



QAV

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Newsletter of the Harwell Amateur Radio Society.

Affiliated to the Radio Society of Great Britain.

Editorial Comment

A much shortened QAV this month as I have received very little copy from members. I have warned you all before, with a lack of copy, I have to write so much more to fill-up the spaces - and I'm sure you don't want too much of that!

The big news this month is the much-awaited launch of the new club website. For a variety of un-avoidable reasons this has been some time coming but I hope you all think it has been worth it. The new website has been designed to incorporate an area with general information about the club and amateur radio that is open to all and a section restricted to HARS members. Information on accessing the restricted section will be emailed to you soon. The website address is the same as before www.g3pia.net

I'm writing this just a few days after the annual CQWW SSB contest. Many club members took part in this event and I hope they all enjoyed the experience. I accept that contesting is not everyone's cup of tea but I always think that contests are a good way of testing your station - and coming up with new ways of improving it and your operating technique.!

73, Mike, G8CUL/F4VRB.

An Over From Our Chairman

It seems like a long time ago when we were all able to gather in the Chilton village hall to enjoy one another's company, catching up with the latest activities or listening to an interesting talk.

One day in the future I am sure some form of normality will return but until then it is gratifying to see a good number of members taking advantage of the various activities arranged by the club - namely the virtual coffee meetings that take place 3 times a week and the two HF nets. Also I trust you enjoy reading our monthly newsletter, QAV. A reminder if you have any activity to report or interesting item please send it into our editor Mike at gav@g3pia.net for inclusion in future editions.

The committee has been working hard on re-vamping our website and I am pleased to announce that it will be going live at the beginning of November. More details will follow.

A good number of members joined in the recent ARRL CQ World Wide contest with many experiencing their first contacts into some of the many countries operating. It also provided a great opportunity to observe the changing band conditions throughout a 24-hour period, and though in a sunspot low it still provided bands full of activity.

It is encouraging to note the enthusiasm of newcomers to the hobby experimenting with aerial and earthing systems and achieving some great results. There are now a good number of members operating in VHF/UHF contests in which the club has been active for many years. Now however, there is a healthy interest in HF operation, resulting in a wide range of interests within the club. Long may the enthusiasm last.

I look forward to working you either in the Nets, on a contest or by chance CQ call.

Stay Active, Healthy and Safe.

73, Dave, G8DVK.

Radio Active

Hamish, G0GLG - 'Sunspot Activity' is it picking up?

As far as I can see this month started out without any real change in the propagation on any of the bands, but things appear to be changing.

The 17m band does seem to be coming alive with daily openings into Asia and Australasia as can be seen by my DX report below. I have noticed that phone contacts between Europe and the far east are picking up early morning approximately between 07:00 and 09:30. The band then settles down until around midday when it picks up again, this time bearing towards the US and South America.

Again due to the time of year the 80m band is of course picking up and I hear

lots of near eastern (Saudi, Oman etc) stations, sadly the only problem is I don't have the power or antenna to achieve phone contact with those I can hear. Although just as in my early life I do like to listen to those stations that can. Perhaps I was destined to be a SWL, hi hi.

So for those that do have the means, hopefully you are making use of the changing propagation on 80m and 17m to get in some phone DX contacts.

(Hamish also sent me his DX log for October which I have included in the DX spot on page 11 - Ed)

Neil, G4BRK - I've been mostly fixing things recently. I changed my 23cm feeder which had become waterlogged as a result of my not taping the 23cm Yagi N-connector (I am used to using pressure-sleeve connectors which don't let in the water).

It worked much better in the October 23cm UKAC. My 6cm masthead system has been intermittent and I was checking the cables prior to taking the mast down and it started working again. I checked the connector I had waggled and it seemed fine inside, so it may be a coincidence. At least I know what to waggle first if it fails again.

I've been decoding some USA stations on 630m overnight with my HL2 SDR and mini-whip active antenna. Mostly on WSPR but also with the new WSJT-X modes FST4 and FST4W. I don't have any TX antenna here for that band so no QSOs.

I've been pondering how I can get an antenna up for 160m for the AFS contest on 14th November. The garden is long enough but there is an electricity cable running over the middle of it. The cable is insulated and presumably 240V, so I might be able to throw a light antenna wire over it or at worst run it just under. I just need a couple of 10m poles to support it.

Ann & Mike, G8NVI & G8CUL - Again lots of radio-based activity but mainly centered around the CQWW 48 hour contest over the 24-25th October and the SHF UKAC on the following Tuesday.

For many years it was always planned to have the TA33 tri-band beam up and running here in the UK. The 2020 CQWW SSB contest might help get it finished! The TA33 covers 20, 15 and 10m and is a 3 element beam with each element having traps. The traps allow varying lengths of each element to be active dependent on the band in use. It is quite an old design and this is an old example too. It needed quite a lot of refurbishment, including replacing some of the aluminium tubing and also

the dismantling, cleaning and re-assembling of the traps.



Assembling the elements had to be done outside as if assembled in the garage/workshop they were too long to get back out again! Ann and I finally managed to assemble the whole aerial on the 2nd tower just 2 days before the CQWW contest was due to start.



The optimal resonance for each band depends on various element lengths but those chosen were not ideal for the 14, 21 and 28MHz bands. The new IC7300 has an internal ATU (AMU) and this was very successful in 'fine

tweaking' the match so the transmitter was happy to give its full power.



The combination of the IC7300 and TA33 was very effective with a total of 171, 94 and 77 QSOs were made on 20, 15 and 10m respectively. The other 3 bands (160, 80 and 40m) were also in use using an IC706 MK2G with either a random length wire or a 40m inverted 'V' dipole.



Ann certainly enjoyed using the IC7300 and TA33 as the 2 created an effective combination. The IC706 and the wire aerials were perhaps not so successful as the strong signal handling characteristics were not really up to the

same standard as the newer Icom radio!

The pictures show the TA33 with the new 11 element interleaved beam for 6 and 4m above it - but that is another story!

The newly refurbished 9cm (3.4GHz) transverter system was used for the first time on the October SHF contest but with both the 'shack' box and the 'mast' box residing in the shack. Considering that this was the first time it had actually transmitted anything and that 2 processors were used for the control and data communications link between the 'shack' and mast' box , it was very successful. The one problem I did have was some intermittent noise on receive which could be eliminated with some deft switch twiddling - but only until the next transmission on 3.4GHz!

The next stage is to find out what is going on with the noise and then finally put the 'mast' box on the tower, thus reducing the coax loss by a significant amount.

Dave, G8DVK - A manual coaxial switch with possible dramatic failure! Do you have a coaxial switch like this?



If so, please beware of the possible failure that will leave both outgoing ports open circuit.

The first picture overleaf shows the relatively crude C/O arrangement. There is a plastic split peg that is operated by the control knob that

simply sits over the wiper moving it to either port. If this fails the wiper will sit in the neutral position thus leaving



neither port connected!!



though it is operational. In my case the changeover switch was used to transfer the ATU (sorry the Aerial Matching Unit!) output between aerial and

The next picture shows what I found upon inspection. The collar supporting the actuator peg had broken resulting in a failed connection. From the outside the control knob still feels as

dummy load. Looking closely at the fracture it seems that the plastic is quite crystallised and may just be a one off, however I have three of these and have reinforced the collar with the help of Araldite.

RSGB Convention 2020 - Online



For obvious reasons the 2020 RSGB Convention couldn't take place in its usual fashion which is a shame as it is always a great place to meet up and chat to those Amateurs who we work throughout the year. Instead, this year two talk 'streams' were broadcast on Youtube with a variety of subject matter on each stream.

Jim Bacon, G3YLA always gives interesting and thought-provoking talks and this year it was no different. I particularly liked his 'tidy' shack in the background!

Alwyn Seeds, G8DOH also gave a presentation on his thorough measurements of current VHF equipment performance, including his conclusions about the popular VHF/UHF transceiver, the IC9700. I fear that his thoughts on this particular radio were not well received and perhaps not believed by its many dedicated users! As ever, the proof of the pudding will be in the eating - or in this case, in the operating!

CQWW DX SSB Contest 24-25th October

The annual CQWW contest was held over 48 hours on the weekend of the 24-25th October, 2020. As in the last few years, HARS made a presence during this contest but not in the same way as the last few years. With the Covid pandemic restrictions, multi-operators not from the same 'bubble' could not take part together, so this year a number of individual operated from their respective home QTHs, sending-in their logs all (hopefully!) stating Harwell Amateur Radio Society as their club. 10 club stations (2E0GDV, 2E0HTG, G0BNC, G2U, G6LNU, G8DVK, M0IXP, M0KEP, M0UHF and M3P) have submitted their logs.

It was an interesting event and, as in most contests, it has made me think how we could improve our station!

DX of the Month

It would be nice to continue filling this list, giving the results by band, so please keep sending in what you have worked. I will normally list 1 entry/band/callsign. This month it is all FT8 QSOs by Hamish, G0GLG.

When sending the information to me, please list **all** of the following information of the DX station -

Date, Callsign, band, mode, Locator (preferably 6-figures), distance.

Callsign	Date	Dx	Band	Mode	Locator	Distance (km)
G0GLG	October	A45XR	80M	FT8	LL71XL	5939
G0GLG	October	A65DR	80M	FT8	LL75PE	5551
G0GLG	October	PY7XC	40M	FT8	HI21NV	7436
G0GLG	October	W4WWB	30M	FT8	EL88XR	7039
G0GLG	October	VK6AL	17M	FT8	OF88AE	14537
G0GLG	October	YB1BZV	17M	FT8	OI33VA	11896
G0GLG	October	JA1IAZ	17M	FT8	PM95SN	9560
G0GLG	October	JA3APV	17M	FT8	PM74UR	9519
G0GLG	October	PY2XAT	17M	FT8	GG66QO	9476
G0GLG	October	ZS6LKF	17M	FT8	KG44BF	9057
G0GLG	October	PT2ZM	17M	FT8	GH64BE	8783
G0GLG	October	HK6W	17M	FT8	FJ24JK	8518
G0GLG	October	PY7ZZ	17M	FT8	HI22NA	7436

The **NEW** Club Website

By the time you are reading this QAV, the new club website should be up and running. The new 'Members Only' section will include an 'Opt-in' option to allow your contact details to be visible to other members, as well as a QAV Archive with future plans for a 'Market Place' for club members to advertise equipment and an area for booking Social Functions etc. The open section will include information on Amateur Radio, Courses, Rally, how to join HARS and forthcoming events. It is work in progress and we value your input.

You may have noticed the new club logo on the front page spine of this QAV. This has been specially designed for the new website and will be adopted from now on for use on paperwork about all our activities. The website address remains: www.g3pia.net.

Contest News

Contests for the coming month are now included in the Radio Diary

Full details of all forthcoming contests can be found on <http://www.rsgbcc.org/>

Contest Results

4m AFS (Super League)

Harwell A Team came 3rd in the Local Club Section and Harwell B Team came 26th

Harwell A Team

G3MEH—8th, G0ODQ—12th, G8CUL—16th, G8NVI—22nd

Harwell B Team

G6LNU—61st

Well done to every one who took part

These results establish us in 3rd place in the Local Club Section in the AFS Super League 2020-21

VHF Championship

No less than 10 HARS stations turned out on 3rd October to take part in the 23cm and 13cm Trophies—both contests contributing to the VHF Championship. The results are yet to be published, but it looks as if our performance will be good enough to put us up into the runners up position in the overall championship. Well done to all those who took part—results should be available in the December QAV.

Forthcoming Contests

RSGB Club Calls Contest (1.8MHz AFS)—Sat 14th Nov at 20:00-23:00

Rules can be found here: <https://www.rsgbcc.org/hf/rules/2020/rclubcalls.shtml>

It would be good to field at least 1 team (of 4 stations) if not more. A great opportunity to use top band in a contest. More details to follow on the forum.

CQ World Wide SSB

A number of club members took part in this contest last week end and some impressive DX was worked over the 48-hour event. The club is offering an award to those who worked the most countries over the weekend so please get your calculators out and add up all those countries. There will be an award for the most countries worked by a Foundation licensee, Intermediate licensee and a Full licensee.

Did you work any DX? Any new countries? Any countries that you had never heard of? We would like to know about them for QAV.

UKAC Sep-Oct 2020

	Callsign	Section	Position
23cm (September)	G3MEH	O	15
	G8CUL	R	5
	G0ODQ	R	24
	G7DOF	R	41
	F1BHL/P	AL	5
4m (September)	G3MEH	O	10
	G8NVI	O	19
	G4WWH	AL	20
	G7DOF	AL	41
13cm (September)	G4BRK	O	4
	G8CUL	R	2
9cm (September)	G4BRK	O	4
	G8CUL	O	2
6cm (September)	G4BRK	R	5
2m (October)	G3MEH	O	13
	G8CUL	R	14
	G0ODQ	R	16
	G8DVK	R	23
	G4BRK	R	40
	G0BNC/P	R	105
	G6LNU	R	151
	G7DOF	R	198
70cm (October)	G8CUL	R	11
	G0ODQ	R	14
	G4BRK	R	21
	G8DVK	R	24
	G0BNC/P	AL	25
6m (October)	G3MEH	O	4
	G8NVI	O	17

RCE Update

Foundation, Intermediate and Full Exams are now all available online invigilated from the RSGB - see <https://rsgb.org/main/rsgb-examination-booking/>
Please note that bookings are being taken for early December but that there will be a 2-week break over Christmas to give the invigilators a well earned rest.

The HARS training team are please to announce that a Zoom Intermediate Course should be ready for presentation in November. If you are interested in taking either the Zoom Foundation or Intermediate Courses, please email info@g3pia.net

73, Ann, G8NVI.

Radio Diary - November 2020

Date	Time (BST)	Event
Monday 2nd,9th,16th,23rd,29th	19:30 on	Zoom Coffee Evening
Monday 2nd,9th,16th,23rd,29th	20:00 on	G3MEH 2m FM Sked—145.550 ±
Wednesday 4th,11th,18th,25th	10:45 on	Zoom Coffee Morning
Wednesday 4th,11th,18th,25th	14:00	HF Sked G8DVK 3.710MHz ±
Friday 6th,13th,20th,27th	10:45 on	Zoom Coffee Morning
Friday 6th,13th,20th,27th	20:30 20:45	Friday Night Sked G0AOZ 1.846MHz ± Friday Night Sked G0AOZ 3.710MHz ±
Mon 2nd	20:00-21:30	3.5MHz Autumn Series Data
Tue 3rd	20:00-22:30	2m UKAC
Sat-Sun 7th-8th	14:00-14:00	2m CW Marconi
Tue 10th	20:00-22:30	70cm UKAC
Wed 11th	20:00-21:30	3.5MHz Autumn Series SSB
Thu 12th	20:00-22:30	6m UKAC
Sat 14th	20:00-23:00	RSGB 1.8MHz AFS (Club Calls) Contest
Mon 16th	20:00-21:30	RSGB FT4 Contest
Tue 17th	2000-2230	23cm UKAC
Thu 19th	20:00-22:30	4m UKAC
Sat 21st	19:00-23:00	2nd RSGB 1.8MHz Contest
Tue 24th	19:30-22:30	SHF UKAC
Thu 26th	20:00-21:30	3.5MHz Autumn Series CW

Confessions of an RCE Invigilator

By Ann, G8NVI/F4VSO

Believe it or not, this is the title given to the RCE invigilators to try and get them to write for RadCom. As I have probably missed their deadline I thought I would write for QAV. But let's get one thing straight—those of you who remember the 1970s Confessions of ... films are going to be disappointed so perhaps you should stop reading now!

An online invigilation system was one of the inspired reactions of the RSGB following the arrival of Covid in the spring. The aim was for candidates to be able to continue to take the RCEs despite the lockdown. The system is built on the use of TestReach—an online examination system that the RSGB had already been using for a while, combined with a virtual meeting service, either Zoom or Webex. The invigilators are all volunteers, some 30 licensed RSGB members from all over the country.

Sadly, the practical assessments that had been part of the Foundation Exam have been dropped (for now at least) as has the project from the Intermediate (although I believe there had been plans to drop this anyway). This cleared the way for candidates to train online or by private study and take their exams from the comfort of their own home.

Candidates book and pay for their exam (on a date and time to suit them) on the RSGB website. Invigilators assign themselves to candidates using a very complex online Excel Spreadsheet, picking up their candidate's email addresses from TestReach once their exam has been assigned, and then make all the necessary arrangements for the exam to run smoothly.

Some invigilators are confident enough to deal with 3 candidates at a time—yours truly tends to deal with individuals and young people, although I am taking on 2 Full candidates together shortly. A maximum of 18 candidates can be examined per day, 7 days per week making a total of 126 exams per week. At the moment the system is booked up into December.

Initially the online exams were only open to Foundation Candidates and started in mid-May. The system was swamped to begin with but once things had settled down Intermediate candidates were accepted. Finally, towards the end of October, Full Licence exams also started.

Foundation Exams are conducted with the candidate using their own computer or laptop for the exam. The exam is run using TestReach which 'takes over' their computer for the duration of the exam and disables any other programs (except Zoom or Webex) from working during that time. During the exam the invigilator can see the candidate but they cannot see the invigilator. Intermediate and Full exams are conducted in a similar way except that an additional camera which looks at the candidate and keyboard from the side, is required.

Exact figures are not available but the numbers who have taken the Foundation in this way are in excess of 2000 and those taking the Intermediate over 500.

I joined the Invigilating Team in May, but was unable to actually invigilate for real until late June after our enforced stay in France. Although we have broadband there it was not deemed broad enough for such an important task where technical failures need to be avoided if at all possible.

I have completed over 30 exams so far—Foundation and Intermediate with my first 'Fulls' this week. I have met some fascinating people along the way and thought I would share some of my experiences with you.

There is no such thing as an 'average' candidate. They are all unique, taking their RCE exam for their own special and varied reasons with some in unusual places.

I have had candidates from all over the UK and one from Minnesota.

Early on there was Davy on Orkney who had returned to the island after years of working away and been persuaded by his Dad to get licensed. Adam took it from his Yurt on the West Wales Coast, Martin took it from a broom cupboard and I have seen countless spare bedrooms with all their clutter, studies with very interesting bookshelves and sumptuous living rooms. The cosiest was a living room near Perth with glorious decor and a roaring woodburner in the background. A young soldier, who is helping with the Covid crisis in the Midlands, was given a spare barrack room for the exam. When I first saw it I thought he might be a prisoner as it looked like a cell, but he soon explained.

Although we advise that pets and family members are discouraged from entering the exam room I have had dogs, cats and parrots present, geese hammering on the back door for bread in rural Herefordshire, as well as mothers arriving demanding to know what is going on! I have invigilated for chain smokers, vapers and at least 2 gents who slowly sipped their way through a double whisky during their exam.

The reasons for getting into amateur radio are many and varied too. Perhaps the most popular is that it is something they have always wanted to do and lockdown had given them the impetus and time. There have also been some who did the Foundation as a challenge during lockdown and have become hooked in the process, others who want to join their parent, child or friend in their hobby and several who are taking the 3 exams in order to be able to gain a full licence in another country (the UK Full licence is one of the most recognised in the world).

So what have I learned having invigilated for all these amazing people? Firstly, as I've already said, there is no such thing as an average candidate—they are all unique. Sadly many under 14s find the Foundation tough—it is not the subject area, it is the way the questions are expressed which confuses them and that also floors some adults as well. I have learnt that many clubs shut their doors when Covid arrived and are offering no help or support to either their own members or those wanting to do the RCE. The result of this is that many candidates have studied in total isolation—just the book, RSGB website, no friends that are licensed and no club support. It makes me even more determined to try to support members of our own club during these difficult times.

CLASSIFIED ADS

Remember that you can advertise suitable radio equipment here for **free!**

Kate, G7DOF has some items for sale from the late Ron, G7DOE -

1. Yaesu FT790-R 70cm transceiver. Its power input socket is broken, so it needs to be run off its batteries. £35
2. Kent Single Paddle Morse key. New in 2011. Hardly used. £30
3. Mega Electronics 'Hobby UV' UV lamp, with 2 CDs (Hobby Kit Instructions & General PCB Making Techniques), see www.megaug.com. £35
4. Vintage Gould OS245A 10MHz dual trace oscilloscope - free for spares or repair.

All prices are negotiable.

For more details, email Kate G7DOF at rondmount@hotmail.com.

MFJ-969 ATU. From G0FRO (SK). Just the unit, no box or leads and it has a few light marks on the top. New price is £300-350 but I'm asking for £150.



Please contact John, G6LNU, john.g6lnu@virginmedia.com or 01235 223250

Harwell Amateur Radio Society - Committee

OFFICERS

Chairman: Dave Aram, G8DVK
Vice-Chairman: Angus Wilson, G0UGO
Secretary: Ann Stevens, G8NVI
Treasurer: David Stevens, M6YHS

ORDINARY MEMBERS

Clint Gouveia, 2E0HTG
Roger Powell, G0AOZ
John Durban, G6LNU
John Booth, G6ZHB

Other non-committee positions

Contest Manager: Ann Stevens, G8NVI
Membership Secretary: John Durban, G6LNU
Rally Organiser: Ann Stevens, G8NVI
RCE Head Trainer: Dave Aram, G8DVK
RCE Secretary: Ann Stevens, G8NVI
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Opinions expressed in QAV are the personal views of the contributor and cannot be taken as reflecting the views of the society, committee or editor.

The deadline for the December 2020 QAV is 24th November 2020. Articles submitted after this date cannot be guaranteed to be included.

Contributions from all members are greatly welcomed. They may be submitted to gav@g3pia.net.