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Audio file

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Transcript

00:00:06 Speaker 1

This is VK6 ARN, news West. We are a community organisation and we've been serving up the best amateur radio news in Australia since 1931.

00:00:23 Speaker 1

Hi there and thanks
for tuning in to news W for the 20th, 7th of August 2023. Now I'm with the show.

Item from the WA
VHF Group for VK6News broadcast 27 August 2023

Hello this is Denis VK6AKR from the WA VHF Group

An RTTY sked on 2M has been inaugurated for the Perth metro area, at least. We intend to continue
on Wednesday evenings from 1200UTC for
about 30 minutes depending on the level of interest.

The aim is to encourage RTTY operation and familiarisation so that we can use it as a mode in
contests, as well as for general rag chew. It is also an

excuse to warm up the 2M band hi hi.

The VK6 Contest Calling Frequency (RTTY 2m band) is 144.350, use lower sideband. Vertical antenna
polarisation – a pogostick is just fine.

Advertising for the sked took place through WAHAMS and the WA VHF Group mailing list.

Most of us are using MMTTY although Fldigi and inbuilt rig capability featured in the mix too. It was
found that under low signal conditions, Fldigi

sometimes had decoding problems. The rig which had built-in RTTY capability did a better job of
decoding.

One very experienced operator may use an actual mechanical teleprinter, Model 15, next time with
his bespoke RTTY decoder.

If you are interested in taking part, we aim to be on air again next Wednesday the 30th starting at
1200UTC. Now I am no guru – far from it – but I

am happy to field queries about software configuration, etc so contact me on vk6akr at wia dot org
dot au At least 50% of the journey to successfl

RTTY is in the setup.

What about HF? Well, the choice of the 2m band was motivated by what I am calling the Suburban
Block Syndrome – spaces too small for decent

HF antennas. If you have solved that problem then we'd encourage you to start your own RTTY sked
and let others know about it so that we can

share ideas, operational hints and so forth. And since ours is simplex on VHF, if our net does not reach your area, consider starting your own sked.

Use in contests? Logging? Protocols for net control? Portable operation? Having an "open day" for the ones who would like to see what it is all

about? These are some things we could explore. Let's explore RTTY.

Thanks for listening,

73

Denis VK6AKR for the WA VHF

Group _____

_____ 00:03:14

Speaker 3

Did you go to Perth Tech in 2022? If you did and you liked it, please tell your amateur radio friends so that they don't.

00:03:21 Speaker 3

It's out.

00:03:22 Speaker 3

If you didn't or couldn't go to Perth Tech in 2022, don't miss out again this year. There's a good lineup of presenters again, and next week I'll start talking about the presenters to wet your appetite. But as a teaser, I can tell you now that you'll hear the latest developments and new generation of software defined radios and this will be live.

00:03:42 Speaker 3

On sight, straight from the horse's mouth. Many of you will have guessed who the horse may be, but I'm leaving the full story to next week.

00:03:50 Speaker 3

Your task now is to commit to attending Perth Tech. We had about 70 attendees in 2022 and we can accommodate more, so don't miss out.

00:04:00 Speaker 3

A final decision has yet to be made, however. We may have to charge more for the catering this year. Food costs have risen sharply. We're working on it. The venue is fantastic. Lots of room to do the things amateurs like to do, including slinging up antennas.

00:04:15 Speaker 3

The function centre is modern and air conditioned. Those of you who can may bring your caravan or camper and stay on site for the weekend, that's better still. Yes, the venue is the good you're gonna recreation club about 20 kilometres up to Jay Rd from Roe Highway in Midland. It's closer than you think. There's no public transport, so those relying on public transport.

00:04:36 Speaker 3

Need to phone a friend registrations for Perth Tech open on Friday the 1st of September at trybooking.com.

00:04:43 Speaker 3

The link will be posted in the usual places by the end of the week. That's shorthand for. I haven't set it up yet.

00:04:50 Speaker 3

To recap, set the date in your calendar, Saturday the 28th of October, with the option of coming Friday and leaving Sunday. Get online and book your place at Perth Tech. The links will be on the vk6.net website from Friday and on the WA Hams email list and on the amateur radio WA Facebook page.

00:05:11 Speaker 4

Hi, I'm Steve VK 6 SJ with this week's episode of did you know?

00:05:16 Speaker 4

Firstly, apologies for taking a month off this, I hope you all got something out of the reruns of the some past articles had a few things happening with me over the past month or so and also had a serious case of writers block. Anyway, back on the bike and here we go.

00:05:34 Speaker 4

As a die hard high Jeff aficionado, I've always looked at the digital voice modes with a little bit of amusement then thought, hmm. Wonder if 10 metres is open and moved on?

00:05:45 Speaker 4

Having volunteered though, to be the WWII adviser for P25 and the Technical Committee though has led me to think a little harder on the relevance of P25 technology within amateur radio. I thought I'd talk about some thoughts I have on this today.

00:06:02 Speaker 4

What is P25 P25 is a digital voice and data mode. That's the technology of choice for most public safety agencies in both Australia and the United States.

00:06:12 Speaker 4

It's based on C4 FM or continuous 4 frequency modulation transmission, which allows for a maximum of 9.6 kilobits data throughput on a 12.5 kHz channel.

00:06:25 Speaker 4

P25 protocol is similar in functionality to most other digital voice protocols such as DMR, NXDN, et cetera, et cetera.

00:06:33 Speaker 4

Features include automatic ID, send and receive position information, data transmission, individual and group calling, Dynamic Group number assignment and so on.

00:06:44 Speaker 4

The technology allows for both conventional and trunking operation and can operate in a voting or simulcast architecture.

00:06:52 Speaker 4

Due to a few reasons, I will not go into in this forum. P25 does tend to be quite expensive compared to say, ACS fusion products or DMR or NXDN.

00:07:03 Speaker 4

It's quite feature rich though, and as I mentioned before, it's a major adopter. It's major adopter is the public safety sector.

00:07:11 Speaker 4

The fact that Australian agencies have been using P25 since the early 2000s means that most agencies have had at least one major refresh.

00:07:21 Speaker 4

In that time, allowing a lot of radios and repeaters to enter the amateur market for experimentation.

00:07:28 Speaker 4

The fact that P 25 is not hugely popular outside of the public safety sector also means there isn't much demand for the second hand. P25 equipment other than in the amateur market, making the initial cost of a P25 transceiver irrelevant, as these radios are often just discarded rather than sold, or at best.

00:07:48 Speaker 4

Sold in the auction market often for literally pennies.

00:07:53 Speaker 4

Now my initial thoughts on any of these digital modes, as in the past, has been more around the lack of technical challenge. Once you've coupled a.

00:08:03 Speaker 4

Programmed a couple of radios talking to each other on P25. What next? Yawn. Well, indeed. What is next? Currently you can connect any digital mode repeater or base station to an All Star node and then cause the repeater to connect to another repeater or network. Maybe another talk group.

00:08:20 Speaker 4

That's all good, but once you've mastered the programming of your radio, for me anyway, starts to get a little less interesting.

00:08:27 Speaker 4

What would be more fun would be to to be setting up the node or even a small network of repeaters.

00:08:34 Speaker 4

They got me to thinking about an earlier episode where I flagged the start of a discussion where we might make a series of repeaters available to emergency service organisations as a standby network. It also reminded me of the simulcast 2 Meta Network I used when I was working in Los Angeles. It was a repurpose complete legacy network from the local police.

00:08:56 Speaker 4

That in turn made me wonder if we couldn't do something similar here. Imagine if we took delivery of a complete P25, first generation trunking network and portable and mobile radios moved it to alternate sites and set it up on 70 centimetres.

00:09:13 Speaker 4

If we then provide a level of access to to public safety agencies so that the network could be seconded to the agencies if their new network went down during a major emergency, either as a redundancy option or to extend the capacity.

00:09:28 Speaker 4

If looked at this from the perspective of an agency they gifted network to a non commercial entity such as a ham club. Rather than putting an axe.

00:09:36 Speaker 4

Through it.

00:09:38 Speaker 4

This costs nothing. That network is then set up in alternate alternative locations that are not funded by the agency.

00:09:45 Speaker 4

Hams maintain.

00:09:48 Speaker 4

And support this repurpose network. The network is connected to the agency networks in a way that's only used during exercises or in a major catastrophic event.

00:10:00 Speaker 4

The agency gets a free alternate network maintained by volunteers, almost like a reserve defence unit.

00:10:08 Speaker 4

We get the benefit of the last generation technology and get to learn on a system that.

00:10:13 Speaker 4

That is not permanently mission critical to me. This sounds like a win win situation. Obviously there needs to be a higher level of healthy interaction between public safety agencies and the HAM community.

00:10:24 Speaker 4

I've said Jesus would be best managed by members of the Ham community who also work in this sector, and there are a few of them in our community here in Perth.

00:10:34 Speaker 4

If other cities around Australia did the same thing, we could end up with a country wide trunked radio network with a high level of functionality.

00:10:41 Speaker 4

Younger hams coming into the hobby might wet their appetite on the maintenance of one of these reserve networks and end up entering the commercial side of the radio industry, something that that sector needs badly.

00:10:53 Speaker 4

As does ours.

00:10:55 Speaker 4

The functionality afforded by a network like this would be very useful to our ham community.

00:11:00 Speaker 4

Clubs could have their own tour groups, plus tour groups that span the whole city, state or the nation.

00:11:06 Speaker 4

Multiple groups could use the network at the same time instead of only one at a time like we have on the all.

00:11:11 Speaker 4

Star network, for instance.

00:11:15 Speaker 4

Food for thought. If you happen to work or have worked in the public safety Comm sector, why not team up with a few others in the same boat and start the conversation? Beatrice sing to see where it goes, eh?

00:11:28 Speaker 4

Well, thanks for listening. This is Ben, Steve. OK. Success, Jay with another episode of did you know?

00:11:33 Speaker 5

This is newest from VK 6 ARN produced by amateurs for amateurs purely about the hobby of amateur communication and experimentation.

00:11:44 Speaker 3

As you may already know, or are just about to discover. Perth Tech is provided to WI amateurs at a ridiculously low cost. In fact, last year you paid less than the cost of catering.

00:11:56 Speaker 3

How do we do it? How do we provide a better than industry class day of interesting and useful presentations for such a low cost?

00:12:04 Speaker 3

Well, there are two ways we raise the funds. One is to invite amateur radio clubs and individuals to contribute either a cash donation or something for the day raffle. In 2022, we had close to \$2000 in prizes on offer in the day raffle. The other is the main Perth Tech raffle this year, with three transceivers.

00:12:24 Speaker 3

As the main prizes.

00:12:26 Speaker 3

Tickets are \$5 and the more tickets you purchase, the more we can spend on per tech and the less we have to charge you. But please don't hang around. Our raffle has a compressed timeline this year as we stood back and waited so that we wouldn't compete against the Northern Corridor Radio Group's Ham Fest raffle, which due to a **** up by the venue.

00:12:46 Speaker 3

Winners was a couple of weeks late this.

00:12:48 Speaker 3

Year we've long held the view that it's far more fun to buy raffle tickets with the chance of winning something than to buy entry tickets to Perth Tech.

00:12:57 Speaker 3

For those who like numbers, Perth Tech 2022 cost just over \$80.00 a head to present those who attended paid 20. If you can find a better value for money, I'd like to hear from you back to the raffle. Ticket sales are online and sales open on Friday the 1st of September. It's this coming Friday.

00:13:18 Speaker 3

We'll advertise the link on our website vk6.net and on Facebook and on the WA Hams email list. If you're one of those people who can't or won't buy stuff online, find a friend, give them the cash that they can help you out. Maybe clubs can help members on club days. There are ways if you want to do it.

00:13:38 Speaker 3

There are no paper tickets back to the raffle. The first prize is at Jaggu X 6100 SDR Portable Radio. It's a bit like the ICOM 705, but better. It's valued at a postage stamp under 1000 bucks.

00:13:54 Speaker 3

The second prize is an icon IC273A dual band, dual watch UHF VHF portable transceiver and third prize is a CFTM 3100 R 2 metre mobile transceiver. Full details are on the vk6.net website that's vk6.net.

00:14:15 Speaker 3

Everything's on there. Don't forget it Facebook page.

00:14:18 Speaker 6

Hello everyone, this is Clive VK 6CSW.

00:14:23 Speaker 6

Your participation is requested in an experimental transmission on 10 metres on Monday, September the 4th. As most of you know, the REOTC Bulletin is broadcast on the first Monday of each month except January. The next transmission is scheduled for Monday, September the 4th.

00:14:44 Speaker 6

Of late, conditions on the higher ratio frequencies have been pretty good, Mike VK 8 Ma has had good results beaming the monthly ROTC bulletin to the Eastern states. Listeners on 28 decimal 450 megahertz from his QTH in Catherine in the Northern Territory.

00:15:04 Speaker 6

And would like to try beaming these 10 metre signals to us in WA.

00:15:10 Speaker 6

On the afternoon of Monday, September the 4th, Mike proposes to transmit to WA on 28.450 megahertz. At 2:00 PM local time, and he asks that everyone in WA who can to please listen out for this transmission and to join in the call backs afterwards.

00:15:30 Speaker 6

Depending on the success of this experiment, Mike may consider transmitting the ROTC Bulletin to WA on 10 metres on a regular basis, while conditions remain suitable. So once again all who can, ROTC members and non members alike are asked to join in and support Mike.

00:15:50 Speaker 6

K8MA by listening for this 28.45 megahertz transmission on Monday, September the 4th at 2:00 PM, Local WA time and joining in the callbacks afterwards with detailed reception reports.

00:16:08 Speaker 6

Please give it a go. 7, three from Clive Vick 6 CSW.

next weekend

CW Open Contest

This is a great contest and its on next weekend.

If you have operated in the CW Open before, then you know it is comprised of three individual sessions, each four hours long. These sessions are all on September 2, and spread across a 24 hour. Regardless of the ITU region you are in, the timing of at least one of these sessions should work for you. Operating in all three is even more fun! If you have never participated in the CW Open, here is your chance to have some GLOBAL fun!! You don't need to be a CW Ops member to participate.

Here is the schedule for the three sessions.

Session 1: Sept 2 (00:00 – 03:59 UTC)

Session 2: Sept 2 (12:00 – 15:59 UTC)

Session 3: Sept 2 (20:00 – 23:59 UTC)

To learn more and see the rules please visit cwops.org and follow the links

Or if you're reading this news item the link is below.

<https://cwops.org/cwops-tests/cw-open/>

73, Chris VK3QB

CW Ops # 2949

www.cwops.org

00:17:29 Speaker 8

Good morning. This is Roy VK 6X V with this week's helpline, 27th of August 2023. Today we have from Barry, they're still has three items available For sale , a Daiwa DC 7011 Round Controller with Daiwa antenna rotator

DR 7600cx ...requires 6 core connecting cable.. tested ok.

Asking price ... \$400.00



Barrie vk6adi

Barrie vk6adi

A High Frequency vacuum tube voltmeter model 1600B by RD Instruments .. old but still works..Instruction manual supplied.

Asking price \$100.00



For sale a Hallicrafters 2KW linear model HT33.. requires a 2KV power supply..covers HF freqs. 80 to
10

metres...uses 2 4cx250B in the final.

RF unit complete with filament and bias transformers..a good project for an experimenter for a Ham
with

High Voltage experience...comes with a manual , covers and spare "used" 4cx250 tubes.

Asking price. \$450.00

Contact Barrie vk6adi on email. b.j.burns@bigpond.com or mobile 0428 959 771



that's all the new items I have for this for this week. If you have for next week, please contact me.
Vick 6X Victor no, I'd want that. That one's a bit wonky at the moment. Try
roy.watkins@bigpond.com. Roy dot Watkins.

00:18:42 Speaker 8

At bigpod.com. So thank you once again. Cheers now 7/3.

00:18:48 Speaker 9

Since 1931, News West has provided amateur radio news for WA and Beyond. This is VK 6 ARN.

Foundations of amateur radio.

00:19:04 Speaker 10

At a recent local Ham Fest, we set up a table to measure second and third harmonic emissions from any handheld radio that came our way.

00:19:12 Speaker 10

The process was fun and we learned lots and in due course we plan to publish a report on our findings.

00:19:19 Speaker 10

When we received a handheld, we would disconnect the antenna and replace it with a short length of coax and connect it to a spectrum analyzer. We would then trigger the push to torque or PTT button and measure several things. We'd record the actual frequency and how many watts that the transmitter was produced.

00:19:36 Speaker 10

Thing and then record the power level in DBM for the base frequency, double that frequency and triple that frequency. In other words, we'd record the base, second and third harmonics.

00:19:47 Speaker 10

This resulted in a list of numbers, frequency and power in watts are obvious, but the three DBM numbers caused confusion for many visitors.

00:19:56 Speaker 10

The most perplexing appeared to be that we were producing negative DBM numbers and truth be told, some positive ones.

00:20:02 Speaker 10

Well, we'll get to those in our report. How can you have negative power, you ask?

00:20:08 Speaker 10

As I've discussed before, a negative DBM number isn't a negative value of power. It's a fraction, so -30 DBM represents 0.000001 watts and you'd have to admit that -30 DBM rolls off the tongue just a little easier.

00:20:28 Speaker 10

What we measured and logged was the overall transmitter output and at specific frequencies.

00:20:35 Speaker 10

As I've discussed previously, if you transmit using any transceiver, you'll produce power at the intended frequency, but there will also be unintended or unwanted transmissions known as spurious emissions. The International Telecommunications Union or ITU has standards for such emissions.

00:20:54 Speaker 10

In Australia, the regulator, the ECMA uses the ITU standard for radio amateurs, but I should point out that this might not be the case where you are. It's entirely possible and given human diversity, probable even, that there are places where there are more stringent requirements, so bear that in.

00:21:12 Speaker 10

Mind, I'll state the standard and then explain.

00:21:15 Speaker 10

For frequencies greater than 30 megahertz, the spurious emission must not exceed the lesser of $43 + 10$ times the logarithmic power or 70 DB.

00:21:28 Speaker 10

That might sound like gobbledygook, so let's explore.

00:21:32 Speaker 10

First thing to notice is that this is for transmissions where the transmitter is tuned to a frequency greater than 30 megahertz. There's a separate rule for frequencies less than 30 megahertz, and the ITU also specifies a range of different limits for special purpose transmitters like broadcast radio and television space services and other.

00:21:52 Speaker 10

Second thing is that the spurious emissions are calculated based on total mean output power.

00:21:59 Speaker 10

This means that your spurious emissions are considered in relation to how much power you're using to transmit, and it implies that for some transmitters you can be in compliance at one power level but not at another. So keep that in mind.

00:22:15 Speaker 10

The phrase the lesser of means that from a compliance perspective, there's a point at which power levels no longer determine how much attenuation or spurious emissions is required.

00:22:27 Speaker 10

You can calculate that point. It's where our formula hits 70 DB and that is at 500 watts. In other words, to meet the ITU standard, if you're transmitting with less than 500 watts, you're subject to the formula, and if you're transmitting with more than 500 watts, you're required to meet the 70 DB standard.

00:22:47 Speaker 10

It means that, at least in Australia, spurious emissions for amateurs are dependent on transmitter power, because the maximum permitted power is currently 400 watts for an amateur holding a so-called advanced licence.

00:23:01 Speaker 10

Now, I'll also point out explicitly that the emission standards that the ITU specifies are for generic radio equipment, which includes Amate Radio, but also includes anything else with the transmitter.

00:23:14 Speaker 10

One thing to mention is that spurious emissions aren't limited to the second and third harmonics that we measured.

00:23:21 Speaker 10

In fact, they're not even limited to harmonics.

00:23:24 Speaker 10

If you're using a particular mode, then anything that's transmitted outside the bandwidth of that mode is considered a spurious emission, and there are standards for that as well.

00:23:34 Speaker 10

As an aside, it was interesting to me that in many cases amateur radio is treated separately from other radio services, but the ITU considers our community just one of several spectrum users, and it's good to remember that the entire universe is playing in the same sandbox, even if only some of it is regulated by the ITU and your local regulator.

00:23:54 Speaker 10

So let's imagine that you have a handheld radio that has a total mean power output of five watts. When you calculate using the formula, you end up at 50 DB attenuate.

00:24:06 Speaker 10

In other words, the spurious emissions may not exceed -13 DBM, so if your radio measures -20 DBM on the 2nd harmonic, it's compliant for that harmonic. But if it measures -10 DBM, it's not.

00:24:21 Speaker 10

I should also point out that this is for each spurious emission, about half the radios we tested had a second harmonic that was worse than the third harmonic.

00:24:31 Speaker 10

So what does this mean for your radio? I'd recommend that you start reading and measuring. You'll need to measure the total mean power and the signal strength at the base frequency and the 2nd and 3rd harmonic.

00:24:43 Speaker 10

And we'll mention that surprises might happen. For example, the Yesu FT8570 radio I use every week to host a net appears to be transmitting with a power level that doesn't match its setting at 5 watts. It's only transmitting just over 2 watts into the antenna, but at the 10 watts setting, it's pretty much 10 watts.

00:25:03 Speaker 10

You also don't need a fancy tool like we were using. All these measurements are relative to each other, and you could even use a \$20 RTL SDR USB dongle. But before you start transmitting into its antenna port, make sure that you have enough attenuation connected between the transmitter and your dongle. Otherwise you'll quickly discover the escape velocity of the magic smoke inside.

00:25:26 Speaker 10

I'm Ono of Victor K6FLAB.

00:25:30 Speaker 1

Hi there. I'm Clinton, VK 6 FCC and I'd like to thank our newest team of volunteers and broadcasters each week and those regularly submitting content each week. I'd also like to thank our readers and you for listening. Please stand by now for callbacks after the ident or if nobody is taking callbacks, please fill out the form on the vk6.net website.

00:25:51 Speaker 1

So we know how many people are listening or reading news W each week.