

# Youth Amateur Radio in the UK

## – A Review

**It is a truism that young people are the future, and this is valid for amateur radio just as it is for other hobbies.**

Looking around a club meeting, a rally (or even a Board meeting!) it is clear that our typical age demographic is on the wrong side of fifty. We all want young people to get involved in the hobby for two main reasons: so they can benefit from the learning opportunities it offers, and to ensure that the hobby continues into the future in these strange times.

This review seeks to capture a few of the many different activities and initiatives around the country that are shining examples of individuals and groups providing an inspirational context for young people to engage with amateur radio.

### RSGB Youth Team

The Youth Team are not like other RSGB Committees as the members are by definition younger, busy studying or holding down holiday jobs and they are widely dispersed over the country and many do not drive. This has meant it has historically been a challenge to get them together for the Convention or at the NRC. It has been suggested that having a larger cohort might help, having them meet only virtually and in-person activity limited to supporting local events.

These were the highlights and learning points from a call with some of the current Youth Team:

- Youngsters prefer data modes / CW, and have little interest in voice. If a computer (especially a Raspberry Pi) or electronics construction is involved, so much the better.
- Workshops (perhaps hackathons/buildathons) are great ways to inspire youngsters.
- The “grumpy old men” (*sic*) sometimes associated with amateur radio often put off university and college students from getting involved – and the RSGB should be promoting collaboration between local clubs and universities/colleges.
- The GQRP Club [1] does a good job of outreach to schools and universities, including running buildathons sponsored by Kanga Kits [2] who provide kits to be built. The GQRP club also have lectures with interesting speakers.

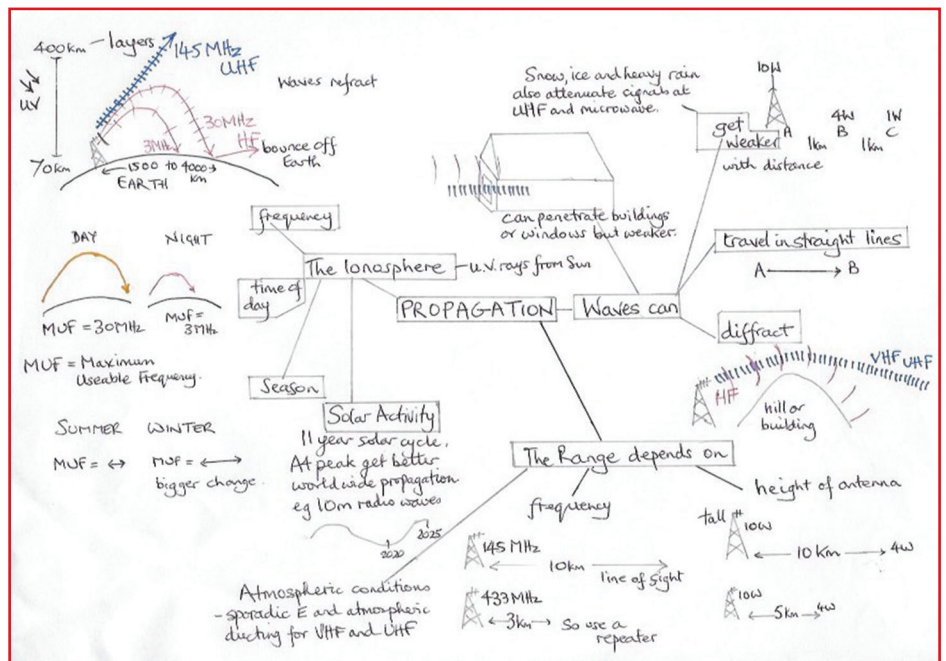


FIGURE 1: STEAMettes Mindmap – Propagation.

There is an RSGB Youth Discord channel where efforts are being made to get some inter-unity collaboration started.

The RSGB Youth Team has set up an award for youngsters: the Radio Surfer Award (a series of challenges that earn points without the need to be licensed). There is also the existing RSGB Youth Award (based upon contesting).

### John, G7OHO and the Thanet STEAMettes

Note: The 'STEM' acronym is short for Science, Technology, Engineering and Maths. An 'A' is sometimes added (as here) to represent Art. The '-ettes' suffix modifies the word to add diminutive and female characteristics.

There are several groups named STEAMettes: we will focus here on the Thanet group that is associated with the Hilderstone Radio Society [3]. They are well-known for their excellent video produced for the RSGB Convention 2021 [4] and also for publicity in *RadCom*.

The leader is John Hislop, G7OHO, a former teacher who is a physics and astronomy guru. The members are 11-12 year old girls who started coding under John's tutelage and are now

experts in programming BBC micro:bit computers. They learned Morse code and use micro:bits to exchange Morse messages. They are studying for their Foundation examination (as are several of their mums!). They help the club at the Big Bang Science Festival and are excellent STEM ambassadors, even at such a young age.

John has produced a series of mind maps that he uses to help make the topics easier to understand for youngsters – see an example in Figure 1.

### Derek, G7LFC and the QuARTS

The Quantum Amateur Radio and Technology Society is an Ormskirk-based technology group that is about six years old for amateur technologists, makers and crafters. It has an (over-subscribed) youth section called the Quantum Code Club for 9 to 16 year olds. They have a range of activities (using Arduino, Raspberry Pi and micro:bit) and this has led to three youngsters doing their Foundation exam.

Derek believes that clubs have a role to play in the technological development of youngsters because they cannot access the same level of support at school.



FIGURE 2: Adrian, M6RSF at Scouts Direction-Finding activity.

## Youngsters On The Air (YOTA)

The RSGB has assembled a group of four young people to attend the IARU YOTA Summer Camp in Croatia between 6 and 13 August. These camps provide a blend of theoretical and practical activities that are fun and inspirational for the attendees. They are also designed to teach the delegates how to get more young people interested in amateur radio when they return home and, of course, travelling overseas is always an education in itself.

There was also a YOTA DXpedition to the Brecon Beacons in Wales in 2015 featuring SOTA activations, direction-finding activities and antenna building workshops as well as satellite operations, construction and contesting activities.

YOTA 2017 featured a week of activities including a direction-finding contest, a SOTA activation, and visits to the Ofcom Radio Monitoring Station at Baldock, the National Radio Centre at Bletchley Park and the Science Museum. Social media for this event reached a potential six million readers.

There are also three rounds of YOTA contests with three categories for under-25s to compete in, sadly there are not a great many entries.

YOTA Month is in December and opportunities to use the special callsign are divided into slots which youngsters can apply for. Historically it has proved a challenge to fill all the slots but we are hopeful that this year will be different.

YOTA Online is a monthly series of streamed gatherings where active youngsters present in different topics and answer questions from the community – and culminate in a prize raffle.

## RCF

The Radio Communications Foundation is a charity (set up by, but independent of, the RSGB) that supports radio clubs in schools, colleges and universities [5].

It holds a number of events at the National

Radio Centre in Bletchley – all of which are hands-on with an exam opportunity at the end.

The Foundation contributed to the educational satellite project known as FUNcube, designed to educate young people about radio, physics, space and electronics. FUNcube has a 2m telemetry beacon on board and a dongle is available which shows telemetry and messages on a laptop.

The RCF also sponsor Arkwright Scholarships [6] to support engineering students through A levels and encourage them to pursue their studies at university or higher-level apprenticeships.

## University Amateur Radio

A number of UK universities have amateur radio clubs, despite there often being a minimum interest level requirement set by the University. The RGSB University Corner web page was set up to allow these clubs to find each other and hopefully to encourage collaboration, but it seems there is little joint activity. There are currently sixteen university clubs listed on the University Corner web page, with contact details for each and links to websites where available.

## ARISS

Amateur Radio on the International Space Station (ARISS) provides scheduled contacts between schools worldwide and astronauts on the ISS – to encourage them to pursue interests in STEM. When UK astronaut Tim Peake was on board in 2016, contacts were made with UK schoolchildren at ten schools. The Mary Hare School (the largest school for the Deaf in the UK) had a world's-first subtitled contact with the ISS in October 2021 with a series of space-based activities in the days leading up to the contact. There is no question that ISS contact with schools and experimenting with FUNcube has inspired many UK children to learn more about radio in general and amateur radio in particular.

## Scouts

Robbo, MORXG has run an excellent Explorer radio evening for his local Scouts where the following activities were enjoyed:

- An introduction to the hobby
- A mini 'fox hunt' held outside in the dark (see Adrian, M6RSF in Figure 2). Two beacons constructed using PMR radios with VOX and an mp3 player connected (wrapped in attenuating foil to reduce signal

strength), home-made Yagi for 70cm, home-made attenuator switch box and a Baofeng handheld radio as the receiver. Explanation using attenuation, de-tuning the radio and swinging the Yagi to home in on the beacon.

- Constructing paperclip Morse keys, using a small block of wood, paperclip, some drawing pins (to hold paperclip to wood), a 9V battery connector and buzzer (plus some Bluetac to quieten the buzzer!)
- Morse battleships game (on paper) using the Morse keys they made
- Lego construction using PMR radios and 10 different blocks of Lego. One person constructs a shape, the others must reproduce it, but can only use radios to ask questions.
- Demos of Navtex, Wefax, ADSB decoding, WebSDR, DMR and Morse code using a Morserino32, a paddle and a straight key.

This is clearly a most impressive array of educational and inspirational activities which could usefully be replicated elsewhere.

## School Clubs

Robbo, MORXG has also set up a school radio club and documented the trials and tribulations of this process. One important factor that he pointed out (which had also been noted elsewhere) is that the training material isn't really written for kids but is targeted at those who already have a deep-seated interest in learning about radio technology. He noted that children aren't especially interested in formal learning (especially after a full day in the classroom) but just want to have fun doing practical activities. Robbo believes that a 'Kids' Radio Club' run at a local radio club on a Saturday morning might be popular – getting them interested in fun radio-based activities and then gently moving them into tuition for the exams.

## Conclusion

As we have seen, there are groups of individuals doing excellent work inspiring the younger generation to get excited about amateur radio – but there is no central cohesive focus, no strategy nor policy. Perhaps the next RSGB Youth Champion will be able to achieve this. Let's all hope so.

## Websearch

- 1: [www.gqrp.com/index.htm](http://www.gqrp.com/index.htm)
- 2: [www.kanga-products.co.uk](http://www.kanga-products.co.uk)
- 3: [www.g0hrs.org](http://www.g0hrs.org)
- 4: <https://youtu.be/pHQsftZhogY>
- 5: <https://commsfoundation.org/>
- 6: [www.arkwright.org.uk](http://www.arkwright.org.uk)

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