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Audio file

[20230924.newswest.mp3](#)

Transcript

00:00:06 Speaker 1

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

0:00:23 Speaker 1

Hi there. I'm Clinton, VK6FCRC and welcome
to News W for the 24th of September 2023.
Now on with the show.

00:00:31 Speaker 2

Today, 7th of October is the annual Waruna
agricultural show.

00:00:38 Speaker 2

As people experience entertainment for
young and old animals, log chopping
sideshow alley, farm machinery, wine tasting
food and trade stalls.

00:00:49 Speaker 2

And a stunning fireworks for Dali Peel
Amateur Radio Group will be there again this
year to demonstrate our hobby to the public
from the PAG Mobile Communications unit.

00:01:02 Speaker 2

Learn about winlink radio, fox hunting and see the capabilities of the page mobile communications trailer in action.

00:01:11 Speaker 2

We hope you can join us at the WARUNA show Saturday 7th of October, where you can experience a fun day out in the beautiful SW of WA.

00:01:22 Speaker 3

Hi, I'm Steve VK 6 SJ with us for weeks episode of did you know?

00:01:27 Speaker 3

How many of us have the last two or three or more radios they've replaced, still sitting in

the shed gathering dust? The amount of photos I've seen have shacks the world over. They have four or five radios neatly set up on shelves, either in a shack, full use or just sitting in a shed or store room as mine.

00:01:44 Speaker 3

Offer the reason for keeping an old radio is that the value is so low that the nostalgia of that radio exceeds the amount you can get for it.

00:01:51 Speaker 3

In today's environment of \$500 software to find radios outperforming a conventionally designed radio purchased for \$5000 fifteen years ago, this is now often the case.

00:02:03 Speaker 3

So thinking about the nostalgia of an old radio that isn't worth sell.

00:02:07 Speaker 3

What if he gave our long term loan that radio to a new ham? You might be encouraging young person in your neighbourhood who's asked you what that big masters for offering along with some assistance to your local high school as a STEM programme or just giving it someone who's interested enough to do a foundation licence but doesn't yet have the required funds to purchase their first HF.

00:02:29 Speaker 3

Either way, seeing someone get the same joy you once did with an old radio otherwise not being used is a good way to relive the fun you had with that same rig.

00:02:39 Speaker 3

Long time ago, I was the beneficiary of an act like that. I'd sold my old CB to pay for a bus fare to Perth to sit my novice licence test.

00:02:48 Speaker 3

On arriving back, the President of the club I was in Lane's converted CB, which I had a lot of fun with in the first year, and so that I.

00:02:55 Speaker 3

Was on air. Other hams in the club also assisted me with stuff they weren't using.

00:02:59 Speaker 3

The result of that has resulted in a lifelong enjoyment of the.

00:03:04 Speaker 3

Along those lines, why not get your local club interested in approaching your local schools and organisations like the Scouts and Girl Guides, et cetera?

00:03:13 Speaker 3

To not only run a session about Ham radio, but denote some radios for the use. Once licenced, you might find an influx of new young members that might breathe a new

lease of life to a club that might be getting a
bit stale.

00:03:26 Speaker 3

The cost of this is a bunch of slightly older
radios who would otherwise only be gathering
dust in the shack. Sounds like a bargain to me.

00:03:34 Speaker 3

Another idea I wouldn't mind flirting is that all
the clubs in Perth get together and form a
Bank of older radius. For this purpose. I'm not
talking about boat anchors that only the most
experienced hams will be able to get going.
I'm thinking of radios at a 10 to 15 years old,
but while I'm not having HD, my ports and
software to find brick wall Philtres and the
like.

00:03:53 Speaker 3

Can still be connected to a PC and used on FT-
8 and are still in good working order.

00:03:59 Speaker 3

I know ham college. We often get either bequeathed radios or asked by a silent keys family to assist in getting rid of old radios.

00:04:08 Speaker 3

I have to say I've personally often run a mile from those opportunities, mainly because we have a room of boat hankers and no room for any more.

00:04:16 Speaker 3

At Ham College, we are getting well over 100 new hams on air each year, many of which could benefit from a donation of a radio, maybe as part of joining their local club. I'm sure Ham College could and has done in the past provide a plug for local clubs as part of the foundation course and knowing a new member may be able to gain or be loaned to their first radio would be a huge straw card.

00:04:39 Speaker 3

So why not have this kind of conversation at your next club meeting? I think you'd be surprised at what a bunch of club members could put together as a Bank of gear and the ongoing benefits to the club of a bunch of.

00:04:50 Speaker 3

New members stop leaving all those great rigs gathering dust and put them to use that will benefit yourself, your community and the hobby hobby in general.

00:04:59 Speaker 3

Thanks for listening again, this is Steve. OK, six SJ with an up. Another episode of did you know if you'd like a tax copy of this or other articles that will be posted to my.blog.page@dxradiosystems.com dot AU about two weeks after it's gone to where?

00:05:19

Clear prop.

00:05:28 Speaker 4

This is Martin VK 6MJ in Mandurah. Parag is taking to the air in more ways than one.

00:05:36 Speaker 4

The sport Aircraft Builders Club of Wawa is hosting its 50th anniversary celebration and fly in on the 29th of October at Serpentine Airfield.

00:05:47 Speaker 4

Park will be providing public reception of the ctaf frequency of 119.1 megahertz AM.

00:05:55 Speaker 4

From our mobile communications trailer at the airfield and we will be looking for inbound pilots possessing amateur radio licences who would like to have aeronautical contacts on 146.5 megahertz FM.

00:06:12 Speaker 4

If you are planning to fly into Serpentine for the event, how about connecting your aeroplanes headset into your VHF FM?

00:06:20 Speaker 4

Amateur radio rig.

00:06:23 Speaker 4

We will also be listening on 441.0 megahertz FM in the UHF band for amateur automotive mobile check-ins.

00:06:35 Speaker 4

All communications will be broadcast over our public address system for members of the public to hear incoming aviation and amateur radio transmissions.

00:06:46 Speaker 4

This is a great opportunity for amateur radio
to assist in a Community event to
demonstrate our hobby.

00:06:53 Speaker 4

For further details, please see current
activities and events on the park's website.

00:07:00 Speaker 4

Which can be found at triple WPR g.org dot
AU.

00:07:07 Speaker 4

This is VK 6 Arg on final approach for full stop
at Serpentine.

00:07:14 Speaker 4

7/3.

00:07:19 Speaker 5

Good morning. This is Roy, VK 6X Victor with this week's hotline, the 24th of September 2023 long weekend this weekend. Hope you're enjoying the fine weather. We're having a little bit. Don't forget, it's double demerit points. Take it easy on the road. Looking for today wanted. We're still looking for a Collins.

00:07:36 Speaker 5

General coverage receiver it's model 51 J4 general coverage receiver. If it needs a bit of love and attention, that's OK. Prefer good working condition of.

00:07:45 Speaker 5

Both, but happy to administer a bit of TLC, VK 6, Victor Zulu who's looking for that? If you can contact him if you have a Collins 51J number four. His email address is Sarah TE Victor, Echo, Victor, K6, Victor, Zulu at TP golf.com dot AU.

00:08:06 Speaker 5

Q. That's Steve vk6victor.zulu@tpg.com dot AU next, we're looking for an analyzer for Mark VK 6B. CR Alpha is looking for a antenna analyzer that covers from 100 kHz to 600 megahertz, such as a rig expert and other brands, but.

00:08:26 Speaker 5

Not looking for a nano VNA, so if you can help Mark with that, please contact him. His email address, Victor K6BS.

00:08:35 Speaker 5

Alpha@gmail.com, Victor K6B, Sierra alpha@gmail.com, and still have available a

Kenwood T0450S HF transceiver. Available
excellent condition, asking only \$700.00.

That's pretty good price.

00:08:55 Speaker 5

From Wayne, VK 6NW he has a Kenwood TS
450S and he may be contact on his electric
telephone 04994505050499450505.

00:09:12 Speaker 5

You can pick up that Kenwood TS-450 for sale
from Wayne and we also have Daiwa
controller and rotator \$350.00 as a vacuum
tube voltmeter \$50.00 from Barry VK 6ADI.

His email address is
bravo.juliet.burns@bigpond.com or phone
0428.

00:09:33 Speaker 5

9597710428959771 and that's about all I have
for you for today.

00:09:43 Speaker 5

And if you'd like to get in touch with me for anything next week, my email address is roy.watkins@bigpond.com RO yankee.watkins@bigpond.com 7/3 until next week. Cheers for now.

00:10:02 Speaker 6

In WA and beyond, News W is available on air, online and on demand. Visit our website vk6.net to find out how this is VK 6 amateur radio news.

00:10:23 Speaker 7

Foundations of amateur radio.

00:10:26 Speaker 7

As you might recall, I've been working towards using a cheap \$20 RTL SDR dongle to measure the 2nd and 3rd harmonic of a handheld radio in an attempt to discover how realistic that is as a solution when compared to using professional equipment like a Hewlett Packard 8920A RF communications test.

00:10:45 Speaker 7

Said I spent quite some time discussing how to protect the receiver against the transmitter output and describe the methodology to

calculate just how much attenuation might be needed and what level of power handling with that information in hand. For reference, I use 230 DB attenuators, one capable of handling 10 watts and one capable of handling.

00:11:07 Speaker 7

Do watts?

00:11:08 Speaker 7

In case you're wondering, it's not the dummy load with variable attenuation that I was discussing recently.

00:11:14 Speaker 7

I ended up using a simple command line tool, RTL power, something which I've discussed before. You can use it to measure power output between a set of frequencies. In my case, I measured for five seconds each at the base frequency on the two metre band on the

2nd and on the 3rd harmonic, and to be precise.

00:11:34 Speaker 7

And measured 100 kHz around the frequencies we're looking.

00:11:38 Speaker 7

This generated A chunk of data. Specifically, I created just over 1000 power readings every second for 15 seconds.

00:11:46 Speaker 7

And then put those numbers into a spreadsheet. Average these, and then charted the results. The outcome was a chart with three lines, one for each test frequency range.

00:11:57 Speaker 7

As you'd expect, the line for the two metre frequency range showed a lovely peak at the centre.

00:12:02 Speaker 7

Frequency. Similarly, there was a peak for the other two related frequencies.

00:12:07 Speaker 7

The measurement data showed that the power measurement for 146 decimal, 5 megahertz was nearly seven DP for 293 megahertz. It was -44 DB and for 439.5 megahertz it was -31 DB.

00:12:24 Speaker 7

If you've been paying attention, you'll notice that I use DB, not DBM or DBW. In those numbers. More on that shortly.

00:12:32 Speaker 7

From a measurement perspective, we learnt that the 2nd harmonic is 51 DB below the primary power output and the third harmonic was about 38 DB below the primary power output. First observation to make is that these numbers are less than shown on the HP test

set where those numbers were 60 DP and 62 DB.

00:12:54 Speaker 7

2nd observation. Potentially more significant is that pesky DB thing I.

00:12:59 Speaker 7

Skipped over earlier.

00:13:01 Speaker 7

If you recall when someone says DB, they're referring to a ratio of something when they refer to DBM, they're referring to a ratio in relation to 1 milliwatt. This means that when I say that the power reading was 7 DB, I'm saying that it's a ratio in relation to something, but I haven't specified the relationship.

00:13:23 Speaker 7

As I said, that's on purpose.

00:13:25 Speaker 7

Let me explain. When you use an RTL SDR dongle to read power levels, you're essentially reading numbers from a chip that is converting voltages to numbers.

00:13:35 Speaker 7

In this case, the chip is an analogue to digital converter or an ADC. At no point has anyone to find what the number 128 means. It could mean 1 Volt or it could mean one millivolt or 14.532 millivolts, or something completely different.

00:13:52 Speaker 7

In other words, we don't actually know the absolute value that we're measuring. We can only compare values.

00:13:59 Speaker 7

In this case, we can say that when we are measuring on the two metre band, we get a range of numbers that represent the voltage measured along those frequencies. When we

then measure around the second harmonic,
we are doing the same thing, possibly even
using the same scale. So we know that if we
get 128 back both times we might assume the
voltage is the same.

00:14:20 Speaker 7

In both cases, we just don't actually know
how much the voltage is. We could say that
there's no difference between the two or zero
DB, but we cannot say how high or how low
the voltage.

00:14:34 Speaker 7

This is another way of describing something
I've discussed before calibration, so if I had a
tool that could output a specific known RF
power level and feed that into the receiver
and measured, I could determine the
relationship between my particular receiver
and that particular power level. I could then
measure at all three frequencies.

00:14:54 Speaker 7

And determine if the numbers were actually the same for these three frequencies, which is what I've been assuming, but we don't actually know for sure right now.

00:15:03 Speaker 7

So at this point we need a known Rs signal generator. The list of tools is growing. I've already used a nano VNA to calibrate my attenuators, and I've used an HP RF communications test set to compare notes with.

00:15:17 Speaker 7

At this point you might realise that we're not yet able to make any specific observations about using a dongle to make harmonic measurements.

00:15:25 Speaker 7

But you can make pretty pictures.

00:15:28 Speaker 7

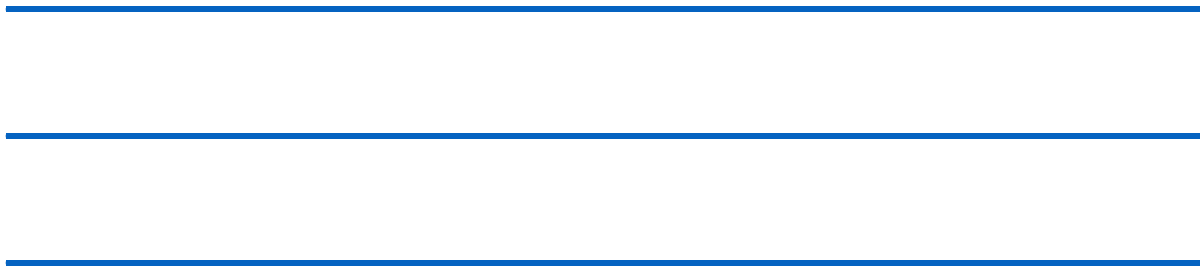
There's a good chance that you're becoming frustrated with this process, but I'd like to point out that at the beginning of this journey, I can tell you that I had no idea what the outcome might be, and obviously that's the nature of experimentation.

00:15:40 Speaker 7

If you have some ideas on how to explore further, feel free to get in.

00:15:44 Speaker 7

Touch. I'm on it, Victor K6FLAB.



00:15:49 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.

00:16:01 Speaker 1

Please stand by now for callbacks after the ident or if nobody is taking callbacks, please fill out the form on the vsix.net website so we know how many people are listening or reading news West each week.