

Silent Key.

It is with regret that we begin this week, with news of a silent key.

We have been advised of the passing of Ray Hardimon VK2ZZK, last Saturday at home.

Ray was a retired Electronics and Radio Communications Teacher, previously working at Ultimo TAFE. He was an avid guitarist, enjoyed model trains; and also took part in a good deal of community service work including Church groups and St John Ambulance, where he was a former Superintendent of the Penrith Division.

Responsible for starting a radio club, Ray was always a big supporter of education for all, and preparing youth for the future.

Ray will be remembered at a funeral tomorrow, Monday the 4th of March, from 10AM at Pinegrove's North Chapel, Kington Street Minchinbury, in Western Sydney. A video link will also be available in the text edition of this bulletin.

Please pause with us now, while we remember Ray.

[pause 10 seconds]

Vale [va-LAY] Ray Hardimon VK2ZZK.

*Advised by Steven VK2TSG
on behalf of the Blue Mountains Amateur Radio Club.*

[URL:
<https://view.oneroomstreaming.com/index.php?data=MTcwODg3MjE3MDEzMDY0NjMmb25lcm9vbS1lbWFpbCZpbmZpdGF0aW9uX2NvcHlfbGluaw==>]

[Play File: 14-E-ID1.wav]

In the news from Amateur Radio New South Wales for this week;

Later in this bulletin, we have a summary of on-air activities from both Sydney, and across New South Wales. We would welcome any updates from club and groups; simply email news@arnsw.org.au – we don't need full items, just the details of the activity and contacts. Don't forget, we always welcome reports on the outcome of recent activities, as well.

General enquires can be directed to the ARNSW office via email, to office@arnsw.org.au, or by leaving a phone message on 02 9444 0123.

VK2WI news bulletins are streamed live from our website, arnsw.org.au/audio, and recordings of previous bulletins are also available.

Tonight, we welcome listeners on the EchoLink "HAM" conference, and the Australian & New Zealand EchoLink Network. Callbacks will also be taken after tonight's bulletin; our thanks to John VK3HJQ, and the Australian & New Zealand EchoLink Network team, for making this relay available.

HF Antenna Day

Last Sunday marked the start of the ARNSW presentation program for 2024, with over seventy members attending the first part of our HF antenna event, here at VK2WI Dural.

The program featured presentations by four presenters, each with practical knowledge and experience with a particular type of HF antenna. While there were some technical details, presentations focused on practical aspects in order to provide useful reference and information for members with a wide range of backgrounds and experience.

The event was catered for, and all members were sated.

Part two will be in April, on Sunday the 28th. Registrations open on Sunday the 17th of March, and as numbers will be limited, we suggest you get in early.

*Advised by AI VK2OK
Event Co-ordinator for ARNSW.*

Weekly Solar and Geophysical Report

For the period of the 23rd to the 29th of February.

First, the summary of activity;

Dates across the columns are	23 rd	24 th	25 th	26 th	27 th	28 th	29 th
10cm Flux	173	179	181	172	168	180	164
Fredericksburg A-Index	2	6	14	10	9	5	4
Australian A-Index	3	6	9	7	8	2	2 estimated
T index	134	136	126	89	102	109	109

Solar activity reached R1 level on the 23rd, with 3 M-class flares; on the 24th with 4 M-class flares – the largest M4.5 at 0634UTC; on the 25th, with an M2.0 flare; and on the 28th with an M1.5 flare.

Geomagnetic activity was low to moderate, remaining below warning threshold. On the 24th, a weak geomagnetic impulse of 10 nanoTesla was observed at 1712UTC.

F2 critical frequencies in Southern Australia were enhanced 25% during local night on the 23rd; enhanced 20% during local night on the 24th; and enhanced 15% on the 25th. The 26th saw depressions of 25% during local day on the east coast, but enhancements up to 15% in WA. Night frequencies returned to near predicted, remaining there until the 29th which saw daytime depressions up to 15%.

The forecast, issued on the 1st of March, through until the 7th;

Solar activity is expected to be at R1 to R2; Active region AR3576 previously produced significant flare activity, and is due to return on the weekend. Geomagnetic activity may reach G1 on the 3rd, returning to low levels later in the week as CME effects abate.

Maximum usable frequencies are likely to be depressed after local dawn on the 2nd and 3rd, due to CME-induced geomagnetic activity. Other days should remain near predicted monthly values.

Data courtesy of the Australian Space Weather Forecasting Centre.

Solar Flux Index update

Here are the updated Solar Flux Index (SFI) figures for this week.

Having finished February, we had a;

Minimum of 136, Average of 172, and a Maximum of 208
With peak dates from the 6th to the 16th, and the 23rd to the 29th

As we begin March, we are expecting a;

Minimum of 155, Average of 169, and a Maximum of 180
With peak dates from the 17th to the 31st

And looking ahead to April, we are expecting a;

Minimum of 160, Average of 168, and a Maximum of 175
With peak dates from the 13th to the 15th.

Update with thanks to Noel, VK2FUL.

[using daily data updates from :
<http://www.swpc.noaa.gov/products/usaf-45-day-ap-and-f107cm-flux-forecast>]

[Play File: 15-E-ID2.wav]

Technical Feature

We now continue with our series, introducing various aspects of DMR. Last week looked at coverage of DMR transmissions; this week, Matt VK2FLY explains some mechanics of talkgroups, and how they help make networked repeaters work;

[Play File: 16-TF-DMR4.wav]

Duration: 3m28s

In: Talk groups are...

Out:...DMR networks anyway?

[Transcript]

Talk groups are much more than just a fancy type of CTCSS Squelch; they are an integral part of the DMR protocol. When voice packets are transmitted over the air, each packet contains not only the voice data but also several other signalling parameters. Two of the most important ones for us are the talk group and call type.

In DMR, there are two types of calls: Group Calls and Private Calls. Group calls, which we are most familiar with, are assigned a number based on the talk group your radio is configured for when you key up. A common example on the VKDMR network is 505. When you are on talk group 505, every voice packet your radio sends has this talk group attached, indicating that it is a group call.

These voice packets are received by the repeater, which then passes them to a special server on the network called an IPSC Server. 'IPSC' stands for 'IP Site Connect', a Motorola proprietary protocol that allows Motorola DMR repeaters to communicate with each other. Once your packets reach the IPSC Server, the server's logic examines the type of call - in this case, a group call on 505 - and searches its database to determine the next steps. For 505, this means routing the call to every repeater in Australia. Your voice packet is duplicated and sent to all sixty-plus repeaters, which then transmit them over the air, maintaining the information that it is a group call on talk group 505. Only radios configured to listen on 505 will decode the packet back to voice and play your call through their speakers. For instance, if a listener's radio is set for talk group 3801, it will ignore the group call to 505 as it is not set to decode group calls on that channel. You can think of the talk group like a channel: you only receive broadcasts on the channel you are tuned into. On the VKDMR network, if you transmit using talk group 3801, the IPSC server will only send that audio to repeaters with users listening to that talk group. It knows which repeaters have active users on talk group 3801 by consulting its internal database. Repeaters without active users for a particular talk group do not receive the call and remain available for other users on other talk groups. It's important to note that I am discussing the VKDMR network's operations, as different networks behave in different ways.

DMR also facilitates private calls, which are different. Instead of broadcasting to all radios on a talk group, private calls are directed to a specific radio ID, enabling person-to-person communication. These calls are typically private, but since it's still a broadcast radio signal, if your radio is set to decode all received calls (a mode known as 'promiscuous mode'), the call might still be heard. For truly private conversations, it's better to use your mobile phone.

DMR radios are also capable of sending other types of calls, such as text messages, GPS positions, and even IP data. These calls are handled differently on various networks, which leads us to next week's topic: Why are there so many DMR networks anyway?

Foundations of Amateur Radio

This series, written and produced by Onno VK6FLAB, continues a weekly examination, of the building blocks of Amateur Radio.

[Play File: 17-FOAR107.wav]

Duration: 3m19s

In: A little while ago...

Out: ...I'm Onno VK6FLAB

For more information about this series, including audio, transcripts and other useful amateur radio resources, Onno's website is; vk6flab.com; and you can contact Onno by email, to cq@vk6flab.com.

[WICEN News]

And now with this week's WICEN News, here's Richard VK2SKY;

[Play File: 18-E-WNS0303.wav]

Duration: 2m07s

In: WICEN has a ...

Out: ... at wicen.org.au

[Transcript]

WICEN has a meetup here at Dural on the first Sunday of every month. Today, Rural Fire Service units brought their Operational Comms Vehicles for inspection, and WICEN members demonstrated their off-grid communications prowess for the visitors. The next meetup is on 7 April.

WICEN is supporting Dementia Australia's "Memory Walk and Jog" events throughout 2024. Last Sunday WICEN was active at Lake Burley Griffin in the ACT. Operators are now being sought for events in Cronulla and Penrith next Sunday.

The Memory Walks are great "starter" events for new or rusty WICEN members, as they take only a couple of hours. WICEN also provides the radios for these events, so you don't even need to bring your own gear. Why not give one a go? You'll find a link to the events list in the text edition of this news.

To participate in any WICEN event, or just find out more about how you can use your Amateur Radio skills to benefit the community, you can email wicen.ops@vrarescue.org.

WICEN nets are held every Sunday evening, using FM voice, DMR, P25, or HF voice, depending on the week. All WICEN members and other Amateurs are welcome to call in.

Next Sunday, the 6pm net will be on the Kurrajong 70cm FM repeater, 439.825MHz and a 91.5Hz tone, with net controller VK2WIB; and the 6.30pm net will be on DMR user-activated Talk Group 3810, with net controller VK2WID.

WICEN NSW is a support squad of VRA Rescue NSW, specialising in tactical radio communications. In between activations, WICEN supports local community events: these provide practical training for members, and help raise the public profile of Amateur Radio.

To find out more, check out the WICEN NSW web site, at nsw.wicen.org.au

WICEN is also on Facebook, and on X; there, you can find photos and information about recent and upcoming WICEN activities. Links are in the text edition of this news.

For information about other WICEN groups around Australia, visit the web at wicen.org.au.

[Memory Walk and Jog Events: <https://www.memorywalk.com.au/find-an-event>]

[WICEN NSW web site: <https://nsw.wicen.org.au/>]

["National" WICEN on Facebook: <https://www.facebook.com/groups/124735400158>]

[WICEN NSW facebook at <https://www.facebook.com/WICENNSW>]

[WICEN NSW X at <https://twitter.com/wicennsw>]

Club News

We start this week with news from the Oxley Region Amateur Radio Club.

The Club's March coffee morning, 10am on Thursday the 14th at Brooklyn's Burger Bar, Thrumster; followed by the Friday Night Get together at 7pm on Friday the 15th, in the SES Building, Port Macquarie.

The club's very popular 2024 calendar will be available at all upcoming Club gatherings.

The next Foundation Licence training and assessment weekend will be held once the new arrangements with ACMA are in place. Candidates for the Foundation Licence and for assessments for all grades of licence can register their interest via the contact form on the ORARC website.

There are two club nets each week; the mid-week net from 7:30pm on Thursday nights, and the weekend net at 9am Sunday mornings. Both are on the VK2RPM 2 metre repeater, 146.7MHz with a 91.5Hz sub-audible tone for access, and on EchoLink as VK2RPM-R. Members and visitors are encouraged to participate in the club on air nets as often as possible.

For more information about the Oxley Region Amateur Radio Club, visit the website at orarc.org. The site contains a wealth of Amateur Radio items in addition to club information. The January 2024 issue of the club's bimonthly newsletter "Oxtales" is now online, and past issues are on the website as well. The club is also on Facebook; just search for Oxley Region Amateur Radio Club.

*From Henry VK2ZHE
For the Oxley Region Amateur Radio Club.*

[Play File: 19-E-ID3.wav]

Central Coast Amateur Radio Club

The club rooms at Kariong are open on Saturdays from 10:30am, and as always, members and visitors are most welcome.

At the VK2RAG Somersby repeater site, the 6-metre repeater, D-Star, Rad-Net DMR and 2m EchoLink, 70cm and 23cm, are all fully functional. The WICEN UHF MMDVM is still having problems.

The Somersby WebSDR is online at websdr.ccarc.org.au; its configured to listen on 6 metres, 2 metres, 70 centimetres and 23cm.

The Club's Weekly net is on Thursday Nights at 8pm. It's on the VK2RAG 2 metre repeater – 146.725MHz with a 91.5Hz sub-audible tone, and on the CCARCNSW and HAM EchoLink conferences. It is also live video-streamed on the club's Facebook page.

You can find out more about the CCARC, including information on upcoming social events and all the details we can't tell you about here; on the web at ccarc.org.au – by phone, 02 43402500 – or social media, search Central Coast Amateur Radio Club; remember to “like” to follow for updates.

73 Alan VK2MG

Publicity Officer, Central Coast Amateur Radio Club.

Blue Mountains Amateur Radio Club

The next meeting of the Club's is on Friday the 5th of April at the clubrooms, 4 Moore Street Glenbrook, in the Blue Mountains – doors open from 7pm.

April's guest speaker will be Russell Bryant; an all-round radio scanner aficionado, who will give us the benefit of his broad experience in the field from simple systems to the modern complex devices seen today.

The clubrooms are also open twice a month from about 10am, on the morning of the first and third Saturdays – unless otherwise noted on the Club's Facebook page.

Visitors and prospective new members are always welcome.

The Clubs has several weekly nets – we have details in “Activities on the air” later in this bulletin – and a new net time, Sunday nights at 8pm. On the 1st and 3rd Sunday of the month, the net is on the Club's 6 metre repeater, and on the 70cm repeater on the second and fourth Sunday.

The next Foundation Class will be on Saturday the 13th of April. Upgrade classes continue on Wednesday nights, both on Zoom and in-person at the Glenbrook clubrooms.

With a 98% pass rate, the Club's courses and exam days do fill-up quickly; please contact Club secretary, Irene VK2VAN via email to; secretary@bmarc.org for class dates, to register, or for more information.

More information about the club can be found on the website, at www.bmarc.org.

*Steven VK2TSG
President, Blue Mountains Amateur Radio Club.*

St George Amateur Radio Society

The next gathering of the Society is on this Wednesday the 6th of March. After more than 20 years at the Kyle Bay Scout Hall, the Society's gatherings are now at Mortdale RSL club. The Club is in Macquarie Place, a 5-minute walk from Mortdale railway station. The club has excellent dining facilities and members are encouraged to arrive early for a bite to eat before the gathering.

Cameron VK2RA will give a presentation on Electromagnetic Radiation, or EMR. With the recent change in amateur radio licencing, there is renewed attention on meeting EMR exposure limits to the general public, as a fundamental requirement of station operation.

Changes to the limits and introduction of additional factors requiring consideration were introduced with the publication of ARPANSA RPS S-1 as it replaced RPS-3 in 2020. Historically, many amateurs have used the PC application VK3UM EMRCalc written by the late Doug McArthur - VK3UM, however with Doug's passing, copyright still in place and the source code lost.

In December 2023, Cameron VK2RA commenced the task of rewriting the application from scratch (with the approval of Doug's estate). Cameron is presenting a 'work in progress' version of the new application (intended to be released publicly in the very near future) and anticipated development path.

Following Cameron's presentation, will be the society's annual show and tell event. Most amateur radio operators have other hobbies besides radio – and this is a good opportunity to show others something interesting. If you can't bring an item along, bring some photos on a USB stick to display on the big TV screen.

All are invited to the next gathering of the Society, at Mortdale RSL club, 7:30pm on Wednesday the 6th of March.

Details about all of the Society's repeaters, along with the Society's other activities, are on the website, www.sgars.org.

*73 de Peter VK2EMU
Publicity Officer, St George Amateur Radio Society.*

[ID4 and Activities on the air]

[Play File: 20-E-ID4-AOTA2.wav]

Duration: 5m33s

In: [IDENT 4]

Out: ...the office phone, 02 9444 0123.

[Transcript]

I'm Mathew VK2YAP.... And I'm Stuart VK2BMX.

It's time for your quick trip around the bands for this week, with; activities on the air.

Daily;

Manly-Warringah "early bird" net, 6:30am on or near 3690kHz LSB; if that's too early, the "morning" net is from 8am on or near 7189kHz.

Amateur Radio Central West Group lunchtime net; 1pm on VK2RCW.

Mondays;

Westlakes ARC net 9:30am on 40 metres, 7115kHz, VK2ATZ Portable.

Great Lakes Radio Club net 7pm on VK2RGL; 147.1MHz with 91.5Hz tone, EchoLink VK2RGL-R.

Hunter Radio Group VK2AWX News 7:30pm, on 146.975MHz.

The **Blue Mountains ARC** D MR Net at 7:30pm on Brandmeister 50520, hosted by Ben VK2AFK.

Amateur Radio Central West Group net at 8pm on VK2RCW.

Lightning Net 8pm on 1860kHz, net control Steve VK2STG.

HADARC net 8pm on VK2RNS, 147.25MHz

Waverley ARS net 8pm on VK2RBV, 438.1125MHz with 91.5Hz tone. Activities online and on air; see website.

Tuesdays;

National VKDMR Net: starts at 8pm on Talkgroup 505.

Blue Mountains ARC net from 8pm, 3543kHz.

St George ARS digital net, 8pm on 146.8MHz

Illawarra ARS 80m net at 8:30pm, 3666kHz.

[...continues]

Wednesdays;

Westlakes ARC net 9:30am on 7115kHz. 2 Metre nets throughout the week, see website for details.

Hunter Radio Group net 7:30pm, on 146.975MHz and EchoLink node 1474.

HADARC 8pm on 3608.5kHz

Blue Mountains ARC 8pm on VK2RBM, 147.05MHz, 123Hz tone.

Amateur Radio Central West Group from 8pm on 3653kHz.

Armidale District ARC net 8:30pm on 3633kHz.

Thursdays;

Illawarra ARS net 12pm; VK2RMP 146.850 and VK2RUW on 146.675.

Fishers Ghost ARC net 7:30pm on VK2RFG, 438.65MHz with -7MHz offset and 91.5Hz tone; also, on EchoLink.

Oxley Region ARC 7:30pm on VK2RPM 146.7Mhz with 91.5Hz tone.

St George ARS 8pm, VK2RLE 146.8MHz.

The **CCARC weekly net** from 8pm on VK2RAG, 146.725MHz with 91.5Hz tone, and EchoLink.

Fridays;

Morning tea with HADARC 9am on 7106kHz.

Westlakes 9:30am on 7115kHz.

Amateur Radio Central West Group at 8pm, VK2RCW.

Saturdays;

Westlakes Stone the Crows net; 6am on 3588kHz.

Illawarra ARS net 9:30am on VK2RMP and VK2RUW.

Snowy Mountains ARC net 7:30pm on Southeast network; VK2RFS 146.75MHz, VK2RSE 147.375, VK3RDH 146.625, and EchoLink.

Sundays;

Westlakes DMR Net from 8:00am, usually on Talkgroup 3802.

Oxley Region ARC from 9am, VK2RPM.

WICEN NSW nets; 6pm on Chatswood 2m or Kurrajong 70cm repeater, 6:30pm on DMR or HF, and 6:45pm on P25. Check website for details.

*Don't forget to get your activities on the air here... send us through the details of your activity!
Email the details, to news@arnsw.org.au... or leave a message on the office phone, 02 9444 0123.*
