aerial/> is the site to go to for information, parts list and pictures of the hardware and balun, well worth a visit.

Should you wish to try the G3TPW version,

<https://www.kerryamateurradiogroup.com/ei9fvb-foldable-cobwebb-antenna.html> is a good place to start where there is a PDF to download to help you with your build.

## Horizontal Dipoles

Various types from single band, fan multi-band and inverted-V's of the same, and not forgetting linked dipoles, most are simple to build, the linked dipole especially suitable for /P work.

The formula for calculating the length of each half-wave dipole arm is:  $300/\text{Frequency (MHz)}$ , ie. for 40m taking 7.1MHz as the centre frequency -  $300/7.1 = 42.25$  metres, divide this by 4 to give the length of each arm ( $1/4$  wave per arm, hence the dipole being a  $1/2$  wave dipole), in this case 10.56 metres. The velocity factor



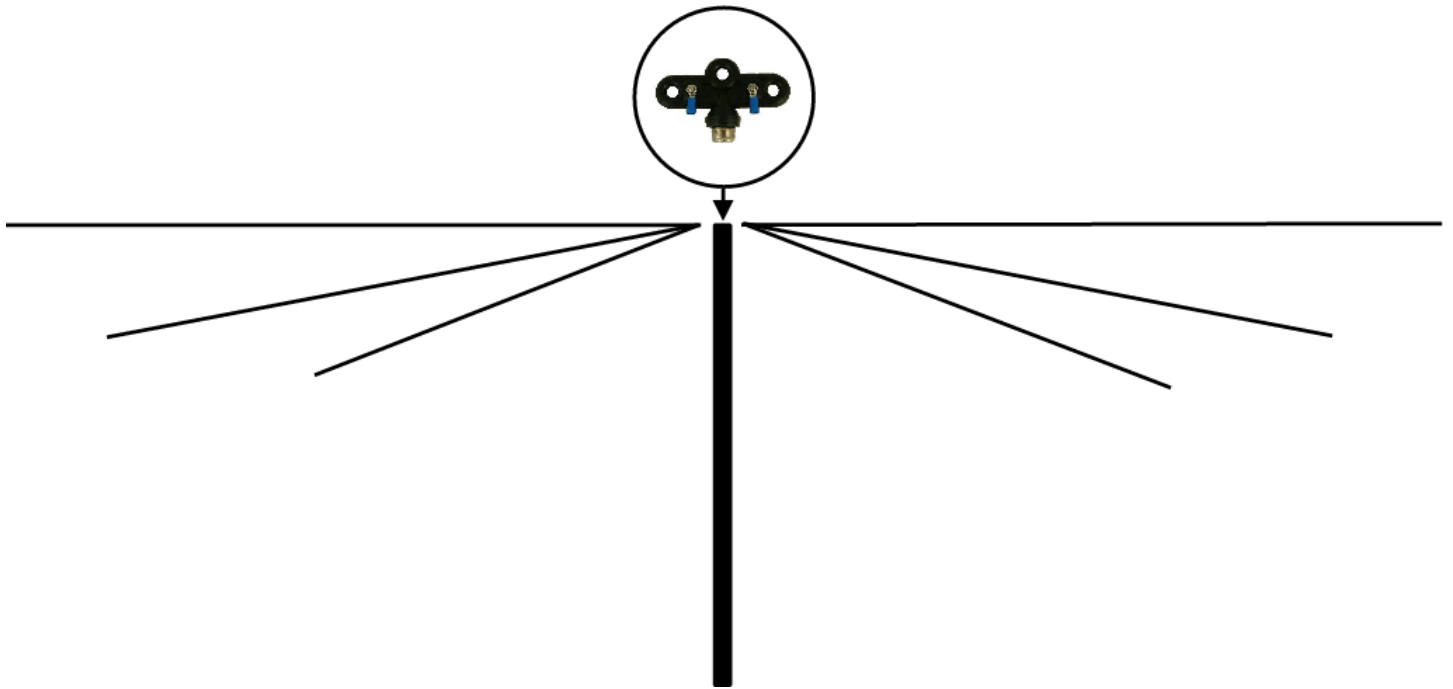
# Back garden antenna's

of the wire used will determine how much you have to adjust the wire by.

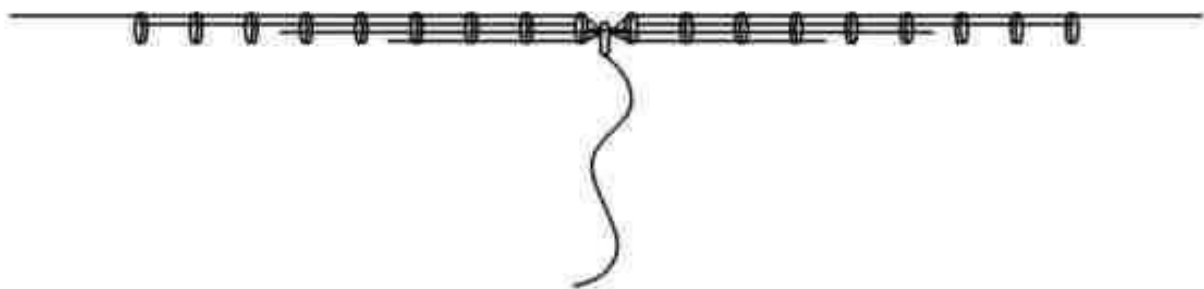
Always remember:

- If the resonant frequency of your antenna is too low, you will need to shorten it.
- If the resonant frequency of your antenna is too high, you will need to lengthen it.

## Fan dipoles



Multiple elements are joined at the dipole centre, each cut for its specific frequency and kept separate.



A fan dipole  
Parallel arms separated by spacers

Callum (M0MCX) shows you how to build a 40, 30 and 20m compact fan dipole at:

<https://www.m0mcx.co.uk/40m-compact-fan-dipole-for-40-30-and-20m-bands/> he uses guys to keep the elements separate.

Buck McDaniel (N4PGW) has written an interesting article at:

<http://www.n4pgw.org/my-parallel-dipole-antennas/> - he uses spacers, he also talks about inverted-V's.

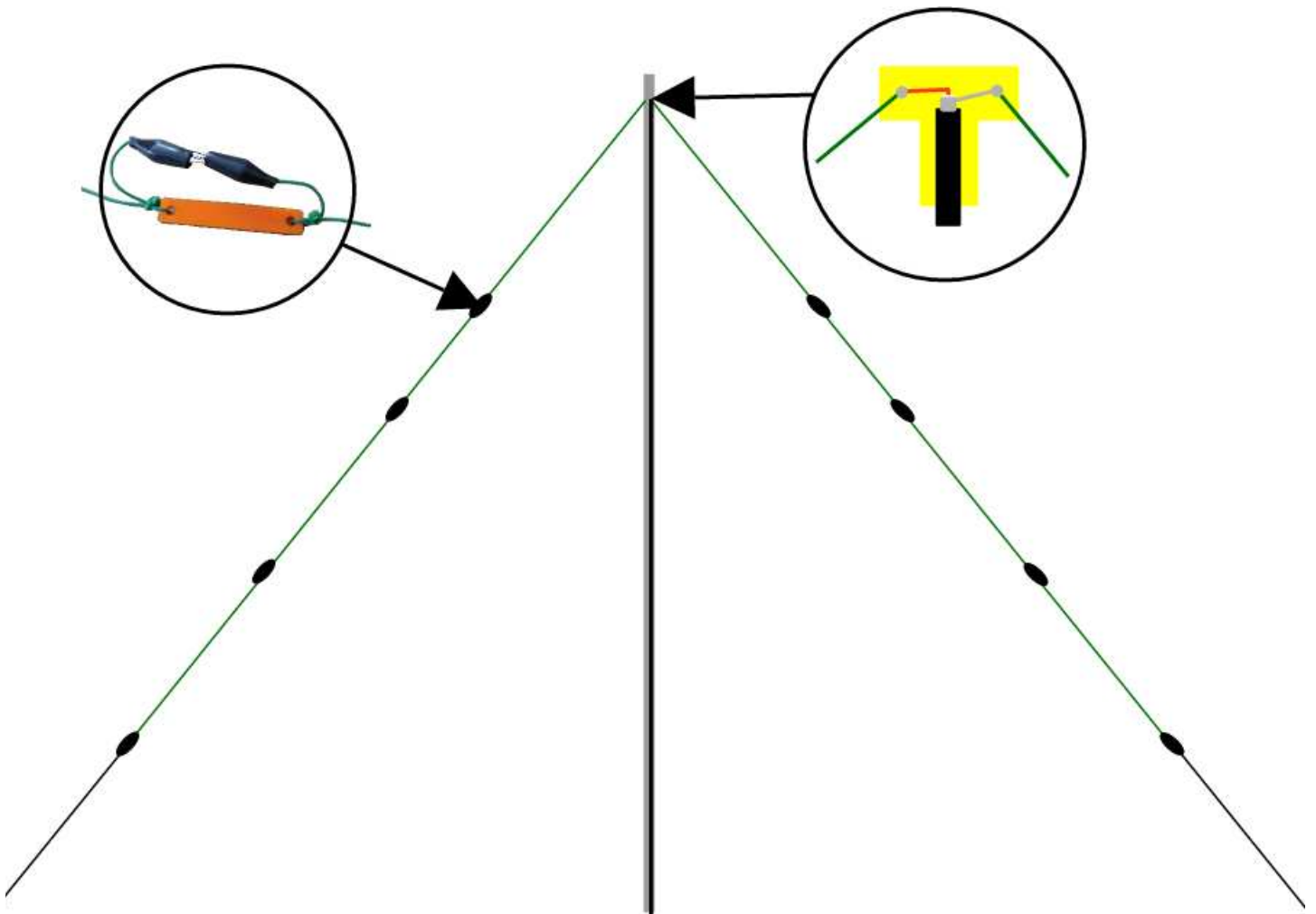
## Linked dipoles

MOPZT describes how to build a linked dipole at: <http://www.m0pzt.com/blog/hf-linked-dipole/> - SOTABEAMS describe the linked dipole at <https://www.sotabeams.co.uk/linked-dipoles/> - they supply complete antenna's, or parts to make a linked dipole.

# Back garden antenna's

## What is a linked dipole?

A full-sized efficient dipole on each band. Band changing is accomplished by simply connecting different sections of the dipole together (see picture below).



The more sections connected together (starting from the top) the lower the operating frequency.

The angle between the legs should be at least  $90^\circ$ , preferably  $120^\circ$  or more. Should the length of the dipoles be too short to attain this angle you can extend the dipole arm with nylon cord (as shown in the picture).

## **Verticals**

Omnidirectional radiation pattern: Single element vertical antennas exhibit an omnidirectional radiation pattern in the horizontal plane. Provides low angle of radiation: The signal that emanates from a vertical antenna tends to have a low angle of radiation.

Again you have the option of buying ready made, or build it yourself. If you're not into self-builds then Callum at <https://www.m0mcx.co.uk/> can supply you with telescopic poles, spares, antenna mounts and complete systems, his web site is well worth a visit, his prices are very reasonable.

If you want to build your own, a suitable flagpole type telescopic pole (beware of the cheap thin walled types), **NOT** carbon fibre (as some types are conductive), guying plates/ropes, a length of wire, enough for the vertical element and radials. There is a good explanation of radials at:

<https://www.radioenthusiast.co.uk/news/radials-for-quarter-wave-verticals-an-overview/>

I have a 10m high inverted-L system in my back garden, it can tune 160m-10m with a CG3000 A.T.U. at the base of the antenna, I've often wondered about giving the DX Commander by M0MCX a go though.

# Back garden antenna's

## Magnetic loops

As with all antenna systems you can either a) purchase, or b) make your own. There are many web sites describing the magnetic loop [https://www.nonstopsystems.com/radio/frank\\_radio\\_antenna\\_magloop.htm](https://www.nonstopsystems.com/radio/frank_radio_antenna_magloop.htm) is just one of them, another is [www.nonstopsystems.com/radio/pdf-ant/article-antenna-mag-loop-2.pdf](http://www.nonstopsystems.com/radio/pdf-ant/article-antenna-mag-loop-2.pdf)

I've owned both the MFJ 1786X and 'Fractal' magnetic loop antenna's, they occupy very little space and don't have to be mounted very high to be effective. My one pet hate about magnetic loops is their bandwidth, very narrow and in some cases just a few KHz (this can be both a blessing and a curse), thereby necessitating manually retuning the antenna should you move slightly off frequency (absolutely no good for contesting!), some magnetic loops have auto tuners on them which would be more suitable for those wishing not to have to continually manually retune.

Checkout the Ciro Mazzoni Midi Loop (80m to 20m), a brute at 2m diameter from 75mm thick aluminium tubing. Not cheap when you consider approximately £1,640 for the loop, tripod, RS232 and CIV cable, add a further £590 for the A.T.U, AND THEN £55 (possibly more) for delivery, deep pockets needed I think! You could of course add the Baby Loop (6.6MHz-29.8MHz) to fill in the rest of the HF bands (with the exception of 'top' band) if you have any money left!

## Round up

Whilst I've tried to give you a basic idea of what's possible for your back garden, with a little thought it's also possible to adapt the cobweb and fan dipoles to fit into your loft, even a magnetic loop will work, the one advantage being true stealth, your neighbours will never know! Our own James (M0JQC) has a nice article on his website regarding a multi-band dipole in the loft: <http://www.hamblog.co.uk/tag/antenna/> - give it a whirl, I built one from James description and it worked, it's a good intuitive read.

After writing this article I note that Practical Wireless (May edition) has an article on linked dipoles!

Bryan M0IHY



# Brill Windmill

**Due to covid restrictions the mill is not open to the public at this time.**

**GB0BWM (Brill Wind-Mill)  
(Golf Bravo Zero Bravo Whiskey Mike)**

It is a Grade II listed 'Post-Mill' with 17th century origins (probably about 1680's).

Located on Brill Common, Buckinghamshire, West of Waddesdon Manor - home of the Rothschilds. It is normally open to the public on Sundays from Easter to the end of September.

It has 4 sails 27ft (9m) long and 5ft (1.5m) wide.

A 'Post Mill' is where the whole wooden structure revolves around a central 'Post' to face the wind.

Windmills have been a feature in the Brill area since about 1250, but not on the present site.

Arguably the best preserved (of its type) although the oldest 'Post Mill' is believed to be Pitstone (also in Bucks) built in 1627.

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The Radio Society of Great Britain commemorate windmills with an event held annually.

Chesham & District Amateur Radio Society are proud to promote Brill Windmill by operating in the mill, our task is to contact as many other windmills throughout the UK and Europe during this period.

We will be operating on HF (80m, 40m, 20m), VHF (2m) and UHF (70cm).



Our radio club

Scan these codes with your mobile phone for further information



The windmill

# 70cm $\frac{1}{4}$ Wave Ground Plane Antenna

I was having trouble tuning a simple dipole so I decided to build a completely different antenna in an attempt to eliminate a few variables. The  $\frac{1}{4}$  wave ground plane design looked easy to build and I could build it from scrap parts.

Parts required:

- 4 x M3 nuts and bolts
- 4 x M3 solder tags
- 1 x Chassis mount BNC connector
- 1 to 2cm of brass tube, 1.5mm internal diameter
- Short length of Twin and Earth or Earth Bonding cable

I used the web site <https://m0ukd.com/calculators/quarter-wave-ground-plane-antenna-calculator/> to calculate the initial element lengths. The web site also shows various construction methods.

The antenna elements are made from individual strands of copper wire stripped from a length of Earth Bonding cable. The short length of brass tubing used to join the centre connection of the BNC connector to the driven element allows the driven element to be extended by a few millimetres during the tuning process. Berkhamsted Arts & Crafts and Hobbycraft stock short lengths.



**Very simple construction.**

The close up picture of the antenna shows the construction. The ground plane wires are soldered in the elongated holes of the solder tags. Four M3 nuts and bolts then attach the solder tags to the BNC connector. The driven element is attached to the centre of the BNC connector by slipping a short length of brass tube

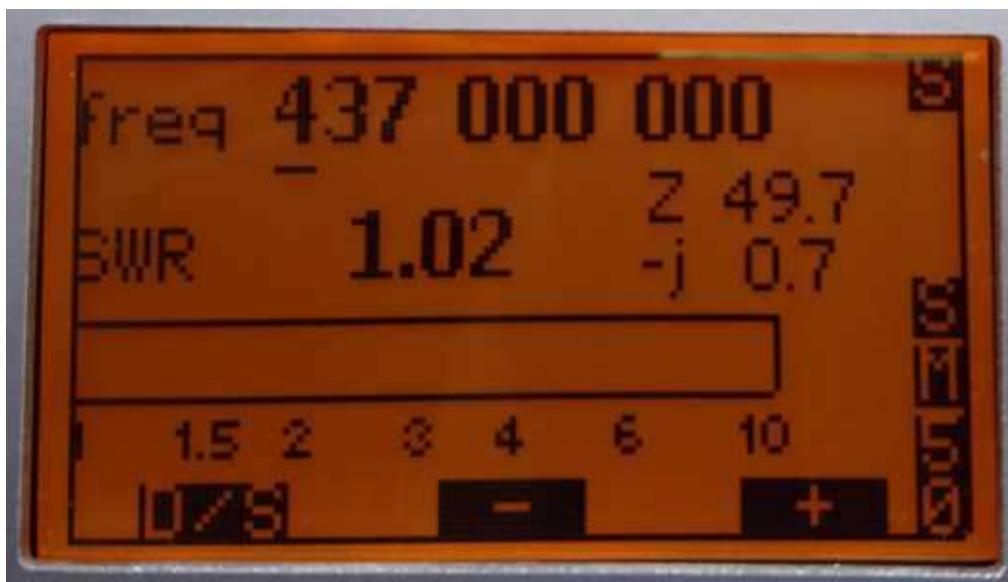
# 70cm $\frac{1}{4}$ Wave Ground Plane Antenna

over the wire/connector and soldering them in place.



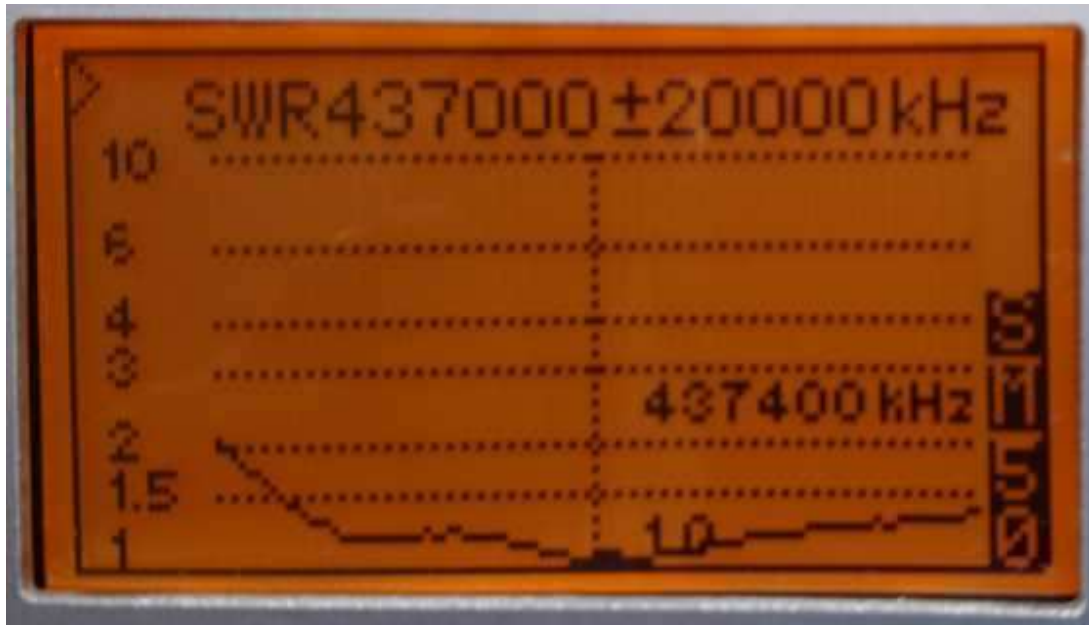
**Antenna attached to length of RG213.**

Since the antenna is light and the RG213 coax is stiff, the antenna simply plugs in to the end of the coax via the BNC connector. In the picture I've attached the coax and three ferrites to a wooden pole using Velcro straps.



**Good SWR and impedance figures.**

# 70cm 1/4 Wave Ground Plane Antenna



**Quite a good band width.**

I started by pruning the driven element to get the antenna to tune to my target frequency of 437MHz. If, like me, you snip too much off the driven element you can heat up the solder in the tubing and gently slide a few millimetres of wire out of the tubing. A bit like a trombone. I then experimented by shortening two opposite ground plane wires and adjusting the angle of all four ground plane wires until I got the impedance as close as possible to 50 ohms. I ended up with a driven element length of 160mm measured from the top surface of the BNC connector. Two ground plane wires of 190mm measured from the centre of the M3 fixing bolt and another pair of wires 178mm in length. The Ground plane wires are approximately 37 degrees down from the horizontal.

Peter 2E0PTH

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Thanks for the article Peter, I'm sure with the fairer weather round the corner that people will be outside and giving it a try, something I think I'll have a go at too.

Bryan M0IHY

# It's built and being tested

After the turmoil of the first QRM Eliminator I've finally built one from scratch, the build was relatively easy with the only specialist tool (apart from a soldering iron) was a pack of 3 stepped drills, an absolute life saver.



**1. The parts.**

1. To the left are the parts involved, the case has been drilled with the stepped drills (£6 for the 3 on eBay, just behind the P.C.B.), all that remains is to put it together!

The printed circuit board was purchased pre-built, I was lucky not to be charged taxes on the way into the country.

Because my original purchase had a 'floating' P.C.B. I decided to use plastic pillars to support the back of the P.C.B., it works well.

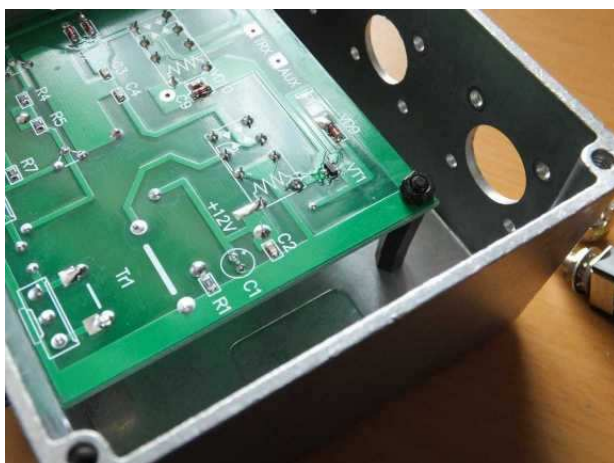
Stainless steel Allen bolts and nuts hold the S0239's in place, much neater in the long run.



**2. Controls and PCB installed.**

2. All holes drilled, including the holes for the locator lugs on the potentiometers. The 2 holes on the right are for the stereo socket (+ve, -ve and PTT) and on/off switch.

Note also that this construction includes nuts and washers on the potentiometers, these babies are going nowhere!



**3. The PCB installed with support pillar.**

3. The printed circuit board appears to be upside down, this is intentional as it's marked where everything goes whereas the right side shows nothing, the case is in actual fact upside down.

Assembly was quite straight forward, everything slotted into place. The PCB was inserted first along with the plastic support posts, nuts and screws, once fitted the PCB was rock solid (unlike my first one!). Next to be fitted were the SO239's.

Here you see the plastic pillar supporting the PCB, the screw on the underside can be seen on later pictures on the top of the case (remember it's been built upside down!).



# It's built and being tested

4. Leaving one Allen bolt out on each of the SO239's enabled me to make earthing straps out of the earth braid on the coaxial cable, these were crimped and soldered onto lugs fitted to each SO239.

The 0V line on the PCB runs around the outside of the underside, I scraped away the 'green stuff', tinned the copper underneath and soldered the braid to the copper, this was done as with the length of coaxial cable involved it would be almost impossible to make a neat job of it. I had braiding running off the Auxiliary SO239 as it had a fair length of coaxial cable involved (see picture on right).

All solder joints were washed down with appropriate PCB cleaner (if you do this, make sure you're in a well ventilated space).

5. The front-end, not a pretty sight, more like part of a Dalek (if you're old enough to remember them!)

6. The back-end with the SO239's appropriately labelled.

The initial checks were:

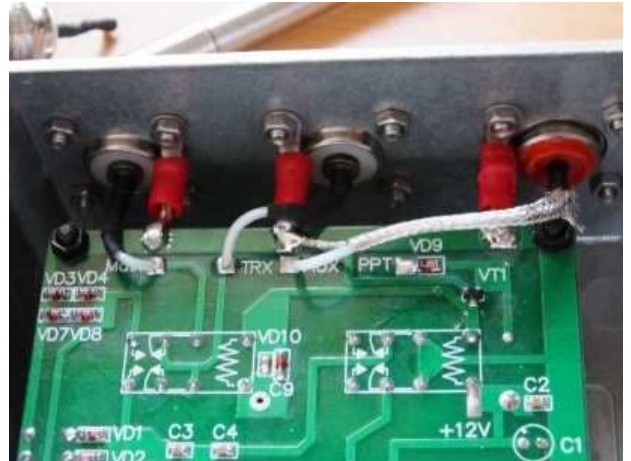
1. Plug the power lead into the stereo jack, you should hear the relays click when you turn the switch on.
2. Connect the PTT line to an appropriate plug and plug it into the REMOTE socket on the rig. The setting on my TS590SG is menu 59 and set it to 2.
3. Key up with no coax attached to the box (but do have it connected to the rig!), you should hear a click when you key indicating the PTT line works.
4. With a resistance meter check across the ANTENNA and TRANSMITTER sockets on the rear of the box, you should have an infinite reading when in RX. Now key up and measure again, it should now show a short circuit. This indicates when transmitting no RF goes through the PCB.

Now turn the rig on and find a noisy signal. Ideally start with all 3 controls set to 12 o'clock. I found adjusting the PHASE knob until the noise was at it's lowest (it will go high either side of that point) and then adjust the other 2 to suit.

I quite enjoyed the build, nothing too difficult, the most important part was marking and drilling of the holes in the case, "measure twice, cut once" is a saying I remember, better to check.

In my testing I tuned to a frequency in the 20m band and listened to an Italian calling out with a pile-up trying to get through. I adjusted the QRM Eliminator for best quality sound, listened, and then turned it off. I immediately noticed an increase in the background noise, this tells me that at least the box is doing something.

I have yet to test it when there's serious QRM about, that's for another day as I can't leave the wideband amplifier where it's currently located for testing. When I get the chance to test further and with the wideband amplifier in a permanent location I will be able to make a more informed decision on how good it is/isn't.



4. SO239's installed and soldered to the board.



5. The front end.



6. The back end.

# Beyond Exams, what's it all about then?

Last year the RSGB launched the “Beyond Exams” programme covering a wide range of activities to help people build experience in amateur radio. It's aimed at both new licensees, as they progress from Foundation through Intermediate to Full licences, and at existing licensees to broaden and deepen their experience in a range of amateur radio activities. There's an award scheme so you can track your progress from basic through Bronze and Silver to Gold.

## Beyond Exams Club Scheme

There are 5 themes:

1. Having a go. (7 activities)  
Log contacts both HF and VHF/UHF using various operating modes.
2. Getting involved (5 activities)  
Activate a SOTA summit  
Log contacts in different WAB squares.  
Log contacts with unique stations in a contest.  
Help set-up/tear-down a special event station.  
Operate and/or log at a special event station.
3. Taking part (6 activities)  
Attend club meetings.  
Take part in club nets.  
Undertake a role in the club on a regular basis.  
Make a presentation to the club on any amateur radio related subject of your choice  
Take part in a RAYNET event.  
Help organise an activity for the club.
4. Making (2 activities)  
Build a piece of amateur radio-related electronic or mechanical equipment for your shack.  
Write an amateur radio-related piece of software that you can use in your shack, or design a simple website.
5. Promoting Amateur Radio (3 activities)  
Introduce somebody to the hobby who then goes on to start a Foundation course.  
Attend a rally, or exhibition, to promote your chosen Club Scheme accredited club.  
Help run a training course at your chosen Club Scheme accredited club by teaching, supporting, running practical sessions, or invigilating.

## Beyond Exams Individual Scheme

The following are 150 amateur radio activities that you can do, from simple to advanced.

1. Operating generally (17 activities).
2. Operating digital, image and satellite (15 activities).
3. Operating awards (17 activities).
4. Contesting and radio sport (16 activities).
5. Participation activities (non-contest) (19 activities).
6. Promoting amateur radio (15 activities).
7. Making (20 activities).
8. Tinkering and experimenting (16 activities).
9. Learning and research (15 activities).

The activities vary from making contact using various modes and frequencies, activating SOTA and IOTA, building things, gaining various awards (SOTA, WAB, RSGB, DXCC, QRP, IOTA, BARTG to name but a few), contesting, /P and DXpedition, and many, many more...

The purpose is to widen your knowledge, gaining badges/certificates on the way in your chosen subject(s) and to promote the hobby itself. With either scheme a record of the club/individual achievements are kept, thus showing you your progress.

# Beyond Exams, what's it all about then?

## Club Scheme

### HAVING A GO

- Log 50 contacts on the VHF/UHF bands using any mode.
- Log contacts with amateur radio stations in three of the 'home-countries.
- Log 50 phone/CW contacts on the HF bands.
- Log 50 contacts using digital data modes on any band.
- Log 10 contacts using image modes on any band.
- Log 10 contacts using digital voice modes on any band.
- Log a contact through a satellite, or with the International Space Station.

### GETTING INVOLVED

- Activate a SOTA summit.
- Log contacts in twenty Worked All Britain (WAB) squares.
- Log ten successful contacts during a contest.
- Help set-up/tear-down a special event station.
- Operate/log at a special event station.

### TAKING PART

- Attend six club meetings.
- Take part in your club's net on six separate occasions.
- Undertake a regular role within your club.
- Make a presentation to your club on an Amateur Radio-related topic.
- Take part in a RAYNET event.
- Help organise an activity for a club meeting.

### MAKING

- Build a piece of amateur-radio related equipment for your shack.
- Write a piece of amateur radio related software for your shack.

### PROMOTING AMATEUR RADIO

- Introduce someone to the hobby that starts a Foundation course.
- Attend a rally/exhibition to help promote your club.
- Help run an amateur radio training course.

## Individual Scheme

### OPERATING GENERALLY

- Log contacts with amateur radio operators in all of the constituent parts of the British Islands - England, Wales, Scotland, Northern Ireland, Jersey, Guernsey, Isle of Man
- Log 20 contacts on VHF using tropospheric enhancement modes (lift)
- Log 30 contacts on 432MHz (70cms)
- Log 10 contacts through a repeater using a handheld rig
- Log 50 contacts using hand sent CW at any speed
- Log 20 contacts using hand sent CW at 20wpm or better
- Log 20 countries on each HF band
- Log 20 contacts using Top Band (1.8MHz)
- Log 10 contacts using MF
- Log 10 contacts using LF
- Log a total of 20 contacts on at least two microwave bands
- Log 20 contacts using SDR in the station
- Log 50 contacts using QRP, any mode, any band
- Log 30 contacts using your station remotely
- Operate from a portable location

# Beyond Exams, what's it all about then?

- Operate Maritime Mobile
- Operate from an Inland Waterway

## **OPERATING DIGITAL, IMAGE AND SATELLITE**

- Log 50 contacts using FT8
- Log 50 contacts using JT modes
- Log 50 contacts using PSK31/PSK63
- Log 50 contacts using RTTY
- Log 10 contacts using any other digital mode
- Log 10 contacts using analogue SSTV
- Log 10 contacts using digital SSTV
- Log 10 contacts using FSTV
- Log 10 contacts using low bandwidth digital FSTV
- Log 30 contacts using digital voice
- Log 10 VHF/UHF (at least one link to be <1GHz) satellite QSOs with beginner equipment
- Log 10 microwave (>1GHz uplink and downlink) satellite QSOs with beginner equipment
- Log 20 satellite QSOs with advanced equipment and station
- Log 5 contacts using EME
- Receive and decode educational satellite data (eg Funcube)

## **OPERATING AWARDS**

- Activate 3 SOTA summits
- Achieve SOTA Activator certificate
- Achieve a SOTA Chaser certificate
- Activate and log contacts with 20 WAB operators using a portable station away from home
- Activate at least ten WAB squares
- Achieve WAB Award
- Achieve RSGB Foundation award
- Achieve RSGB Intermediate award
- Achieve a RSGB 70MHz award
- Achieve a RSGB 144MHz award
- Achieve a RSGB 432MHz award
- Achieve a RSGB Microwave award
- Obtain a DXCC award
- Obtain a QRP Master award
- Achieve an IOTA award
- Achieve a BARTG award
- Achieve another award of your choice

## **CONTESTING AND RADIO SPORT**

- Enter and complete at least one RSGB HF contest, any mode, single operator
- Enter and complete at least one RSGB VHF or UHF contest, any mode, single operator
- Enter and complete at least one microwave contest, any mode, single operator
- Organise a RSGB Field day contest station
- Take part in a multi-operator contest
- Enter and complete any foreign contest, any mode, single operator
- Enter and complete any RTTY contest, single operator
- Enter or take part in an IOTA contest
- Take part in a RSGB AFS contest
- Improve your contest station and scores over a two-year period
- Win a RSGB contest overall
- Win a non-RSGB contest overall
- Win a RSGB contest in your entry category
- Win a non-RSGB contest in your entry category
- Enter an informal foxhunt competition
- Enter an ARDF competition under IARU rules

# Beyond Exams, what's it all about then?

## **PARTICIPATION ACTIVITIES (NON-CONTEST)**

- Take part in group portable station
- Take part in a DXpedition
- Organise a group portable station or mini (holiday style) DXpedition
- Organise an expedition to a DX or unusual location
- Activate a rare IOTA island
- Activate a rare locator square for VHF/UHF/microwave
- Set up a club foxhunt competition
- Write for a club magazine or website
- Volunteer to help the RSGB
- Enter a club construction competition
- Mentor or introduce an existing radio amateur into your favourite aspect of the hobby
- Help another amateur put up an antenna
- Help resolve EMC problems for others
- Attend a Buildathon
- Assist others with experimental work
- Start an experimental radio project with others
- Take part in RAYNET events
- Organise or take part in a YOTA event
- Take part in or organise a JOTA/TDOA event

## **PROMOTING AMATEUR RADIO**

- Introduce and mentor five people into amateur radio
- Mentor newcomers to amateur radio
- Promote amateur radio through social media
- Write a regular amateur radio blog, vlog or podcast
- Make a high quality video promoting amateur radio
- Take some high-quality pictures of amateur radio in action and make them available for use by others
- Write a feature for media organisations, local or national
- Take part in a Special Event Station
- Organise a Special Event Station
- Optimise Special Event Station presentation
- Discover how to best promote amateur radio by trying out different things
- Demonstrate amateur radio to youth groups and schools, encouraging hands-on participation
- Demonstrate amateur radio to 40+ age groups, with hands-on demonstrations
- Show amateur radio to disability help groups
- Design and run an amateur radio promotion campaign in your area

## **MAKING**

- Assemble a commercial kit
- Make a project from a magazine article
- Design and build something from first principles
- Make an accessory for your transceiver or receiver
- Make a project using surface mount devices
- Make a piece of test equipment
- Make the entire equipment for a simple home shack and use it
- Make an advanced project such as an amplifier, complex rig etc
- Make an item of HF equipment
- Make an item of VHF/UHF equipment
- Make an item of microwave equipment
- Write some software for your own radio project
- Make the entire equipment for a portable station and use it
- Make an aerial from a published design
- Design a new aerial using modelling software for your home location, or for portable use, with at least ten contacts logged.
- Design, build and use an electrically small antenna for at least ten contacts

# Beyond Exams, what's it all about then?

- Program a SDR system using readily available tools eg GNU Radio
- Design and build a radio-based project, hardware or software
- Use a microcontroller in a radio project
- Use a single board computer in a radio project

## **TINKERING AND EXPERIMENTING**

- Program a digital voice rig or software using proprietary systems or FREEDV
- Choose appropriate software for your computerised station
- Set up your station with computer-based logging
- Set up a digital modes station and adjust for proper operation
- Set up a rig for CAT control and test for proper operation
- Set up your station for remote operation
- Modify some existing open source software to suit your own purposes
- Take one contest you have previously entered and improve your score by technically developing your station for the next contest
- Test station operation using a remote web SDR and modify your station to improve it
- Find out how well your antenna radiates (e.g. by WSPR)
- Optimise your aerials experimentally and/or by software modelling
- Use hardware and/or software test equipment and interpret the results
- Analyse your operating results in terms of propagation using software prediction and other tools
- Fault find and repair some amateur radio equipment
- Improve the technical operation and ability of equipment in your station
- Safely modify existing equipment for use in amateur radio

## **LEARNING AND RESEARCH**

- Become a trainer / assessor / invigilator for amateur radio exams
- Write amateur radio exam questions (not as easy as it looks!)
- Obtain a new licence level
- Learn Morse code and make your first QSO
- Prepare and give a talk at a different club to your own
- Gain a Morse proficiency certificate or another one at a faster speed
- Attend a convention, symposium or annual lecture
- Familiarise yourself with operating etiquette and put it into action
- Write an article for a national amateur radio magazine
- Write an amateur radio book
- Identify proper radio housekeeping in your shack and apply it
- Identify a technical learning need, study an RSGB book or other sources to satisfy that need
- Explore SDR system abilities in detail, beyond simple point-and-click
- Explore use of artificial intelligence and machine learning in amateur radio
- Explore new and novel techniques, keeping detailed notes for eventual publication

As can be seen from the list there are many and varied activities to take part in, either as an individual, or as a club.

# Beyond Exams, what's it all about then?

Beyond Exams Individual Scheme - Score Sheet							
Sections	Section total	Activities achieved and progress bar			Last entry date	Award level	Badges to next award
		Badges	%	Award progress 0 to 100%			
Operating generally	17	0	0%		None	None yet	2
Operating digital, image and satellite	15	0	0%		None	None yet	2
Operating awards	17	0	0%		None	None yet	2
Contesting and radio sport	16	0	0%		None	None yet	2
Participation activities (non-contest)	19	0	0%		None	None yet	2
Promoting amateur radio	15	0	0%		None	None yet	2
Making	20	0	0%		None	None yet	2
Tinkering and experimenting	16	0	0%		None	None yet	2
Learning and research	15	0	0%		None	None yet	2
<b>Total activities</b>	<b>150</b>	<b>0</b>			<b>Score as at 25 April 2021</b>		
Diverse Activity	9	0	0%			None yet	1
A minimum of two badges are needed in each section for a diversity score to be added							
Enter your name and call sign (for the certificate only!)							
<p><i>If you like this Scheme please tell as many others as you can about it and share it!</i></p>					Score	Award level	Achieved
					90%	Gold	0
					65%	Silver	0
					40%	Bronze	0
					20%	Basic	0
	10%	On the way!	0				
If you have a disability and would like the Award level(s) altered so you can achieve them without constraints of your disability please contact us through the RSGB website and we will see what can be done to help.							
Beyond Exams Individual Scheme v1-01 © 2019 Radio Society of Great Britain							


## An individual score sheet

As can be seen from above, your scores for each activity are recorded with your progress shown as you go. You might be surprised that you may have already done some of the activities towards the scheme without knowing it!

It's all fun and a good way to further your knowledge in this hobby of ours.

On the following page you can see the club score sheet.

# Beyond Exams, what's it all about then?

<b>BE Club Scheme</b>			<b>Record of Achievement</b>
Member's name:		Callsign:	
Initial club:		Current Award Level:	-
Subsequent club:		Date joined scheme:	
Subsequent club:		Date moved:	
Subsequent club:		Date moved:	
ACTIVITIES TO BE COMPLETED		DATE	CLUB
<b>HAVING A GO</b>			
HG1 Log fifty contacts on the VHF/UHF bands using any mode.			
HG2 Log contacts with amateur radio stations in three of the 'home' countries.			
HG3 Log fifty phone/CW contacts on the HF bands.			
HG4 Log fifty contacts using digital data modes on any band.			
HG5 Log ten contacts using image modes on any band.			
HG6 Log ten contacts using digital voice modes on any band.			
HG7 Log a contact through a satellite, or with the International Space Station.			
<b>GETTING INVOLVED</b>			
G11 Activate a SOTA summit.			
G12 Log contacts in twenty Worked All Britain (WAB) squares.			
G13 Log ten successful contacts during a contest.			
G14 Help set-up/tear-down a special event station.			
G15 Operate/log at a special event station.			
<b>TAKING PART</b>			
TP1 Attend six club meetings.			
TP2 Take part in your club's net on six separate occasions.			
TP3 Undertake a regular role within your club.			
TP4 Make a presentation to your club on an Amateur Radio-related topic.			
TP5 Take part in a RAYNET event.			
TP6 Help organise an activity for a club meeting.			
<b>MAKING</b>			
MK Build a piece of amateur-radio related equipment for your shack.			
MK Write a piece of amateur radio related software for your shack.			
<b>PROMOTING AMATEUR RADIO</b>			
PR1 Introduce someone to the hobby that starts a Foundation course.			
PR2 Attend a rally/exhibition to help promote your club.			
PR3 Help run an amateur radio training course.			
<b>ACTIVITIES COMPLETED</b>		<b>0</b>	
CERTIFICATES AWARDED		DATE	CLUB
Bronze (3 activities completed)			
Silver (5 activities completed)			
Gold (10 activities completed)			
Platinum (15 activities completed)			
Diamond (23 activities completed)			



## May HF

Day	Date (2021)	Time UTC	Contest Name
Wed	05 May	1900-2030	RSGB FT4 Contest
Mon	10 May	1900-2030	80m CC SSB
Wed	19 May	1900-2030	80m CC DATA
Thu	27 May	1900-2030	80m CC CW

## VHF

Day	Date (2021)	Time UTC	Contest Name
Sat	01 May	1400-2200	432MHz Trophy Contest
Sat-Sun	01-02 May	1400-1400	May 432MHz-245GHz Contest
Sun	02 May	0800-1400	10GHz Trophy Contest
Tue	04 May	1900-1955	144MHz FMAC
Tue	04 May	2000-2030	144MHz UKAC
Wed	05 May	1900-2100	144MHz FT8 AC
Sun	09 May	0900-1400	70MHz Contest CW
Tue	11 May	1900-1955	432MHz FMAC
Tue	11 May	2000-2230	432MHz UKAC
Thu	13 May	2000-2230	50MHz UKAC
Sat-Sun	15-16 May	1400-1400	144MHz May Contest
Sun	16 May	1100-1500	1st 144MHz Backpackers
Tue	18 May	2000-2230	1.3GHz UKAC
Thu	20 May	2000-2230	70MHz UKAC
Sun	23 May	1400-1600	70MHz Cumulatives #3
Tue	25 May	1930-2230	SHF UKAC

## June HF

Day	Date (2021)	Time UTC	Contest Name
Sat-Sun	5-6 Jun	1500-1500	National Field Day
Mon	07 Jun	1900-2300	80m CC Data
Wed	16 Jun	1900-2300	80m CC CW
Thu	24 Jun	1900-2300	80m CC SSB
Mon	28 Jun	1900-2300	RSGB FT4 Contest

## VHF

Day	Date (2021)	Time UTC	Contest Name
Tue	1 Jun	1900-1955	144MHz FMAC
Tue	1 Jun	2000-2230	144MHz UKAC
Wed	2 Jun	1900-2100	144MHz FT8 AC
Tue	8 Jun	1900-1955	144MHz FMAC
Tue	8 Jun	2000-2230	144MHz UKAC
Thu	10 Jun	2000-2230	50MHz UKAC
Sun	13 Jun	0900-1300	2nd 144MHz Backpackers
Tue	15 Jun	2000-2230	1.3GHz UKAC
Thu	17 Jun	2000-2230	70MHz UKAC
Sat-Sun	19-20 Jun	1400-1400	50MHz Trophy Contest
Tue	22 Jun	1930-2230	SHF UKAC
Sun	27 Jun	0900-1200	50MHz Contest CW
Sun	27 Jun	1400-1600	70MHz Cumulatives # 4

# 'Air Miles', how far have we gone? / results



With the addition of James (M0JQC) log from last month the figures have changed somewhat.

So, how have we done this month?







(Running totals in red)

## General







### Most Miles

G3XZG		64,330	294,804	
G3ZNU		47,465	296,865	
M0JQC		3,194	1,059,592	







### Most QSO's

M0JQC		69	542	
G3XZG		35	159	
G3ZNU		27	240	







### Longest QSO

G3ZNU		YB1BML(7316)	YB1BML(7316)	
G3XZG		5R8AL(5673)	E29TGW(5937)	
M0JQC		2E0VCC/P(182)	ZL2BX(11669)	

### Shortest QSO (miles)

M0JQC		G3MEH(0)	G3MEH(0)	
G3ZNU		G4FKI(22)	G4WJS(7)	
G3XZG		GM4PSL(300)	GM4PSL(300)	

### Average per QSO (miles)







G3XZG		1,838	1,854	
G3ZNU		1,758	1,237	
M0JQC		46	1,955	

### Maidenhead Squares







G3XZG		31	148	
G3ZNU		24	159	
M0JQC		11	380	

## QSO Economy Drive

### High miles per Watt

G3ZNU		73.16 (100)	73.16 (100)	
G3XZG		56.73 (100)	59.37 (100)	
M0JQC		2.14 (50)	116.69 (100)	

### Low miles per Watt







M0JQC		0.06 (100)	0.03 (100)	
G3ZNU		0.22 (100)	0.07 (100)	
G3XZG		3.00 (100)	3.00 (100)	

## By Band




### 40m

G3XZG		1	8	
M0IHY		0	2	

### 17m

G3ZNU		14	44	
M0JQC		0	90	
G3XZG		0	8	

### 6m

M0JQC		45	49	
G3ZNU		4	61	

### 30m

G3XZG		18	40	
-------	---	----	----	---







### 15m

G3ZNU		3	7	
M0JQC		0	6	

### 2m

M0JQC		24	73	
G3ZNU		3	80	

### 20m

G3XZG		16	103	
G3ZNU		3	35	
M0JQC		0	323	

# 'Air Miles', how far have we gone? / results





## By Mode

---

### CW

G3XZG		35	159	
G3ZNU		1	4	

### FT8

G3ZNU		24	225	
M0JQC		16	244	

### SSB







M0JQC		53	56	
G3ZNU			9	

### MFSK

G3ZNU		2	2	
M0JQC			242	

## By Country

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G3XZG		19	80	
G3ZNU		16	84	
M0JQC		2	109	

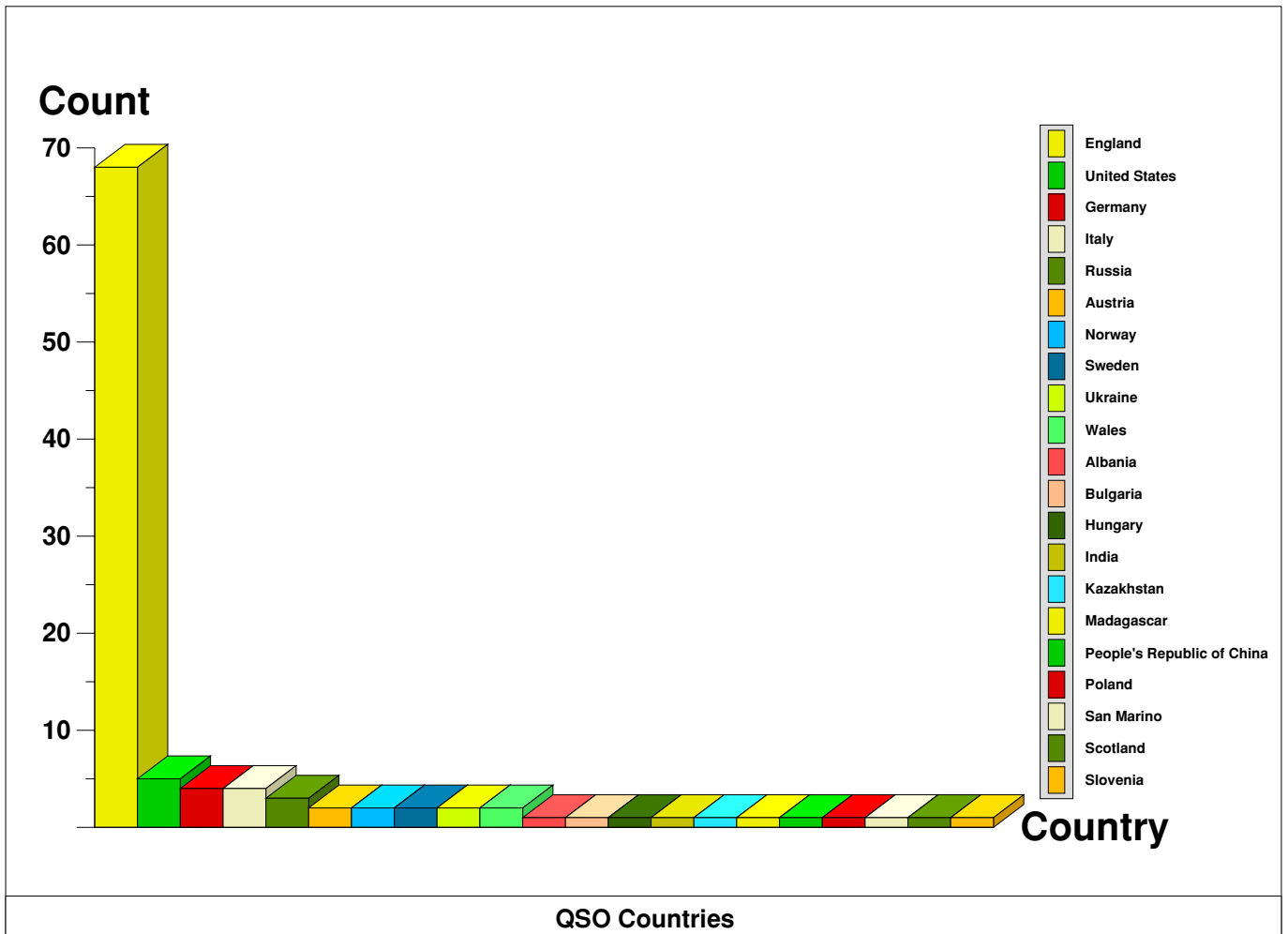
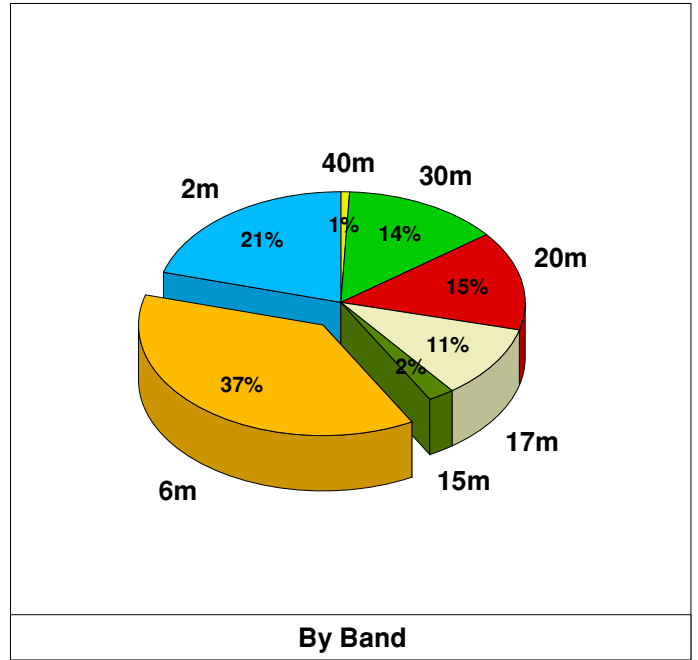
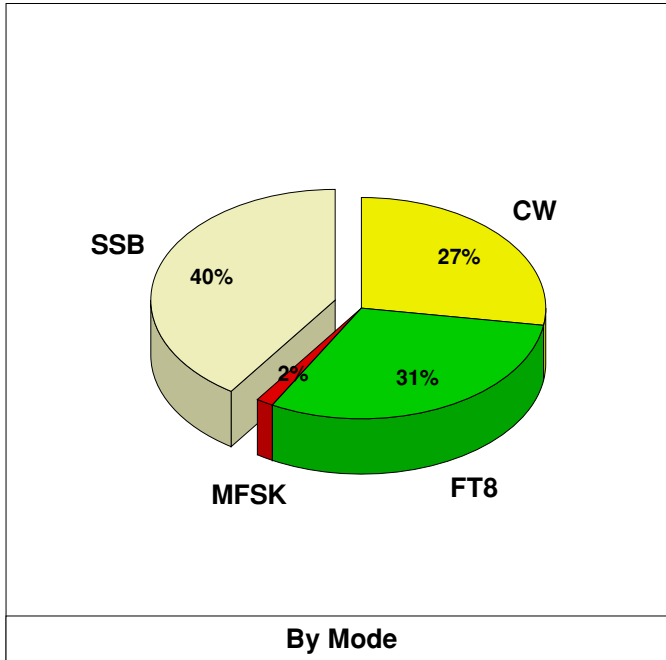
## This month's totals

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Countries visited	-	32
Most visited Country	-	England, 68 times
Total Mileage	-	114,989
Total QSO's	-	131
Average miles per QSO	-	877.78
Total locators visited	-	60
Most visited locator	-	IO91, 34 times

# 'Air Miles', how far have we gone? / results

*This month at a glance (accumulative)*



# Any other business

## Jim G3VRY

It's ok, this is not an obituary, but a big thank you to Jim Pitt, G3VRY.

Jim has been a member of the club for many years, though in recent times, ill health has prevented him from being involved in it's activities.

Following the sale of Jim's house in Chesham, the new owner contacted the club and asked if we could dismantle and dispose of the antennas. These turned out to be substantial. A large mast and base, an HF beam, a separate dipole antenna for 17 and 24 MHz and HF dipole, not to mention a lot of good serviceable coax.

I spoke to Jim, who is now resident full-time in a care-home and he said that the equipment was for the club to do with it as it wished. Some of it will be sold as the club itself cannot store it, but the dipole and some of the coax will come into immediate use at Brill.

Also, we hope to get Jim back on the air, when restrictions allow visits to the home to enable us to see what might be possible.

Many thanks to Jim and to all those who were able to help in dismantling and storing the antennas. Also to Colin and his wife, the new owners of Jim's house who have allowed us to leave the mast there for the time-being, now that it has been taken down, pending sale.

Jeremy G3XZG.

## Jim's mast and rotator cage

Malcolm (G3ZNU) placed the mast and rotator cage on ebay and also on the Amateur Radio Buy/Sell page on Facebook. Matthew (M0DQW, the guy behind the TechMinds video's) has shown an interest and is happy to pay the asking price of £175.

Even better news! The mast has been picked up and paid for. As reported in Malcolm's email:

Hi all

The mast has now been sold, and the buyer collected. It was sold to Matthew Miller M0DQW who lives in South Heath. Matthew took his exams at the White Hill Centre some time ago, and after a gap found his pass certificates and took out the M0 callsign. He can be seen in a number of YouTube videos - search for Techminds.

He may well join the club, I'll keep him in touch with when we're meeting at Ashley Green, and he may also pop up on GB3TU.

I also picked up from Colin's a mast base, which looks very useful. It stands just over a metre high and has the legs bolted on that site on the ground. It looks to be large enough that the larger of the fibreglass masts will slot into it to act as a secure ground mount. Guys still required when the mast is at height of course. I'll probably bring it next weekend.