

## NARS - July 2020 Roundup !

### **BREAKING NEWS** : Delcan passed his intermediate exam today at 1330hrs 31/07/20

As I was in the process of sending out this roundup Dave GW8SZL (Delcan's dad) messaged me with this fantastic news !

'Well today at 1330 hrs Declan took his Intermediate Licence examination online and passed it. He had 33 questions correct. His invigilator was Dave Wilson M0OBW himself. Neither myself or Dec realised who he was apart from the sig on his emails which said Examinations Quality Assurance Manager. We only found out later while looking at the RSGB site he is the president. Dec only took 36 minutes to complete the exam. Dec put a shirt and his lucky tie on for the exam and Dave said he looked really smart. After the exam Dave asked if he could have a picture of Dec with his lucky tie so he could put it in Radcom which I have just sent him. So Dec is very happy.'



Not only did Delcan pass, he did so in front of the president of the RSGB, Dave Wilson. What a fantastic job Declan, and congratulations from all of us !!! We look forward to talking to you on the air with your new 2w0 callsign !

# **WELL DONE DECLAN !**

Hi all, just a quick recap of July. It was a very quiet month for me in terms of amateur radio. I think summer causes a radio hiatus somehow !

**Space:** To continue with something from space, astronauts Doug Hurley and Bob Behnken will be returning to earth on the 2nd of August aboard SpaceX's new crew capsule, the Crew Dragon. They formally named the capsule early in the mission and chose 'Endeavour' to recognise the "incredible endeavor" that SpaceX and NASA have taken after the retirement of the shuttle fleet in 2011. Both astronauts had their first space flights on shuttle Endeavour and it meant a great deal to them to continue the name.



Also, in space news, another rover has just blasted off to Mars. This time called Perseverance. It also includes a helicopter, Ingenuity, which will be a test to see if flight is possible on Mars. With the thin atmosphere (1% of Earth) the blades have to rotate at over 2500rpm. If you are interested this video from Veritasium has an in-depth look : <https://www.youtube.com/watch?v=GhsZUZmJvAM>

**Garden :** The Maskotka variety tomatoes keep giving fruit, short bushes with quite a lot of crop. I am tempted next year to put some in hanging baskets, I think they would do quite well. Rhubarb is taking over and I have given some to the nextdoor neighbour and Steve OGO. Steve reports that his rhubarb and custard was very nice indeed. The beans are coming along nicely, and the potatoes are perhaps ready for a test run.

Brother and I picked the black currants, some 2.6kg of fruit, and I made some jam again. I had difficulty getting it to 'set' after an initial boil up to 106°C, but a second blast with some added lemon juice solved that problem.



Dale's tomatoes



**GW4JBQ** : A report from Julian.

## July in the workshop !

There hasn't been a great deal going on in the JBQ world as late, normal day to day activities tend to take up most of the day. Pottering around in the garden, greenhouse tending to the tomatoes can be fruitful but time consuming and then with a pair of sheepdogs to entertain the afternoons are pretty well full.

All that said and done I have spent a few evenings in the shack. Last week saw the final RSGB CC RTTY session which I had a go at, the results are not out yet but I managed to get 72 contacts in the 90 minutes of the activity period, I dare say that a few of those will be deleted when the police robots at RSGB HQ do the cross checking and then not being a FT8/4 person I thought I would spend a few minutes looking at the RSGB FT4 Contest. This is another of the short 90 minute activity evenings that the RSGB have put together to keep us all occupied, I would recommend these to any club member as a way of getting to grips with the different modes of operation. You don't need a great deal of equipment, there are low power sections for those that don't have an amplifier and it's a good way of building up your QSO numbers. Take a look at the RSGB Contest Colander and see if there is anything that takes your fancy (<https://www.rsgbcc.org/hf/>) it's a little late for most but if Covid continues a few more may be introduced. I'm afraid the FT4 section didn't do me any favours as instead of taking a few minutes to setup JTDX and N1MM to work together it took me several evenings and a whole morning the day before the contest was going to start, anyway come the first few minutes of the session and I thought ok we are ready to go so CQ was called. Back came a station, off went my standard report and then back came the original stations report and my system returned my original report and so it went on as if no-one was hearing each other. I manually entered 7 stations before saying to myself that something is wrong but didn't know what by which time the first 30 minutes had gone, I abandoned the JTDX/N1MM that I had been using and went to WSJT-X and low and behold the same thing happened so I knew it was something my end. Anyhow to cut a long story short I found out afterwards that I was using the wrong contest template and should have been sending a "73" instead of a report so better luck next time I say, we live and learn. I say all this just in case anyone wants to have a go and not do the same as I did.

So that's the radio work done, if you bothered to read last month's roundup you will have seen my workbench cabinet that I made for my brother, well this was built on my rickety old workmate so I decided to make something a bit more substantial for myself. The result is shown in the picture, it's all made with some more of my scrap timber that needed to be used or gotten rid of in other ways.

cont...





I have also been playing on the lathe a bit in the last week or so as a friend of mine has been asking for some wooden light pulls to go in his new kitchen and bathroom so here is the result. My beer cellar is now holding a few more bottles of Hobgoblin that it used to. One thing that I did find in the shed while pottering around in there was a very old bit of Cherry Tree that I had forgotten about so that was popped on the lathe as well, I had no idea what it would turn out like but a new Salad Bowl came out of it quite well.

That's it from me for this month. If the sun shines in August I shall be in the garden if not I will probably end up in the workshop again.

73 Julian GW4JBQ



**Follow up email from Julian :**

As a follow up the results can be found here

<https://www.rsgbcc.org/cgi-bin/hfresults.pl?Contest=FT4%20Contest&year=2020>

I can't believe how I didn't come last !

73 Julian

## Ross's 8877 Amplifier

### Overview

To my shame, I started to build this amplifier more than nine years ago. I spent more than £1000 on it but I slowly lost interest in it and, as we do, it was put to one side.

About a month ago in a bout of conscience and needing something to occupy my mind I dragged it back onto the work bench accompanied by a pile of detailed notes that I had made all that time ago. I sat down that evening and started to read my very detailed notes. It wasn't too long before I realised that these notes were a mystery to me and although at the time they were written with meaning and understanding I found myself saying "what the hell did I mean by that". Eventually after a lot of head scratching and poking around in the amp things began to make sense to me.

This amplifier is designed to produce 2.5Kw P.E.P. I.C.A.S.(peak envelope output in intermittent commercial and amateur service) from 160m to 10m including the WARC bands.

It is designed around the Eimac 3CX1500a7, an external anode forced air cooled triode shown on the right. The valve (I dislike the term Tube) works at an anode voltage of 4000 volts DC at a load of about 1 amp. About 4000 watts input for 2.5 Kw output on all bands.



Almost all modern day valve amplifiers are designed in one of two ways:

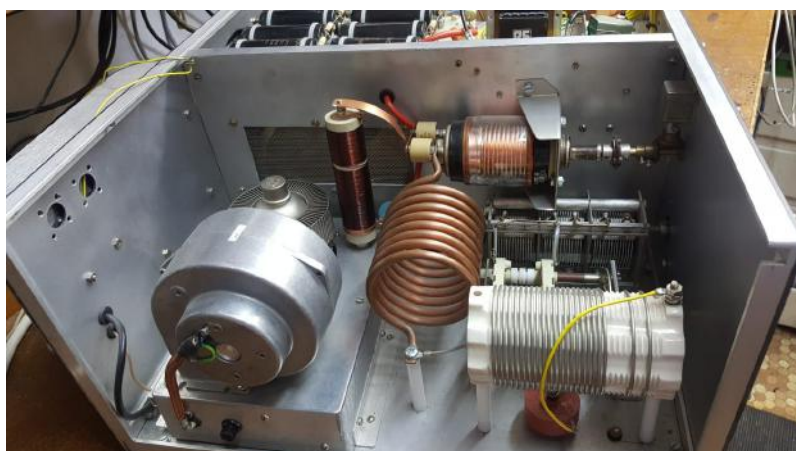
1. If the amplifier, (as this one does) uses a Triode Valve or a number of Triodes then it will nearly always be configured to operate in "Grounded grid" mode.
2. If the amplifier uses a Tetrode or Pentode then it's a fair bet that it will be designed in Passive grid mode.

Typical grounded grid amps are the ETO Alpha 87a, 77DX, Ameritron and many others. Passive grid amps are more common these days because they are cheaper to manufacture and easier to build. Popular manufacturers of passive grid amps are Acom, Alpha and Emtron.

If you would like a more in depth explanation of anything in this piece, Just ask.

More next time.

73 Ross.



## WSPRlite - a quick overview (MW0LGE)

A couple of months ago I picked up a WSPRlite flexi from SOTabeams. It is a very small USB powered device (40x50x10mm) that can be used to test antenna performance using very weak signals, up to a maximum of 200mW, on the 630m through to 6m bands. It does however require external band specific low pass filters. It is a transmit only device, and can be left running for upwards of 30 days.



So, what is WSPR I hear you ask? WSPR ("whisper") stands for 'Weak Signal Propagation Reporter'. It is a protocol, implemented in software, used for weak-signal radio communication between amateur radio operators. The protocol was designed and software written by Joe Taylor, K1JT. Software is now open source and is developed by a small team. The idea behind it is to send and receive low-power transmissions to test propagation paths on the MF and HF bands.



WSPR implements a protocol designed to test for potential propagation paths using low-power transmissions. Each transmission carries a station's callsign, maidenhead grid locator, and transmitter power in dBm. A receiving station can then use relevant software to decode signals with S/N as low as -34 dB in a 2500 Hz bandwidth. Data from these decoded signals is then uploaded to a central database called WSPRnet, which includes a mapping facility.

Some of my self wound LPF's can be seen to the left. They cover 80/40/30/20/15/10m. The toroids are T50-6's with suitable windings. All the winding instructions/counts/cap values are available from the SOTabeams website. I tested and aligned them with a VNA (vector network analyser) and was pleased to see that they operated as expected.

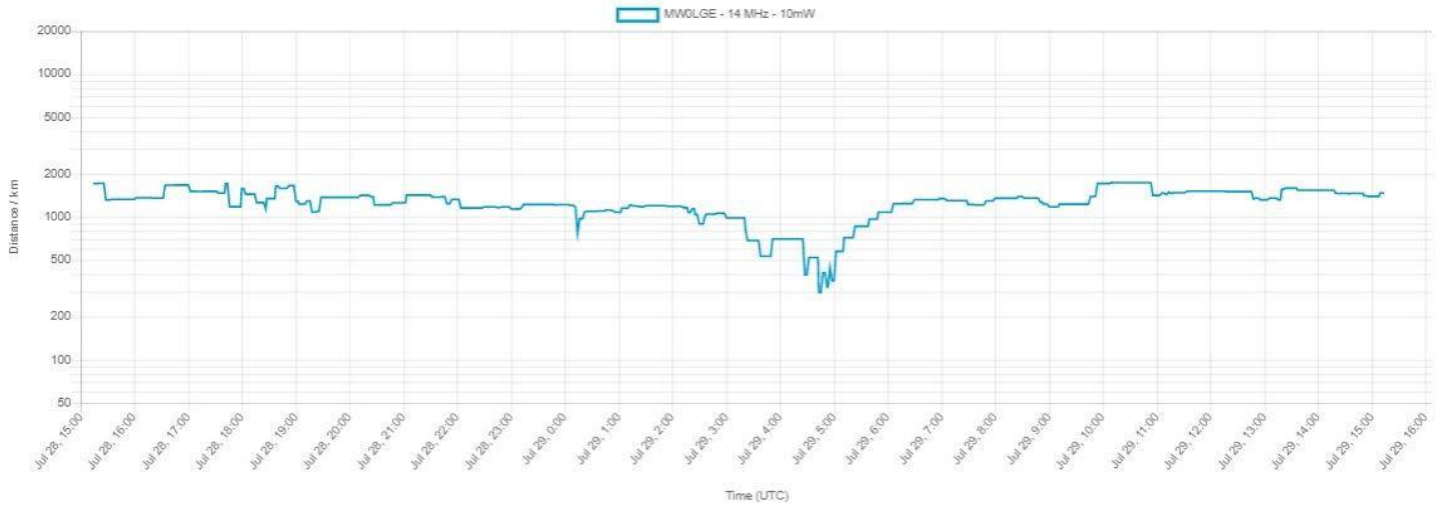
There is an in-depth review of the WSPRlite in June 2017 RadCom, which you can read here : [https://static.dxengineering.com/global/images/technicalarticles/sbm-wsprlite\\_sn.pdf](https://static.dxengineering.com/global/images/technicalarticles/sbm-wsprlite_sn.pdf)

## Some recent observations on 20m @ 10mW

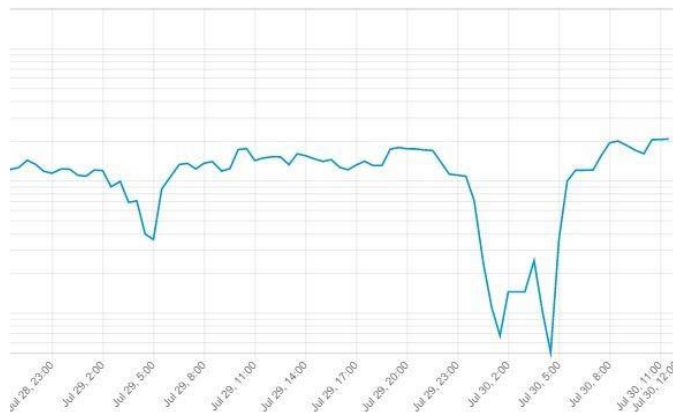
I have been running the WSPRlite for the last 3-4 days or so on 20m at a very low power of 10mW, through the HexBeam with mast lowered and a fixed heading pointing due East. I have been looking at what is called the 'DX10' graph. Each data point on the graph is calculated from all the spots in the previous hour. The best 10 spots (in terms of range) are used to calculate a DX10 mean. The mean is displayed on a graph which is updated every 2 minutes. The DX10 graph gives a good indication of your system performance and band conditions.



Over the last 3 days or so, the best 10 average distance seems to sit between 1500km and 2000km. However a distinct dip is noticed during the early hours, starting around 3am through to 6am. A question that one has to ask, is this caused by lots of stations in Europe shutting down to sleep or is it propagation related?



Well, another set of data from a week day shows a more extreme effect, where there were very few signals received from around 1:30am until 5am. Both dips are in the early hours.



Perhaps some of it can be attributed to a reduction in the number of rx stations but it is more likely to be propagation. The chart below compares my signal on 20m @ 10mW through the hex beam pointing east in **blue** to a signal from G3ILO, around 30 mile away, @ 200mW (unknown antenna) in **red**.



## Information from the RSGB

Paul has received some information from the RSGB regarding a new facebook group for new M7 licensees, and a detailed syllabus review.

### RSGB Facebook group for new M7s and returning licensees

As part of its continuing 'Get on the air to care' initiative, the RSGB has created a Facebook group to support new Foundation licensees who have taken their exam via remote invigilation this year, as well as those returning to amateur radio after a number of years.

It is designed as a safe space where no question is too basic. There will be a small number of experienced radio amateurs in the group who will answer questions and support the licensees as they take their next steps. These moderators each enjoy different aspects of amateur radio and, between them, will be able to offer a wide range of knowledge and experience.

If you know someone who is eligible to be a part of this group, tell them to go to "[M7 and returning licensees – RSGB help and advice](#)" on Facebook and ask to join. They will be asked three simple questions before being admitted to the group so we can keep it focused and protect it from spammers. They can also find information about it on the [Beyond Exams page](#) of the RSGB's website.

Heather Parsons - Communications Manager

### Detailed review of Syllabus 2019

The [Examinations Standards Committee \(ESC\)](#) and the [Examination and Syllabus Review Group \(ESRG\)](#) have completed a review of Syllabus 2019 following feedback from the tutor community. [This new release, V1.4](#) contains no new examinable items.

The most significant changes have been re-grouping certain syllabus topics together, as well as some minor text amendments to make the meaning of certain points clearer. There is also the removal from the syllabus of a matter relating to mains earthing. This may be re-introduced later, but further advice will be taken before doing so.

As there are no new learning points, and with the syllabus remaining consistent with the question banks, the new syllabus is put into operation with immediate effect. The 'effective date' stated on the front sheet will now be 1 August 2020. We thank all the tutors who have given us their helpful feedback.

Where changes have been made between V1.3 and V1.4, a schedule of differences has been produced. The purpose of this document is to assist tutors in determining quickly what has been altered.

### Intermediate Practical Assessment

One major change to the syllabus is the removal entirely of the Intermediate Practical Assessment. This has been under review for a considerable period of time where the content was seen as increasingly irrelevant to the goal of obtaining an amateur radio licence.

### Future review

Finally, a more significant review will commence in the autumn, due for publication in January 2021 as Version 2. Consultation will take place with the training community and we will release more details in due course. This is expected to involve some changes and additions to the learning requirement of the syllabus and hence will not be examinable until 1 July, 2021.

Tony Kent, G8PBH - Chair, Examinations Standards Committee



## News & Info

**Russell** has booked himself on the remote invigilated intermediate exam. Good luck Russ from all of us !

**RSGB** says that over 400 remote invigilation intermediate exams have been booked !!!!

### **TM11AD 31st July to 3rd August**

Members of the British Breakout from Normandy Museum will be active as TM11AD between July 31 and Aug. 3 on HF (CW, SSB, digital modes) to commemorate the liberation of the area by the British 11th Armoured Division. QSL via F4KKE, LotW, ClubLog OQRS.

### **1st August – Yorkshire Day**

The Denby Dale Amateur Radio Society (DDARS) celebrates Yorkshire Day on the 1st of August with the callsigns GB2YD, GB4YD, GB5YD, GB6YD, GB8YD, GB8YDS and GB9YDS on HF CW, SSB & digital modes. Pontefract & District Amateur Radio Society will use the callsign GB0YD GB0YDS will be run by the Wakefield & District Radio Society.

### **75th Anniversary of VE Day and VJ Day amateur radio marathon**

To commemorate the 75th anniversary of VE Day and VJ Day, the RSGB has organised the VE/VJ Day amateur radio marathon on the HF bands and 6m using SSB, CW and digital modes. Three special UK call signs GB75PEACE, GB1945PE, GB1945PJ will be on the air from 1-31 May 2020 and 1-31 August 2020.

### **ISS MAI-75 SSTV activity planned for Aug 4-5**

It is planned Russian cosmonauts will transmit amateur radio Slow Scan Television (SSTV) images from the International Space Station (ISS) during August 4-5 on 145.800 MHz FM (likely using PD-120). It should be receivable across the British Isles and Europe

### **ISWL callsigns for August 2020**

The following International Short Wave League (ISWL) club callsigns will be used throughout the month of August 2020:

GX4BJC/A & GX4BJC/P Operated by Geof - M0BAU

MN1SWL/A Operated by Alan - G10VWU

The ISWL QSL Manager for ALL Club Callsigns is Dick, M5DIK

**Tamitha Skov - space weather woman** : <https://www.youtube.com/watch?v=vifDrXHwWsE>

**Solar website** : <https://www.solarham.net/>

**Understanding Solar Indices** : <https://www.arri.org/files/file/Technology/tis/info/pdf/0209038.pdf>

**RadCom basics** : <https://rsgb.org/main/publications-archives/radcom-basics/>

**EM Field Exposure** : <https://rsgb.org/main/technical/emc/emf-exposure/>

**New 2m repeater coming to Cwmbran** : GB3YA [https://ukrepeater.net/my\\_repeater.php?id=4279](https://ukrepeater.net/my_repeater.php?id=4279)

## **NARS Special Events & Club House**

There was a brief discussion during a recent 2m net about the possibility of operating our usual field day events. The 2m distance rules are still in place at the time of writing, and if they are still in place it would certainly make operating at Tintern difficult if not impossible. There were concerns raised about mic cleanliness, knobs and buttons etc. Some more discussions and brainstorming will be needed I feel.

The club house was also talked about, and with suitable distancing in the room including perhaps some additional airflow (fans pushing the air outside) we could perhaps get back 'together'. It is all dependent on how things progress between now and September, and if the learning centre is actually open. Concerns were also raised with the building being occupied during the day with an unknown amount of contaminant. Cloth covered seats, surfaces etc. would not be cleaned/sanitised before our arrival.

If rules are relaxed somewhat, I have wondered about the club switching to meeting perhaps every other week. This would certainly make member to member contact fall outside the incubation period. This needs a group discussion and further brainstorming.

## **International Lighthouse Lightship Weekend**

0001 UTC 22 AUGUST 2020 TO 2400 UTC 23 AUGUST 2020

Entrants : <https://illw.net/index.php/entrants-list-2020>

## **Railways On the Air**

26th - 27th September

<https://rota.barac.org.uk/>

## **RSGB Field Day Contests**

A decision on running SSB FD will be taken by mid-August

## **Nets and Keeping In Contact**

As you know, we have three nets running at the moment for you to keep in contact and hear what we have all been doing. I have heard that they have been a bit quiet recently so let us have a go at getting on more often, myself included.

- Tuesday VHF net, 8pm local. 144.700MHz
- Thursday Club Night net, 7pm local. 144.700MHz
- Sunday HF net, 10am local. 3.705MHz +- qrm

## **Other Nets**

- Cwmbran DARS - GB3RT net, Monday 7.30pm
- Cwmbran DARS DSTAR net - DCS 005P, Tuesday 7:30pm
- Cwmbran DARS HF net, 3.722, Thursday 7:30pm
- Carmarthen ARS - 80m ssb, Sunday, 2.30pm, contact GW0JLX on 0776 828 2880
- Bristol ARC - Nets on GB3AC Sun 8pm, Wed 8pm. Fri 7pm

If you need an invite to the whatsapp group, drop me an email with your phone number and I can add you.

**Also, drop me an email/sms/message with anything you get up to during July that you feel may be of interest and can be included in the next roundup.**

Stay safe, take care.

73 for now, Richie. MW0LGE