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*Save The Date!*

## THE CRAGG CHALLENGE

SUNDAY 22 JUNE 2025



***Will YOU Help Us to Make the 2025 Cragg Challenge an Even Greater Success?***

**HADARS Are Now Actively Planning Our Support For the 2025 Cragg Challenge Community Event, Where We Provide Essential Communications for the Event Organisers.**

**Please Offer to Help Us by Volunteering & Saving the Date on Sunday 22 June 2025**

### CLUB NETS & VIDEO CONFERENCES

- Monday from 7pm - the SSB and FM SSTV Net which alternates each week. 144.390 for SSB, 144.525 for SSTV. Pictures from the SSTV Net are usually posted on the HADARS Members Facebook pages.
- Tuesday from 7pm - 6m Net on GB3WY listen on 50.800MHz, transmit on 51.300MHz with CTCSS tone of 82.5Hz
- Wednesday from 7pm - 70cm Net on GB3HD listen on 433.225MHz, transmit on 434.825MHz with CTCSS tone of 82.5Hz
- Thursday from 7pm - Joint RAFARS/HADARS Net on 145.350 FM
- Thursday from 7.15pm - 'MS Teams' Video Technical Conference Call - see Hardy G5HWB for details
- Sunday from approximately 7pm onwards - 'MS Teams' Video Conference for license training and revision help. See Hardy for details of how to use your Web Browser to connect to the conference.

## CHAIRMAN'S MONTHLY UPDATE : Hardy G5HWB

### ***Contesting, Reflection and Action!***

Good evening, morning ,or afternoon, dear reader.

I thought about another pun for the title but it may be in bad taste. It is with poignancy, and some mourning to announce the end of HADARS official support for the RSGB 80m Club Contest. That is not to say that you cannot take part and use the club name, but sadly that we will not be advertising it, nor attempting to whip up action in regards to the contest.

This sad news comes at the long standing attrition of interest in the 80m CC and those taking part. Whilst our score has remained remarkable, it is becoming less and less of an activity that is enjoyable for our operators, and one that is more of a necessity to keep us in the clear.

With changing conditions, smaller lot sizes and considerable noise, the 80m band is challenging at the best of times, it would appear more so, with many other operators bringing their force to bear, with far more resource and power. In the 80m CC. We were fighting the tide.

Should such a time come that we have many operators on the task, we can certainly bring it back into the Club forefront, but until such a time, our resources are better utilised elsewhere.

It is bittersweet, this decision, but I must say what an entry we have been, always within the top ten, or very close to it! And what operators we have had, many with amazing capacity for keying, concentrating, persevering and decoding. So, thank you to everyone who has taken part in the past and made us very proud. It is with sincere appreciation that we have you, and all that you have done.

I hope that going from here we can use this as an opportunity to take the time to refresh our skills on the radio at a pace and manner that brings us comfort, and joy to be operating. Perhaps even to find a new mode and try that for a while.

Even though the 80m CC evenings were not frequent, they were challenging, so perhaps a change of pace will be beneficial and bring us more interest towards what contesting involves.

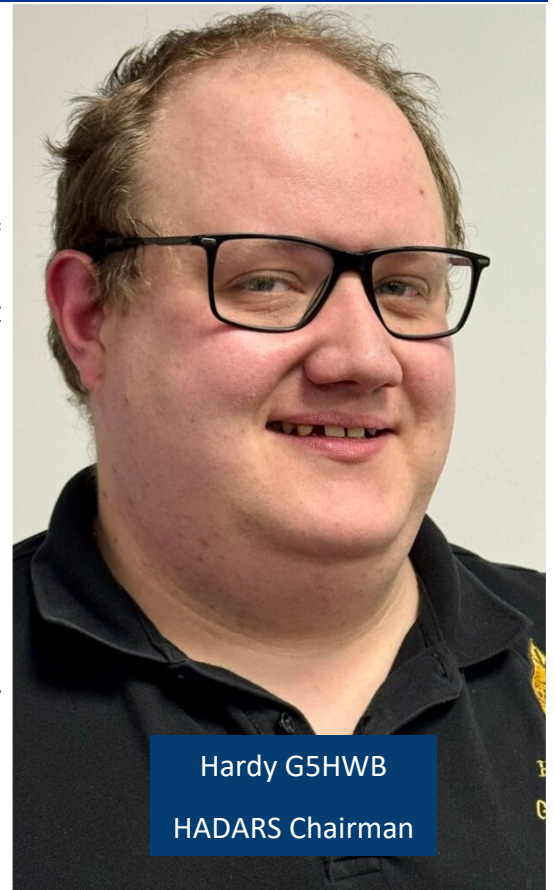
Although this is shorter than usual, I would like to leave it there, as this competition has been a staple of the club for quite some time, and deserves it's own goodbye (for now)....

All the best,

Hardy,

G5HWB

H.A.D.A.R.S. Chair



## HADARS BUILDATHON - STARTS TUESDAY 11th MARCH!

For all those who have signed up for the HADARS Buildathon in March, we will be kicking off with the introductory presentation on Tuesday 4th March, and getting those soldering irons sizzling, over the next three weeks, beginning Tuesday 11th March.

Can I please ask all those who have paid the £10 deposit, to **complete payment of the final instalment of £14**, either on the **March 4th, or March 11th** Club nights in **CASH**, or by **BANK TRANSFER** Before those dates.

The Bank details are as follows:

Metro Bank Account Number **43093851**, Sort Code, **23-05-80**

Account Name: Halifax and District Amateur Radio Society

I will have the kits with me on Tuesday 4th March, and then onwards. Please Note that Kanga **DO NOT SUPPLY THE BUILDING INSTRUCTIONS with the kit**, and it won't be possible for me to print out copies for everyone, as it is a fairly long document.

Please Visit the KANGA Website on this link to download and print off your own building instructions.:

### [The Little Roo 40m SSB RX ver2.pdf](#)

You will find it VERY USEFUL to download these as soon as possible, and read through them to familiarise yourself with the overall building process. We will obviously be going through them in detail as the build progresses, but the more you can do now, the easier it will be when we come to go through the stages of the building process.

The training team who will be helping you will have tools available, both from club stock, and from own workshops, but if you have your own tools and soldering iron, please bring them with you, and remember that solder splashes do no good whatsoever to nice new clothing. Wear something that you don't mind getting a bit singed round the edges if you do drop solder on them.

We hope you're looking forward to this event, and if successful, we hope to hold others later in the year.

Please contact me ASAP if you have any queries about the kit or the event, at [George.townend@btinternet.com](mailto:George.townend@btinternet.com), or via WhatsApp .

## MARCH 2025 CLUB & EVENTS CALENDAR - AT A GLANCE

<b>Sat/Sun 1st/2nd March</b>	<b>RSGB 144/432MHz VHF Championship Contest.</b> Plenty of big stations to work, and a chance of good DX from a good high ground location
<b>Sat/Sun 1st/2nd March</b>	<b>ARRL International DX Contest</b> - Always a big contest with strong international appeal.
<b>Monday 3rd March</b>	<b>RSGB 80m CC</b> - Datamodes Round
<b>Tuesday 4th March</b>	<b>Introduction to the Kanga Little Roo Direct Conversion Receiver</b> - Max Townend G4SDX will talk through the design of this little receiver, and discuss the kit build for the 'Buildathon' during March
<b>Tuesday 11th March</b>	<b>HADARS Buildathon</b> - Week 1
<b>Wednesday 12th March</b>	<b>RSGB 80m CC</b> - CW Round
<b>Tuesday 18th March</b>	<b>HADARS Buildathon</b> - Week 2
<b>Tuesday 25th March</b>	<b>HADARS Buildathon</b> - Week 3
<b>Thursday 27th March</b>	<b>RSGB 80m CC</b> - SSB Round
<b>Sat/Sun 29th/30th March</b>	<b>CW WW WPX International Contest</b> - Another crazy weekend on the bands, but try to grab any DX that might land on your antenna!

## QRZ EDITORIAL

First, an apology if this month's newsletter is a little thin on content. February is a slow time for the hobby, with people hunkering down for the winter during the worst of the bad weather. My own workload, however, has done quite the opposite, with both my consultancy business unexpectedly springing back into life, with design work for a joint University/China pharmaceutical process plant, and with the impact that the HADARS website and YouTube content creation has had on my free time.

I never considered that at the age of nearly 73, I'd be in demand as a "V-tuber", and that my supposedly smooth and sonorous voice, was actually full of gurgles, snuffles, slurps, mispronunciations, wheezing noises, and other strange sounds, captured faithfully by an expensive microphone, on a narration soundtrack that certainly doesn't lie.

A supposedly quiet room is no such thing, and my house is certainly no recording studio - and I've worked in a few of those to know the difference. Interruptions are endless, usually in the last line of a long script, just as you thought you'd got the recording in the bag. The cat meows, the phone dings, the washing machine in the room next door suddenly sounds like the soup dragon from the Clangers, and while I'm in mid script, the printer decides that it's a good time to noisily go through its cleaning cycle. My ability to 'read aloud' from a script has also not improved much, since I had to read out 'Janet and John' in junior school, at the age of five (I can probably remove any hope of being an RSGB newsreader from my bucket list).

Still, the show must go on. I've learned a lot about the MS PowerPoint slideshow application too. As a graphic package it has some surprising capabilities, and when you actually get into its animation capabilities, it is no mean performer, although that is not really what it was intended for. Unfortunately, however, its narration sound recording system was designed by an elderly Baboon, late on a Friday afternoon.

We amateurs know quite a bit about AGC, ALC, and other automatic control over audio levels. Sadly, when Microsoft put PowerPoint together, they certainly didn't. As you start the recording process, or if you pause, it secretly winds up the microphone gain to such an extent, that it can hear a mouse pass wind in the house next door. After deafening you with that first two seconds of audio (mouse included), a vicious audio compression kicks in, and it sounds like you've just fallen out of the window while still talking. In between, the audio gain se-saws back and forth alarmingly.

Thankfully, we have Matt Hardy, M7EUP, who knows a thing or two about Video production (Check out his M7EUP YouTube channel - it's very good!), who does his best to make me sound like I haven't just borrowed someone else's false teeth by mistake. And, so we make progress!

I'm actually quite pleased at how the material for our new on-line Foundation Course is coming together. It's all a learning process, and it seems you can teach an old dog new tricks - well, apart from the slurping noises anyway. We are not trying to poke Essex Ham in the eye with a sharp stick on this, or indeed any of the other established on-line training providers - they know how to run their operations very well, and are well versed in doing so. I doubt we will make an impact of their offerings, although it would be nice if we did!

What we are doing initially, is to provide an on-demand training service to prospective members, and others, that we would struggle to provide, face to face, on a club night, or by video call. If it proves popular to a wider audience, so be it, and there will be knock on benefits to the club if it does. What it does mean is that anyone coming into the hobby, and approaching us for that first step in training, can be given immediate access to a fully up to date syllabus package that is entirely our Copywrite, is consistent in its delivery, and will let them learn at their own pace, with access to tutor support if necessary.

That is a whole world away from where we were this time last year, or even last autumn, and the future for using these on-line platforms to provide even more member benefits and technical support is endless. Unfortunately, the day is only 24 hours long and its eating my time like a black hole.

So there, that's my excuse for a thin newsletter, and I'm offering a small prize for the first one to spot the mouse fart in the new training course! The prize for the cat has already been claimed!

73, Max G4SDX

Editor.

## COMMITTEE ROUNDUP

The Committee met on Friday 7th February, to discuss plans for the year ahead, and review the amazing progress with the Website and YouTube Channel. James 2E1JCC updated the committee on the style and formatting of the website, that will probably need a few modifications going forward, in order to take full advantage of all the features available to us with the new site and provider.

James outlined the introduction of the 'Amazon Affiliates' system, where our content creators, and others, can recommend website links to Amazon products, used in the production of club presentations, or activities. Links to things such as components, test gear, and any other items that we can recommend to our members, will generate commission revenue from Amazon, if the order is placed through an Amazon Affiliate link. There is no additional cost for this for the buyer.

The main topic of discussion was the development of the new website, and the new YouTube channel, that is being managed by Matt Hardy, M7EUP. You may already have seen links shared by Matt to our new YouTube channel, which include recording of Club events and presentations, and 'Tech Talk' content aimed at practical construction activities. Much more will follow later in the year as we develop our media creation skills, and we launch the forthcoming on-line Foundation License Course, which is a fully updated V1.6b course, that is animated and narrated.

There is still much to discuss about how we launch this, and manage access to it, and also use the club as a platform to engage with remote students using tutor access, and worksheets. However, it is an exciting prospect that will help take the load off our training team in the future, and widen our market appeal.

James updated us on even more Website capabilities, including a Learning Management system for training related content, the ability to offer club goods and services through a Web-shop, and also the ability to maintain membership records, and access for members to update personal details. We are updating our GDPR (Data Protection), and Cookie policies to reflect that, and will be keeping members fully informed as this progresses.

There is so much going on with the new website, that we urge members to check in regularly, to see what new content is being made available. Members can now 'Rate' articles for feedback, and also submit feedback and comments on recent articles and presentations - this is vital for us to make sure we are doing the right things, and things that the membership wants and likes. The new site is attracting global interest in the Amateur community from as far afield as America. The 'Sparks' page and 'QST' are proving most popular at the moment.

The topic of portable operation was touched upon, with attendance at organised /P days dwindling in the last year. There may have been many reasons for this, including poor summer weather, and the continued onslaught by the local authority, and utility companies, on the Calder Valley road infrastructure. This had led to long delays and traffic jams around our region, that have restricted access to the upper valley, and our usual site at Blackshaw head, for anyone in the lower valley, beyond Sowerby Bridge.

It was decided that this year, the portable group would concentrate on consolidation and groundwork, for future seasons, with the aim being to survey and catalogue as many portable operating sites as we can, seek to gain access to private land if possible, through negotiation with the landowners, and update the club's portable 'Go-Kit', so that everything needed for setting up at a site was packed and ready for deployment.

Group portable operation has certain underlying prerequisites, especially if we were to try and make an event accessible to more members, and also younger people and families to visit. Adequate sanitation is obviously essential, as is parking, and of course, good HF and VHF take-off. We will be asking members for help to identify such places, or perhaps to put us in contact with any landowners in the lower Calder Valley, where the majority of the membership live, and who might allow operation from a high ground site (for example around Marsden Moor, Scapegoat Hill, Queensbury, or the surrounding area).

Planning for the 2025 Cragg Challenge is now underway, with meetings scheduled for early March with the organising committee. 2024 was a very successful year for HADARS at this event, with some good publicity into the bargain, so we hope to get as many club members to volunteer to help as possible. More on this next month in the newsletter.

## The RSGB 2025 80m CLUB CHAMPIONSHIP

Following on from Hardy's comments in his Chairman's Address, I need to start this month's Contest Review on rather a downbeat note. After struggling with dwindling support for the RSGB 80m Club Championship contest, I think that unless there is an almost miraculous transformation, it is time to reflect on our ability to function at our former level in this contest going forward. This is not to say that HADARS can't still be represented lower down the league table, but we are where we are.

Sadly, interest in this contest has waned considerably in recent years, and it has been left to a small handful of operators, perhaps two, or sometimes three, to keep plugging away, trying to keep HADARS in the top ten, or at the very least, the top twenty of the General Club leaderboard.

There are probably many reasons for this, both practical and personal. The RSGB 80mm CC uses nearly all of the 80m bandwidth - about 175kHz for the SSB rounds alone, plus another 50kHz for CW, and small compromise antennas for this band tend to have a very narrow bandwidth, and are often very poor radiators. It may not be surprising to find that many of our members simply do not, or cannot, operate on the 80m band at all. We are also at a significant disadvantage due to the dwindling number of experienced CW operators, capable of working effectively under high speed contest conditions, and the lack of members who still even use, let alone have the skills to compete under contest conditions in the RTTY, or PSK63, Datamode rounds.

Of course, radio clubs change in nature over the years, and from my perspective, contest operating seems not to be high on the list of priorities for our current membership, outside a very small handful of (mainly) portable operators, who use high ground to work the short daytime VHF and UHF contests. Recent Club initiatives aimed at getting more people involved with contesting, have largely fallen on fallow ground, and we have not (at least so far) been able to successfully showcase, or effectively put the case, for what contesting is all about, in order to bring new converts into the contest community.

This year's event got off to a very quiet start, with Richard, G3UGF being the only HADARS competitor in the opening SSB event of 2025, after I had to take a rain check. He managed single handedly to put 90 QSO's on the team scoreboard, which was no mean feat for someone battling alone, but nowhere near the 250 - 300 QSO's we once did in this popular and certainly the most accessible round. The Datamode round that followed it had only one entrant too, Martin M0GQB, who managed 18 Contacts.

The whole point of the RSGB 80m Club Championship, is to build experienced, contest capable teams, within Affiliated Clubs. Many of those clubs have dedicated Contest Groups within them, whose whole raison d'etre is the cut and thrust of contest operation. Indeed, a fair number of 80m CC entries come from dedicated Contest Clubs such as GMDX, Three A's, and others. A contest team should be about camaraderie, support, and the friendly rivalry within that team, that drives personal development and personal improvement, as indeed it did for me, when I joined the 80m CC team shortly after lockdown. However, without a cohesive, committed, well managed, and supportive team to work within, the whole 80m CC contest loses its prime purpose at club level. This places unnecessary and unfair pressure on those few operators trying to maintain our former league position.

I raised this matter at the Committee meeting in early February this year, and we came to the unfortunate conclusion that the support for this competition across the membership simply has not materialised in recent years, despite repeated appeals for help. Maybe the problem lies with the nature and timing of the RSGB 80m CC itself. With its weighting towards very traditional modes like CW and RTTY/PSK63, it might be regarded as rather anachronistic in the 21st century, and it does beg the question of how relevant and appealing a contest on what many see as an 'Old Boys Band', actually is to younger operators coming into the hobby.

As a firm believer that contesting should at least be given a try (at least once), by anyone with a license, we are looking at other ways to gain club representation in other RSGB affiliated contests, that might be more appropriate to our members personal situations, station capabilities, and available time. Digital modes are an obvious choice, as there are more FT8 operators in the club by a long way than there are CW and RTTY operators. We will keep you updated as we work through the options, and are able to produce simple "How To" guides, to logging and entry.

**Max Townend G4SDX**

## OTHER CONTEST NEWS & EVENTS

I've covered the start of the RSGB 80m CC contest in a separate article, so, on with the rest of the news.....

March kicks off with two decent opportunities to grab some good DX - the 1st/2nd March sees the RSGB 144MHz and 432MHz VHF Championship. Various categories including a restricted 6 hour section for those with a bit of portable operation in mind. We just hope for half decent weather if that is the case.

Also over the weekend of 1st/2nd March is the ARRL International DX contest. This rivals CQWW as a 'band killer' for those not interested in entering the contest itself, but you can still give a few points away and grab some decent DX, just by working the event for fun.

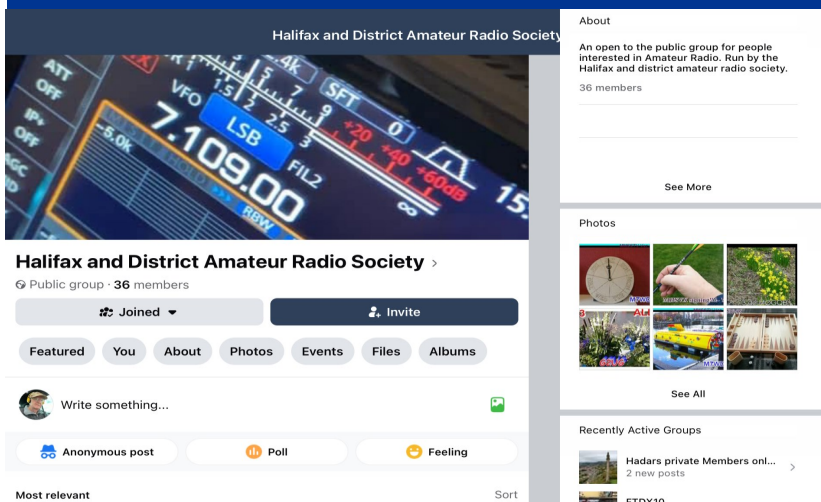
The outdoor VHF contest season is still a month or two away, so it's pretty thin pickings for anyone venturing out in the cold, but make the best of any openings you can. The spring equinox can bring some unusual weather, and VHF openings are not uncommon if we get cold clear nights, followed by rapid warming of the air above the trapped cold layer at ground level, just after sunrise.

The big event in March will be the HADARS 'Buildathon', featuring the Kanga 'Little Roo' 40m Receiver. 12 members have already paid a deposit for the kits, which arrived with us in late January. I will be sending out an email to everyone who has paid a deposit, asking for the final payment for their kit, along with some notes about what to bring with you for the weekly sessions. The kits do not come with instructions, so I would ask anyone who is taking part in the project, to go to the Kanga website to download them and print them off. Then read through the build stages, prior to the event itself. Help will be on hand, but the more you can do to get a feel for the build sequence before the event the better.

We will kick off the event on Tuesday 4th March with an introductory presentation about the receiver, and what to expect during the construction of the kit. We then, over the next three weeks, build and test the kit. Don't worry if you are not taking part in this, we will make sure we place the activity front and centre, so that we can all keep chatting and enjoying the banter.

Help and advice is available on all constructional matters during the Buildathon (as indeed it is the rest of the time!), but while we have all the gear and tables out, if you want to bring your own project along, or maybe just fit a plug to some coax, then please feel free!

## STREAMLINING OUR SOCIAL MEDIA - OLD HADARS FACEBOOK PAGE



Some of you may have noticed that access for posting new content to the old Halifax & District Amateur Radio Society Facebook page, has been closed down by the Administrators.

The Facebook Page will remain viewable for the time being, as it is difficult to permanently shut down a group page while we have members still registered with the group.

With the growing importance of maintaining the HADARS public profiles and brand image as a unified social media presence, now the

new website and YouTube channels are becoming more active, we do not want people searching for the club to wander into a live but redundant Facebook Group, that does not carry current content about club activities. All messaging will now be handled by our two other Facebook Groups, the Private Members group, which is exactly that, and our public Community Group, which now has over 116 members from all round the country, and in some cases, the world.

We urge members still using the old Facebook page (which seems to carry some of the SSTV news), to close their accounts on the old Facebook group and migrate to one (or both) of the new groups. Just send a request to the new Group of your choice, and we will do the rest.

## TRAINING NEWS



I am delighted to announce that our Web Manager, and fellow Committee Member, James Currie-Cathey (formerly known as 2E1JCC), may be a contender for the “shortest time at intermediate level” award. James passed his Full licence exam during the first week of February, and at the time of writing this article, has just received confirmation from Ofcom for issue of G5JCC. James has now passed all three license exams in less than 365 days, which is quite an achievement!

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Work is now well underway to create our new on-line video training course for Foundation Level exams. Nearly 100 short video animations have been produced so far, covering Basic Electricity, Ohms, Law, Transmitters, Receivers, Antennas, and Matching. Matt Hardy M7EUP is editing these into short tutorial sequences, and adding club branding and sound editing, although my occasional mispronunciation on a couple of videos is probably well beyond the wit of man, or even AI to correct! I expect to have this complete course completed by mid year, if all goes to plan.

We are still very short of resources to begin work on preparing teaching materials, and lesson plans, for the Full License course, and that will take a serious amount of work to complete. There are around 60 hours of teaching time alone in the Full Syllabus, and at the moment we do not have either the facilities, or the people, to teach it on a weekly basis in our current Club HQ. We will continue to support Full License studies with weekly coaching sessions, to back up home study, both on alternate weeks at the club, and in the study sessions offered by video-link, at various times.

I would find it very useful to hear from anyone contemplating studying for either a Foundation license, or in upgrading their existing license. Currently, I have no real idea of who wants further training, and at what level, or timescale. This makes it hard for me to plan my time and make appropriate proposals to the committee.

If you are already in the process of studying, or are intending to start soon, please could you let me know if you need support through the club. It will make my job of supporting you and others so much easier.

Finally, you may have heard whispers that the RSGB have changed the exam syllabus yet again, without consultation with clubs or other training organisations. A few brickbats have been flying between Essex Ham and the RSGB on social media recently, and I need to inject a bit of perspective on this subject.

Yes, the RSGB examination standards committee have changed the syllabus, and it now stands at Version 1.6b which will be put into effect in April of this year. The changes in the main, have involved removing some duplication in questioning, between licensing conditions and operating procedures, and moving some questions from licensing to operating, where they say they are a better fit.

Essex Ham are in the process of proof reading the changes, and say there are one or two things that seem to have sneaked in there, under the smoke screen of this ‘administrative’ syllabus change. I am still awaiting confirmation about exactly what they might be. However, I am fairly sure that the content of the syllabus, and the handbooks that accompany them, are still more or less OK, and that there is nothing shockingly new in all this. More to follow once I have seen the changes in full.

What I would like to do, when time permits - probably towards the end of this year (once the Foundation Course has been launched), is to introduce some elements of the Full License training into the HADARS ‘Tech Talks’ series, a little along the lines of ‘Question of the Week’ where specific problem areas of the syllabus can be given special focus, as a bit size booster for those already home studying. I’ll try to put a taster video together later this year to see how it fits.

Club night coaching sessions will take a step back during March, while the Buildathon takes place, but will resume again in April, on every ad-hoc social evening.



## AND FINALLY ....

Anyone reading through the latest RadCom cannot fail to have noticed several pages dedicated to changes to the Bandplans, after the recent recommendations from the IARU. However, if anyone was looking for a detailed summary of the changes, item by item, which would be normal with a document of this size and complexity, they were to be somewhat disappointed by the end of it. There were colour coded sections that we had to assume were related to the changes - some in Red and some in Yellow, but, as far as I could see, there was no key to this colour code, to tell you what it meant.

I ended up printing off a copy of the 2m VHF 2024 Bandplan and holding it up against the new one published in RadCom. At the time I thought, "Why the Hell am I having to do this?" - was it not beyond the wit of the RSGB to actually highlight the changes clearly - the yellow highlights on the new plan are actually carry over from the last one and have no relevance to the changes, the red ones only indicating the beacon bands. My own highlights are shown as black underlining in a screen grab of the RadCom PDF.

Having read through it, I've pulled out a couple of changes that are probably most applicable to local VHF traffic - which seem to be adding in extra channels for FM and Digital Voice Gateways in between the old 25kHz simplex channels. This seems to be in line with the IARU's push to grab more amateur spectrum for digital modes and gateways, at the expense of analogue traffic (you may have heard the recent Region 3 spat between the Antipodeans and the IARU that spilled over here on social media, about squeezing the CW allocation on 40m to allow more room for FT8 and similar modes).

So, for the 2m amateur band, the changes I have been able to spot are as follows:

**The FM/DV Simplex channels have been reduced from 47 to 45**  
**145.2125 has been allocated to an FM/DV Internet Voice Gateway,**  
**As have 145.2625 and 145.3125.**

I may have missed one, as the job of reading the small print and trying to spot the changes in the tiny text is not easy.

FM/DV Space Communications (eg ISS) – Earth-to-Space  
145.2000MHz – (Note 4 & 10)  
FM/DV V16-V45 – FM/DV Simplex (Note 3, 5 & 6)  
145.2125MHz FM Internet Voice Gateway  
145.2250 MHz FM Internet voice gateway - and See  
Note 10  
145.2375MHz – FM Internet Voice Gateway  
(IARU common channel)  
145.2500MHz – Used for Slow Morse Transmissions  
145.2625MHz - FM Internet Voice Gateway  
145.2875MHz – FM Internet Voice Gateway  
(IARU common channel)  
145.3125MHz FM Internet Voice Gateway  
145.3375MHz FM Internet Voice Gateway (IARU com  
mon channel)  
145.5000MHz – FM Calling (Note 12)  
145.5250MHz – Used for GB2RS News Broadcast.  
145.5500MHz – Used for Rally/exhibition Talk-in  
145.5750, 145.5875MHz Low power / Adhoc repeater  
outputs (Note 11)  
FM/DV DV49, DV62 – Repeater Output (Note 2)