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NewsWest for the 16th of July 2023



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Audio file

[20230716.newswest.mp3](#)

Transcript

00:00:06 Speaker 1

This is VK6ARN News West. We are a community organisation and we've been serving at the best amateur radio news in Australia since 1931.

-----00:00:24 Speaker 1

Hi, this is Clinton VK6FCRC and welcome to news west for the 16th of July of 2023. Now over to Steve Kennedy, VK6SJ with another episode of did you know?

-----00:00:38 Speaker 2

Hi, I'm Steve VK6SJ,. With this week's episode of did you know this week, I thought I'd talk about solar power design principles for radio and repeater sites.

00:00:48 Speaker 2

This is a written around principles for a repeater site with no access to mains power or any other charging source.

00:00:55 Speaker 2

If you have a panel on a couple of batteries in your camper van with a charger connected to your vehicle charging system.

00:01:01 Speaker 2

That is not what this is about.

00:01:03 Speaker 2

Like all engineering projects, it's always good to start with defining requirements.

00:01:08 Speaker 2

If it's a repeater site, you can do worse than follow what is standard practise for commercial and public safety sites.

00:01:15 Speaker 2

The requirements in real basic form are often 5 days of autonomy with no charge.

00:01:21 Speaker 2

Charge back to full capacity within 10 days from 0% charge.

00:01:26 Speaker 2

Work on around 5% duty cycle in transmit. This equates to 1.2 hours of transmit time per day.

00:01:34 Speaker 2

And even on the most popular repeater in purse, I doubt we'd reach that on anything like average.

00:01:40 Speaker 2

So how do we designed to this first thing is to determine the current draw over a 24 hour period.

00:01:47 Speaker 2

That I mentioned and understanding the requirements.

00:01:50 Speaker 2

With 5% duty cycle, that equates to the current draw of the radio and receive with no received signal for 95% of the day.

00:01:58 Speaker 2

Most repeaters will draw in the order of an amp or less in quiescent mode, so that equates to 24 hours amp hours times 95% or 22.8 amp hours.

00:02:11 Speaker 2

Add that to the 5% in transmit mode. Let's assume 10 amps in transmit and you get 10 amps times 24 hours times 5% or 12 hour amp hours brings your total power consumption to 34.8 amp hours per day.

00:02:28 Speaker 2

With this in mind, you need a battery with the ability to deliver 34.8 amp hours.

00:02:34 Speaker 2

Times 5 days to achieve our requirement of five days of autonomy.

00:02:40 Speaker 2

This equates to 174 amp hours at 12 volts DC.

00:02:44 Speaker 2

There are some around who will tell you that you can only take the battery down to 50% charge, so you need to double that battery.

00:02:52 Speaker 2

Time to take out some of these sacrificial cows. Here are a few facts about sealed acid batteries.

00:02:59 Speaker 2

For batteries rated to 200 amp hours at C120, read the manual and this means that it will deliver 200 amp hours over a period of 120 hours, which happens to be 5 days.

00:03:11 Speaker 2

The quicker you discharge your battery, the less capacity it will deliver.

00:03:16 Speaker 2

If you discharge your battery every now and again to 0% charge, IE you draw 200 amp hours from this battery over a period of five days.

00:03:25 Speaker 2

The battery will be fine.

00:03:27 Speaker 2

If you continuously bring a battery down to say 50% discharge on a daily basis, that battery will not last long at all. Maybe a few years, but no more.

00:03:37 Speaker 2

If you discharge a battery every day to say 20% on a daily basis, IE to 80% of its value.

00:03:45 Speaker 2

It should last for many years.

00:03:49 Speaker 2

If you are lucky enough to score some lithium batteries, then these rules go out the window as lithium batteries can be discharged to 0% every day and cope just fine.

00:03:58 Speaker 2

However, if you want 5 days of autonomy, that means by definition you can't discharge the battery by more than 20% per day or it won't last the five days.

00:04:07 Speaker 2

If you're paying more for a lithium battery for this purpose, then you're throwing money away. Lithium really comes into its home when you're only want a day or so of autonomy.

00:04:17 Speaker 2

Now let's talk about managing the battery for prolonged life and fitness for purpose.

00:04:23 Speaker 2

For an extended battery life and reliability, there's a few things that need to be considered.

00:04:28 Speaker 2

Each day the battery will discharge around 10% over the course of the night, unless of course you live South of the Antarctic circle.

00:04:36 Speaker 2

To recharge, you need to do what is called a boost charge, which is roughly 14.5 volts.

00:04:41 Speaker 2

Depending on battery design, for a 12 Volt system.

00:04:44 Speaker 2

Once the battery is approaching full charge again, the charging voltage needs to come down to something closer to normal battery operating voltage. Roughly 13.8 volts DC.

00:04:55 Speaker 2

If you only do the boost charge followed by the float charge, eventually the battery will develop issues where a seller or a battery cell will gradually degrade and the elders will try to compensate at an ever increasing rate.

00:05:09 Speaker 2

The battery or Battery Bank will gradually reduce in capacity to fix this about once a month we do what's called an equalisation.

00:05:18 Speaker 2

This is where we saturate. Charge the battery at a higher voltage still to around 15.7 or so volts DC for a 12 Volt DC bank.

00:05:28 Speaker 2

And this equalises the charge on all cells and batteries. To combat that gradual decline of single cells or batteries.

00:05:36 Speaker 2

This is all good, but generally only mobile radios are designed to cope with such a wide range of DC voltages.

00:05:43 Speaker 2

At best, the purpose built base radio repeater will vary its maximum power output depending on battery voltage and at worst will expire at voltages above 15 volts DC or higher.

00:05:55 Speaker 2

To manage this, we need to limit the voltage fed to the equipment to 13.8 volts DC but still maintain the battery charger regime to keep the life expectation of the battery going.

00:06:06 Speaker 2

How do we?

00:06:07 Speaker 2

Do that.

00:06:08 Speaker 2

We could use a 12 to 12 Volt DC converter.

00:06:12 Speaker 2

Or better still, design the system for, say, 48 volts DC, then employ a 48 to 12 Volt DC converter. This allows you to maintain the 13.8 volts DC even when the Battery bank is depleted.

00:06:25 Speaker 2

No, it's point in having five days of autonomy for the last two days of that at less than 12 volts DC and the radio fails in any case.

00:06:33 Speaker 2

Building a 48 Volt DC system against a 12 Volt DC system isn't much different or more expensive.

00:06:41 Speaker 2

The power delivery is the same, just that you need to have four batteries or battery banks in series to provide that 48 volts DC bank instead of 12 volts DC. Most solar regulators are programmable for 12/24 or 48 volts DC battery banks.

00:06:57 Speaker 2

So we have now well maintained and reliable battery bank. How do we keep it charged? Well, you need to listen to the news broadcast next week for the second half of this sermon.

00:07:09 Speaker 2

Well, thanks for listening. This is Steve VK6SJ with another episode of did you know?

-----00:07:15 Speaker 3

Greetings all amateur radio operators. Please be aware that the Northern Corridor Radio Group will be holding its annual Ham Fest on Sunday morning the 20th of August.

00:07:24 Speaker 3

2022 at the Cyril Jackson Community Hall in Bassendean. Please make note of the date change with the HAMFESTS being held one week earlier than usual.

00:07:34 Speaker 3

The Ham Fest will start at 9:00 AM and finish at around lunchtime. As always, suppliers can set up from 7:30 AM and the NCG will be staging A raffle with tickets available on the day and online before the event. There are some fantastic prizes on offer this year. First prize is a Yaesu FT.

00:07:53 Speaker 3

710 HF 50 megahertz radio valued at 1695 dollars.

00:08:01 Speaker 3

Second prize is an ICOM ID 52A handheld with D Star 2 and 70 seems valued at \$849.

00:08:10 Speaker 3

Third prize is an MFJ enterprises 991 B HF antenna tuner that's valued at \$400.00 and fourth prize is a Raspberry Pi model 4B.

00:08:22 Speaker 3

With eight gigabytes of RAM, this is a do it yourself kit with a few bits and pieces in that we're valued at \$322 tickets.

00:08:31 Speaker 3

They're on sale from the 20th of June, so that starts a few days and it's available to people in New South Wales, NT, Queensland, SA, Tasmania, Victoria and of course.

00:08:44 Speaker 3

Australia \$5 per ticket is the charge as always, and the raffle will be drawn on the day at the finish of the Ham Fest at 12:00 O'clock.

00:08:53 Speaker 3

So please come along, catch up with your friends, check out the new and secondhand wares that will be on sale, and of course, dine out on some of the yummy snacks that will be available from the canteen.

00:09:02 Speaker 3

If you want to book a table to sell or exhibit at the Ham Fest, please be aware that the tables will run out fast.

00:09:09 Speaker 3

There's no charge for the table, just an entrance fee. On the day of \$5 per person, NCG members included. Additional details will be posted on the NCG website, so please look for.

00:09:20 Speaker 3

Please, if you'd like to book a table or ask a question about the hamfests, please contact myself, Brad Peters, VK6BAP on 0427401513. Looking forward to seeing you all there.

VK6News for Sunday 16 th July from WA VHF Group Inc.

Hello listeners this is Denis VK6AKR with a couple of snippets from the WA VHF Group
Most of the club activity this month has been administrative and while the details will not be of interest it is important, if you are a club member, to recognise the work that club Committees do behind the scenes. Most of the time it is basic drudge work but occasionally there are mini projects that crop up to keep your club sailing along smoothly. So when it comes time for your club AGM, consider putting up your hand to help.

On the technical front we had another satisfying Activity Day starring a Kenwood TS120V owned by Terry VK6ZLT. It has a phase locked loop issue on its higher bands. We believe that we're on the trail and by the time you hear this, repairs should have been completed. My Cat5e frame aerial mentioned last week is able to tune nicely to the 2190 metre band used by VK6MJM and I am looking forward to testing it on air when Peter VK6HP puts the site back into transmission mode. Dave VK6KV found some time to successfully install and test a commercial tri-bander for VHF UHF at his QTH.

If you are in the Applecross area on the first or third Saturdays of each month call in to one of our Activity Days where you will be made welcome. You just missed yesterday's I'm sorry! Consider visiting the Solid State exhibition across the courtyard, too, while you are there. Wireless Hill Telecommunications Museum – our website, Facebook page or Dr

Google will point you in the correct direction.

73 from Denis VK6AKR for the WA VHF Group Inc.

---00:11:25 Speaker 5

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

----00:11:37 Speaker 6

Hello everyone, this is Clive, VK 6 CSW, reminding you that the radio amateurs, Old Timers Club of Australia's July Bulletin goes to air tomorrow.

00:11:48 Speaker 6

A frequency change following the success of last month's trial, the 00 hours UTC transmission will be on 10 metres on 28 decimal, 450 megahertz. Full details of this change, plus all other broadcast times can be found on the club website.

00:12:08 Speaker 6

[Www.raotc.org.au](http://www.raotc.org.au) or by Googling our AOTC broadcasts.

00:12:19 Speaker 6

Don't forget too that even if none of the transmission times suits you, you can download the audio file at any time from today from the club website. If you do download the file, a brief feedback comment would be appreciated.

00:12:35 Speaker 6

The 10 metre transmission at 0 hours UTC or 8:00 AM WA time is beamed S eastwards from Catherine in the Northern Territory by Mike VK8MA.

00:12:50 Speaker 6

Although WA is out of this beam experience, last month indicated that many in WA still heard it. Consequently, if you can listen on 28 decimal 450 megs at 8:00 AM to Morrow, even if only for a few minutes before dashing off to work and can report mikes signals.

00:13:11 Speaker 6

He would be most grateful.

00:13:13 Speaker 6

His email address is mike.alsop@tbpl.com dot AU.

00:13:24 Speaker 6

I'll just spell that Mike Dot Alsop at TBP lima.com dot AU.

00:13:43 Speaker 6

Once again, mike.allso@tbl.com dot AU.

00:13:55 Speaker 6

This month, instead of the usual broadcast, we offer an interesting historical broadcast from 2001 by Alan Doble, Silent Key, VK 3AMD, the usual news and information will be broadcast next month.

00:14:15 Speaker 6

Everyone re OTC members and non members alike is most welcome to listen to the programme and to join in the callbacks afterwards.

00:14:24 Speaker 6

At 8:00 AM local time to Morrow, as well as the experimental transmission on 10 metres, there's a transmission via digital mobile radio on the VKB DMR.

00:14:36 Speaker 6

Network Talk Group 5.

00:14:39 Speaker 6

At 9:00 AM, Crisp K6 Ji will transmit the Bulletin on 80 metres on 3620 kHz with a repeat at 10:00 AM on 40 metres on 7088 kHz, also at 10:00 AM. There is a transmission via the news.

00:15:00 Speaker 6

Best linked repeater system.

00:15:03 Speaker 6

On Wednesday, July the 5th, we have a D star broadcast at 5:30 PM WA local time. This will be transmitted via D star reflector 91 C and will follow the D Star news line.

00:15:19 Speaker 6

On Sunday, July the 9th repeats of the ROTC Bulletin follow the 160 metre and 40 metre broadcasts of the Dubli a news.

00:15:30 Speaker 6

The next lunchtime meeting for members and friends of the ROTC in Perth is on Tuesday the 11th of July at the Woodbridge Hotel, 50 E St, Guildford we meet at 11:30 for for midday lunch, an attractive, well priced seniors menu is available.

00:15:50 Speaker 6

Which can be viewed online.

00:15:53 Speaker 6

Everyone's welcome to join in and have an eyeball cure, so there's adequate car parking, but if coming by train, be sure to alight at Guildford East.

00:16:03 Speaker 6

Repeat Guildford east station. Full details on the club Web site under the heading luncheons. Once again TuneIn tomorrow for the July broadcast.

00:16:14 Speaker 6

If possible, listen for the 28.450 megs transmission at 8:00 AM and we look forward to hearing your call sign in the Callbacks 7 three from Clive VK6CSW.

-----00:16:29 Speaker 7

Good morning. This is Roy VK6XV. With this week's helpline, the 16th of July.

00:16:35 Speaker 7

2023 What I've got for you this week, not much different to last week. In fact, we've got still got a antenna, high gain antenna.

00:16:42 Speaker 7

TH3 junior three element, Tri Band 1015 and 20 metre yagi for sale from VK6LGB.

00:16:49 Speaker 7

Bravo. It's new, not used. Comes in the box and asking \$750 to a good home. Can we do it up to 600 watts with the average gain of five?

00:17:00 Speaker 7

.8 DBD.

00:17:02 Speaker 7

And front to back of 25 DB average pick up from Rockingham contact Glen Telephone 08959279150895927915 email is VK6LGB.

00:17:22 Speaker 7

At hotmail.com.

00:17:24 Speaker 7

And my email is still playing up. Apparently VK6XV don't use that roy.watkins@bigpond.com is the best one.

00:17:32 Speaker 7

Roy.watkins@bigpond.com and I should get it. I'm still having trouble with VK6XV. I've been in touch with the Telstra and I can't fix it either. OK, this is.

00:17:43 Speaker 7

Roy VK6XV now often clears.

The Following Email was Received from Roy VK6XV several days after the sunday broadcast from disclaimer It may be different to the computer generated text above -
AMATEUR RADIO HELPLINE 16th JULY 2023

PLEASE Have your HELPLINE requests into me by 07:00 hrs WST Friday to be in the next broadcast

to email ; <roy.watkins@bigpond.com> or (vk6xv@bigpond.com)

Contact me and keep our equipment in Amateur hands, 73 Roy. vk6xv@bigpond.com

Please enter "DISPOSALS or HELPLINE" in the subject

=====

Here is this weeks helpline.

For sale:

Icom IC718 HF transceiver. 10-160m 100 watts.

Comes with hand microphone , power lead and original handbook.

Very good condition, no scratches. \$450

Contact Greg VK6ED, phone 0417 900 874.

Cheers and 73's, Greg VK6ED

VK6LGB, has a Hy-Gain Antenna TH-3JRS 3 Element Tri-Band 10, 15 and 20

Meters Yagi Antenna for sale.

New, not used, comes in the box. The Antenna normally cost around \$995 but
is for sale for a reduced cost of \$750 to a good home.

Ideal for mast mounting or a large backyard.

Can be driven up to 600 watts, with a average Gain of 5.8 dBd, and a F/B

Rario: 25 dB avg.

Pick up from Rockingham.

Contact Glenn

Phone 9592 7915

Email VK6LGB@hotmail.com

FOR SALE

Harris R-2368 military HF receiver.

Solid state, fully synthesised HF receiver with digital display.

Covers VLF, LF, MF and HF bands from 10kHz to 30MHz with 1Hz resolution.

Fully functional including sensitivity.

\$950.

Thanks,

Tony VK6CV 0419 961 399

=====

Please have your items in to me by 07:00 AM Friday

for inclusion the following Sunday broadcast.

The email address is vk6xv@bigpond.com

Don't forget YOUR phone number and email address.

Please include HELPLINE as the "SUBJECT"

Thank you.

=====

-----00:17:45 Speaker 8

Through the Radio Amateur Society of Australia, Russia is the representative body for amateurs in Australia, the other being the Wireless Institute of Australia.

00:17:56 Speaker 8

Russia provides a whole gamut of free services to amateurs everywhere free, no charge. QRM Guru is a good start. QR m.g.

00:18:05 Speaker 8

You are you.

00:18:08 Speaker 8

If you're suffering any problems with QRM QRN killing the neighbours TV or whatever with your transmissions, it's a knowledge based and experience based website.

00:18:18 Speaker 8

You can ask questions. You can look up what other people have asked and what the answers have been, and so you get responses from people who have found something that works. So if you can remember.

00:18:28 Speaker 8

QRM dot Guru Guru well if you can't remember that, go to the VK radio amateurs.org website thatsvkradioamateurs.org website.

00:18:40 Speaker 8

And also we have lots of stuff there, especially for newcomers to the hobby. There's an amateur radio welcome pack which has got a whole lot of useful information to people who are new to the hobby that's free.

00:18:52 Speaker 8

There's a welcome to amateur radio guidebook. Have a look at that again, lots of very good information. There's a VK regs website which explains the.

00:19:01 Speaker 8

Regulations currently in force in Austria.

00:19:04 Speaker 8

Failure. There's a website for amateur radio tech support. It's another experience based website where you can ask questions or find out what other people have asked and see their answers.

00:19:15 Speaker 8

And there's information on how you can join the hobby if you haven't already done so. So that's VK radio amateurs.org everything on there is free apart from the.

00:19:24 Speaker 8

QRM Kill kits which?

00:19:26 Speaker 8

Are sold by mail order online.

00:19:29 Speaker 8

To anybody who's interested in buying them. But the magazines, free and every other resource is free, and if you so wish, you can join up with RUSA.

00:19:39 Speaker 8

It's only 10 bucks for the year or you can just send a donation look on the website vikramdiameters.org and there's a spot on there where you can make a contribution of some sort.

00:19:50 Speaker 8

And that's it. The Radio Amateur Society of Australia. We're in there for amateurs. We're in there to bat for you guys.

00:19:57 Speaker 8

And we're cheap at half the price, and I'm Bob VK 6 POP. And in case you're wondering, I'm the vice president of Rasa.

-----00:20:11 Speaker 8

Amateur radio. You're standing in it. This is VK 6 amateur radio news and you're.

00:20:16 Speaker 8

Listening to news West.

-----00:20:22 Speaker 8

There's no propagation. I get on air and there's nobody there. Welcome to new hams and let's talk about the silent bands.

00:20:30 Speaker 8

We've all done it for some reason that sits somewhere between being bored and highly motivated to get on air. You may drift into your shack, switch on the radio.

00:20:39 Speaker 8

Tune around the bands and nothing.

00:20:42 Speaker 8

It's frustrating, isn't it? Just when you felt like picking up a casual QSO or fetching a bit of DX, there's nobody home.

00:20:49 Speaker 8

Amateur radio isn't like broadcast radio or TV, where you know there will be something on particular channels or frequencies 24 by 7. So how do you find the DX or QSO on amateur radio?

00:21:02 Speaker 8

There's no single formulaic way to ensure that you will have someone to talk to.

00:21:07 Speaker 8

However, there are some things you can do to ensure better results. For a start, either read up or learn by observations to learn about how radio propagation works throughout the day, you'll see how certain bands are good for short distances and other bands for long distances. You'll find that some bands open and close for different distances throughout the day.

00:21:30 Speaker 8

There's a rule of thumb, and by the way, don't bet money on rules of thumb. But anyway, the rule of thumb is the higher the sun, the higher the frequency you should use.

00:21:39 Speaker 8

There are times of day when you will get DX from the other side of the world on long path and other times from the same place on short path. And of course be patient. It's no use rapidly.

00:21:50 Speaker 8

Spinning the VFO, then deciding there's nobody there. You could be only hearing the gap between CQ calls or the gaps between qsos, because sometimes you can only hear 1/2 of the QSO.

00:22:02 Speaker 8

Learning which time of day and which band to listen on, even which frequencies are more likely to be productive, is part of maturing your skills in this great hobby of amateur radio. I'm Bob VK6POP.

-00:22:16 Speaker 1

Hi, I'm Clinton VK6FCRC and I'd like to thank the volunteers, contributors and broadcasters each week, as without you it wouldn't be possible.

00:22:26 Speaker 1

To produce the weekly news.

00:22:29 Speaker 1

Please remember to send your contributions into news West by midday Fridays and please stand by now for callbacks after the ident.
