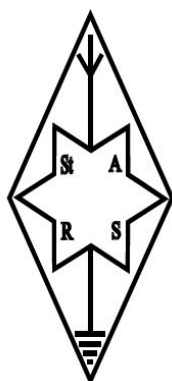


STARLITE

THE JOURNAL FOR THE STOURBRIDGE AND DISTRICT A.R.S.



**G601
G6SRS**



ISSUE: MARCH 2023



G4CVH

**STOURBRIDGE & DISTRICT AMATEUR RADIO SOCIETY
INCORPORATING
OLDSWINFORD HOSPITAL SCHOOL RADIO CLUB**

MEETINGS NORMALLY HELD AT

**OLDSWINFORD HOSPITAL SCHOOL
HEATH LANE
STOURBRIDGE
[8:00 TO 10:00 PM]**

VISITORS ALWAYS WELCOME

**DURING COVID, THE SOCIETY HOLDS ITS MEETINGS
EVERY MONDAY AT NORTON SOCIAL CLUB,
OSMASTON ROAD, STOURBRIDGE**

A.G.M. MARCH 20TH 2023

RSGB AFFILIATED SOCIETY

STARLITE

Telephone Enquiries to:-

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StARS Website URLs:-

www.g6oi.org.uk

StARS Facebook Page:-

<https://www.facebook.com/groups/stourbridge.ars/>

Forthcoming Meetings

March 6 th	Club Meeting at Norton Social Club. 8pm
March 13 th	Club Meeting at Norton Social Club. 8pm
March 20 th	Annual General Meeting 2023
March 27 th	Club Meeting at Norton Social Club. 8pm
April 3 rd	Club Meeting at Norton Social Club. 8pm
April 10 th	Club Meeting at Norton Social Club. 8pm
April 17 th	Club Meeting at Norton Social Club. 8pm
April 24 th	Club Meeting at Norton Social Club. 8pm
May 1 st	Club Meeting at Norton Social Club. 8pm
May 8 th	Club Meeting at Norton Social Club. 8pm
May 15 th	Club Meeting at Norton Social Club. 8pm
May 22 nd	Club Meeting at Norton Social Club. 8pm
May 29 th	Club Meeting at Norton Social Club. 8pm
June 5 th	Club Meeting at Norton Social Club. 8pm

Editor's Comment

[Editor: g4xom@g6oi.org.uk]

In response to my concerns, last month, I received an email from 1 (one) member (thank you) encouraging me to continue as Editor, so I will maintain the status quo for the foreseeable future. I was saddened, but not surprised, by such an underwhelming response.

Please remember that the Annual General Meeting should be taking place on the 20th of this month. At the time of writing, I have received no notification of this, so have no idea where the venue will be – snooker club or elsewhere?

Later in this issue I have included notifications of some current and impending DX activities. Although Cycle 25 is increasing all the time, it can be challenging to hear these stations and, even if you can hear them, it can be even more difficult to get through the massive pile-ups, especially from the southern Europeans who appear to have big amplifiers, but don't know how to listen! Having said that, give it a go – you may be lucky.



Foundations of Amateur Radio

Getting Amateur Radio propagation data at home

For some time now I've been discussing the potential of weak signal propagation and its ability to create a live map from the data that your own station transmits. There are several systems in place that show a map of where and when your station was heard in the past little while. Using 200 milliwatts, I've been transmitting a WSPR or Weak Signal Propagation Reporter beacon on 10m for the past few weeks.

At the moment, the furthest away my beacon has been heard is 13.612 km away. That's an 0.2 Watt signal heard on the other side of the planet, on 10m. As distance goes, it's a third of the way around the globe. I must point out that there's no way of knowing if this signal travelled the short path or the long path.

If you've heard those terms, short and long path but were wondering what they mean, here's how it works. If I get on my bike at my QTH in Perth in VK6 and peddle East until I hit Sydney, I'll have crossed Australia, taken about 184 hours and travelled about 3.746 km. That's the short path. If I head West instead and start swimming, visit Cape Town, Buenos Aires and Auckland along the way, I'll have travelled much further, still made it to Sydney, but taken the long path.

Radio waves can do the same. Depending on propagation, a signal might take either the shortest route, or go in the opposite direction and take the longest route along the great circle between two stations.

I'm mentioning this because WSPR doesn't tell you if it's one or the other and if you're using a vertical, it could be either. Even directional antennas might receive a signal from unexpected directions.

Using one of the mapping tools, wspr.live, I extracted all the sightings of my callsign and all the reports that I'd made from my receiver. It shows that my newest transmitter has now been heard by 11 stations across three continents.

Those numbers are just the beginning. I wanted to see on the map where these stations were, so, during the week I built a proof of concept world map that I used to visually show the four character Maidenhead grid squares that my station was heard in. I also had a look to see which stations I'd heard over the years and where they were. In all, 771 different stations are in my log, either as a receiver or a transmitter.

N4WQH heard me on 40m, 18.832 km away when I was using 5 Watts. My station has heard, or has been heard across 331 different grid squares. There's reports across some remote parts of Australia, Japan, India, South Africa, Europe, the United States, several across the Pacific and even a few in Antarctica.

I wondered how many of the world's grid squares have actually been activated and which station was heard the furthest and how much power was used. Those numbers will have to wait for another day. I initially started using wspr.live which has a neat way of allowing you to embed an SQL query as part of the URL to download the output.

I was getting some interesting results, so I thought, rather than hammer this lovely resource with my questions, I should download the raw data instead. So I did. Well, I am. Still. It's big.

As of today, there's 166 files, taking up 60 GB of compressed data, with over 3.5 billion reports.

The first spot in that data goes to N8FQ who heard WB3ANQ on Monday, the 17th of March, 2008 across 911 km on the 30m band transmitting with 28 dBm, or about 630 mW, reporting a signal to noise ratio of 1 dB.

Using preliminary data to get started I mapped all the activated squares, each shown as a red box and saw that my entire map was red. At that point I figured that either I've got a bug in my code, or something else is going on.

To give some context before I share what I found, a Maidenhead locator consists of a combination of letters and numbers. For four letter grid squares, there's a grand total of 32.400 different combinations, running from AA00 to RR99. They're 2 degrees wide and 1 degree high and their width depends on where on the planet they are. At the equator it's about 222 km wide and 111 km tall, at the North and South pole, it's 0 km wide. If you travel between two squares, you might have to move a meter, or the entire width of a grid square.

Among the report, I found stations who had activated more than one square. That's fair enough, you can move your station and start making noise where ever you like. I found stations with activations across more than a thousand different squares. Before I start pointing the finger, I will mention that if you attach a WSPR beacon to an aircraft, or a balloon, you can legitimately activate plenty of squares.

When you set-up a WSPR transmitter, you're required to manually enter the locator and mistakes happen. There's plenty of records with invalid Maidenhead locators, typically shown instead is a callsign. Then there are stations that pick desirable locators. This manual entry is also true for the power level and even the callsign, so I'm not outing these stations here, since it's entirely possible that the callsign shown doesn't actually relate to the transmitter or the licensed amateur.

What does all this mean?

It means that the information in the WSPR database cannot be trusted. I suspect it also means that the data used to lodge FT8 contacts across the planet can probably also not be trusted. It means that any propagation data you're deriving is likely contaminated by misreporting, deliberately or not.

As a community, if we want to use this for actual measurements, we'll have to figure out how to make this a trusted resource, because the information that WSPR can bring to propagation is in my opinion extremely valuable.

I would love to hear your thoughts on how we might fix it.

I'm Onno VK6FLAB

• *This article is the transcript of the weekly 'Foundations of Amateur Radio' podcast, produced by Onno Benschop, VK6FLAB who was licensed as radio amateur in Perth, Western Australia in 2010. For other episodes, visit <http://vk6flab.com/>. Feel free to get in touch directly via email: cq@vk6flab.com*

St Patrick's Day Activity and Awards



Many people worldwide, annually celebrate St Patrick's Day by going green, with many amateurs running Special Event stations as part of the festivities. This year's event will take place from the **16th - 18th of March 2023**.

St Patrick's Day is a celebration of a legendary Irish saint and a national holiday that is about fun and celebration. We encourage you to get on the air with friends and family through this fun event, to show and enjoy all the benefits of amateur radio.

Anyone can participate, whether in Ireland or overseas, licensed Experimenters/Amateurs or short-wave listeners. In the course of operating you might like to pass your details such as county, WAI or WAB square.

If you wish to become a registered St Patricks Day Station apply at this location and fill in the details in the online application form here <https://www.stpatricksaward.com/register-a-station>

There are several categories:

- 1) SPS Station award for the participating registered St Patricks day Station
- 2) Fixed Portable Station Award for making a minimum of 10 contacts with registered stations
- 3) Digital Station Award for contacting a minimum of 20 SPD registered stations
- 4) Mobile Station Award for making a minimum of 5 contacts with registered SPD stations
- 5) Short Wave Listener Award for logging 2 way contacts between a minimum of 10 SPD Stations

Full details of the event and awards may be found at [https:// www.stpatricksaward.com/](https://www.stpatricksaward.com/)

British Railways Amateur Radio Society

During 2023, the British Railways Amateur Radio Society will be marking 55years since the withdrawal of steam from British Railways in 1968. Special Event Callsigns GB0LMR and the Club call GX4LMR will be active throughout the year operated by Mark G1PIE active from Preston. QSLs via the Bureau, eQSL, or direct to Pam, 2E1HQY enclosing a SAE. More information from <https://www.qrz.com/>



Beware of Counterfeit ICOM Equipment

ICOM has reported seeing counterfeit copies of ICOM radios available online, with some also arriving into the UK to unsuspecting buyers. These copies look like genuine ICOM radios, but when examined more closely, are not and are significantly inferior in both quality and performance. Several buyers have contacted ICOM, believing that they had purchased, and were receiving, a genuine ICOM product. On arrival it turned out that the radios had an incorrect channel set, some channels were missing; and in some cases, buttons were not functioning as expected. Most, if not all, of these counterfeit products, are found online; compared to genuine radios, they are priced very low. However, what might seem like a bargain or a great purchase, may soon become a disappointment and could affect how you use your radio, as well as your own and others' safety. If you are unsure, ask the seller for a serial number in advance of purchasing and Call the ICOM customer service team in your region. Infor: [https:// tinyurl.com/3auarknd](https://tinyurl.com/3auarknd)

I received the following from Jim **VK2/G4WAO** recently. *"New caps at the Manly-Warringah radio club (VK2MB) for the 100th birthday. Big party on February 26th and there were about 50 attending, members and partners. Just had to send a picture!"*



What Is a Valid QSO?

Ham operators make radio contacts on a routine basis. We call another station or another station responds to our call, we exchange some information, maybe chat for a while and then finish the contact, clearing out with our callsigns. Most of the time we clearly know whether we had a valid radio contact, commonly referred to as a QSO.

Sometimes it is not so clear. I hear a DX station calling CQ... I call him (giving his callsign and my callsign) and I hear him say "your report is 5 and 9" so I say "QSL and 73" and put him in the log. Did I really work him? Maybe not. Did he hear my callsign correctly? Was he even talking to me? Not sure.

The question of what constitutes a valid radio contact has been asked for decades. Edward Tilton W1HDQ in the "The World Above 50 Mc" column, QST Magazine, March 1957 wrote this:

As amateurs we are presumed to be engaged in communication. This implies exchange of information, not just identification of one another. Thus, a reasonable definition of a QSO, for amateur purposes, would seem to be an exchange of useful information. Otherwise, why communicate at all?

Tilton goes on to say:

The minimum exchange for two-way work to be considered a contact has been fairly well standardized on a two-stage procedure: positive identification of calls at both ends, and the complete exchange of signal reports.

The latter is about the shortest item of information that can be transmitted between two stations that will have any meaning at all. The form varies with various operating activities, but the basic idea of mutual exchange remains in all.

Actually, the exchange of signal reports may be replaced by some other "exchange of information." For example, during VHF contests the standard exchange of information is usually the 4-character grid locator. Signal reports are not usually given.

The IARU Three Steps

The International Amateur Radio Union (IARU) in their HF Manager's Handbook and VHF Manager's Handbook says:

A definition for a valid QSO is:

A valid contact is one where both operators during the contact have

1. mutually identified each other
2. received a report, and
3. *received a confirmation of the successful identification and the reception of the report.*

It is emphasized that the responsibility always lies with the operator for the integrity of the contact.

Let's take a practical look at the IARU definition and what it means:

1. mutually identified each other

You exchange callsigns with the other station (making sure you have them correct). This

tends to happen naturally as part of the calling process in amateur radio.

2. received a report

You exchange a signal report or some other information (grid locator, contest exchange, ...)

3. received a confirmation of the successful identification and the reception of the report.

You acknowledge that you have the information from 1 and 2, by saying “QSL”, “Thank you” or something similar.

Some Scenarios

The rigor applied to making a contact does vary depending on the specific situation. Here are a few specific examples that will help explain this.

FT8

The WSJT-X software used for making FT8 contacts has IARU Steps 1, 2, and 3 embedded into its communication protocol. FT8 is intended to work well under weak-signal conditions, so the software implements a rigorous use of information exchange. Appropriate use of this software guarantees a valid QSO.

These are the FT8 messages for K0NR working W1AW.

The QSO starts with one station calling another (callsigns are exchanged). The standard FT8 messages (see figure) show that K0NR calls W1AW with grid locator included (TX1). Typically, W1AW would respond by calling K0NR and providing a signal report. (Signal reports are in decibels, just a number.) K0NR responds with TX3, which does two things: sends “R” to indicate that the signal report from W1AW was received AND sends the signal report of -15 dB to W1AW. When W1AW receives that transmission, it knows that callsigns and signal reports have been exchanged and sends RR73 to complete the QSO. K0NR may respond with a 73 message, but that is not required for a valid QSO.

Generate Std Msgs	Next	Now
W1AW K0NR DM78	☒	Tx 1
W1AW K0NR -15	☐	Tx 2
W1AW K0NR R-15	☐	Tx 3
W1AW K0NR RR73	☐	Tx 4
W1AW K0NR 73	☐	Tx 5
CQ K0NR DM78	☐	Tx 6

These are the FT8 messages for K0NR working W1AW.

I realize that if you haven't worked FT8, this may be confusing. If so, just note that the design of the WSJT -X software leads the user through these specific messages to ensure that the three IARU steps happen.

VHF Contest QSO With Weak Signals

Radio contacts during VHF contests can be a bit casual: one operator calls another (callsigns exchanged) and they tell each other their grid locators. IARU Step 3 (the QSL or acknowledgment) may be assumed or perhaps one of the operators just says thanks or 73 to indicate the contact is complete and they are signing clear. But when the signals are weak, VHF operators tend to be more careful about making sure they made the contact.

Here's a weak-signal CW QSO between KØNR and W9RM:

KØNR calls W9RM

KØNR: W9RM W9RM W9RM de KØNR KØNR KØNR

W9RM responds and sends his grid (DM58)

W9RM: KØNR KØNR de W9RM DM58 DM58 DM58 BK

KØNR responds with multiple "R"s to indicate that the grid was received and sends his grid (DM78)

KØNR: R R R DM78 DM78 DM78 BK

W9RM responds with multiple "QSL"s to acknowledge that the information is complete

W9RM: QSL QSL QSL de W9RM BK

KØNR would probably reply with "73 73 73" but that is not necessary for a valid QSO

HF Contests

HF contests are fast and furious, with a high value placed on quickly making contacts. Thus, they tend to use the bare minimum to complete a QSO. Let's take the example of a Big Gun station making multiple contacts in succession, otherwise known as "running." Here, ZF1A is working the CQ Worldwide DX Contest with a number of stations calling him. He initiates the radio contact with "QRZ?"

ZF1A calls QRZ?

ZF1A: ZF1A QRZ?

KØNR calls ZF1A by just saying his callsign KØNR: Kilo Zero November Romeo

ZF1A calls KØNR and gives the contest exchange: signal report (always 59 in a contest) and CQ Zone (08 in this example)

ZF1A: KØNR 59 08

KØNR responds with a "Roger" to indicate the information was received and provides a signal report and CQ Zone 04

KØNR: Roger 59 04

ZF1A acknowledges the information and calls for the next station

ZF1A: Thank you, ZF1A QRZ?

This is a fast and tight exchange. Note that to save time, KØNR did not say ZF1A's callsign during the contact. It does have the potential of a broken QSO if the operators are not paying close attention. KØNR must be sure he is hearing ZF1A's callsign correctly and that ZF1A sent KØNR's callsign correctly. Similarly, ZF1A will make sure he has KØNR's callsign and exchange before moving on. If ZF1A is not sure of KØNR's callsign and exchange, he will ask for a repeat. Sometimes the running station just calls QRZ? to complete the contact so IARU step 3 is implied. (If ZF1A did not have confidence that the QSO was complete, he would have asked for a repeat.)

Parks On The Air (POTA)

From the POTA rules: "POTA does not require a formal exchange, though many activators will wish to receive real signal reports, names and locations." My experience is that the park Activator usually sends a (real) signal report and the park number (e.g., K-4404). The Hunter usually sends a real signal report and state. Something like this:

KØNR calls CQ POTA

KØNR: CQ CQ Parks on the air Kilo Zero November Romeo

KØJJW answers him

KØJJW: KØNR this is KØJJW Kilo Zero Juliet Juliet Whiskey

KØNR responds with the signal report and park number

KØNR: KØJJW you are 57 in park K-4404

KØJJW acknowledges the information and provides a signal report and state.

KØJJW: Roger. You are 5 6 into Colorado. Thanks for the activation.

KØNR confirms that the QSO is complete and moves on to the next station

KØNR: QSL and thank you, this is Kilo Zero November Romeo, Parks On The Air

When conditions are marginal, a POTA QSO will naturally tend to have signal reports and QSL messages sent multiple times to make sure that the information gets through.

Summits On The Air (SOTA)

The general SOTA rules state "QSOs must comprise an exchange of callsigns and signal reports, it is strongly recommended that the summit identifier be given during each contact." SOTA contacts are similar to POTA contacts in terms of format, except the summit number (e.g., W0C/FR-004) is exchanged instead of the park number.

Time Constraints

Meteor scatter (MS) is an interesting case, mostly because it can take a long time to complete the QSO. The two stations are transmitting to each other on alternating time windows hoping that a meteor will streak by and leave an ionizing trail so that a radio contact can be made. It is common for an MS QSO to take 30 minutes or longer.

The message sequence is similar to the FT8 example, so I won't repeat it here. Imagine sitting in front of your computer patiently waiting for the right meteor burst to occur so that

- 1) callsigns are exchanged
- 2) signal reports are exchanged
- and 3) a final

acknowledgement occurs. This raises the question of how long is too long to count as a valid QSO? I don't know of a specific standard but most people would agree that if the three steps occur over several days, it is probably not a valid QSO. It seems like most hams working MS complete their contacts within a few hours, typically less.

One more question: what information do you need to record concerning the QSO? This will also vary depending on the circumstances, but most hams log callsign, signal reports, time (UTC), frequency or band, and mode. Note that Logbook of The World does not store signal reports but does require and store the time of the QSO, along with the band and mode. Another example: when submitting a contest log, the context exchange from both stations must be included (and these are checked against other submitted logs). The point is you need to be thinking about how the QSO information is going to be used and recorded. [Thanks, Bob/WØBV]

Summary

The three steps in the IARU definition of a valid QSO can be summarized as: 1) exchange callsigns 2) exchange signal report or other information and 3) confirm that #1 and #2 happened. This still leaves some gray area when it comes to deciding whether a QSO was valid or not. Most of us have had that funny feeling at the end of a marginal contact: should I put this in the log or not? This is where the final IARU advice applies: *The responsibility always lies with the operator for the integrity of the contact.*

~ Bob K0NR



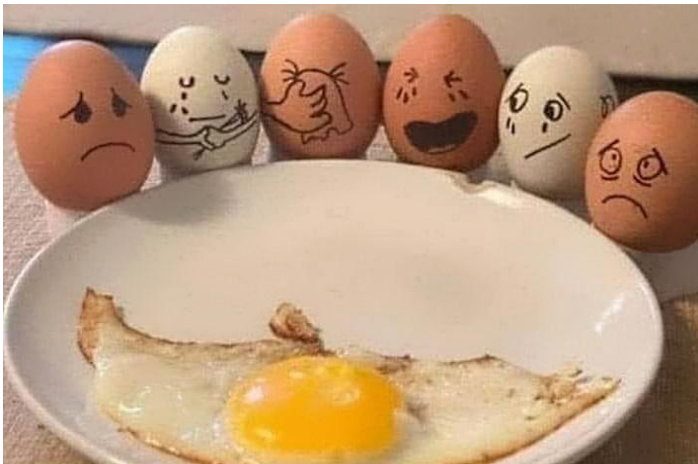
The Lighter Side of Amateur Radio

Multi-band transceiver tunes both sidebands simultaneously

Upton Snodsbury, UK— October 31, 2021—In a radical new development, Horace Blink MY2EAR has developed a new multi-band transceiver that can tune both upper and lower sidebands simultaneously.

Horace is shown in a local park demonstrating the device and the 360 degree rotatable platform on which it is built.

He told 'The Communicator' that the next step before large scale production is finding a method to use it indoors as he has experienced numbness in his extremities during foul weather use.



Millie Henry died last fry day, victim of an unfortunate run-in with an induction stove.

Thank God she wasn't beaten. Don't worry, she went over easy, is now on the sunny side, and she resonates in a better plate.

Q: What do you call an apology written in dots and dashes?

A: Re-Morse Code

The Lighter Side Of Ham Radio

New Ham Radio Mode Bypasses Need To Actually Make Contacts

From our correspondent—Building on the popularity of FT8, a new mode has been announced known as FTGreat or "FTG" for short. Why is it so great? Well, in the words of lead developer Chip Anderson K1QRP, "This new mode eliminates the tiresome need to actually make contacts in order to win awards like DXCC, WAS, and the prestigious Fred Fish 6m award."

He added, "We all know your station could make the contacts if you were there, so why should you be punished just because you have to mow the lawn?"

Once you install the software (a step the developers are hoping to eliminate), you simply enter your location and details about your station - power, frequencies, antennas (optional), etc... after which the software looks at conditions and decides which contacts should go in your log.

There is even the potential to use bands not currently allocated to amateur use, since no transmissions are necessary.

Psychologists are applauding the release of FTG as a stress reducer for anxious hams and a boost to marital harmony. A prominent marriage counsellor for ham operators has seen a dramatic drop in business because "...now you can watch a romantic movie with your wife without pretending to use the bathroom to work a rare DX station. It's a win-win!"

Adrian VE7NZ (an avid FT8 user), reporting from the living room while earning DXCC on 10m and watching "Love Actually", again.



Foundations of Amateur Radio

How does your gear measure up?

When you spend some time in this hobby you're likely to find equipment with similar performance for vastly different pricing. At one end of the spectrum you might compare a cheap \$25 hand-held radio to a \$450 one. At the other end, a \$1,500 SDR or Software Defined Radio against a \$4,500 one.

Those examples are for brand name devices, which generally speaking have published specifications, come with regulatory approvals, a wide user base, reviews and a distribution network. If equipment is found to be operating out of specification, a regulator might seek a remedy or ban the sale of the equipment.

Those various sources and processes make it possible to compare those devices in a structured way to discover just how deep into your pockets you need to reach in order to acquire a shiny new gadget.

If you buy any of these devices in the used market, you have no way to determine just how far from the factory specifications the device you're contemplating has deviated. Is that waterproof radio still waterproof, or did the previous owner open up the case and put it together incorrectly? Was it dropped and did a component get damaged? Did the static electricity from a local thunderstorm leak through the circuit via the antenna, or did the previous owner not use anti-static precautions when they looked inside?

If it actually failed, it's easy to know. If it's still working, absent a laboratory, you're essentially on your own.

If that's not challenging enough, consider hardware that's released as open source, that is, the original designer released their project, shared the design, a circuit board with component list and specifications. Another person can pick up the documentation and legally build a copy of the hardware.

How do you know how the two compare?

Aside from considering how well any design might actually match the real world, how do you know if the original design can be improved upon or not? Did the second builder use the same components, substitute with better ones, or economise on parts they thought were too expensive?

What happens if the two designers argue with each other about the performance of their respective designs? What if the second design becomes vastly more popular than the original and what if you throw in outright intellectual property theft over the top of all this?

Now consider the same physical hardware, from the same factory, but using different software. How do you know what impact the software has on the performance of the equipment? For example, one component seen more and more is a chip called an FPGA, a Field Programmable Gate Array. Think of it as a programmable circuit board where updating the software creates a different circuit.

An FPGA might be used to filter radio signals. With just a software update, you can program different filters and change the actual performance of the entire device. How do you know if the new version of the software has improved or worsened performance?

What all this lacks is a standard way of describing performance. Not only the kind of standard that's achievable in a laboratory, but one that we can test at home. There's no documentation that I've been able to find that shows how to measure some of this

objectively, or even compare your own kit against itself.

It would be great if I could measure my gear against a standard and you could too and we could compare our respective equipment against each other.

Even using the laboratory standard measurements, for example the Sherwood Engineering Receiver Test Data, which allows you to compare other tested equipment in the same list, is hard, if not impossible to compare at home by the likes of you and I. Not to mention that Rob NC0B has finally retired after 45 years, so having been licensed in 1961 age 14, there is a good chance that updates are going to become a thing of the past when Rob stops volunteering his time.

I will mention that this isn't a new thing. Many years ago I spent some time as a broadcaster. One of the very first things I was taught is that you need to set levels to trigger the VU Meter just so. When you make a recording to tape, you're required to generate a 1 kHz tone at a specific level so when it's played back to air, the voice levels will be correct.

When I became licensed in 2010 I almost immediately discovered that there isn't even a standard way to test if the signal that my radio is putting into the local repeater is the same as that of other amateurs. You'll notice this because you're forever twiddling the volume on your radio when you speak with others on-air because their voice levels vary widely.

One idea I've been toying with is using a parrot repeater that can measure a signal, allowing anyone who uses the same parrot to compare their equipment.

How would you approach this increasingly complex problem in such a way that the amateur community can share their results in a way that makes comparison meaningful and useful?

I'm Onno VK6FLAB

• *This article is the transcript of the weekly 'Foundations of Amateur Radio' podcast, produced by Onno Benschop, VK6FLAB who was licensed as radio amateur in Perth, Western Australia in 2010. For other episodes, visit <http://vk6flab.com/>. Feel free to get in touch directly via email: cq@vk6flab.com*

HD8M Santa Cruz Island Galapagos Islands

HD8M Team will be active from Santa Cruz Island, IOTA SA - 004, Galapagos Islands, 1 - 11 March 2023.

Team - WB2REM, VO1IDX, K4LT, KE2D.

They will operate on 160 - 6m SSB, CW, FT8, FT4, including activity in ARRL DX SSB Contest.

QSL via WB2REM, ClubLog OQRS.

Address for direct QSL:

JAMES I MILLNER, 7010 GULLOTTI PLACE, PORT ST LUCIE, FL 34952, USA.

DXCC Country - Galapagos Islands HC8.

TO3Z FG/F6HMQ FG/F6GWV Guadeloupe

FG/F6HMQ and FG/F6GWV will be active as TO3Z from Guadeloupe, IOTA NA - 102, 3 - 26 March 2023.

They will also use their own calls.

They will operate on HF Bands, including activity in ARRL DX SSB and CQ WW WPX SSB Contest, as TO3Z.

QSL via F6HMQ.

Address for direct QSL: Gildas Le Cloitre, 6 Allee du Petit Chene, 77380 Combs-La-Ville, France.

VP2MDX Montserrat Island

Tjaore. W2APF will be active as VP2MDX from Montserrat Island, IOTA NA - 103, 3 January - 28 March 2023.

He will operate on 80 - 10m, CW, SSB.

QSL via W2APF, LOTW.

Address for direct QSL: THAIRE BRYANT, 441 Stewart Road, PO BOX 68, EATON CENTER, NH 03832, USA.

PJ7AA Sint Maarten Island

Tom, AA9A will be active again as PJ7AA from Sint Maarten, IOTA NA - 105, 3 March - 1 April 2023.

He will be active on 80 - 10m CW, SSB, FT8.

QSL via home call direct, LOTW, ClubLog OQRS.

Address for direct QSL: THOMAS J HARKE, SR, AA9A, N5200 DEER RUN TRAIL, DE PERE, WI 54115, USA.

6W7/ON4AVT Warang Senegal

Willy, ON4AVT will be active as 6W7/ON4AVT from Warang, Senegal, 6 February - 31 March 2023.

He will operate on 80 - 10m, SSB, Dgital modes, and also QO - 100 Satellite.

QSL via home call, ClubLog OQRS.

Address for direct QSL: WILLY VANLERBERGHE, VUURKRUISERSLAAN 92, KORTRIJK, 8500, Belgium.

VK0AW Davis Base Antarctica

Allan, VK0AW will be active from Davis Base, IOTA AN - 016, Antarctica starting 14 February 2023.

He will operate on HF Bands. QSL via EB7DX.

Address for direct QSL: DAVID LIANEZ FERNANDEZ, P.O.BOX 163, 21080, HUELVA, Spain.

H44MS Solomon Islands

Bernhard, DL2GAC will be active as H44MS from Honiara, Guadalcanal Island, IOTA OC - 047, 10 February - 8 May 2023.

He will be operate on 80 - 6m SSB. QSL via home call.

Address for direct QSL: Bernhard M. Stefan, Moeggenweilerstr. 18, 88677 Markdorf, Germany.

FH4VVK Mayotte

Marek, F4VVJ ex SQ6WR will be active as FH4VVK from Mayotte, IOTA AF - 027, 1 September 2022 - 1 April 2024.

He will operate on HF Bands.

He is planning to activate Le Petite-Terre, FH – 002.

DXCC Country - Mayotte, FH. QSL direct or via eQSL.

Address for direct QSL: DLEM - CCL - BML, DZAOUDZI, Quartier CABARIBERE, DLEM 97615, Mayotte.

JG8NQJ/JD1 Marcus Island Minami Tori Shima Islands

Take, JG8NQJ will be active again as JG8NQJ/JD1 from Marcus Island, IOTA OC - 073, Minami Torishima, starting 15 March - 15 May 2023.

He will operate on HF Bands CW. QSL via JA8CJY.

Address for direct QSL: Susumu Sanada, 5- 4- 5- 17, Shin-Ei, Kiyota, Sapporo, Hokkaido, 004-0835, Japan. DXCC DXCC Country - Minami Torishima.

QTH Locator – QL64xg. WAZ Zone - CQ 27.

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