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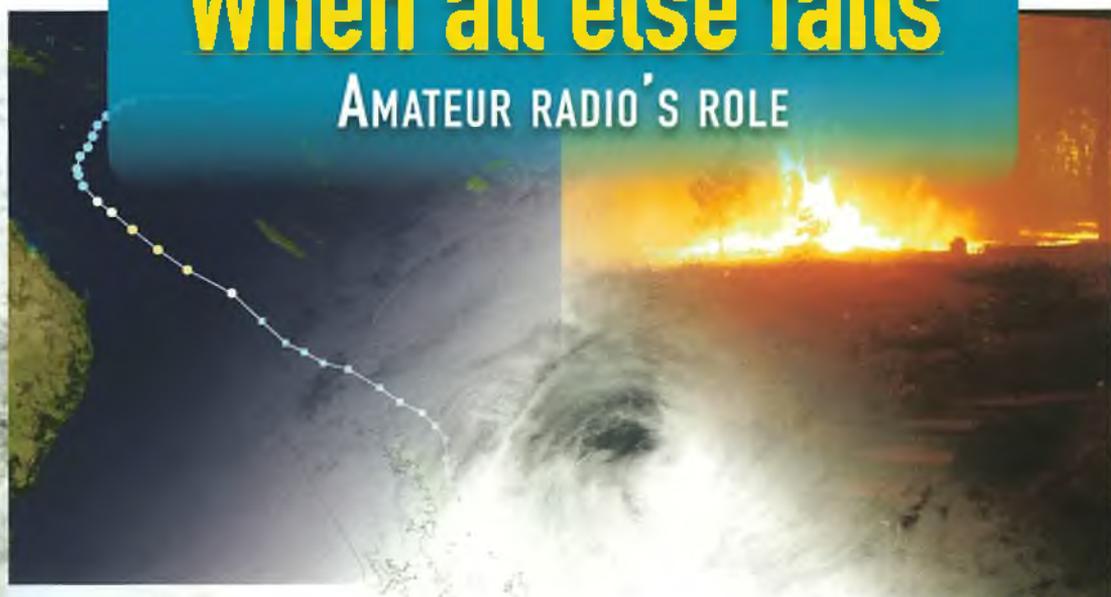
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AMATEUR Radio

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since 1933

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This issue's cover: background and centre - TC Gabrielle 2023 from Space (BoM); clockwise from top left - track of TC Gabrielle (pd), bushfires (cc3.0), floods (Kgbo cc4.0), and events (WICEN SA); lower left - VK3AQZ 3-band transceiver. Design by Sergio Fontana VK3SO.

NEXT ISSUE: Antennas, Feedlines & Propagation

Contributions to Amateur Radio



Amateur Radio is a forum for WIA members' amateur radio experiments, experiences, opinions and news. Manuscripts with drawings and/or photos are welcome and will be considered for publication. Articles attached to email are especially welcome. The WIA cannot be responsible for loss or damage to any material. Information on house style is available from Phil Fitzherbert.

Back Issues

Back issues are available directly from the WIA National Office (until stocks are exhausted), at \$5.00 each (including postage within Australia) to members.

Photostat copies

If back issues are unavailable, photocopies of articles are available to members at \$2.50 each (plus an additional \$2 for each additional issue in which the article appears).

Disclaimer

The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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Editorial

Roger Harrison VK2ZRH

The theme for this issue – *When all else fails* – had its roots in an article that was drawn to my attention when published mid-year in a local industry magazine. It was about how local amateurs had helped the authorities respond to the disastrous impacts of Cyclone Gabrielle that scoured Auckland in mid-February this year.

I chased down the author, Don Robertson ZL2TR, ZK6EX, who is the CEO of NZART's Amateur Radio Emergency Communications (AREC), New Zealand's counterpart to WICEN.

Don was very forthcoming in enabling me to bring the story to *Amateur Radio* magazine. Indeed, although he had the story published on the NZART website, he gave me a version with additional material. What's more, he supplied all the operational photos. Many thanks to Don.

Déjà vu made real

Now that the feature has been 'put to bed,' while composing this piece, I was brought up short by a vivid press headline today, reading:

"Bushfire season hits full swing as one town evacuated, six more under threat."

Queensland Fire and Emergency Services issued a *Prepare to Leave* warning this afternoon for areas north of Brisbane, and issuing *Stay Informed* warnings for two other areas in the state.

Meanwhile, residents in the rural town of Emerald in central Queensland were told to immediately leave their homes yesterday (a Sunday) as a fast-moving bushfire approached. The fire was brought under control by Monday afternoon, fortunately, once firefighters had slugged for hours battling the

aggressive blaze in sweltering weather.

In NSW, volunteers of the Rural Fire Service (RFS) had worked overnight to bring a bushfire under control as it had threatened properties at the township of Neath. NSW RFS commissioner, Rob Rogers, said that firefighters were still working on the state's north coast to contain fires in the face of increasing temperature and worsening.

There were reports that the Tasmanian Fire Service posted a "Bushfire Advice" warning for the Colebrook Area today, counselling residents to keep watch on conditions.

It's all a prescient reminder that natural disasters remain an ever-present threat.

Event support aids disaster skills

Amateur radio clubs and groups providing support for community events, especially annual ones – including marathon runs, rural sports carnivals, or aircraft spectaculars – is a long-standing tradition the world over.

As Phil Wait VK2ASD outlines in his article on *amateur radio's future role in Australian emergency communications* – this type of activity enables, in a pleasant and productive way, the honing of skills you can bring to bear in emergency situations, should that be on an organised and coordinated basis (as for WICEN groups), or being caught serendipitously in a small-scale but serious disaster such as a road accident, off-road driving mishap, or perhaps a maritime calamity.

There will be coverage of this aspect of amateur radio in coming editions, hopefully next issue.

Continued on page 10



Board comment

Peter Clee VK8ZZ, Director, Secretary

Celebrating 90 years of the WIA's *Amateur Radio* magazine

In the fast-paced digital age, where trends come and go in the blink of an eye, longevity is a virtue that commands admiration. This October, the journal of the Wireless Institute of Australia (WIA) proudly celebrates a monumental milestone – 90 years of uninterrupted publication of *Amateur Radio* magazine. This is the official journal of the institute.

As the pages turn on this remarkable journey, we find ourselves reflecting not only on the past but also on the continued significance of amateur radio in our modern world.

The WIA's commitment to fostering a sense of community and education within the realm of amateur radio is evident in this enduring publication. Over the decades, the magazine has stood as a beacon of knowledge, innovation, education, and collaboration, providing amateur enthusiasts with a platform to share insights, experiences, and technological advancements.

It has served as a vital bridge connecting generations of radio enthusiasts, allowing them to explore their passion, exchange ideas, and contribute to the evolution of the field.

To mark this occasion, the WIA presents the VK90AR special event call sign as a testament to the organization's dedication to engaging the global amateur radio community. This special event call sign will be running until December 31st and offers a unique opportunity for enthusiasts to come together, celebrate their shared interests,

and continue the legacy of wireless communication. Bookings to utilise the special event call sign is available on the WIA website.

The Board of the WIA are proud of the history of our magazine and commends the work of the Amateur Radio magazine Publications Committee.

WIA Education Committee

The importance of education and training in the amateur radio realm cannot be overstated, and the WIA Education group deserves accolades for their commitment.

Their review of the foundation course and assessment is underway. In addition, they are also due to commence work on the higher-level courses. We congratulate the WIA Education Committee for their hard work and dedication to the education of existing and aspiring amateurs.

Bequests and Legacies

Last issue, a letter to the Editor (Volume 91 Edition No 4 Page 63) from a member asked what can be done by way of bequests and legacies to the Institute. This letter has been answered on the Over To You pages elsewhere in this edition.

Volunteer positions

Last issue I advised that several new and existing positions that needed to be filled by members to assist the Board in the operation of the institute. By now, several vacancies will have been filled and advertised on the WIA website News pages and in the weekly broadcasts. We are pleased to confirm the following appointments:

- Technical Advisory Committee – Chair – Grant Willis VK5GR
- Technical Advisory Committee – Technical Advisor C4FM – Peter Jung VK5JP
- Technical Advisory Committee –

Technical Advisor DMR – Peter Brennan VK3TE

- Technical Advisory Committee – Technical Advisor P25 – Steve Kennedy VK6SJ
- Ross Hull Memorial VHF / UHF Contest Manager – Tom Blunt VK2TBC
- Youth on the Air (YOTA) Co-ordinator – Steve Kennedy VK6SJ
- Youth on the Air (YOTA) Deputy Co-ordinator – Alec Cherry VK2APC
- Spectrum Strategy Committee – Standards Australia TE-003 and TE-003/19 – Peter Pokorney VK2EMR
- WIA National and Inwards QSL Manager – Mike Adams VK3KMA

We thank the following retiring members for their hard work and assistance to the Institute:

- Retiring Ross Hull Memorial VHF / UHF Contest Manager – Ted Thrift VK2ARA
- Spectrum Strategy Committee – Standards Australia TE-003 – Ron Cook VK3AFW
- WIA National & Inwards QSL Manager – John Seamons VK3JLS

The WIA runs almost entirely on volunteer assistance. We have only one paid employee who operates out of our national office. The seven Board members of the Institute and well over 100 committee and group members are all unpaid volunteers who run this Institute for the benefit and betterment of the Amateur Radio Service. Without our army of hard-working volunteers, we simply would not be able to operate.

International Representation

The Wireless Institute of Australia (WIA) represents a federation of

Continued on page 6

bodies that collectively represent the Amateur Radio Service in Australia. The WIA has over 3000 direct members plus approximately 150 affiliated Radio and Electronics clubs throughout Australia.

The WIA is recognised both nationally and internationally as the only national body representing all radio amateurs in Australia, originally established in 1910, and is the oldest peak body in the world, predating both the British Radio Society of Great Britain (RSGB) and the American ARRL.

The WIA is recognised by the International Amateur Radio Union (IARU), an international confederation of national amateur radio organisations, as the sole Australian Amateur Radio peak body.

The IARU is subsequently recognised by the International Telecommunication Union (ITU) as the representative of the interests of its



member societies and radio amateurs throughout the world. The IARU is a Sector Member of the ITU Radio Communication and Development sectors. The ITU is a specialist agency of the United Nations (UN).

This year will see the World Radio Conference 2023 (WRC-23), convened about every 3 – 4 years, being held from 20 November to 15 December. The WIA has been a part of the international delegation by the Australian Government to respective World Radio Conferences from Australia for many years.

In the lead-up to WRC-23, there have been six preliminary meetings, all of which are attended by the WIA representatives. The final preparatory meeting was held in August 2023 in



Dale Hughes VK1DSH will be at WRC-23 in Dubai for the 4-week duration, along with offside Peter Pokorny VK2EMR.

Brisbane, Queensland. WIA Director, Peter Schrader VK4EA attended the 1-week meeting as an observer, in conjunction with our two delegates.

WRC-23 will be held over the four weeks in Dubai, United Arab Emirates. The WIA will have two delegates attending, Dale Hughes VK1DSH and Peter Pokorny VK2EMR, who will both attend for the entire four weeks. We thank our delegates for their participation.

The financial burden on the Institute to attend these preliminary meetings and the final four weeks of WRC-23 to be held in Dubai cannot be overstated. It is only with the financial assistance of our members' subscriptions we are able to undertake this mammoth task. Also, thanks to our affiliated organisations who have assisted the Institute financially.

The WIA is committed to supporting the Amateur Radio Service in Australia and your membership fees help us achieve this. We thank our members for their commitment to the WIA and thereby assisting to retain our bands for our ongoing use and experimentation.



Silent Key **Derek McNeil VK3XY**



Derek McNeil VK3XY, G4LQW became a silent key on Friday 28 July 2023. He previously held the call signs GB0LN, VK3ZVG, VK3NKY, and VK3BYA.

Born in the UK on 22 March 1944, Derek developed a love of the outdoors, riding across the countryside on horses, and sailing with his father while a teenager.

He was working as a Chartered Accountant when he met his future wife, who was studying in the UK. Derek and Margaret found they shared a sense of adventure. Derek emigrated to Australia where they married. They made many adventurous trips around the world together, as well as regular trips to the UK to visit his family. They skied, swam, sailed, cycled, and hiked.

Derek had an agreeable personality and made lasting friends at many of the places they visited. He was an excellent manager and used those skills at work and in voluntary positions.

His first amateur licence was obtained in Australia. Derek was a long-time member of the WIA and an active member of WICEN, especially during the Ash Wednesday and Mount Macedon fires of 1983. He continued in an active role for many years afterward until his deteriorating health prevented him.

Derek also served as treasurer of the WIA Victoria, later Amateur Radio Victoria, as treasurer of the Radio Amateurs Old Timers Club from 2006 to 2007, and was a regular attendee at Moorabbin and Districts Radio Club meetings.

He was a member of the Queenscliff Flotilla VF9 of the Volunteer Coast Guard for 15 years, as a crew member and later coxswain. Derek also took up SOTA activating, but this was curtailed by failing eyesight.

He is survived by his wife Margaret, two sons David and Peter, and daughter Anna, and two grandchildren, Jessie and Sophie.

Derek was a genuine gentleman who will be missed by all who knew him. Valé Derek.

Ron Cook VK3AFW



WIA news

Antenna launchers are go in VK3

Following concerted efforts by the radio amateur community in VK3, the Victorian Government changed the *Control of Weapons Act 1990* to provide exemption for amateur radio operators to have and use commercially made antenna launchers.

This will be welcome news to Victorian amateurs and amateur radio clubs across the state. Now you can more easily facilitate all manner of antenna erections on field days, and other outdoor amateur radio pursuits.

An amateur radio operator, as well as any person assisting an amateur radio operator, is exempt from the pertinent sections of the Act.

Provided the launcher is a commercially manufactured and distributed product, and is "designed for or adapted to erect radio equipment including a cable, line or antenna," as a licensed radio amateur,



you can "bring it into Victoria," have it sent to you, or buy it.

Further, you can possess one, or carry it. At home, you must conceal it from plain sight and store it securely so that it's not "readily accessible to a person without an exemption." The gazette

notice advising the changes can be downloaded here: bit.ly/3t2Erhe

A previous exemption from 1990 on the use of shanghaïs or slingshots as antenna launchers (noted in *Amateur Radio*, March

Continued on page 8

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1990, pp6-7) is revoked under this new exemption. None of the above constitutes any form of legal advice. It would be wise to seek your own legal advice to understand the provisions of the exemption.

ACMA announces a 6m win, a 9cm loss

Having advised that its scheduled 2022–23 work program is largely complete, the Australia Communications and Media Authority (ACMA), expects to release its Five Year Spectrum Outlook (FYSO) for 2023–28 soon.

In the meantime, the ACMA has announced changes to amateur access in the 50–52 MHz and 3400–3600 MHz bands.

Standard licensees are now permitted on 50–52 MHz, something the WIA has advocated for a decade. Amateurs travelling here with overseas equivalent licences also get to use 50–52 MHz. The Amateur Service here only has secondary access to this band, unlike many other countries across the globe.

Simultaneously, Advanced licensees can no longer use 3.4–3.6 GHz in the 9cm band. Hence, most of the current activity, predominantly weak-signal operations, have moved from above 3400 MHz down to 3398 MHz. Some ATVers are also making other arrangements.

We've known it's been coming for a decade, since wireless access telecommunications services began buying up licences for the 3.3–3.7 GHz band. Australian amateurs have only had secondary access to the 9cm band since its allocation here. Again, amateurs travelling here with overseas equivalent licences are also affected.

This is in areas that have been re-allocated for spectrum licensing and identified for possible long-term earth station protection zones.

20m-band radar interference resolved

Concerted work by amateurs in Europe earlier this year identified and tracked down the source of puzzling interference on the 14 MHz band and succeeded in having it removed.

First reported in April, International Amateur Radio Union Monitoring System (IARUMS) volunteers across Region 1 went hunting for and reported the interference. The signals were identified as originating from a SuperDARN radar (SuperDARN: *Super Dual Auroral Radar Network*) operating on 14,200 kHz.

SuperDARN transmissions were also observed in later months on other frequencies in the 20 meters band. This radar often uses frequency hopping.

Several members of the IARUMS R1 team worked actively in the identification of these transmissions, providing screenshots, audio recordings, IQ recordings and triangulations performed through the KiwiSDR network.

The IARUMS R1 coordinator, Gaspar, EA6AMM, contacted a SuperDARN network's representative, who is also a North American licensed radio amateur operator, to inform him of the reception of the transmissions in 20m and to provide him with all the data collected about these transmissions.

The SuperDARN Network representative actively cooperated with the IARU Monitoring System Region 1 in order to identify the signals, performing extensive research on all transmissions sent by all SuperDARN Network radars around the world.

On June 2023, after his research, he confirmed that the transmissions were indeed coming from a recently activated radar of the network that was in the testing phase.

He also conveyed the apologies of the entire SuperDARN community for those transmissions and



SuperDARN research installations feature arrays of wideband beam antennas. This photo shows a New Zealand installation. (Wikimedia)

communicated to his colleagues the ITU radio regulations on the frequencies of the 20m amateur band, so that these transmissions would not be sent in future in this frequency range.

The IARU monitoring System Region 1 has thanked the SuperDARN Network representative for his cooperation and help, and appreciated resolution of this case. Gaspar, EA6AMM

New German basic licence kicks off June 2024

Germany's new 'N class' amateur licence comes into force on 21 June 2024.

It allows access to the 10m, 2m, and 70cm bands, with a maximum power of 10 Watts EIRP, and conforms to CEPT 'report 89' entry level licence specifications.

Fortuitously, the kick-off date is a week before the Ham Radio 2024 hamfest in Friedrichshafen, which is being held over 28–30 June.

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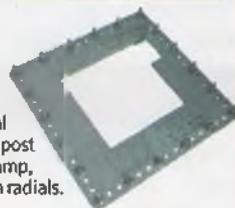


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DX ENGINEERING



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The class N requirements will focus on operational knowledge, regulations and basic knowledge of the technology, according to the International Amateur Radio Union (IARU). The

Call signs for new N class licensees will sport a DN prefix. IARU, VK1WIA

Amateurs involved in Moroccan quake response

A strong earthquake of magnitude 6.8 struck central Morocco near Marrakesh near midnight local time on 8 September. Severe damage in several areas was caused, with at least 1,000 people known to have died and many more injured.

The Moroccan Amateur Radio Emergency Services, part of ARRAME the Moroccan National Society, normally operate on VHF/UHF. Advice from Hassan CN8HAN, their Emergency Communications Co-Ordinator, is that there was no indication of any HF frequencies

in use to respond to the disaster. However, a number of search and rescue (SAR) teams from other countries headed to the area immediately and some of them have radio amateurs on the teams.

ARRAME did ask for any HF frequencies to be kept clear but, as the situation develops and SAR teams deploy, it would be good for radio amateurs to take extra care around the HF Emergency Centres of Activity frequencies in case any SAR teams start to use frequencies to talk back to their home countries. The R1 emergency frequencies are 3760, 7110, 14,300 and 18,160 and 21,360 kHz.

The IARU has requested that, as always, avoid spreading any rumours about the disaster, pass any requests for assistance to your local authorities/Red Cross/Red Crescent and when on-air, listen carefully before transmitting.

Lost and found – Voyager 2

During a planned software update for Voyager 2 in July, an accidental command caused the spacecraft, now

20 billion kilometres away, to ‘look away’ from Earth by two degrees, and communications with it was lost.

While Voyager 2 is programmed to reset its orientation automatically several times a year in case of incidents like this, the next window was in October.

Contact with both Voyager 1 and 2 is via NASA’s “Deep Space Station 43,” a 70 metre dish at the Deep Space Communication Complex in Canberra, operated by CSIRO.

A concerted effort by NASA, the Jet Propulsion Laboratory (JPL, who built the Voyagers), and CSIRO, re-established contact in early August. In a mission update, JPL announced that the Deep Space Network facility in Canberra was able to send a command that reoriented the spacecraft, pointing its antenna back towards Earth.

“The spacecraft has been returning science and telemetry data, indicating it is operating normally and that it remains on its expected trajectory,” said JPL.

EVENTS

May 2024. MAYHAM. The Central Coast ARC intimates that: “There are rumours of something brewing in the Central Coast area. It’s not clear exactly what, but it might be a good idea to write down Sunday the 5th of May, 2024 in your diary... and keep an ear out for updates.”

7 & 14 October. Oceania DX Contest. It’s on for young-n-old over the 1st and 2nd full weekends of the month. Phone contest over 7-8 Oct, Saturday 0600 UTC to

Sunday 0600 UTC. CW contest over 14-15 Oct, Saturday 0600 UTC to Sunday 0600 UTC. Log deadline for PH and CW logs is 31st Oct. Managed by the Oceania DX Contest Committee, visit: www.oceaniadxcontest.com.

27-29 October. PerthTech, a symposium where presenters talk-n-show while you watch-n-listen (or the other way around). Friday 27th for meet-n-greet, Saturday 28th for the main event, and Sunday 29th

for BBQ and BS. Giddyap to the Gidgegannup Recreation Centre, 20 km northeast of Perth. See vk6.net and click the link.

12 November. Gold Coast Amateur Radio Society Hamfest 2023. All the fun under the Sun! It’s on at Country Paradise Parklands, Nerang Rd, Nerang. All under cover. Retailers, disposals, and all. Opens 0830, \$5, stay as long or as short as you like. gears.com.au

Something new

Eagle-eyed readers will no doubt have already noticed the column introduced this issue called “Listening In,” on page 11.

It was prompted by three readers who made contact – one who lamented the passing of

the *Spotlight on SWLing* column authored over decades from 1982 by Robin Harwood VK7RH (SK), also noted by members of the Publications Committee, another one who observed that few amateur band contests these days cater for shortwave listeners by accepting logs from them, whereas the third stalwart

suggested that, while he was a keen reader and liked most of what he read, he’d like there to be stuff for scanning enthusiasts.

Consider it done. This first column must start somewhere, so it is largely an introduction to the broad hobby of listening on the airwaves.

Listening In

Listening on the airwaves offers a world of fascination, entertainment, and excitement. It also offers a sense of satisfaction in learning and understanding the technical needs and opportunities to be explored through planning and putting together antennas, receivers, and scanners to capture what's happening across the worlds of broadcasting, aviation, CB, ham radio and more.

The pursuit of listening on the airwaves is divided into three main streams.

- firstly, tuning-in broadcasters that are found across many bands in the frequency spectrum;
- secondly, catching transmissions from services that use a variety of channels across the VHF and UHF spectrum, including for work-related or community service activities, such as aircraft and marine operations, defence, security, trucking, fire and other emergency services;
- and thirdly, exploring the activities of recreational users, including radio amateurs, outback travellers, boating and sailing enthusiasts, and CBers.

Costly, or affordable?

The cost of receivers and related equipment for pursuing any of the above streams these days is comparatively cheaper than it once was, thanks to the proliferation of manufacturers and suppliers from across South East Asia, such as Baofeng, Tecsun, and Xiegu, for example.

Fortunately, many of the larger firms of yesteryear have managed to continue offering products. This includes, for example, AOR, Icom, Sony, and Yaesu.

You can spend as little as \$50 buying a multiband transistor radio or handheld scanner. One can also pick up mid-market receivers for around \$400 to \$1000. Top of the market receivers go for 'stratospheric'



This Tecsun model S-2000 receiver harks back to the rugged case designs of top-shelf units of the past. It is a well-featured rig, covering AM, FM, shortwave, longwave and VHF air band frequencies. Less than \$500 from Tecsun Radios Australia.

prices above \$10,000.

As internet access is now so ubiquitous, you could spend no money by connecting to online Software Defined Radio (SDR) receivers to listen across the shortwave spectrum. We'll have more to say on this in a later issue.

On the shortwaves

The shortwave frequency spectrum, from 3 MHz to 30 MHz still offers exciting listening, whether it's for broadcasters, radio amateurs, air services, sailors, CBers, defence, and all-sorts.

Broadcasters in quite a few nations that held sway on shortwave over decades past have left this arena. Prominent among them are Radio Australia, Radio Canada, Radio Netherlands, and the Voice of Russia (well-known once as Radio Moscow). Extensive use of SW broadcasting has continued in developing regions, particularly across Africa, South America, and the Pacific.

SW broadcasters are beginning to transition from current AM

technology (same as on the AM broadcast band) to the digital technology known as Digital Radio Mondiale (DRM), for which receivers have now become readily available. DRM is more efficient than AM and FM, allowing more stations, at higher quality, into a given amount of bandwidth.

This development has stimulated new broadcasters to appear, such as SE-TA 2 a private, East German shortwave station, with its transmitter located in Saxony. In Pakistan, a massive project is under way to bring DRM services to the nation's public radio listeners, and beyond its borders.

Indonesia, China, and Romania are among the many nations that already have DRM broadcasting.

For a clearly written beginners introduction to shortwave listening, this blog post from Tecsun Radios Australia is a great place to start: <https://bit.ly/TecsunVK>



How a small band of local amateurs gave key service to their communities

New Zealand radio amateurs' response to Cyclone Gabrielle

Don Robertson ZL2TYR, ZK6EX

CEO, Amateur Radio Emergency Communications (AREC)

As Cyclone Gabrielle approached the coastline of New Zealand, members of New Zealand's Amateur Radio Emergency Communications (AREC) wasted no time kicking into gear.

The cyclone was expected to bring extreme winds and rainfall across Auckland, commencing on 12 February. Winds in excess of 120–130 km/h were forecast and exceeded 150 km/h in some areas. These wind speeds had the potential to cause damage to power and telecommunications infrastructure. Heavy prolonged rainfall was also predicted to cause serious flooding across large parts of the North Island East Coast.

Here are just a few stories of the heroic efforts by AREC members and other licensed amateur radio operators who provided their services to the communities impacted by the cyclone. My thanks go out to all involved.



Alistair ZL1NE0 operating at North Shore Comms Base.

ANATOMY OF THE DISASTER

Gabrielle was the deadliest cyclone to hit New Zealand since 1968.



It formed in the Coral Sea on 5 February 2023, south of the Solomon Islands. It then circled west, as seen in the path map here, before swinging southeast, developing into a tropical cyclone on 8 February, intensifying into a Category 3 storm on the 10th.

On 11 February, it passed close to Norfolk Island, declining to a sub-tropical cyclone as it moved south to impact New Zealand's North Island, particularly the Auckland Region, the country's largest urban area.

It is the costliest tropical cyclone on record in the Southern Hemisphere.

Total damages are estimated to be at least NZ\$13.5 billion. (Sources: Bureau of Meteorology, Australia; Wikipedia)



Auckland

Andrew Brill ZL1COP, AREC
Regional Manager North

After meetings with Auckland Emergency Management (AEM), AREC was asked to provide radio communication support across the entire Auckland region for field teams comprising a mix of NZ response teams, NZ Defence Force personnel and other volunteers.

AREC developed a detailed communication plan and personnel rosters to assist with the operation.

Radio comms planned for the disastrous event consisted of:

- AEM VHF network — 8x channels (ESB band) for Civil Defence (CD) coordination.
- Commercial — 2x channels (1x EE band, 1x CN band).
- Amateur — 3x repeater channels (Auckland 670 2m repeater, Kohukohunui 875 STSP, ZL1BQ ZK DMR) for coordination and liaison between AREC members. (Due to an outage of an AEM repeater, a crossband repeater using 70cm uplink from the comms base with an ESB band simplex downlink was provided to the operational area).

Fourteen Civil Defence centres were established throughout the Auckland region and AREC maintained VHF contact with these centres, including local community response groups in the Rodney District and Waiheke Island, together with various AEM and NZ Response Team resources.

AREC was based at the North Shore CDEM base in Sunnynook and provided the link between the field teams throughout Auckland and the Incident Management Team located at the Auckland Emergency Coordination Centre in the Auckland CBD, providing general situation reporting for the duration of the emergency. AREC volunteer roles consisted of:

- Communicators — talking on the radio.
- Log keepers — recording messages, forwarding messages



VHF handheld radios loaned by AREC awaiting deployment to evacuation centres.

- via email, data entry, etc.
- People with SARTrack software experience.
- People with computer skills including Microsoft Office, email, etc.
- Supporters/gophers — handling phone calls, logistics, making coffee, etc.

AREC operations and preparation were activated on 8 February, while actions commenced on 12 February and continued through to 16 February. During this time, 18 amateurs supported the operation at the base.

A total of 25 people were on standby throughout the Auckland region to provide remote support if needed. A total of 337 person-hours were worked.

Our team identified that additional radios were needed. AREC member Soren Low ZL1SKL sourced 60 VHF radios. He, along with Jim Smith ZL1TGS, spent eight hours programming these radios onto CDEM channels, then lending them to AEM.

A team on Waiheke Island, led by Joe Bell ZL1PMY, were able to issue handheld radios to the

island communities and provide VHF coverage using their private commercial repeater to maintain contact 24 hours a day for the duration of the operation. Without this support, evacuation centres around Auckland would not have had any backup communications.

During the afternoon of 14 February, we were requested to provide a portable repeater to provide on-scene comms between rescue workers operating at Muriwai in the search of the missing volunteer fireman, as cell coverage was down.

The ESB164 interagency liaison repeater was deployed by the North Shore Response team NZRT5. AREC conducted a coverage analysis to locate a suitable site to provide good coverage of the scene and also direct comms to the Sunnynook base. AREC volunteers also provided and programmed equipment to allow comms with Welfare teams who were operating rented UHF portable radios on a commercial repeater channel on the Auckland Skytower.

AREC was stood down at midday on 16 February, with a few remaining on standby if needed.

The majority of communications handled up by our volunteers was routine sitreps with no major issues; however, the operation has confirmed the value of AREC and radio comms in disaster situations, and has underlined the need for comms knowledge and skills in the event of infrastructure failures. SARTrack proved to be a valuable tool for logging radio traffic, and our improvised link to emergency communications centres (ECCs) worked so long as we retained internet connectivity.

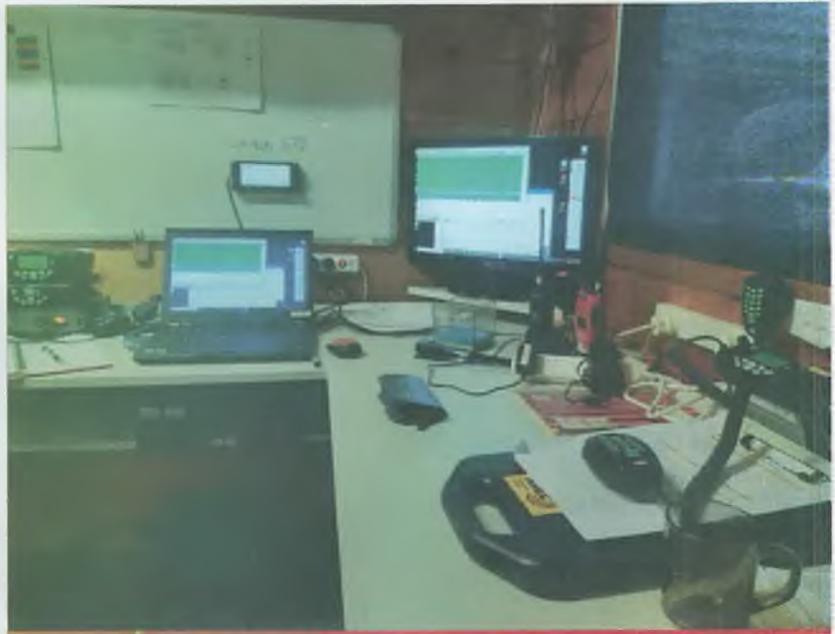
Auckland ECC Operations Manager Josie Beswick passes on her thanks and congratulations for the outstanding service provided by AREC volunteers, and that is echoed by feedback from the community groups and Civil Defence evacuation centres around the region, who were kept in touch when the power and phones were down and things looked gloomy.

Hawke's Bay

John Newson ZL2VAF, ZK2EXC, AREC District Manager Eastern AREC and Civil Defence activated the ECC in Hastings, testing the CD radio network up the East Coast and set up ready for Cyclone Gabrielle. The severity of the cyclone caused significant damage, including power outages with the main high voltage substation that fed the wider area flooded.

The rivers rose so high that the bridges between Napier and Hastings became unpassable, which meant a number of AREC/CD communications volunteers were cut off and unable to attend the ECC. In the first 48 hours, only three members supported the comms in 12-hour shifts with very little sleep; a mammoth effort by these three.

On the 13th, the CD volunteer team leaders called in to prepare for a likely event. All the handheld radio batteries



The main operating area at North Shore Comms Base.

were put through the chargers to ensure that they were fully topped up and ready to go. Some of the Rapid Response team were on hand getting equipment and vehicles ready. The Welfare team arranged to have the local sport centre set up as a welfare centre. We did regular radio

checks with the sport centre.

In the early evening, the Eskdale Holiday Park called in to say the river was rising and those at the campsite were being evacuated to the local marae (courtyard of a Māori meeting house – Ed.). I was asked to give 24-hour communications coverage and so gave Rob Wallace ZL2SG a call. He arrived just before 2000 hours, we did a handover and I left shortly after, prepared to come back at 0800. Rob was stood down at 2100 as Emergency Management didn't think they needed communications overnight.

I arrived at 0745 on the 14th to find people waiting on the radio at the other end for someone to answer them. This is when things started to hit home.

Kereru School called in to say they were completely blocked in with slips. The marae that the campground had evacuated to was out of power and the toilets were flooding. Hukarere College had also evacuated to the marae. They couldn't get portaloos, so everyone there



Safety briefing before deployment.

re-evacuated to St Joseph's College in Greenmeadows.

John Montgomery ZL2MB came in mid-morning after not being able to contact me; Ray Barlow ZL2RB came in about an hour later. Ray had been listening to the radio traffic and had also tried to contact me but I wasn't replying. Being busy, my phone was ringing until it went to messaging, so he came in to see what was happening and if I needed help.

The lack of mobile phone response was due to the cell towers and internet service being down. A large number of messages and missed call notification came through all at once a few days later.

We had limited communications with Wairoa through the emergency management advisor's 4WD Ute. We had a schedule set so that the Emergency Management Controllers could talk to each other over the radios. We started handing out our handheld radios to those who needed them and assigned radio repeaters as necessary.

Unfortunately, COVID had depleted our volunteer organisation so much that we were unable to deploy as we had planned and we started assigning call signs and repeaters on the fly. For example, we had one firm called Drainways that was sourcing generators from all over the place, and they had two of them on the repeater. We gave them a call sign of Drainways-1 and Drainways-2.

We gave out lists of repeaters highlighting the three that covered the most area and instructed each user to switch to another repeater if the one they were using wasn't working. We monitored all the repeaters and could reassign on the fly, as long as they got onto one of the remaining repeaters.

The main repeater we were using was on top of the Kaweka Ranges and it was powered by battery/solar. This repeater never missed a beat, although it got a little scratchy for a while until it got some sunlight back. We also lost our Tarapouui repeater for about six hours and



Portable repeaters were deployed as-needed.

the next day we lost Kahuraniki for around 18 hours.

By the 15th, some internet and cell phone connections were coming online. Starlink systems were being flown all over the place and our message tally started to fall. We were still the main source of communications, but that was slowly changing.

We had one urgent call from an outlying district about a man having heart problems. They were going to cross a bridge that had water flowing over it but were dissuaded by one of our CD volunteers who had a radio. He called us for help and we got hold of 111 emergency, who picked up the man by helicopter.

By the 16th, cell phone access had started becoming available over wider areas and we were getting more people able to come and help

at the communications centre. The Clive Bridge was said to be passable and the Napier CD volunteers were heading to come over and help. Then they closed the bridge as unsafe, meaning the volunteers could not get to the comms base. To be honest, that was the one thing that really deflated us.

I contacted my AREC Regional Manager, Don Wallace ZL2TLL, ZK6EXC, and he said to have a think who was available locally. He was going to get hold of Peter Moore ZL2HM, who is the local club treasurer. I had another ham who I knew really well, a truck driver, and I doubted he would be driving with all the roads down.

Nathan Foster ZL2ND was available and willing to help us out for a few days; he also signed up to join AREC while doing a shift!



AREC volunteer radio vehicle on patrol.

Tamsin Mendis, one of the CD volunteer radio operators, was also available for the day. At last, we could start pulling the hours back and were running three eight-hour shifts.

On the 19th, the cavalry arrived at last. The road link between Hastings and Napier opened, though it took an hour to do a trip that would normally take about 15 minutes. We had enough volunteers to do three shifts with two on each shift, though we were asked if we could drop the night shift and do 0600 to 2200 each day with two shifts. We were only handling a few messages each day by this time, so we agreed. On the 21st, we dropped down to one shift from 0800 to 1600.

On the 24th, we were asked if we could go back to 24-hour monitoring as there was another large rainfall event expected in the ranges. The Regional Council Works Group were out all night keeping an eye on the rivers and the Controller wanted to have immediate knowledge of any problems so they could react quickly. It was a very light workload with very few communications being passed, but we were ready to respond if needed.

A big thank you to the AREC and CD volunteers who spent many long hours providing essential communications supporting the community, with an extra special thanks to those who worked extended hours early on. They deserve all the accolades they can be given.

Te Tairawhiti (Gisborne Region)

Mike Mather ZL2CC, Volunteer

Tairawhiti was hit really hard, with all communication going out for a lengthy period. Long before the last cyclone hit the North Island, a small group of hams set up emergency communications via 'HF' radio to enable the passing of messages from Gisborne area to the outside world. The hams in Gisborne area were Roger ZL2RC, Tom ZL2MOT and Mike ZL2CC, while the 'out of town' station was Barry ZL2BJA in Palmerston North.

As soon as Cyclone Gabrielle hit over the night of the 13th and morning of the 14th, the 'net' (as they are called) sprang into action. They kept regular contact with Barry ZL2BJA for days and passed on several personal messages via the radio where Barry sent them off as emails to the various people who had requested such information.

As Mike ZL2CC is located in Te Karaka (where some of the worst flooding was and about 80% of the houses had water through them), many messages were sent from the local township, along with reports of damage, road conditions, etc.



Gerry ZL2XL providing comms support for beach searches.

It wasn't long before poor Barry ZL2BJA was inundated with requests, as other hams from all over the country were asking him for information about family and friends in the Gisborne and Hawke's Bay areas. Luckily, he was joined by other licensed amateur radio operators listening in and helping send emails, etc. and in some cases, actually visiting houses to perform welfare checks on their behalf.

Our team used HF radio and it was just as well, as the internet was down, power was out, and the cell phones dead. The local VHF and UHF repeaters were set up to be used

in the Bay of Plenty and Hawke's Bay, which were hit hard and had their own communications problems as well.

Barry ZL2BJA and others did an excellent job. I know it would have been hard work taking messages and information, passing it on usually by email, and sometimes by any means possible. This is what the amateur radio community are trained to do; to always be ready to help out in an emergency such as this.

Others may think we are geeks, but we can be useful and helpful geeks.

Conclusion

Don Robertson CEO AREC

Thanks go to all amateur radio operators who offered their services to the community during the two extreme weather events. It is great to see that the amateur culture of responding during time of emergency is alive and well.

AREC organised debriefs to understand what went well and what lessons were to be learnt. In addition, AREC held a forum on day two of the 2023 NZART Conference in June, discussing the role of amateur radio in civil emergencies.

Activate VK90AR to celebrate 90 years of continuous publication of *Amateur Radio* magazine

In October 2023, *Amateur Radio* magazine (AR), the official journal of the WIA, reaches 90 years of continuous publication.

To mark this milestone, the WIA has obtained the special event call sign VK90AR for use by any member of the WIA as well as any affiliated club.

Get it on the air and make some noise! Use of VK90AR expires on 31 December 2023.

Getting to use VK90AR is a simple process. Apply on the WIA website **Online Event Calendar**, at:

www.wia.org.au/newsevents/events/index.php

From the left hand menu column:

- choose Submit A Calendar Event.
- this opens the **Event Registration Form**.

To complete the form, enter your details like this:

Your Name: Kim Smith or Rosemary Kopp, etc

Your Callsign: VK1ZYX etc

Your Email Address: vk1zyx@wia.org.au, or vk1zyx@coldmail.dum

Club Or Group Running The Event: if just you - enter your call sign (e.g. VK1ZYX); for a club, enter the club's name (e.g. Capital Amateur Radio Club). *The calendar event will be registered to you or your group.*

Event Name or Title: VK90AR-VK1ZYX (*your callsign*)

Category: select VK90AR from the menu

State: e.g. VK1 - ACT, or VK9

Event Date: e.g. 25/12/2023

Event Duration (in days): e.g. 2 (or 1), or scroll to 5, etc.; *you chose how long you/the club want to use it.*

Celebrating 90 years of continuous publication of the WIA's *Amateur Radio* magazine

Wireless Institute of Australia
www.wia.org.au



VK90AR

Event Start Time: your local time (e.g. for VK1)

Event End Time: your local time (e.g. for VK1)

Event Brief Description: Activation of VK90AR by (e.g.) VK1ZYX

Event Detailed Description: *give a detailed description of frequencies/modes/operators, etc.*

- An email approving the registration, or otherwise, will be sent to you by the event managers.

The Event Managers for use of VK90AR are Technical Editors for AR mag, Bruce Kendall VK3WL/9VTWL and Tom George VK3DMK.

LOGGING

All VK90AR activations must be logged electronically (hardcopy cannot be accepted) using one of the many amateur radio logging applications that are ADIF compatible (Amateur

Data Interchange Format). For example - VKCL, N1MM, Log4OM, DXKeeper, HRD, et al.

- Logs are to be emailed to the event managers, at: vk90ar@wia.org.au

QSLs

Logs will be consolidated and uploaded to Logbook of The World (LoTW) for generation and distribution of QSL cards from M00X0 QSL Manager Services.

Here's a sample of the QSL card front page design.

MORE

Archived copies of AR, from 1933 to 2012, are available online, at:

www.aramag.vk6uu.id.au/

<https://tinyurl.com/AR-past>

<https://tinyurl.com/ARarchive>

Considering amateur radio's future role in Australian emergency communications

Phil Wait VK2ASD

Amateur radio operators have a rich history of providing vital communications support during times of emergencies, especially when conventional communications infrastructure is disrupted because of extreme weather events, earthquakes, or other natural or man-made disasters.

Internationally, there are several recent examples where the local radio amateur communities played a critical role in supporting the emergency response.

Hawai'i wildfires, August 2023: On 8 August, wildfires erupted across the Hawaiian Islands in the North Pacific, driven by strong winds from Hurricane Dora, mainly affecting Maui. By the 9th, much of Lahaina city on Maui was destroyed, with over 2200 structures lost.

Noted as the deadliest fires in 100 years, as of 31 August the official death toll reached 115. Radio amateurs in the local Amateur Radio Emergency Service (ARES) responded quickly, coordinating with state and local officials during the response and recovery effort, supplanting lost cell phone and other telecoms infrastructure.

Türkiye and Syria, February 2023: Two powerful earthquakes struck Turkey and Syria with devastating effects, causing extensive damage and casualties. The Türkiye Radyo Amatörleri Cemiyeti (TRAC), the national amateur radio organization of Turkey, played a critical role in coordinating communications efforts. Individual radio amateurs were integrated into search and rescue teams to provide reliable communication channels during the crisis.

Typhoon Nalgae cut a devastating swathe across the Philippines last year. (Wikipedia)



Devastating damage in Lahaina city, Maui, in August. (Wikimedia)



Locations of the two M7+ February earthquakes affecting Türkiye and Syria. (Wikipedia)



Typhoon Nalgae, Philippines – October 2022: The Philippines Amateur Radio Association (PARA) responded swiftly to provide emergency communication support following Typhoon Nalgae. Operators assisted in establishing reliable communication links to aid relief efforts and coordinate disaster response.

Croatia, Serbia, and Montenegro – April 2022: An earthquake registering 5.7 magnitude struck across Croatia, Serbia, and Montenegro. The Amateur Radio Association of Bosnia and Herzegovina (ARAU BiH) activated its emergency communications service (RMZO). Local radio clubs formed teams to establish communication networks using existing VHF repeaters and digital connections like Winlink.

In these cases, a quickly organised amateur radio response was an important factor in areas where communications were poor or non-existent and emergency services were stretched or under-resourced.

In Australia, the needs are somewhat different.

Emergency response in Australia

The extreme bushfire season of 2019-20 resulted in widespread loss of life, property, and wildlife, and extensive environmental destruction.

A Royal Commission was established in early 2020, sometimes referred to as the 'Bushfires Royal Commission,' to examine the country's coordination, preparedness, response, and recovery to natural disasters, as well as improving resilience to, adapting to, and mitigating the impacts of climate change. The inquiry also considered the legal framework for Commonwealth involvement in responding to national emergencies.

The Royal Commissions' findings were tabled in parliament in October 2020, making 80 recommendations, including calling for a national approach, a greater role for the

Be Prepared

You may find yourself in the centre of an emergency quite unexpectedly.

Radio amateurs are located in all parts of the globe and sometimes find themselves at the scene of an emergency where they are the only means of communication, due to remoteness or damaged infrastructure.

Such was the case in 2004 when a tsunami followed an earthquake in the Indian Ocean and swept across South-east Asia. On-the-spot radio amateurs provided critical first-line communications for several days until government and emergency communications systems became available.

More likely, by sheer bad luck, you may find yourself at the scene of an accident in a remote area where your cell phone won't work. Your amateur radio equipment may be the only form of communication, and your equipment and your radio communications skills could save a life.

I have found myself in this situation several times. Once during an outback camping expedition and in the Southern Ocean off South Africa, during a non-stop ocean sailing race from Jakarta to Rotterdam. In the latter case, amateur radio was used to rescue the crew of a severely storm-damaged competitor. The marine HF radio proved pretty useless.

The key to providing any effective emergency response is preparedness.

It's no use finding that you, or your equipment, are not up to scratch when the time comes. There are some very simple guidelines for ensuring that you, and your equipment, are up to the job.

Keep fit. It's not only going to be good for your health, but emergency situations are both physically and mentally demanding. You will be much better able to deal with the stress of an extended emergency if you are physically fit.

Know your equipment. Operating in an emergency requires that you know your communication equipment and its capability to a high level of competency. You must be able to improvise, especially with antennas, and know how to quickly get a signal on air in less-than-ideal circumstances.

Keep your equipment in top condition. Radio equipment which works well in the benign environment of the home is often inadequate in emergencies.

The annoying intermittent microphone cable (fixed with a wiggle) and the intermittent display (fixed with a well-aimed smack on the side of the rig) become show-stoppers. Fix them now before you must rely on them.

Your mobile station may need to operate in a hostile environment, so pay particular attention to the serviceability of your vehicle, its battery and its charging system, the radio equipment, the condition of the on-board antennas, and all associated cables and connections.

Antennas at home can get broken or blown down by strong winds – keep an emergency long wire antenna handy that can be thrown over a tree, or a spare vertical whip antenna that can be quickly connected. Keep a manual ATU at hand so any random-length antenna can be readily tuned.

Have an emergency power source. Keep fully charged batteries with sufficient capacity for up to 24 hours operation, if possible. Alternatively, keep a portable generator or use the 12 V power from a vehicle. Keep fuel for at least 24 hours operation.

Emergency lighting. Keep LED lights handy to provide at least 12 hours emergency lighting.

Food, water, and personal items. Keep emergency food, water, and personal items to support a possibly extended period.

Who to call. Know how to contact emergency services, and what to say. You may need to calmly, quickly, and accurately communicate details about the nature and scope of the emergency and the location. Formal emergency training can be helpful here.

Phil Wait VK2ASD



Bushfire is an ever-present threat across Australia. The January 2020 ACT bushfire tore through Namadgee National Park into the Orroral Valley. The blaze is viewed here from Tuggeranong, the southern-most district of the ACT. (Wikipedia CCA 4.0)

Commonwealth Government, strategic leadership, greater resource sharing, improved national data, better support for individuals, and a whole-of-nation effort on multiple fronts.

Federal and State governments are currently implementing those recommendations, part of which is a 'national public safety mobile broadband communications capability' for emergency services, to:

“provide emergency service personnel with fast, safe and secure voice, video and data communications and instant access to data, images and information in live situations, emergencies and critical incidents. It will enable real-time, data-rich analytics, situational awareness, and cross-border communications – for example, between ground crews, aerial assets and incident control centres.” [1]

Surprisingly, of over 1700 submissions to the Royal Commission, the only amateur input I could find was from the Bendigo Amateur Radio and Electronics Club. Perhaps an opportunity was lost there.

The questions arises – who does what?

States first

Australian state and territory governments have prime responsibility for planning and responding to a disaster within their own borders. Each State has its own emergency response plans in place and its own way of doing things tailored to local conditions. There is no 'one size fits all.'

For instance, in NSW the State Emergency Operations Centre (SEOC) is a central coordination hub based at the Rural Fire Service Headquarters in Homebush (an inner-west suburb of Sydney). When the SEOC is activated in response to natural disasters (severe weather, fire, flood, etc), experts collect information in real-time and coordinate a whole-of-government response in association with fire services and the State Emergency Services (SES).

The SEOC operated 24/7 through the COVID-19 pandemic and was activated during the NSW floods in July 2022.

The SEOC decides what agencies

need to be activated and contacts their designated personnel. The activated agency's personnel and resources are then mobilized and deployed to the affected area. This could involve deploying firefighters, police officers, medical teams, search-and-rescue teams, and other specialised personnel and equipment.

Then the Feds can step In

When a situation is so serious that state resources cannot reasonably cope, a nominated official from each state jurisdiction can seek non-financial assistance from the Australian Government under the Commonwealth Disaster Plan (COMDISPLAN).

The Commonwealth also has the power to step in and take control when the situation affects multiple jurisdictions, has a large number of casualties, is international in nature, or where there is a community expectation for national leadership, i.e. just about anything big. [2]

Following Ministerial approval, the Australian Government accepts responsibility and enacts its own pre-prepared response plans. Those plans are maintained by the National Emergency Management Agency (NEMA), which monitors and coordinates the crisis through the National Situation Room (NSR – previously known as the Australian Government Crisis Coordination Centre).

The NSR is a 24/7 crisis management information and whole-of-government coordination facility within NEMA. [3]

The National Emergency Management Agency (NEMA) was formed in September 2022 to *“create a single end-to-end agency to respond to emergencies, help communities recover from emergencies, and to prepare for future emergencies.”* The Director General of NEMA has the power to request any one of a myriad of government agencies to undertake a task in response to an emergency. [4]

Management in a crisis

What all this means is that, across Australia, emergency services are well-resourced and well-coordinated. There is an overriding recognition that: *"Crisis management is complex and challenging."*

Crises are inherently difficult to predict and are typically associated with high levels of uncertainty about either their cause or the scope and severity of their impacts. There is no 'standard response' and a 'whole of government' approach is required. [5]

What can radio amateurs bring?

The communications systems now used by emergency response agencies are highly capable and robust. Therefore, it seems increasingly less likely that an emergency event in Australia would require the deployment of amateur radio equipment that is incompatible with the extensive emergency communications networks. Radio amateurs can only fill-in as a temporary adjunct service.

However, all these fancy new communications systems require some sort of backbone communications and that cannot always be assured. For instance, in the 2019 bushfires, WICEN NSW was required to provide a mobile repeater system to Bega when local communications facilities were destroyed. Several WICEN groups maintain ready-to-go trailer equipment exactly for that purpose.

For similar reasons, Babcock Australia has been awarded an \$877 million contract to upgrade the Australian Defence Force's High Frequency (HF) Communications System. Babcock CEO, David Lockwood, states: *"In a modern threat environment, access to local communication infrastructure or satellite communication cannot be assured."* [6]

Regardless of those experiences, the need for amateur radio support during a crisis is now most likely

to be the provision of trained manpower during protracted and widespread events, such as floods or bushfires, when an agency's regular communications operators are overstretched and require relief.

The Wireless Institute Civil Emergency Network (WICEN)

WICEN is the Australian amateur radio community's civil emergency network. Although the name indicates an association with the Wireless Institute of Australia (WIA), that is not the case today. WICEN is a loose federation of totally independent organisations performing a variety of functions in response to local needs and opportunities, seemingly with widely different intentions and capabilities. There is little or no central coordination of WICEN, which is how they like it.

The (rather minimalist) WICEN Australia website states that the *"key objectives of WICEN are to provide: communications support for emergency services operating in areas where infrastructure has failed or in remote areas where there is no suitable communications infrastructure; communications*

support for community and charitable events needing beyond regular mobile phone services; operators for emergency operations centres." [7]

Although preparedness for providing communications services during a crisis is still a core purpose of WICEN, there has clearly been a swing towards predominantly providing communications support for community and charitable events, such as car rallies, sports carnivals, canoe marathons, horse endurance rides, etc.

This is an inevitable response to the changing landscape and capabilities of emergency services and their own communications systems.

What I find most encouraging are the linkages some emergency groups have formed with other organisations and community groups. Let's take a look at two very different examples.

On WICEN NSW

WICEN NSW is different from the other WICEN groups as it is a member of an emergency services organisation, VRA Rescue NSW, which itself forms part of the state emergency response and is included



A crew from South Australian WICEN deployed in a residential district. (WICEN)

in state emergency response plans.

WICEN NSW has a portable, multi-repeater, multi-mode digital voice mode (DMR) linked network that can be deployed for use by any emergency service organisation needing additional support. With that network, WICEN NSW can also provide a significant number of portable radios along with a number of mobile radios.

The last major WICEN NSW activation was during the 2019-20 'Black Summer' bushfires where it provided temporary communications on the south coast of NSW for both VRA Rescue and Bega Shire Council when all communications was destroyed on Peak Alone.

WICEN NSW also provided relief operators at a number of Rural Fire Service (RFS) Fire Control Centres around the state and provided personnel at the RFS Headquarters to man the Bush Fire Information Line.

Since then, WICEN NSW has only had a small number of emergency service activations, the most recent being the provision of assistance in a search and rescue operation in the Hampton area west of Sydney. This involved six WICEN personnel over two days.

WICEN NSW has been quite active in community support over the years. These activities include a number of annual community events, including the Glow Worm Tunnel Marathon trail-running endurance event that takes place through wooded and mountainous areas around the Newnes historical region north of Lithgow; the Hawkesbury Canoe Classic, a 111 km marathon canoe race on the Hawkesbury River northwest of Sydney at the end of October.

In association with WICEN groups in other states, WICEN NSW also provides communications for NSW, ACT, and QLD Dementia Australia's 'Memory Walks.'

WICEN NSW is a member of VRA Rescue NSW, which is a well-resourced community-based emergency response organisation

run by professional volunteers and divided into a number of 'squads.' They are very often the first responders to an incident. WICEN NSW is a 'specialist squad' that provides VRA with communications support and extensive technical know-how.

WICEN NSW also works with other agencies. Each year, a Navshield training event is held where WICEN NSW assists the SES with communications. Multi-agency exercises are planned with VRA Rescue and its various support specialist squads.

Neil Fallshaw VK2XNF, Vice President of WICEN NSW, believes that the strong association with VRA Rescue assures WICEN's relevancy well into the future, and that WICEN NSW is primed to swing into action at a moment's notice during the upcoming bushfire season.

The good news is that WICEN NSW has recently signed up, or is in the process of signing, a cohort of younger members, some of whom are already in the Emergency Service Organisation space (RFS members). That should give them a further boost.

A far north initiative

Far North Queensland, and particularly the Atherton Tableland area, is regularly hit by severe tropical cyclones and torrential rain. Not only that, the population is sparse and isolated, and emergency services' communications networks do not cover much of the area. Its telecommunications is often the first casualty in a severe storm event.

Emergency management in Queensland is devolved to local government areas (LGAs), which is different from other states, chiefly organised and funded by local or regional councils.

A group of local amateurs from the Tablelands Radio & Electronics Club, not associated with any WICEN group, saw an opportunity to work with the Tablelands Regional Council to provide an

effective communications capability based on amateur radio and CB radio.

Subsequently, the council built a \$7M facility including a dedicated radio room containing a variety of HF, VHF, and UHF emergency service, CB, and amateur equipment. The council also installed three UHF CB repeaters and one 2m amateur repeater on the tablelands for everyday and emergency use. The radio equipment was secured through a Queensland Resilience Risk Reduction Fund grant.

Not only that, the council has also been encouraging remote area residents to obtain a Foundation amateur radio licence, and they have provided HF go-kits that include Icom IC-7300 transceivers, power supplies, and antennas, along with training, for use in their remote area evacuation centres. This is all funded by the above grant.

This initiative is also encouraging local school children to get involved in STEM subjects, including amateur radio. One local school set up an amateur radio group and a number of students and a teacher are now licensed. This all helps to improve their preparedness, ability, and communication options during an emergency and may spark an interest in wireless technology.

This remarkable initiative shows how a little out-of-the-box thinking (or perhaps desperation) can go a long way.

Conclusion

I've been very surprised in researching this story. My initial expectation was that I was going to find not much happening and that the time had passed when radio amateurs had much relevance in modern emergency communications.

Perhaps things have changed and I've been out of touch, or maybe it's because WICEN has no central media arm, or it's just because radio amateurs like to keep their light under a bushel and are just lacking self-promotion.

Whatever the reason, I stand corrected. Although amateur radio emergency groups are very much a mixed bag and some may fit into that category, other groups have formed strong linkages with other emergency response and community organisations and are clearly thriving and entirely relevant.

Radio amateurs who activate parks (POTA) and summits (SOTA) already have highly field-ready stations with the potential to provide the skills and knowledge gained in these activities during emergency situations. They may not be actively involved in existing emergency groups, such as WICEN or rescue groups, but would be in a good

position to assist should the need arise.

Although it generally appears true that amateur radio is being used less by emergency services for a total solution (manpower and equipment), it is still making a very valuable contribution to the Australian community through its support of charitable organisations and community events. Not only that, it promotes amateur radio in the process.

Acknowledgements

I would like to acknowledge the assistance of the following people in the preparation of this article: Neil Fallshaw VK2XNF (WICEN NSW & VRA Rescue NSW); Richard Murnane VK2SKY

(WICEN NSW); Fred Swainston VK3DAC/ VK4FE (Silverdale Training and Development); Stuart Dunk VK4SDD (Tablelands Amateur Radio Club).

Sources

- [1] <https://tinyurl.com/NEMA2020>
- [2] www.homeaffairs.gov.au/emergency/files/plan-disaster-response.pdf
- [3] <https://nema.gov.au/stories-national-situation-room-upgrade>
- [4] <https://nema.gov.au/>
- [5] www.pmc.gov.au/publications/australian-government-crisis-management-framework-agcmf
- [6] www.defenseadvancement.com/news/australian-defence-force-upgrades-hf-communications-system/
- [7] wicen.org.au

Contesting 78th running of the Oceania DX Contest 2023

Tony Burt VK3TZ, VL3E, Deputy Chair Oceania DX Contest

PHONE: 7-8 October, 0600 UTC Sat. to 0600 UTC Sun.

CW: 14-15 October, 0600 UTC Sat. to 0600 UTC Sun.

Log deadline for both Phone and CW: 31 October.

The Oceania DX Contest is fast approaching and this is the opportunity to work the world in a contest when the DX is pointed our way. No need to work the world off the back of the beam in this one.

Help promote the Oceania region to the rest of world, whether it be for 24 minutes spread out in 4-minute intervals across the weekend in a big multi-op effort, or for 24 hours solid to knock the socks off the single-op big guns!

There is plenty of fun to be had with a plethora of DXpeditions planned to be active during both OCDX weekends in October. Maybe you will pick-up a few new ones or enjoy being at the other end of the pile-up.

The solar flux is on the rise and this could be the biggest OCDX event ever, with over 1500 logs being received each year this decade. There is plenty of fun to be had whether you help out your club station, operate single band or multi-band. The 100 Watt power class is still the most popular.

Hope to see you in the contest having fun. Here is a brief rundown of the rules, or visit

the website – oceaniadxcontest.com – for full rules and list of available plaques. Don't forget to take note of our plaque sponsors and committee members who help ensure the contest remains alive and flourishing.

Cheers, good luck, and good DX.

AIM

The aim of the contest is to promote HF contacts with stations in the Oceania region. Oceania to Oceania and Oceania to DX contacts are permitted, including SWLs.

Bands, Points, Multipliers

All traditional bands 160m to 10m. WARC bands are not permitted. Each QSO scores 20 pts on 160m, 10pts on 80m, 5pts on 40m, 1 pt on 20m, 2 pts on 15m and 3 pts on 10m. Each new prefix on each band is a multiplier, eg: K1 on 10m is a multiplier and K1 on 15m is another multiplier.

Exchange

RS(T) report plus a progressive contact serial number starting at 001. Multi-two and Multi-Multi Operator entries are to use a separate serial number for each band.

The final score

The final score is the sum of the Contact Points multiplied by the total quantity of Multipliers.

Plaques and Certificates

There are more than 40 different plaques and awards available with at least 22 of these winnable by VK stations. 1st, 2nd, and 3rd place certificates for each category are available, as well as participant certificates. There are plaques available for YL, youth and newcomer entrants.

There is also an Australia Club Plaque for the local club that has the most entries combined in the Phone and CW events. Why not get your club involved and be only the 3rd club to win it, giving the GARC and EMDRC clubs a run for their money!

See the website for current category all time high scores and see if you can better one of them. The SSN is getting higher and now may just be the perfect time to set a record score.

Full Rules

The Full Rules can be found online, at: www.oceaniadxcontest.com/rules

Logs

Electronic logs in Cabrillo format are now mandatory but there are many free contest logging software programs available that include the Oceania DX Contest. There are also tools to input a hand-written log.

Submit your Cabrillo log file using the on-line submission form on the web site, at: www.oceaniadxcontest.com

Planning ahead for when all else fails

Amateur radio plays a role in new Disaster Emergency Management Centre on Qld Gold Coast

Roger Harrison VK2ZRH

Amateur band HF and VHF-UHF radios have been installed in the new \$25M, purpose-built Disaster Emergency Management Centre (DEMC) opened earlier this year on Queensland's Gold Coast.

The new centre, completed in March, replaces the old disaster management centre at Southport, which had come to the end of its useable life. It has been built to withstand the worst of cyclones and violent storms to which Queensland is prone, as well as other large or local-scale disaster emergencies.

The DEMC serves the Gold Coast local government area (LGA), which extends from South Stradbroke Island in the north, down to Point Danger at the NSW coastal border and inland to the Scenic Rim area in the west. It serves a population of some 650,000 people spread over an area of 1334 square kilometres. It is the second most populous LGA in Queensland, behind Brisbane.

Unlike the situation in other states where emergency services operate under centralised state government agencies, Queensland Disaster management coordination is the responsibility of local government. The nature of emergencies can be widely different across the state geography, hence disaster response arrangements is the province of local councils, via Local Disaster Management Groups.

While the population density of the Gold Coast is some 485 people per sq km, the population is

largely concentrated on the coastal strip. However, residents in the hinterland can be sparsely scattered, with some houses and properties some kilometres apart. Across the Springbrook area in the south west, for example, experience has shown that residents can easily become isolated for days at a time in natural disasters when the landline telephone and mobile phone systems are prone to going down.

The DEMC functions as a command centre through all phases of emergencies across the Gold Coast LGA, from first response through to recovery.

The centre's Coordinator, Disaster Management, David Youssef VK4MAY, explained that the new centre was designed to be self-sufficient, to continue operations for up to a week independently, should all power, water and telecommunications facilities go down in a major emergency. Operations are scalable, working with five staff as a minimum, up to 120.

Installed at the DEMC are multiple government wireless network (GWN) transceivers to establish and maintain communications with Police, State Emergency Services, and local government officers. The Centre can monitor the VHF network of over 70 river and rainfall gauges across the LGA to monitor flooding in real-time.

"While the DEMC has multiple fibre connections in addition to

Starlink, the amateur radio gear provides ultimate redundancy if all else fails," Mr Youssef said. "The amateur radio equipment cost is quite low," he said, in comparison to that of all the other communications equipment. It made sense to include it. Airband, and VHF marine analogue transceivers are also included in the centre's facilities.

Starlink is a satellite system that offers an internet facility in lieu of fibre systems. Starlink is the satellite internet constellation operated by American aerospace company SpaceX, which provides satellite internet access to some 56 countries, including Australia.

The amateur equipment includes an Icom IC-7300 HF-6m transceiver along with a dual-band 2m/70cm rig, Mr Youssef explained. A Codan 9350 tuneable mobile antenna on the roof is under test as the primary HF antenna. Where deemed necessary a multiband dipole can be erected on an outside tower adjacent to the centre and connected via coax cable to a coax connector on the outside of the building.

David Youssef VK4MAY has established a relationship with the Gold Coast Amateur Radio Society (GCARS) through President, Mark Hanrahan VK4DMH, to organise expert support from members. Coincidentally, some local amateurs are employed at Gold Coast City Council.



Inside the emergency centre. Over 70 workstations provide staff with disaster management updates to action during emergency operations.

Newcomers' Notebook

Have Go Box, will travel

Jules Perrin VK3JFP, Publications Committee Technical Editor

This issue needs an article on the Go Box, they said. My first question was: "What the heck is a Go Box?" Well, what an interesting journey this became and here is the story. It's not the anthology of Go Box design, but we have to remember newcomers need to start somewhere.

What is a Go Box?

A Go Box is a complete, all-in-one portable amateur radio station. Something that you can pick up and take with you in the event of an emergency situation where independent communications is needed.

Figure 1 above shows a completed Go Box station sold by shack-in-a-box.com. This unit includes an all-bands HF/50 MHz rig, an automatic antenna tuner, a 2m/70cm VHF/UHF rig, and a pair of loudspeakers, all



Figure 2. This clamshell style ABS "instrument case" features ribbed construction, air-tight O-ring seals, and both pluck foam and eggshell-foam inserts for equipment protection. These cases can be obtained in various sizes, ranging from 515 (w) by 200 (h) by 415 (d) mm (415 x 186 x 355 mm internal) through to 210 x 90 x 135 mm (186 x 75 x 123).

housed in a durable portable container. This, of course, is a "top shelf" style of Go Box, but the general principles of the Go Box idea are well-illustrated.

The very portability of a Go Box makes it popular with enthusiasts of POTA, SOTA, Field Day contests and such-like outdoor ham radio activities

- Parks-on-the-air, Summits-on-the-air, World-Wide-Flora-&-Fauna, John Moyle Memorial National Field Day, etc. A Go Box also serves as a portable backup for your home station.

Thinking about this idea, my little mind exploded with questions you need to consider in planning, designing, and building your own Go Box.

Buying a ready-made Go Box is an option, but as we are generally experimenters and tinkerers on our own level, building our own Go Box is at least rewarding and fun, as well as having the advantage of saving money.

So, what are the basic components needed in a Go Box?

- A radio (or two?)
- A storable antenna
- Antenna tuner
- Microphone/s to go with the rig/s
- Power source (optional?)
- A suitable, robust box

Each component needs careful consideration to meet your own needs.

The radio

Amateurs have many bands to choose from when selecting an operating frequency range. The priority for the selection for your Go Box rig is functionality. Will it cover the bands you require in emergency operations?

What is a suitable, or workable, power output rating for a transceiver? For emergency operations under likely or extreme conditions, your choice will



Figure 1. A Go Box station featuring two popular Icom transceivers, the IC-7300 covering 160m-6m, and the IC-2730A for 2m/70cm. The LDG model Z-100A antenna tuner at top right ensures that a variety of antennas can be accommodated. The case is a "rack unit" type; these generally come with top and bottom covers to protect the installed equipment during transport.

generally be for a QRP rig, but perhaps not too-QRP - so, 5-10 Wpwp output but not 0.2 Wpwp. Likewise for SOTA or POTA style operations.

A 100 Wpwp transceiver in which the power output can be set at lower values may be a good candidate for a Go Box for both emergency and for Field Day activities. The IC-7300 in Figure 1 is a good example.

Working "all bands" from a Go Box allows you flexibility, but it means extra equipment to fit in, such as an appropriate wire antenna, or several, and maybe a larger power source to suit the multi-band radio. A single-band, or even a tri-band transceiver might suit your ideas.

If your preference is for the VHF and UHF bands, the availability of repeaters in an operations area in the event of an emergency should be considered.

For obvious reason, the radios you consider should be powered by a 12 volt DC source. This provides you with a variety of options.

Power source

Knowing which band or bands you want to operate, and you have selected the radio or radios that meet your needs, the power consumption can be calculated. Hours of operation and mode of operation also need to be considered at this point.

The mode of operation is important because monitoring a frequency(s) draws little power. In relaying messages, constant-



Here is an eminent example of a 'start-out' Go Box portable station. Carmel VK2CAR put together this QRP station-in-a-clamshell. The blue object at left is a high-capacity lithium battery, a homebrew 7 MHz SSB transceiver takes up the middle area, while the low-power antenna tuner (a ZM-2 by Emtech) is on the right. Her transceiver is a 'single-board' DIY kit, an ILER-40, featuring ~5 Wpwp output and low current consumption on Rx. The kit is from ILER in Spain and sold on-line. Carmel housed the transceiver in a project box and made a homebrew front panel.

power transmission modes will drain a rechargeable power source rapidly.

You may want your Go Box to include a battery, or decide to carry a suitable battery along with the Go Box. Using your vehicle as the power source may not be a sensible option as a flat battery in the middle of nowhere is not conducive to having a good day, particularly during an emergency.

Once you have the battery capacity worked out, now you need to recharge it on the move. Your vehicle may be an option for this, with solar panels as an alternative. If you are working in an area where there may be limited sunlight, consider making provision for a spare battery.

Antenna and ATU

The selection here is entirely personal. An antenna in the UHF and VHF range offers the possibility of mounting on the Go Box. HF antennas necessarily need to be a wire type, such as a single-band dipole or multi-band linked dipole. A coaxial cable feedline between the antenna and the rig also needs to be accommodated.

For operation on the HF bands, an antenna tuner is generally an essential item. Even when using a coax-fed style of HF antenna, getting as much power to the antenna as possible is the key to effective operations. Some HF rigs include a basic antenna tuner; experience (ask around) will inform you if it meets the needs of your likely operations.

Small antennas are easily erected and dismantled. Larger antennas take more time to erect and dismantle.

Microphone

Handheld microphones are best suited to portable use, whether for casual on-air activities or during emergency operations. Consider including a spare. This should be of the same type and model that suits the radio.

Microphones that include an amplifier and/or compressor – the so-called "power mic" – draw more current, which will affect your power consumption calculations. Some larger microphones, meant for radio shack use,

may be too bulky and not robust enough for portable emergency operations.

The box

All this equipment needs to fit into a rugged case of some sort. When researching this topic, I saw photos of Go Box assemblies in cases ranging across tough plastic, metal, and wooden cases – and some combinations of those materials. The choice of box is also personal.

Plastic is a good option, but I've seen photos of assemblies in metal and wooden cases. The choice of box is also personal. Test instrument cases (aka road cases) made of moulded ABS (acrylonitrile butadiene styrene) plastic, like that shown in Figure 2, are widely available from a huge variety of suppliers – both "bricks-and-mortar" retailers as well as online marketers.

When choosing a box, don't forget to account for the inclusion of any extras, as well as any necessary connecting cables.

FURTHER READING

Articles

A Go-Box for the IC-705, Dino Papas KLOS, QST, June 2022, ARRL.

Build a Rapid Deployment Radio Go-Box, Glen Popiel KW5GP, QST, September 2015, ARRL.

QRP Go-Box 2023 with Icom 705 and Windows II PC, Karl-Heinz Krawczyk DL1GKK, online at: dl1gkk.com

Extras

SWR Meter. An SWR meter is a great idea if you are operating portable on HF. Some tweaking is always needed when changing sites and re-erecting the antenna.

Lights. The radio may have operating lights, but you will still need some sort of lighting for the rest of your operations. Writing in logbooks or relaying messages in the dark could be a tad awkward otherwise.

Tool kit. As Murphy said, "Sometime, somewhere it will break." This always happens at the worst times. Packing a few essential tools like sidecutters, pliers, coax crimpers, screwdrivers and a multimeter would reduce the blood pressure a bit in the event of a breakdown.

Now I have learned a bit about Go Boxes. They are a great idea and worth consideration if you wish to go portable or prepare for an emergency.

Have fun and stay safe.

Small QRP Go-Box powered by Raspberry Pi4, KX2 and TH-D74, Karl-Heinz Krawczyk DL1GKK, online at: dl1gkk.com

Sources for instrument cases

www.jaycar.com.au
www.roadtechmarine.com.au
www.swamp.net.au
giggear.com.au
sounddevices.com.au



Our cartoonist, Carmel Morris VK2CAR, enjoying her portable home-built 7 MHz Icw-power SSB station at a local park.

Will McGhie VK6UU
e will2@inet.net.au



Legends behind VK6REX. Left - Ed VK6AIR, with John VK4JWG. Photo by Mal Johnson VK6LC. The caption for this photo last month was incorrect.

Firstly, a correction from last issue's West News. The caption to the page 13 photograph identified the two amateurs incorrectly. The photograph is reproduced again, here. This time with the caption correctly identifying the two amateurs. They were the legends behind the creation and installation of VK6REX at Exmouth.



Albany and Carnarvon are two sites for remote amateur radio stations in VK6.

While on the subject of the photograph, the photographer was Mal Johnson VK6LC, an 'amateur's amateur.' Sadly, Mal passed away in January this year. He lived and breathed amateur radio. His particular passion was DXpeditions. For more on Mal, go to his QRZ.com page at: www.qrz.com/db/VK6LC

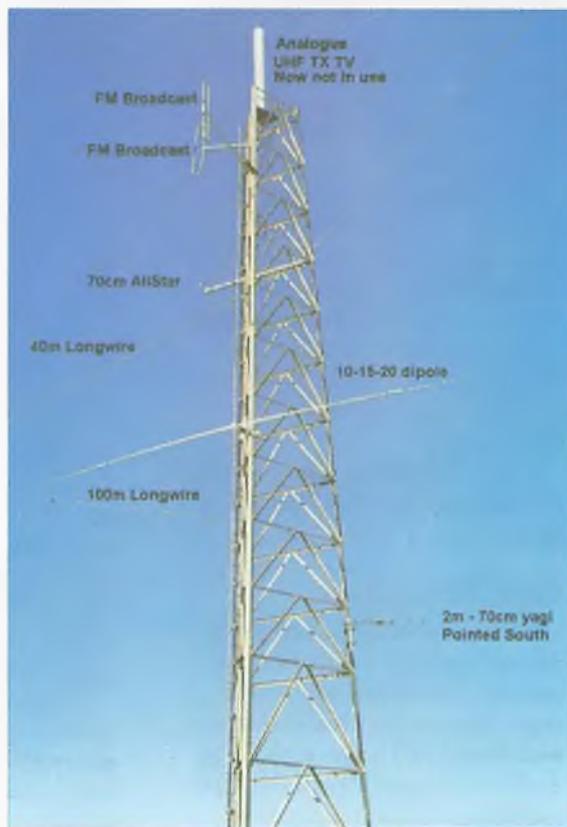
A truly remote station

Western Australia has several remote amateur radio station sites, two of which are a little out of the ordinary. Both belong to the Southern Electronics Group (SERG, www.hamradio.org.au). I asked Rob VK6LD and Nigel VK6CPU for some information on the remotes and was flooded with material.

There was enough for two editions of WestNews! Thanks Rob and Nigel.

One of the remotes is located at Albany, on the south coast of VK6. It uses an Icom IC-9700, with antennas for 2m, 70cm and 23cm, all beaming east across The Bight. The other remote, known as VK6CRO, is hosted by the Carnarvon Space Tracking Museum just outside Carnarvon, some 890 km north of Perth. The tracking station was used with the early Apollo moon exploration missions, as well as providing early satellite communications to Australia.

Rob VK6LD was the instigator of VK6CRO. He obtained permission to use the site, came up with the design idea, and has been the driving force behind setting up and maintaining the remote station.



Locked and loaded - antennas installed on the tower at VK6CRO.



Inside VK6CRO – showing the equipment rack.

Other amateurs have helped, but full credit goes to Rob. This really is a true remote station, not just in terms of full receive and transmit functionality, but also physically being some 900 km north of Rob's QTH in Perth.

Initially, the remote setup was a Yaesu FT-991 with a long wire and automatic ATU for HF with an 80/40m trapped dipole antenna. A horizontal halo antenna for 2m was added later. The halo was subsequently replaced with a 2m/70cm dual-band Yagi directed towards Perth.

Rob VK6LD now takes over with an update on the VK6CRO station for us.

VK6CRO update

I had the chance to get away from the cold and head back to Carnarvon for a few days in July to do a bit more work on the VK6CRO station with Peter VK6LB. We took down the 80/40 trapped dipole; the local conditions had definitely taken a toll on both the stainless and

galvanised fittings. The HF antenna was replaced with a 10/15/20 metre trapped dipole by TET-Emtron, from Mark VK6MOA.

For testing, we have set up a 100 metre long end-fed antenna, stretched from the tower to another structure. So far, we have made a couple of QSOs, but not really had that much time to test it.

We also installed a marine automatic identification system (AIS) antenna and receiver, as well as helping the museum people to put in a new Wi-Fi link for their internet, along with tidying-up some of their IT problems.

Next from Nigel VK6CPU, describing 6m operations from grid square OG65 in northwest VK6 using the VK6CRO station.

50 MHz from VK6CRO

Out of curiosity, I started monitoring 6m from the site in March 2022 using just the long wire antenna and was surprised at what could be heard – really strong Evening TEP from JA/HL and, around the March equinox, weak signals from 9K2 (Kuwait) and AP2 (Pakistan).

There was no transmit capability at the time because of the limitations of the ATU. However, encouraged by these observations, in September 2022 SERG installed at the site a 6m 3-element LFA Yagi looking towards Europe and the Middle East.

With such a simple set up, the results exceeded our expectations! There had been no 6m activity from OG65 since the mid-1980s when Andy VK6OX, who worked at the tracking station, left the area. So this was a “new grid square,” much to the delight of thousands of JA Operators. I personally logged over 1200 FT8 contacts with JA in just the first two months, as well as a couple of dozen SSB QSOs.

Later, around the September equinox and in late December, quite a few Central Asian, Middle Eastern and European stations were worked on FT8. The most surprising contact to date, off the side of the

antenna, was a QSO with KL7HBK in Alaska, on 25/6/23. I understand that this may be the first KL7-VK6 QSO on 6m!

Over the last 10 months (to August 2023), over 43 DXCC entities and 178 grid squares have been worked from VK6CRO.

Conditions in the tropics on 6m are certainly very different to those at lower latitudes. Unfortunately, there are no longer any active 6m Operators in the huge area between the northern suburbs of Perth area and Darwin (greater than 2600 km). So, 6m operations from VK6CRO has given many EU stations their first 6m contact with VK6 and also provided an indicator of potential extensions of propagation to the south and east.

An online map of 6m FT8 contacts shows the amazing geographic distribution, from Japan, China and Mongolia, down through East Asia to Indonesia, Darwin, Malaysia, India, Pakistan, the middle Asian countries, across to the Mediterranean and clustered over Western Europe. But, conditions did allow for SSB contacts to happen when signal levels were high enough, particularly to Japan.

Some remarks on VK6CRO

Firstly, the VK6CRO remote station has worked well, with few outages and many issues fixed remotely. During the summer “tropo” months each year, along the Western Australian coast there are several propagation openings, some lasting a week or more. I first started using VK6CRO from my home QTH in Perth when a horizontal 2m halo antenna was installed and the station added 2m all-mode to its capabilities.

My first thoughts were – would the addition of a 0 dB gain antenna for 2m be of much use? I started monitoring the VHF group's beacon located at Wireless Hill in Perth via VK6CRO. The beacon in Perth is vertically polarized due to limitations at the Wireless Hill site.

What chance would a cross-

polarized 2m signal get to reach Carnarvon and be received on the 2m halo antenna? Well it did, and has proved a valuable first indication of tropo propagation along the coast. With the change to the horizontal 2m/70cm Yagi at VK6CRO, signals into Perth and further South to Busselton are now common during summer.

The remote station has allowed many interesting experiments to be done. For example, comparing different modes. I have transmitted CW, AM, FM and SSB to VK6CRO and listened to the results via the 'Remote Hams' capability. A surprise was just how good FM is compared to SSB! At signal levels above 0.1 uV, FM is better than SSB. As expected,

SSB is better below 0.1uV. Nothing new, but fun amateur radio.

In addition, AM is also surprisingly good above 0.5 uV. However, you cannot beat CW, it is usually close to 20 dB better than SSB. I was able to receive my CW on VK6CRO at a signal level of 0.015 uV (-143dBm), which is a path loss of 120 dB. The modern digital modes work at levels as low as 20 dB lower than SSB, but CW is not far behind.

And if that's not all

You may have noticed that the 6m antenna is not mounted on the main tower. It is located on a pole away from the main tower. The same pole holds a vertical 4-element 2m Yagi

for APRS pointed at Indonesia (YB) that transmits a packet every 15 mins on 144.390 MHz.

When the 2m band is selected on the FT991 at VK6CRO, the APRS transmissions are halted to reduce QRM. The APRS equipment is a Tait TM8100 transceiver with an Argent Data Tracker 2 modem.

Sign-off

With thanks to Rob VK6LD and Nigel VK6CPU for most of the material for the article. I may well add more in the next edition of WestNews as the Carnarvon site, despite its ageing, is still of considerable interest, with amateur radio being a part of it.



Gold Coast Amateur Radio Society HAMFEST 2023

Sunday 12th November 2023

Venue: Country Paradise Parklands

231 Beaudesert Nerang Rd, Nerang QLD 4211



- Doors open to the public at 08:30 (Table holders can set up from 07:00).
- Everything is under cover.
- On-site parking.
- Entry only \$5:00 per person.
- Further info <http://www.gcars.com.au>
- Table bookings ect please email - hamfest@gcars.com.au

See you there!

Silent Key A 50 MHz champion



The RSGB has expressed shock and sadness at the untimely passing in June of Alexandre 'Sascha' Kholod, Head of International Frequency Planning at the Swiss regulatory authority and Chairman of the CEPT WRC-23 Conference Preparatory

Group. He was only 49 and widely respected and influential in CEPT and the ITU.

Importantly for amateur radio, he chaired the CEPT Project Team that led to the successful 50 MHz amateur allocation for ITU

Region 1 at the 2019 World Radio Conference (WRC-19). The RSGB noted that his warm and professional personality will be sadly missed.
RSGB, ITU



Jewel of a diamond jubilee for Three Alpha Tango Lima 75th Anniversary of the Geelong Amateur Radio Club VK3ATL

Tony Collis VK3JGC



Photo 1. Ray Cowling VK3ACR, left, is presented with a Life Membership award by GARC President, Peter VK3KP.

On the 7th of June 1948, 12 radio amateurs in Geelong met at the house of Bill Browning VK3BU. From this event evolved the first meeting of what was to be the Geelong Amateur Radio Club. Alex Bell VK3ABE chaired the first meeting at the studios of the Geelong Radio Station 3GL that formally establishing the Club and adopted a constitution. Later, the

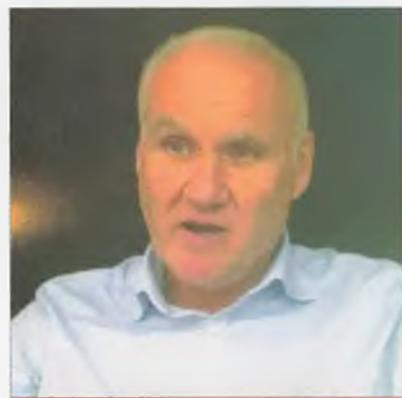


Photo 2. Scott Williams VK3KJ, WIA President.

call sign VK3ATL acquired.

The VK3ATL call sign was used for the very first time on the 7th of December 1948 on the 40 meter band by Dick Heighway VK3ABK, using his war surplus Type A Mk111 Transmitter.

Celebratory dinner

On the evening of 7th June 2023, a celebration dinner was held at the Geelong RSL to mark the 75th anniversary of the founding of the Club, with the current GARC President, Peter Andjelkovic VK3KP, acting as the Master of Ceremonies for the occasion.

Barry Abley VK3SY initiated proceedings by first acknowledging the traditional owners of the land, the Wadawurrung People, and then recognising the heritage of Captain James Newland VC, our venue's namesake. Peter VK3KP then read out a congratulatory letter from Councillor Trent Sullivan, the Mayor

of Geelong.

Rob Hensel VK3EHT then screened a short video tribute to the GARC from Scott Williams VK3KJ, President of the Wireless Institute of Australia. Mike Trickett VK3ASQ followed up with a video he took of the building of the club house in the early 1970s, in Storrer Street, Geelong.

Tony Hambling VK3XV, President of Amateur Radio Victoria gave a presentation citing the historical quality and depth of the ongoing relationship between the two Victorian Clubs.

Chas Gnaccarini VK3PY then read out a statement supporting a Life Membership for Ray Cowling OAM, VK3ACR, for his enormous contribution to the GARC over several decades. Peter VK3PK then presented Ray with his certificate. Ray made a short acceptance speech in response, thanking all who made the evening so memorable.

VI75G for the year

The Club gained the Special Event call sign VI75G, which has been



Photo 3. Tony Hambling VK3XV, President of Amateur Radio Victoria.



Photo 4. The Club's Type A Mark III transceiver; the accessory box (with dial) is a modern addition. These rigs were for WW2 resistance fighters and spies, carried in a red leather suitcase, the 'Go Box' of that era (Photos by Bert VK3TU).



Photo 5. The Club's 75th anniversary QSL card.

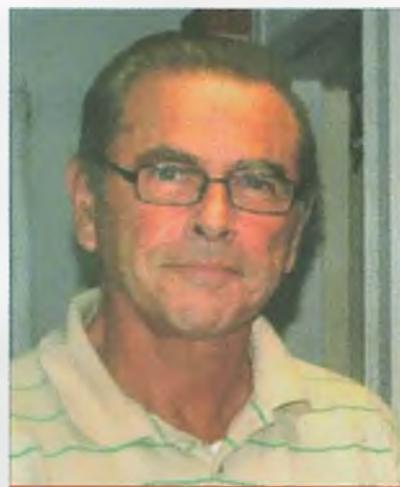


Photo 6. Tony Collis VK3JGC

in use since 1 January 2023. It was prominent in several regular contests including the Summer VHF/UHF field weekend, the John Moyle Field Day, and the CQ WPX Contest. The VI75G QSL card, designed by Bert VK3TU, is a much-sought memento.

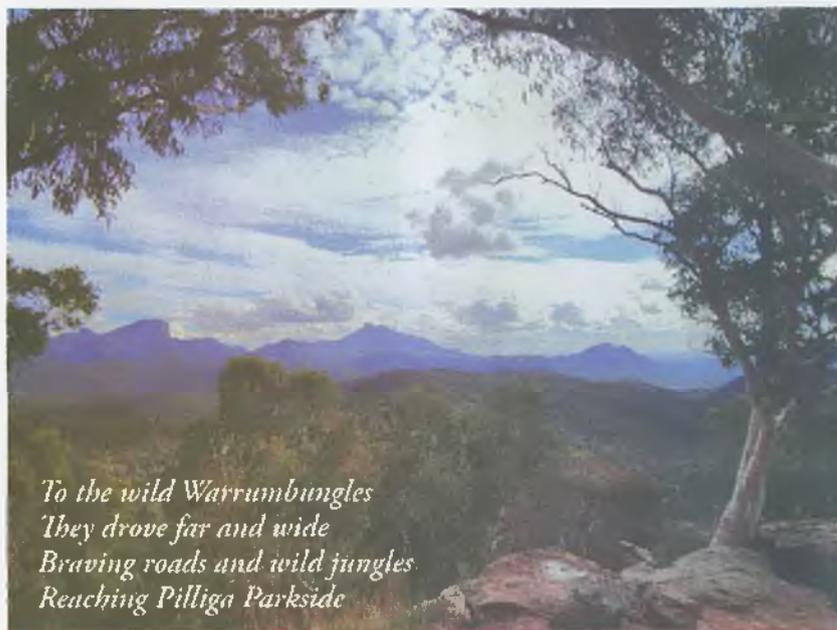
In the six months to mid-year, over 1500 QSOs have been made, with 142 DXCC Countries logged on all bands between 160m through to 70cm using various modes from FT-8 plus other digital modes, and SSB.

Progress

Since that first contact on the 7th of December 1948, the Club's radio equipment, as depicted on the Special Event QSL card, and antennas, have improved significantly in what is now the Ken Jewel Radio Room (after prominent member Ken Jewel VK3AKK (SK) – Ed.).

- For VHF/UHF, an ICOM-9700 with a 10-element 2m Yagi and a 16-element 70cm Yagi.
- For HF, an ICOM IC-7300 and an ICOM IC-PW1 amplifier, with a 3-element tri-band Yagi for 20, 15 and 10 meters, as well as a 5-element Yagi on 6 meters.
- There is also an ICOM 7610 with wire antennas for 160, 80, 40 and 30 meters.
- All antenna switching is fully automatic.





*To the wild Warrumbungles
They drove far and wide
Braving roads and wild jungles
Reaching Pilliga Parkside*

Panoramic view from Warrumbungle National Park lookout (photo by Dan VK3NDG).

2023 Pilliga Park-fest report

Marty Nelson VK4KC

The second annual Park-fest was held over 29-30 April 2023 in the Pilliga region of New South Wales, which is to the north of Coonabarabran. The first Park-fest, held in the Dorrigo region in 2022 (see *AR*, Vol.90, No.4-2023, pp46-48), was such a success the organisers knew that this event needed to be at least an annual meet-up of keen ham radio operators gathering to live the dream of activating parks.

This annual event is for participants of the WWFF and POTA programs. Our base camp was established at the Pilliga Pottery and Farmstay (www.pilligapottery.com.au).

They came from far and wide

The invitation went out to all hams interested in the event. It was great to have VK1s, VK2s, VK3s and VK4s who made the trek to the Pilliga in northwest NSW. In fact, there were 20 POTA-WWFF activators in all, which was double those for last year.

Those attending were:

VK1: Alan VK1AO, Sue VK1NRU, Jim VK1RF,

VK2: Gavin VK2YAK, Bob VK2BYE, Col VK2VAR, Gerard VK2IO, Bridget VK2BRE, Compton VK2HRX, Pete VK2LP, Alec VK2APC, Richard VK2OKR, Bob VK2EG

VK3: Megan VK3TIN, Dan VK3NDG, Tony VK3YV

VK4: Marty VK4KC, John VK4MUD, Mark VK4EMP, Scott VK4MGL

Operators came from as far as the Sunshine Coast (VK4) in the north, Gippsland region (VK3) in the south and the Barossa Valley in the west.



The Pilliga region in NSW is just to the north of Coonabarabran.



Alec VK2APC activating a park. It was a father and son occasion, with Alec's dad, Pete VK2LP, also joining-in the Park-fest.

Driving from their home QTHs to the Pilliga for most of the participants was the official start to the Park-fest, with many activating parks on their route.

Several operators made a head start to the event by leaving early. John VK4MUD, Alan VK1AO, Bob VK2BYE and Col VK2VAR, and Gerard VK2IO, all spent a few days heading to the Pilliga, activating on the way, getting a head start on the parks in the Pilliga.

Dan VK3NDG and Tony VK3YV travelled in convoy from the Gippsland region, also activating along the way. Tony's vehicle had a major issue soon into the journey north but he was able to "make it work" so that he could complete the journey.

Both Mark VK4EMP and Marty VK4KC also worked parks on their way south and coordinated their efforts so that as one activated a park the other was at the next closest park. Then, once they completed an activation, they went from park to park southward allowing them to travel fairly close to each other (less than 20 km, in most cases). This allowed them to make park-to-park (P2P) contacts between each other on all bands from 80m through to 70cm.

Many wonder about what runs through Gerard VK2IO's veins. It must be a celestial fluid, especially made by the ham radio gods, as he is a dynamo, making 53 separate activations over the entire trip.



Our Pilliga campground. From left to right: Megan VK3TIN, Scott VK4MGL, Tony VK3YV, Dan VK3NDG, Bob VK2EG, and John VK4MUD.

Gerard is a portable operator legend and all the other activators appreciate him sharing his knowledge and wisdom. We left him with a huge job to do upon his return home and it took a couple of weeks for all the processing to be done.

The Pilliga pottery and Farm Stay was a great 'home base' for the weekend. Some travellers enjoyed staying in rooms with comfortable beds, while others enjoyed the familiarity of their own caravans. Then there were the real tough ones who used the site's camping facilities, dossing in tents or swags.

Those that camped or in vans, kept warm around the camp fire. The restaurant specialises in German cuisine and the large bench-style tables enabled many to have animated discussions over dinner.

Inquisitive onlookers

Magnetic car badges again proved a success in 'advertising' who we are. Many park activators had inquisitive onlookers interested in what was going on, providing an opportunity to promote the hobby and pass on a brochure explaining amateur radio and the pursuit of activating parks.

One such place was the scenic lookout at Warrumbungle National Park. It was popular with both activators and the public. Our headline photo for the event and participation certificates was taken at the White Gum Lookout by Dan VK3DGN.



Magnetic door badges once again proved effective for public communications.

Hunters and Activators

Travel distances this year were a little longer, but there was still an abundance of parks within a one-hour drive radius. It was still

easy to activate three parks a day, or more, for the more adventurous.

Most activation sites were able to be accessed via vehicle, so it gave operators the option to either activate from the vehicle or setup portable. Several parks were 'all-time new ones – ATNOs,' giving Hunters added incentive. Several parks were the recently added Aboriginal Protected Areas.

There was a good mix of solo activators and pairs; it was great to see experienced activators mentor less experienced activators. Then there were the three amigos – Bob VK2BYE, Col VK2VAR, and Alan VK2AO – who all operated together over the weekend. Several newcomers to radio and park activations was also a pleasant addition.

Each evening was spent discussing the achievements of the day, sharing park intel with others who were planning to work those same parks the next day and coordinating the upcoming activations so that we were not doubling-up too much.

Thanks are due to Megan VK3TIN at base camp who used a fixed frequency on 40 metres that was extremely valuable as most parks had unreliable cellphone reception; activators contacted Megan to have her update spots on the parks-n-peaks website.

Statistics

Over the weekend, including days to and from the event, the following statistics were achieved:

Separate park activations, total: 251

Total contacts recorded: 9968, including 2187 park-to-park

CW: 922
Digital: 141
FM: 183
SSB: 8206
Other: 516

Compared to last year's Dorriggo Park-fest, this is triple the total QSOs, twice the number of activations and more than four times the number of P2P (park-to-park) contacts.



Dan VK3NDG smiling as he was working a European pile-up!

The variety of portable equipment used included: Elecraft KX2, Icom 705 and 7300, Xiegu G90 and X6100, and Yaesu FT-891, as well as Codan and Barrett transceivers.

Antennas ranged from various types of wire dipoles supported by either extendable poles or hoisted over tree limbs using draw line, through to vertical whips on loading coils, which were very popular for quick deployment.

Sweet success

We would like to thank the generous sponsors who donated prizes for the participants' raffle. The event was a tremendous success and participants are already talking about Park-fest 2024. Next year's event may take place in two locations simultaneously if participation interest continues to grow.

The park activation programs (WWFF and POTA) are a great opportunity to get outdoors in Australia's most beautiful places and to refine skills in deploying portable equipment. We would encourage other activators to establish similar Park-fest events around the country. To learn more about these programs, see the following websites:



Gerard VK2IO activating from the summit of Mount Kaputar National Park.

- Worldwide Flora & Fauna (WWFF) in amateur radio, <http://wwff.co>
- WWFF in Australia program, <http://wwffaustralia.com>
- Parks on the Air (POTA) general information, <http://parksontheair.com>
- POTA participants site, <http://pota.app>

Sponsors

Amateur Radio Supplies: provided several antennas, plus earpiece-microphones.

VK2OKR: supplied a "heads up" display.

VK4KC: supplied five refurbished Fujitsu notebook PCs, QRM eliminator and POTA flags.



Portable partners - Jim VK1RF logging while Bridgette VK2BRE operates portable with an Icom IC-705 rig at Timmallallie National Park.



Mark VK4EMP running a Codan rig from the rear of his vehicle.



The Pilliga Park-fest crew assembled at the Farmstay campground.

Pettifoggery and pontification over place

Tripping over a stumbling block on where exams were held

Jules Perrin VK3JFP

Back in July, the AMC baulked at accepting and processing results from candidates who sat their amateur exams at dedicated premises adjacent to Jules Perrin's residence – which had previously proceeded over some years. The ensuing to-do is an object lesson for the future, when the ACMA returns in February next year to providing amateur radio assessment services.

My club, the Wyndham Amateur Radio Club (WARC), like many amateur radio clubs around Australia, is not fortunate to have a permanent structure to use as a “club house, or shack.” Meetings and get-togethers are held in people’s homes, in scout halls, and community halls, or wherever we can get a place.

One of the principles of amateur radio is to promote it through education and training, to bring prospective radio amateurs into our world. Our club takes this principle seriously and, over the years, pre- and post-COVID, the club has trained well over 20 people to pass their examinations successfully and obtain their licences.

The background

Before I retired, I built a dedicated business office on my property, which is physically separate to my own residence, the family home. This dedicated office has been used as the Wyndham Amateur Radio Club's training and examination facility.

All training and past exams for AMC have been conducted in this office since 2018, and the exams marked by AMC. I also have the equipment in this facility for the candidates to undertake the practical exam using actual equipment. Over 25 students passed through here before AMC decided I had breached the Guidelines.



Photo 1. showing the location of the dedicated premises.

On the occasion in question, while helping the latest candidates prepare for their regulations exams, I learnt that all four are engineers in the communications industry. They were sitting the Advanced theory and regulations exams.

In anticipation of all four achieving high marks, I felt it prudent to have two assessors supervise the exams. Accordingly, Mike Adams VK3KMA and I were the supervisors.

Why didn't these guys go for Recognition of Prior Learning (RPL)? It's a matter of charges and time.

Currently, a candidate seeking

RPL needs to pay a fee of \$208.00 to AMC and wait quite a while for the reply. In addition, the candidate usually must sit both the Regulations exam and the Practical exam. Each of these exams is charged-out at \$94.50. At this point, each candidate is up for \$397.00 to get their amateur licence.

As each candidate had their Foundation licence, they just needed the necessary theory and regulations certification to achieve their Advanced licence.

The cost to each candidate is \$194.00 and a finite time for the results to arrive.

The sticking point . . . s

The candidates sat their exams on 16 July 2023 and the completed exams were returned by post to AMC on 17 July 2023, in the usual way.

On 2 August 2023, I received a call from AMC stating that, as the address for my residence and the address where the exams had been held were the same, I must have conducted the exams in my residence; which contravened Para 3.1 of the "AMC Assessor Guidelines - FINAL 6 June 2022."

AMC advised that the exams would not be marked and no refund would be given to the candidates.

Phone calls and emails back and forth between myself and AMC continued for the next four days.

I demonstrated that the office was separated from the house and dedicated to the purpose of Club training. These emails were accompanied by photos of the separate building and interior of the office (Photo 1 and Photo 2).

The topic then switched from residence to insurance. "How are the candidates protected when they are in your residence?"

I explained that, as the office is considered the club's training room, the activities are supported and endorsed by the club and they are club activities. The club's insurance, which is provided through the WIA Club Insurance Scheme, covers these activities.

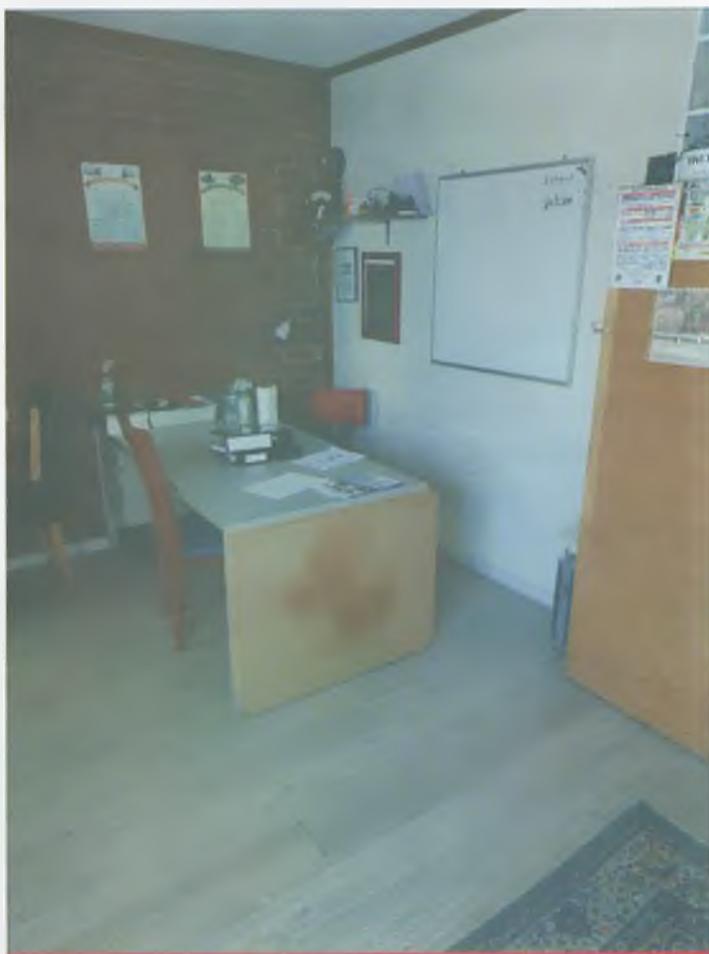


Photo 2. Inside the premises where I conducted amateur licence exams for the Wyndham Amateur Radio Club.

The insurance 'Certificate of Currency' for the Wyndham ARC lists the activities as:

Principally activities associated

with the promotion, protection, application, advancement of amateur radio & educational training, certification & licensing activities.

ASSURANCES UNFULFILLED

Opposite is the content of an email, reproduced *verbatim* in its entirety, sent in early 2019 to all WIA Assessors accredited at that time; also posted online.

Clearly written with all the self-assured hubris from a belief that scores had been settled, a prize won, the writer makes assurances about what the future holds from 2019.

As the nation-wide team of amateur radio exam assessors, prospective amateur licensees, and the wider Australian radio amateur community has since learned, many of those assurances did not, or could not, come to pass. Those criticisms of "the previous provider" were unfounded.

The AMC imposed its own bureaucratic business rules, the story here about the meaning of "residence" is a small demonstration

of the fluidity of interpreting those rules.

AMC established the amateur services clearly based on its business model servicing other industries. Apparently, AMC's experience since 2019 has led it to realise that conducting amateur radio services did not match its business model, announcing its exit earlier this year.

Roger Harrison VK2ZRH

The coverage of the insurance policy is valid worldwide.

The topic between us then switched back to the definition of 'place of residence.'

On 10 August, I received a call from AMC and, in the conversation, I was told that the CEO of AMC, Mr Dean Cook, had reviewed and upheld the findings by AMC that were conveyed previously.

That day I received an email stating that, as the exams were held in my "garage" and this was part of the residence, Para 3.1 (as above) applies.

The definition of 'residence' seemed to be the point at issue, here. The best and most appropriate legal definition of residence that I found was from the Australian Department of Social Services, as they deal with housing, which states:

A person's usual place of residence is the area where they normally live, sleep and eat."

*Guides to Social Policy Law ,
Social Security Guide, Version
1.309 – Released 26 July 2023*

[Seen at: <https://guides.dss.gov.au/social-security-guide/3/8/8/40>]

I feel that this is probably what the original author of the AMC Assessor Guidelines meant when they were drafted.

However, applying this definition to the AMC Assessor Guidelines, the club room / office, where the examinations were undertaken, does not fall within this definition. The AMC Assessor Guidelines were not breached.

Customer service upheld

In the meantime, the candidates were contacting AMC for their results. No contact was made at any time by AMC to their customers (the candidates) who had paid money for AMC to provide the examination assessment service.

On 16 August, one of the candidates rang me to say he just learned that AMC was marking all the papers.

On 17 August, I received an email from AMC with the candidates' results. All passed, most with 100%. This was anticipated as they are all communications and signalling engineers.

As of 22 August, I learned there was still a delay in AMC providing the candidates' forms to the ACMA as AMC staff were on leave.

Aftermath

Subsequently, I have not had any official correspondence from AMC, with a paper trail or signature of authority, as to their findings regarding my "breaching" of Para 3.1 of the Guidelines.

What do we learn from this encounter? As ACMA is taking over the examinations in 2024, we assessors need to be certain of what is the *intent and meaning* of words in future Guidelines.



Exam update from VK6AS

I returned to Perth late on Friday evening having spent the week with my colleague Glenn VK4DU and the staff of The Australian Maritime College in Launceston Tasmania: the new supplier of Amateur Radio Assessment and Call Sign Services.

The College is part of the University of Tasmania and holds full educational accreditation at all levels.

The college has an 18 year history of successfully and with almost no complaints delivering assessments and call signs for marine communications.

- Amateur Radio Assessments and call sign allocations will continue with only a minor interruption.
- There will be little initial change in the delivery of assessments and the AMC

will be in contact with all the current assessors as soon as it can to explain how the process will occur. Goodwill of the current team is considered critical.

- Despite rumours, there will not be a significant increase in cost for those wishing to obtain a certificate of proficiency or call signs.
- The current tiered structure of licences and call signs together with the underlying educational syllabus will not change in the short term and the ACMA through the College has outlined a methodology for engagement with the sector so that there will be engagement in any changes that may be proposed for the future.

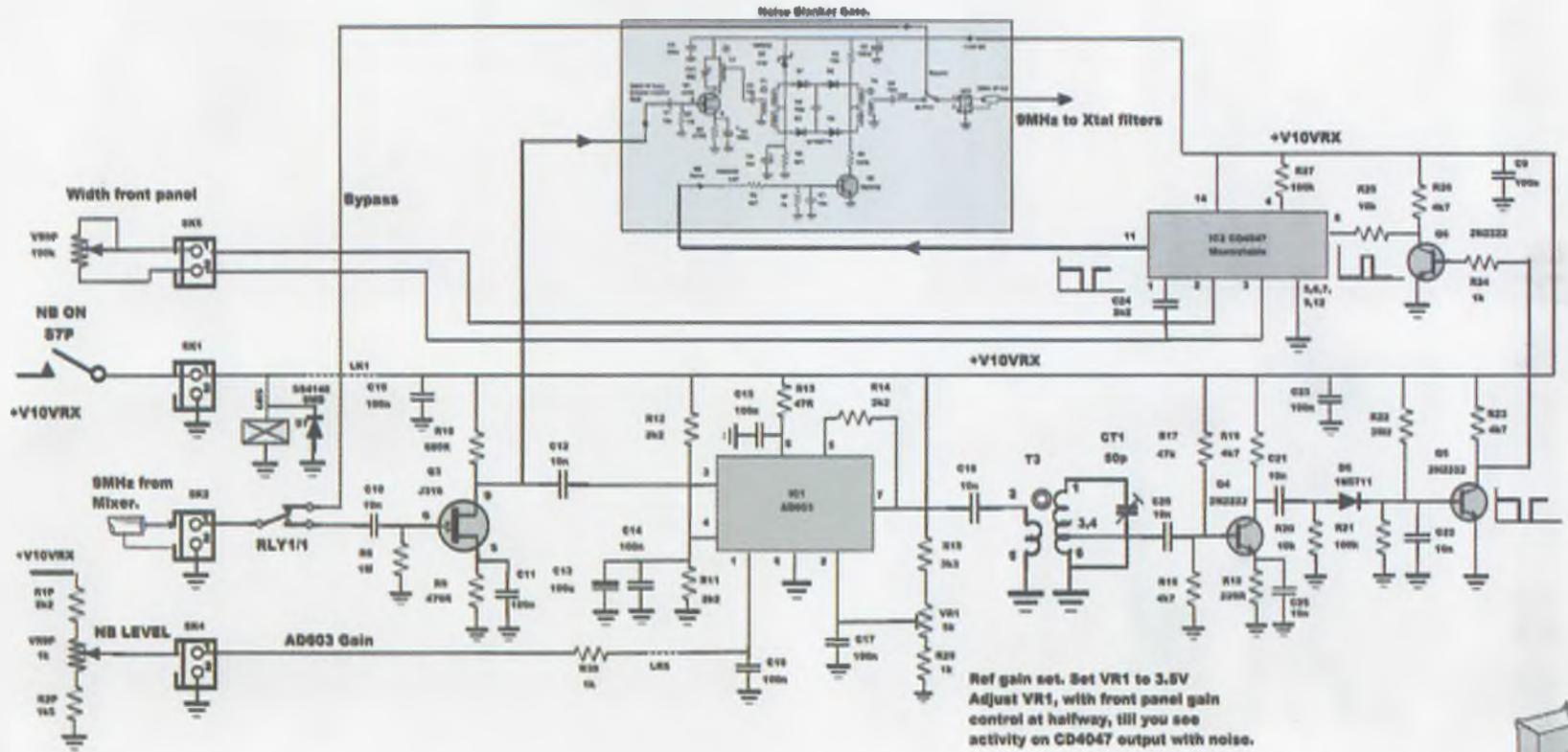
Finally and perhaps most importantly for those directly engaged with assessment and call sign allocation is that the

previous excessively onerous and bureaucratic business rules developed by the previous provider have been swept away in the new deal. This allows the College far greater degrees of freedom to introduce modern methodology for assessment and call sign management with the full approval of the regulator.

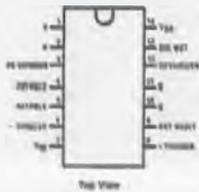
This can only be of benefit to the hobby and is probably the most exciting development in the last 20 years. I hope that you will be supportive of The Australian Maritime College and its advisors and faculty made up of radio amateurs such as yourselves but also with people who have professional experience in delivery and assessment in technical fields.

This is Andrew VK6AS

Noise blanker control



CD4047



Top view



J300 J310



T3: 51Turns on T50-6
tap 5 Turns, sec. 5 turns



Figure 6. Receiver noise blanker circuit diagram. The gate circuit section is shown in Figure 6B.

VK3AQZ describes his 80-40-20 metre 'rig for the road'

Homebrew three-band 100 W HF transceiver

Lou Destafano VK3AQZ

Second article: Receiver blocks from the Noise Blanker to the SSB/AM detector stage.

Receiver noise blanker

The noise blanker is based on a design by Ulrich Rohde NIUL [6]. This blanker circuit diagram, Figure 6, is like the Mk4.

Receiver crystal filters

The noise blanker feeds directly into the crystal filter section. The circuit diagram is shown in Figure 7.

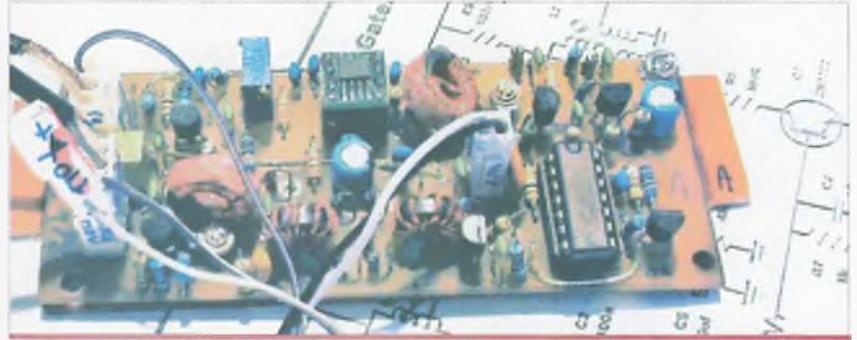
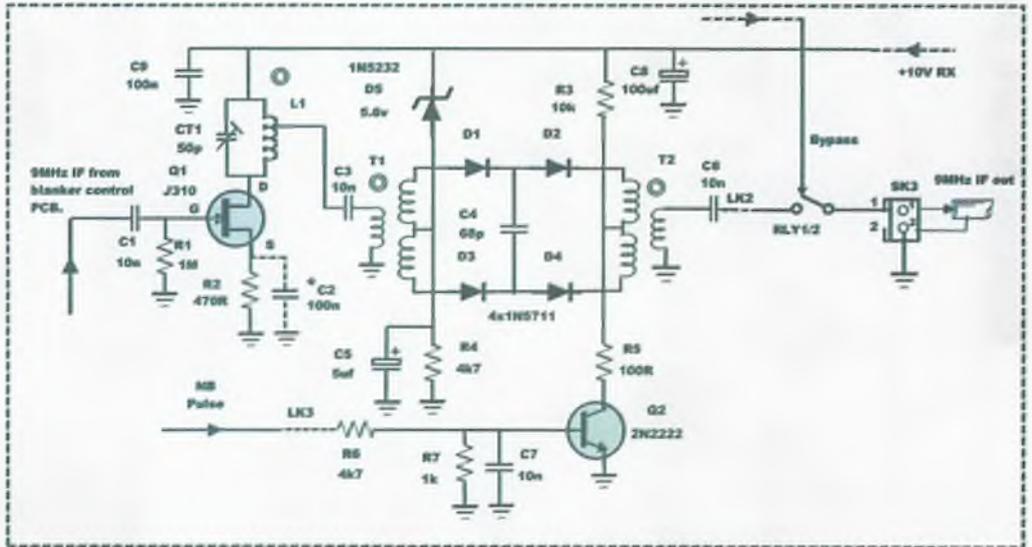


Photo 4. The receiver's noise blanker unit under test.

This section contains a set of three KVG 9 MHz crystal filters. The part numbers are as follows:

- XF9S-42 for Amplitude Modulation (AM)
- XF9S-43 for Lower Sideband (LSB)

Noise Blanker Gate.



*C2: remove if gain with NB switched ON is too high. Or detune CT1 so that gain does not change between NB on or OFF. Either will be okay.

C4: This capacitor tunes the core. To obtain best value, use a small 100pf trimmer and adjust for maximum signal through the gate. Then replace with a fixed value.

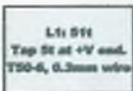


Figure 6B. The noise blanker gate circuit employs very effective diode switching.

Crystal filters circuit

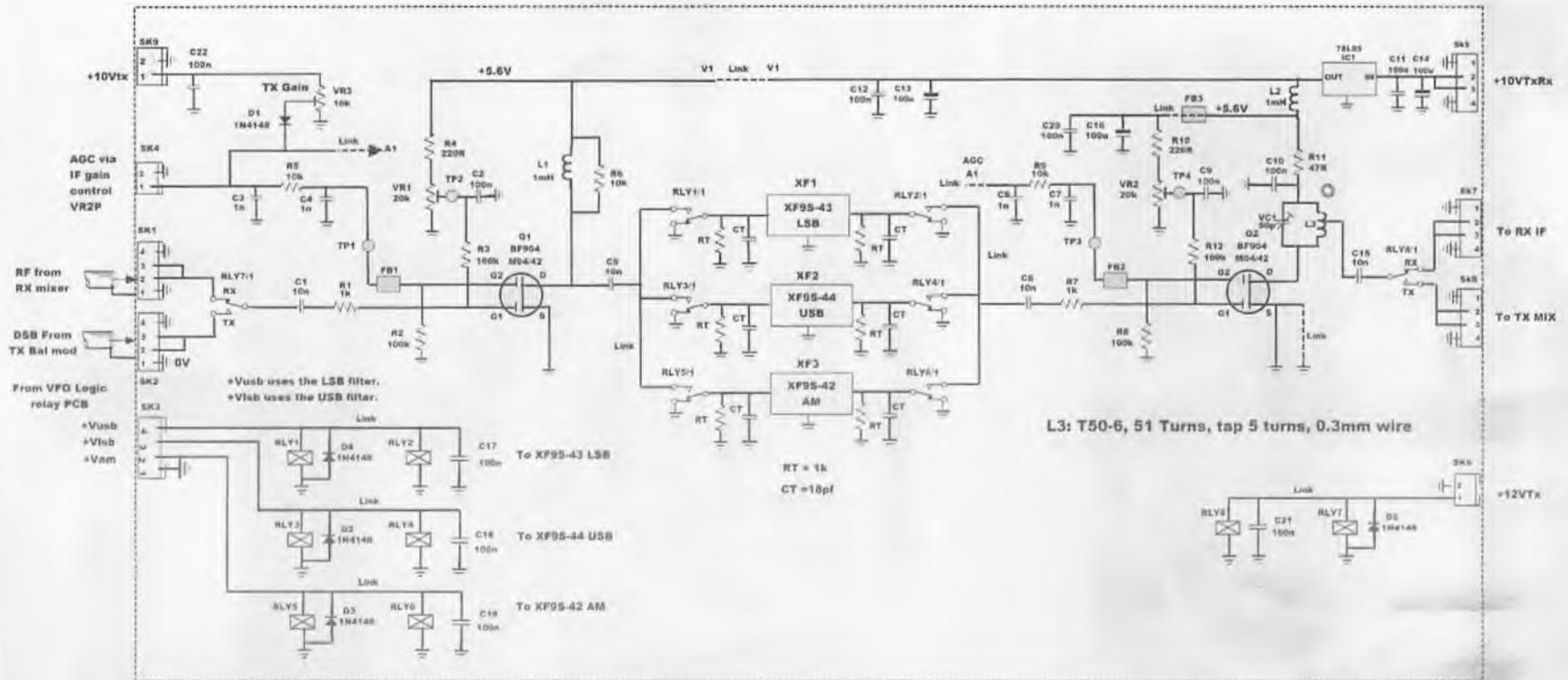


Table 4: TELRAD KVG filter tests by VK3AQZ

23/04/2020

KVG XF95-43 LSB and XF95-44 USB measured responses

Minus 6dB points	KVG XF95-43 LSB	KVG XF95-44 USB
Low frequency	8.996.333 MHz	8.999.956 MHz
Centre frequency	8.998.056 MHz	9.001.690 MHz
High frequency	8.999.779 MHz	9.003.424 MHz
3dB BW	3.1kHz	3.12kHz
6dB BW	3.45kHz	3.47kHz
BFD at -20dB	9.000.056MHz	8.999.690MHz

NOTE:
 Vtp1,3: Rx: 5.4V noise ONLY, Tx: 1.428V
 Vtp2,4: Rx = 1.5V, Tx: 1.5V
 VR3 sets the gain on TX. Try to keep gain low for minimum IMD in this section. Try not to overdrive the FETS on Tx.

Please note carefully: The USB filter is used for LSB, and the LSB filter, for USB due to Sideband inversion

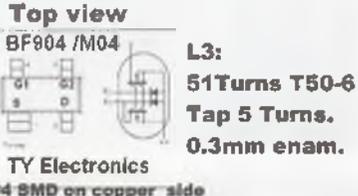


Figure 7. Receiver Crystal Filter circuit diagram. Three different bandwidth filters are switched-in as selected - USB, LSB and AM.

- XF9S-44 for Upper Sideband (USB)

I could not find a data sheet for these filters, so I measured them and found the following:

- SSB filters (XF9S-43 and XF9S-44) measured at 3 dB down, were around 3.1 kHz wide, and 3.45 kHz at 6 dB down. They were 4 kHz wide at -30 dB and the ultimate attenuation was around -90 dB.
- AM filter (XF9S-42) measured at about 7.2 kHz wide.

Normally, a matched set will work with only one BFO frequency for LSB and USB. However, the -20 dB point for the BFO frequency was not the same for the two SSB filters. The filters were approximately 400 Hz apart.

Interestingly, I later found remarkably similar results on ZL4SAE's website [7]. The above figures did not match some figures I had found earlier on a web forum, which were much closer to 9 MHz.

Once the filters were installed, and the BFO carefully adjusted for best resolved audio in both modes, the BFO frequencies were close to the ones calculated. Typically, for



Photo 3A. Showing the three crystal filter units mounted in the transceiver case. The eight yellow blocks are relays.

best resolved audio, the BFO does the job of reinserting the carrier that was suppressed in the transmitter.

A common rule of thumb is that the BFO is around 300 Hz from the edge of the filter pass band but that can vary, depending on the bandpass shape and the skirt response of the filter.

A point to note with crystal

filter bandwidths is the effect of the bandwidth on received signals. For example, if the filter bandwidth is 2.4 kHz, and the transmitted signal is 2.4 kHz wide, then the signal-to-noise ratio is optimum. If the filter bandwidth is 3.1 kHz wide, and the SSB signal is 2.4 kHz, then you have 3.1 kHz of noise but only 2.4 kHz of signal and the signal-to-noise

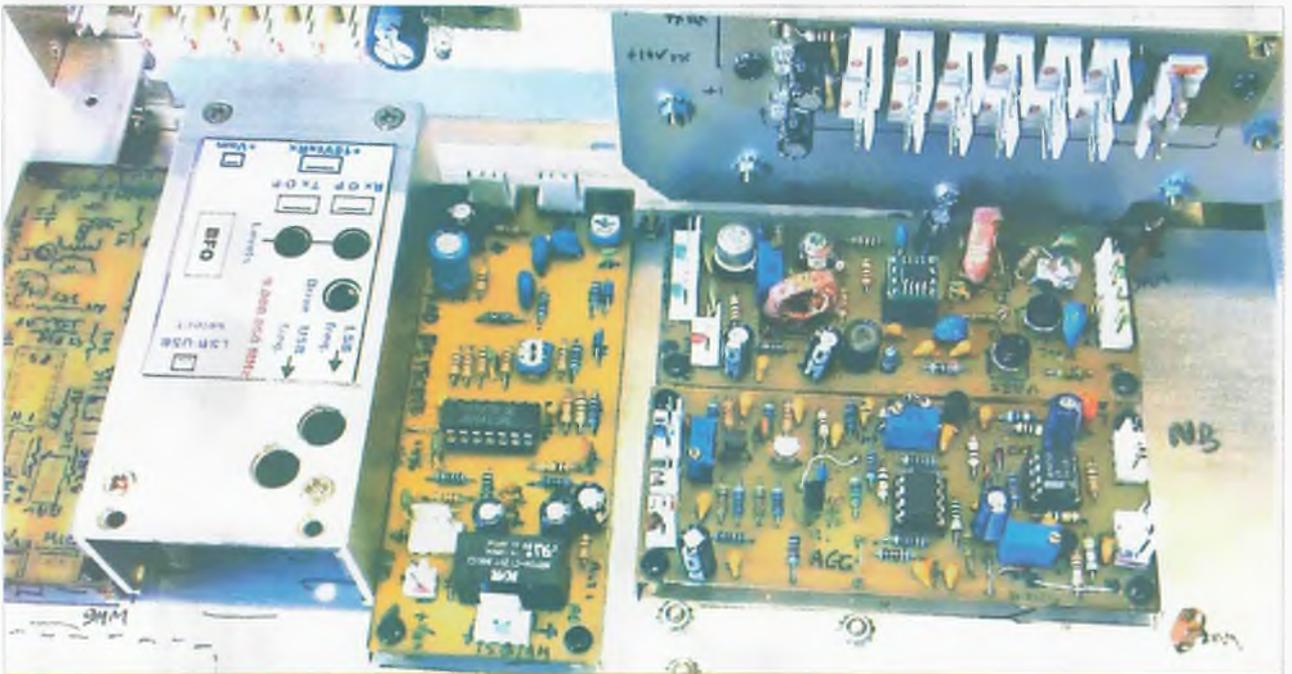
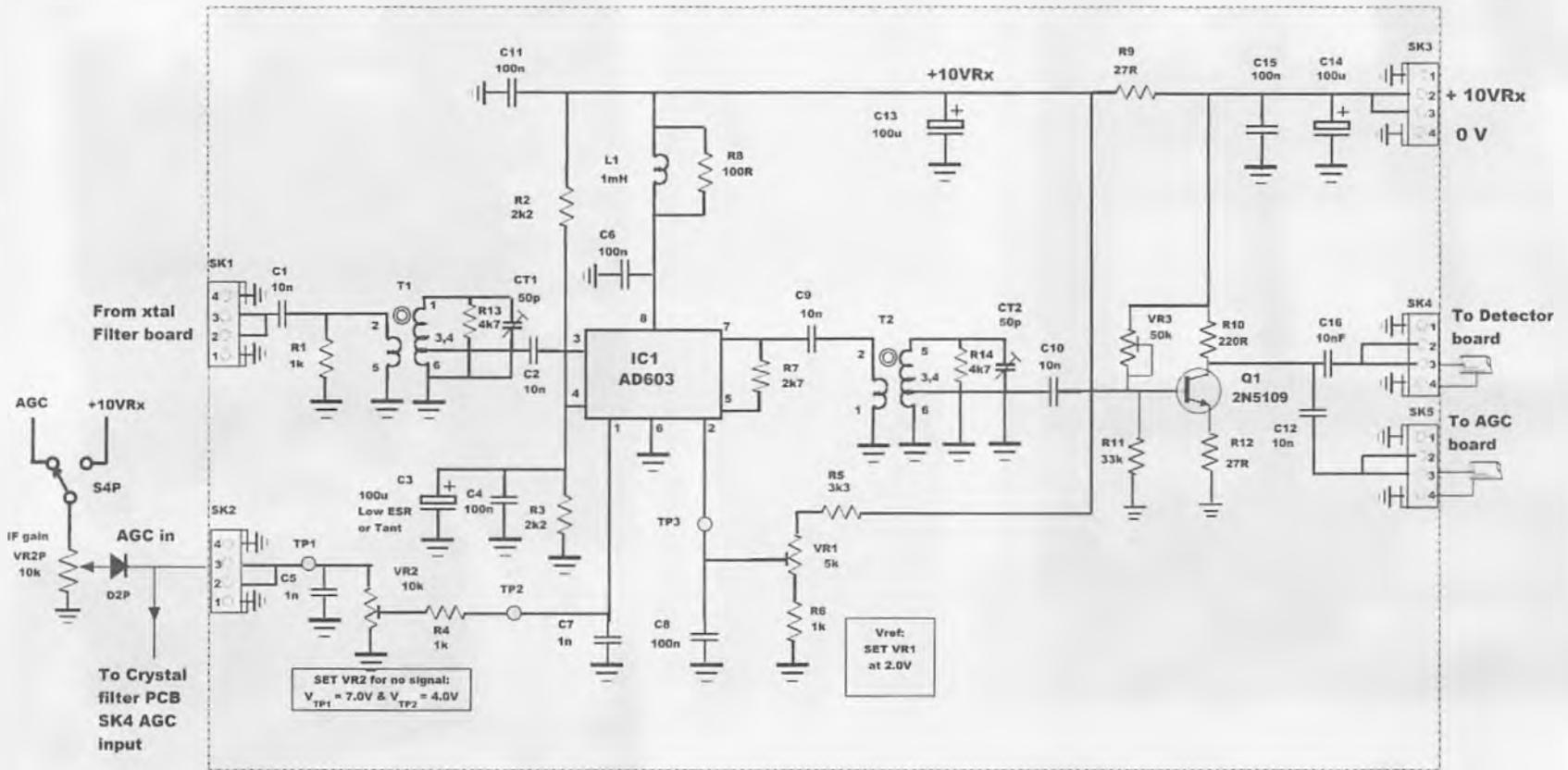


Photo 5. View of the BFO, AGC and Noise Blanking PCBs mounted in the case. The BFO has a shield over it made from a length of aluminium channel.

Receive IF amplifier 9MHz



T1,T2:
51Turns T50-6
Tap 5 Turns
Sec 5 turns



AD603



2N5109



KF2910-4

Figure 8. The receiver IF amplifier circuit features a gain controlled IC, which works with the AGC circuit.

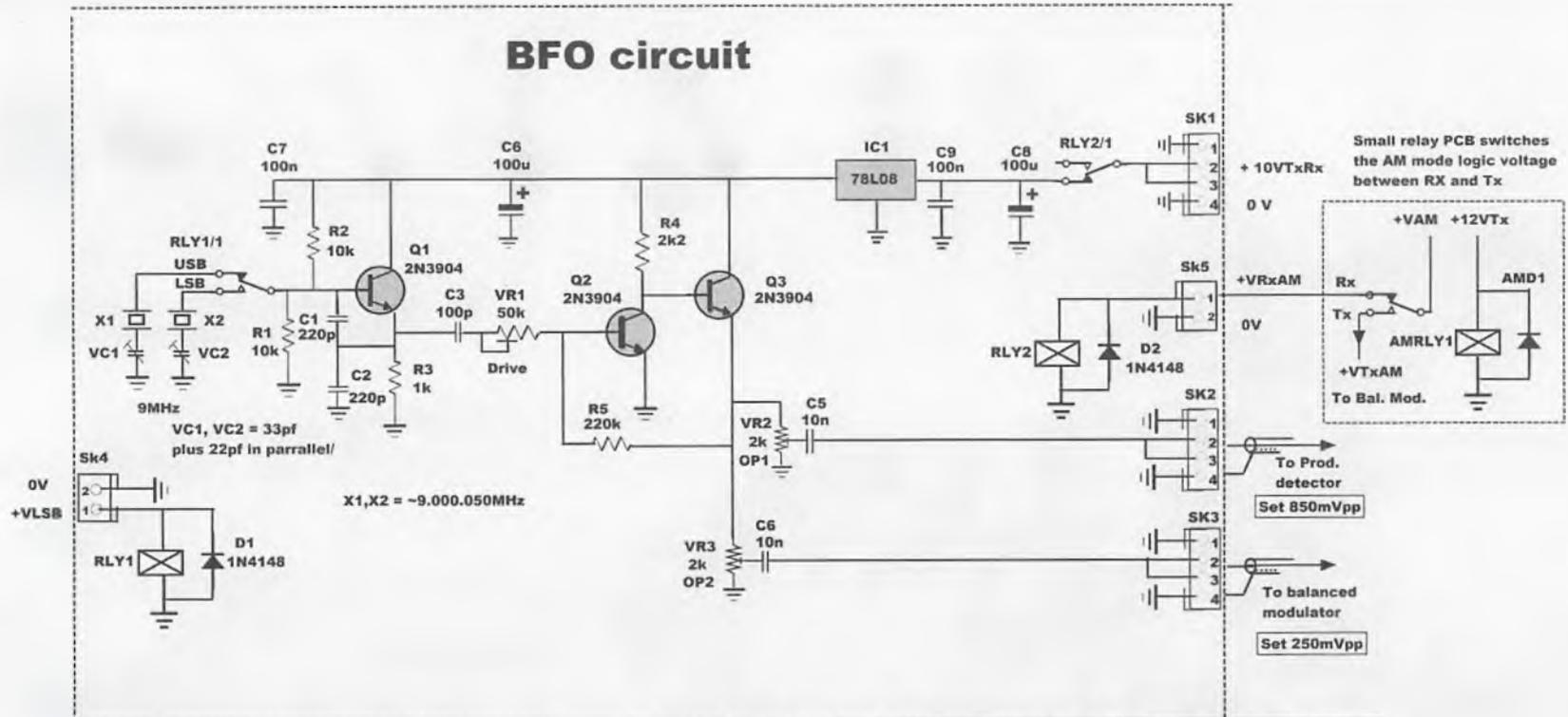


Figure 10. The receiver BFO features a Colpitts oscillator with switched crystals for USB and LSB, followed by a buffer with two variable outputs.

SSB and AM detector circuit

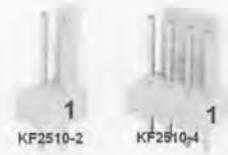
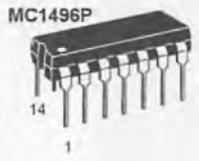
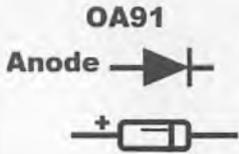
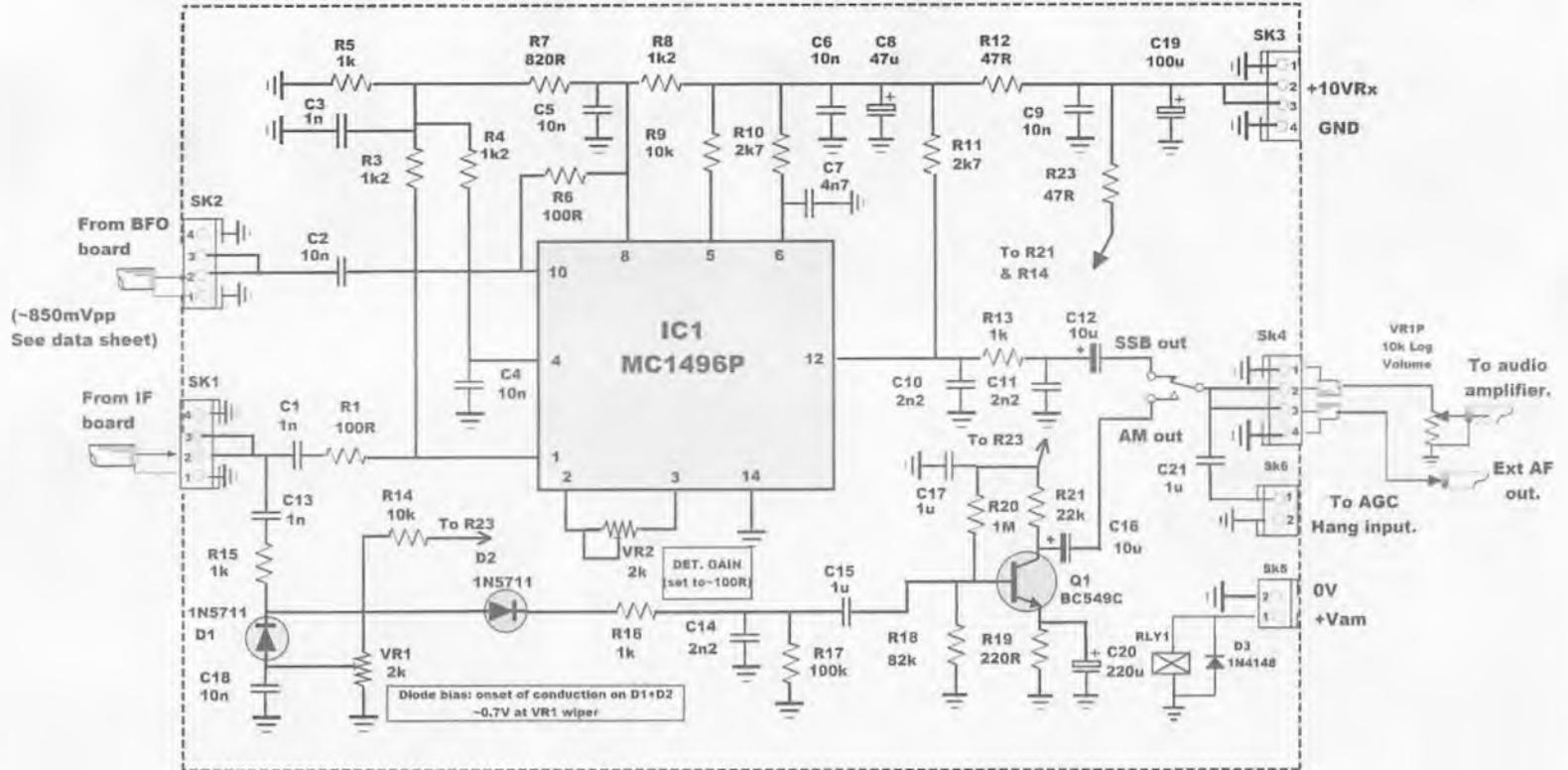


Figure 11. Receiver SSB and AM Detector circuit diagram

ratio will not be optimum. If the transmitted signal is 3.1 kHz wide, through the 3.1 kHz filter, then the signal-to-noise ratio is back to optimum.

The benefit of a wider filter and signal bandwidth to match, is that there is more recovered speech, or information. So, a transmission that is wide will sound better through a wide filter, and a transmission that is narrow, will have a worse signal-to-noise ratio. If the receiver has a 2.4 kHz filter, then a 3.1 kHz SSB signal will be truncated. In this case, you will also have the optimum signal-to-noise ratio, but reduced signal quality.

In this rig, the crystal filters are 3.1 kHz, whereas it's 2.4 kHz in the MK4 rig. As a result, the final receive signal-to-noise ratio is a couple of dB worse, and the transmitted signal will be 3.1 kHz wide, which will show up on receiver spectrum displays as a wider transmission.

BF904 AGC-controlled amplifiers (Q1 and Q2) are mounted on the crystal filter PCB. These make up for the insertion loss of the filters, which I measured at around -2.5 dB to -3 dB. On transmit, the gain of the BF904s is fixed and set by a trimpot so as not to overdrive the filters.

The output of the crystal filter board feeds the intermediate frequency amplifier. Photo 3A shows the crystal filter unit mounted in the case.

Receiver IF amplifier

The intermediate frequency (IF) amplifier circuit is shown in Figure 8. It uses an AD603 RF gain controlled amplifier (IC1) and is mostly the same as the IF amplifier in the MK4. The main change is the addition of a 2N5109 (Q1) output buffer amplifier with a voltage gain of around five times. This was added to provide a low impedance drive to the AGC and product detector sections.

Photo 5 shows the IF amplifier unit mounted on a sub panel during the assembly.

Receiver AGC

The AGC (automatic gain control) circuit, shown in Figure 9, is the same as I used in the MK4 transceiver.

Photo 5 also shows the AGC unit next to the IF unit in the case. The table here shows the AGC attack and release times I measured.

IF AGC	RF AGC	Attack	Release
Fast	Fast	40 mS	80 mS
Slow	Fast	40 to 80 mS	1.6 S
Slow	Slow	40 to 80 mS	2 S
Fast	Slow	4 mS	= 400 mS

Receiver BFO

The BFO (beat frequency oscillator) circuit is shown in Figure 10. It consists of a Colpitts oscillator [8] with crystals for USB and LSB. The LSB crystal is also used when transmitting AM.

I had two KVG 9 MHz crystals, so I used both these rather than try to use one by pulling the frequency. That makes it easier to trim the BFOs since the trim adjustments are independent of each other. The crystals are switched by the Arduino VFO mode logic. LSB is switched in when the 80 and 40 metre bands are selected and USB for the 20 metre band [9].

A button enables selection of the three modes overriding the default mode. Because the VFO is on the high side of the incoming frequency, sideband inversion occurs. An incoming LSB signal passes through the USB filter, so the USB BFO crystal is activated. The output of the oscillator feeds into a feedback pair which feed the Product detector and the Balanced modulator. The voltage levels shown in Figure 10 (right side in rectangles), are the recommended levels described in the LM1496 application notes.

As mentioned in the crystal filter notes, the LSB and USB BFO frequencies are not the same. For best recovered audio, the BFO frequencies I ended up with were 8.999685 MHz for USB, and 9.000089 MHz for LSB. These are quite far apart, since the centre

frequency of the filters was not what I had initially found on the web.

The final BFO frequencies need to be known accurately, since they will be added to, or subtracted from, the VFO frequency in the Arduino sketch, to ensure that the dial reading on an incoming signal matches the transmitted frequency of that signal.

On AM transmit, the BFO frequency is not so critical since the AM filter is wide and a small tuning shift one way or the other makes little difference to the transmitted audio. I measured the centre of the AM filter close to 9 MHz.

For AM transmit, I used the LSB crystal, which is only 89 Hz from the centre of the AM filter. The BFO is switched off on AM receive using a relay to remove power to the BFO oscillator. The same relay sends a voltage to the balanced modulator to unbalance it and produce an AM carrier. Photo 5 shows the BFO unit in the shielded box at left.

SSB and AM detector

The SSB and AM detector circuit is shown in Figure 11.

The only difference to the MK4 is the addition of a relay (RLY1) that switches the output between the SSB and AM detectors. In Photo 5, the SSB/AM detector is located next to the BFO.

Coming up

The next article in the series will complete the receiver circuit explanations and start on the transmitter.

References and Resources

- [6] Ulich Rhode, Understanding and handling noise, Ham Radio magazine, Nov. 1986, Page 10 - 22.
- [7] ZL4SAE – Amateur Radio and Stuff (wordpress.com). <https://gw4sae.wordpress.com/>
- [8] https://en.wikipedia.org/wiki/Colpitts_oscillator
- [9] SSB Convention: >10MHz use USB, while <10MHz use LSB.





Nifty mod for the Poppin' Pulser test project

Keith Gooley VK50Q

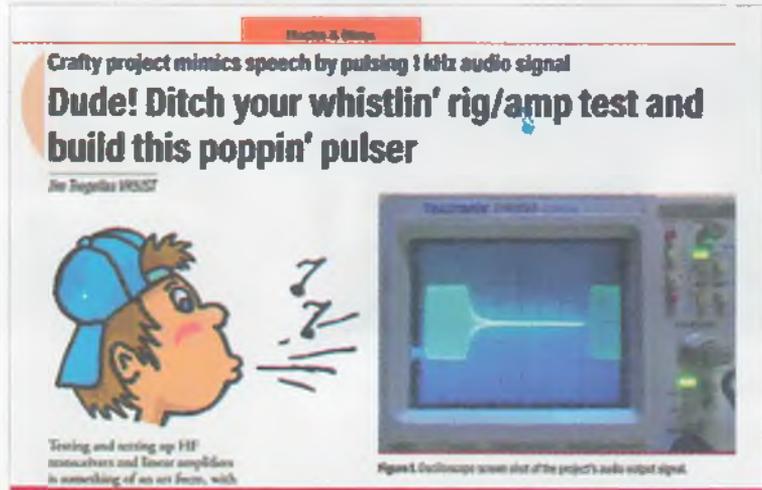
When Jim Tregellas VK5JST had his latest piece of test equipment published in the "Hacks & Hints" issue of *AR* earlier this year, I was keen to construct it as it would make a good companion to his earlier *Digital Display VSWR and RF Power Meter* (*AR* Vol.89, No.6, pp 18-23), which I had also built.

Jim kindly sold me a printed circuit board for the Poppin' Pulser project and I was able to construct the whole device with components I had in my stock . . . or so I thought. At this point, I must have lost my presence of mind . . . *

I completed the device successfully, including the LED-LDR assembly using an LDR (light dependent resistor) of unknown type from the appropriate component drawer in my shack.

On testing it . . .

When first testing it, I found the 1 kHz sinewave oscillator was working



You might recall this project, published in Vol.91 No.2, pages 33-35.

as was the 10 Hz pulse generator, but the output waveform was nothing like that shown on the CRO photo in Jim's article. Instead of the 1 kHz sinewave dying quickly at the end of the 20 mS pulse, mine decayed very slowly such that, by the time the next pulse began, the level was still at about one-third amplitude.

A short discussion with Jim told

me that the cause was the LDR type, one that took a long time to go to the high resistance state when put in the dark. No doubt, had I bought one of the LDRs specified by Jim, all would have been well. At this point, I must have regained my presence of mind.

While waiting for the next opportunity to go to Jaycar, I got to thinking about a possible alternate solution: would a MOSFET work as a switch rather than the LED-LDR combination?

The pulse from the 10 Hz rectangular wave generator went up to a volt or two below the supply rail, and the two points which connect to the LDR were at about half the supply voltage, i.e.: 4.5 volts. So a small signal N-channel MOSFET might be suitable, provided its turn-on gate voltage was 2.5 volts or so.

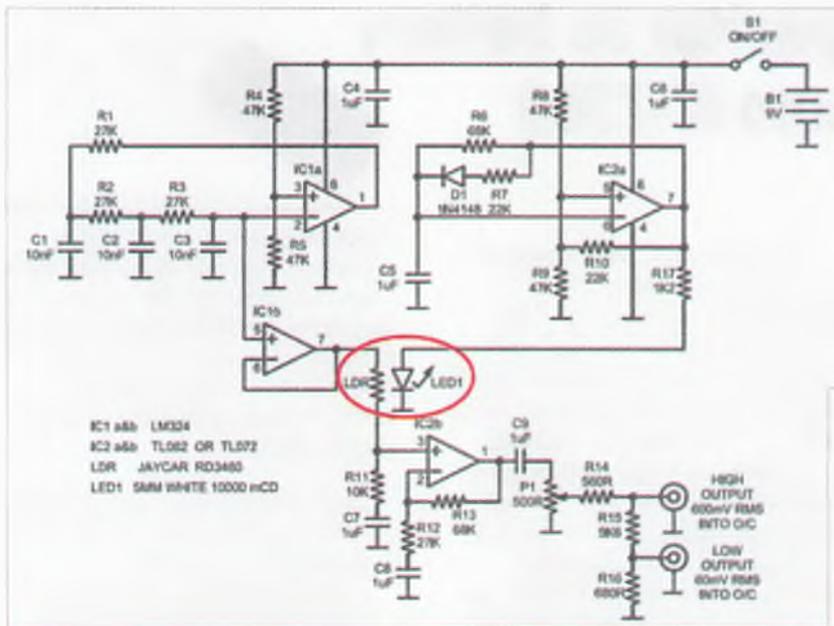
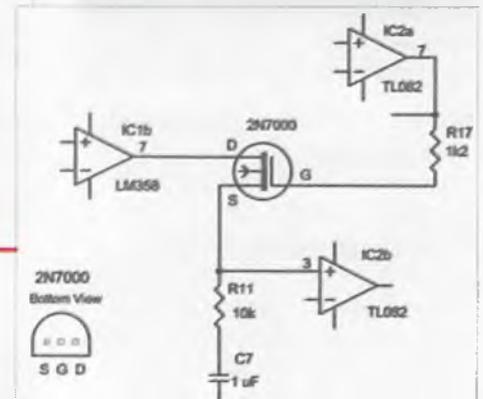


Figure 1. Showing the original circuit with the place for the mod circled, while inset at right is the MOSFET mod.



* www.monologues.co.uk/Sketches/Bricklayers_Story.htm

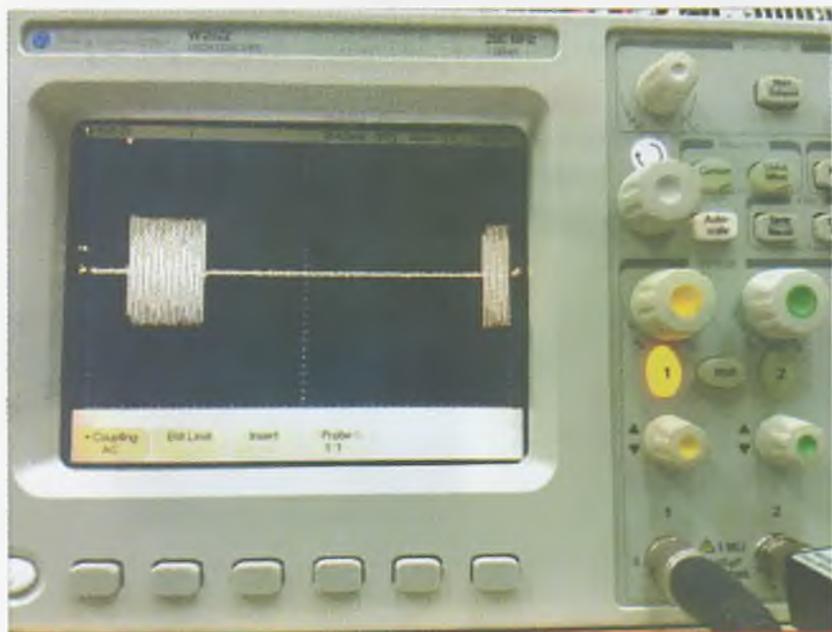


Figure 2. Poppin' Pulser output on my CRO after the MOSFET mod.

As it transpired, the 2N7000 is such a device, available from Altronics for about 80 cents, and I had some on hand. Another characteristic of this transistor is that

its Drain-Source ON resistance is about 5 ohms, creating virtually a dead short between the output of IC1b and the input of IC2b when biased on.

The MOSFET mod

Figure 1, here, is the original circuit with the place for the modification highlighted, while the inset shows the circuit modification. Simple!

So, back to the workbench where I removed the LED-LDR combo and replaced it with a 2N7000. The Drain and Source pins go where the LDR was, the Source to IC2 pin 3; I extended the Gate pin's lead by a short piece of discarded component lead that was then soldered to the pad on the printed circuit board formerly occupied by the active side of the LED. It was quite a nice fit with no changes needed on the PCB.

When I turned the pulser project on again, I was surprised that it worked straight away! In my experience, modifications like this usually don't work first up! The transitions from on to off and vice versa are almost instantaneous, as is evident in the photo of my CRO screen in Figure 2.

A little maintenance to keep your prized rig on-air Using a supercapacitor as battery backup for the Icom IC-7300

Peter Forbes VK3QI, VJ3P



The Icom IC-7300 is a much-prized transceiver, but if your RTC goes loopy, reach for a supercap.

My club – VK3ER, the Eastern and Mountain District Radio Club – has an Icom IC7-300 that is used occasionally; over the recent Covid Pandemic, particularly during the lockdowns, the rig was switched off for many months at a time. Even during times of normal activity, where the IC-7300 is only used during contests, it can be some months between uses.

The 7300 uses a tiny re-chargeable three-volt Seiko lithium battery to maintain the real-time-clock (RTC) setting on the radio. Provided you have power connected to the rig on a regular basis, the battery will maintain a charge sufficient to keep the RTC working.

In the Club's case, with so much inactivity, the battery ran flat and eventually, the RTC failed. In such an event, you are four options:

- (1) Don't worry about the RTC, as it is only important for SD card memory backup and doesn't affect the normal operation of the 7300
- (2) Replace the tiny battery.
- (3) Replace the battery with a



The supercapacitor is specially-made to provide exceedingly high values of capacitance – from a Farad or two up to 100s of Farads. Visit Wikipedia for more details. They are also known as encycaps, hy-caps, and ultracapacitors. Electronics suppliers such as Jaycar, RS Australia, Element14, and Altronics all stock a range of supercaps.

- non-rechargeable larger lithium battery, such as the CR-2032A, and place a series diode to prevent charging – there are a number of articles on the web using this method, such as: <https://tinyurl.com/7300supc>
- (4) Use a 2.7 Volt, 25 Farad supercapacitor, which is the method I chose.



Photo 1. The 7300's RTC battery compared to a 5 cent piece, which is 19.2 mm in diameter.

Which way to go?

Option 2 is challenging as the battery is a difficult to handle, tiny size (about 4 mm diameter; see Photo 1) and in an awkward location on the transceiver's circuit board.

I chose Option 4, because it is a set-and-forget solution. Once fitted with a supercapacitor replacing the original battery, it should only be necessary to power-up the 7300 once every year or so. The other solutions require some regular maintenance action.

Removing the original battery is a real challenge, even if you have great surface-mount (SMD) de-soldering skills and techniques.

Once the covers of the 7300 are removed, access to the battery is made easy by carefully removing the two ribbon cables that connect the front panel to the circuit board, allowing the front panel to be swung out of the way. See Photo 2.

The original battery has two solder points – a small one for the positive connection and a large pad for the negative, which covers the bottom of the battery. See Photos 3 and 4.

In removing the battery, despite plentiful use of flux and an experienced hand, the negative pad

is likely to detach from the circuit board and stick with the battery, seen here in Photo 5.

This is NOT a problem as the negative pad is connected directly to ground on the circuit board, so any other position on the board can be used for a ground connection, including the adjacent mounting

screw seen to the right of battery Photo 3.

Installing the supercap

To install the supercapacitor, first, I made up two fly leads of different colours twisted together and cut to a length sufficient to reach from the battery location across to the other



Photo 2. Showing the front panel moved aside after dismantling the rig's covers and relevant cables.



Photo 3. The battery is located on the circuit board, next to a mounting post located behind the front of the chassis.

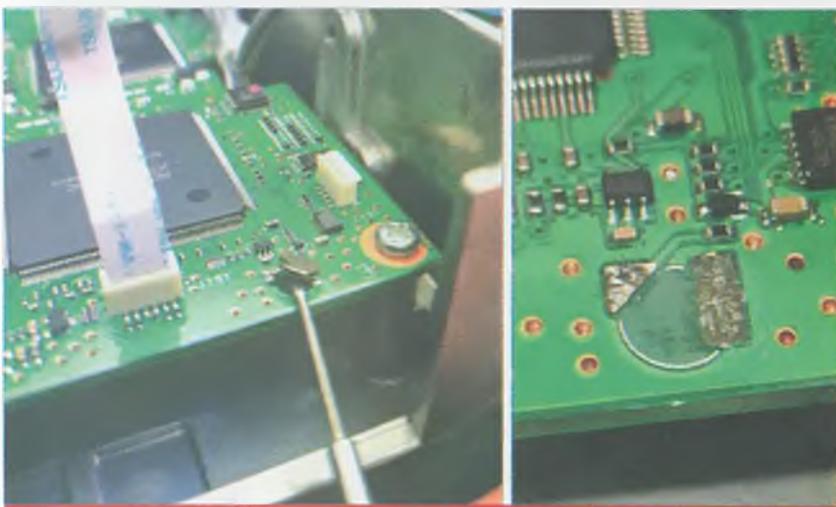


Photo 4. Illustrating careful removal of the battery (left) to ensure that the positive pad on the circuit board remains intact (right).



Photo 5. The negative pad was still attached to the battery when I removed it! Not a problem, though.



Photo 6. Showing the negative lead attached to the mounting screw and acting as a strain relief.

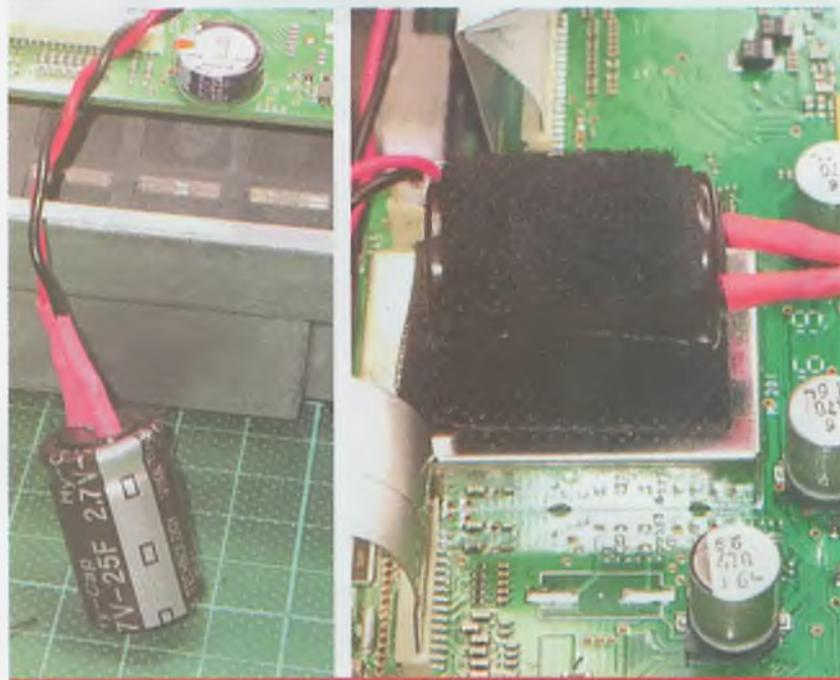


Photo 7. Left - use heatshrink tubing when terminating the flying leads to the supercap. Right - how the supercapacitor is secured with Velcro.

side of the circuit board.

Next, I soldered one lead to the battery's positive pad on the circuit board, with the other lead soldered to a lug I mounted under the circuit board's mounting screw. This scheme is shown in Photo 6 and has the advantage of providing some strain relief on the fly leads.

The fly leads are soldered to the leads of the supercap, making sure to get the polarities correct. Use heatshrink tube to cover the connections. I used Velcro to secure the supercap in place. Wrap the supercap in a strip of sticky-back Velcro, then glued another small Velcro strip onto the small rectangular shield nearby on the circuit board. Photo 7 illustrates this simple scheme.

Final thoughts

This job is not for the faint-hearted. Care must be taken with application of heat to the circuit board, while removal and replacement of ribbon cables requires some sensitive skill as the ribbon traces can be easily damaged.



DOING THE MATHS

Some 'back of the envelope' figuring.

The original battery, type ML414H-IV01E, has a capacity of 1 mAh at 3 Volts.

The clock chip, type RX-8803LC, works from 1.6 to 5.5 Volts supply rail. Typically, at 3 V supply, it draws 0.75 microamps. So, the original battery should last approximately 1300 hours without charging, or about 50 days.

The 25F supercapacitor charged to the rated 2.7 volts = 67 coulombs capacity.

This means it can deliver 67 amps for 1 second, or 1 A for approximately 60 seconds. Or, it can supply 1 microamp for 6×10^7 seconds, or about 640 days, easily meeting the requirement of maintaining the RTC for a year or so.



**The Foundation
Licence Manual
Fourth Edition
Look out
for it!**



SPECTRUM HORIZONS

Graeme Battistuzzi VK2QJ and Kevin Johnston VK4UH

Soliloquy on a sojourn – Winter Field Day 2023

A bold invitation to combine the efforts of two clubs dedicated to VHF/UHF/uWave endeavours saw 'a band of brothers' converge on a lonely lookout in northern NSW to collaborate, make contacts, set some firsts, to learn and make new friendships. Here is their story - how the Summerland Radio Group (VK2SRC) and the Brisbane VHF Group (VK4IF) pooled resources to log exceptional contacts and extend the spectrum horizons.

VK2QJ, Summerland Radio Group

On Friday morning 22 June 2023, the VK2SRC Team of Pat VK2FAAD, Graham VK2BWC, Graeme VK2QJ and our guest, Kevin VK4UH from the Brisbane VHF Group, met in South Grafton.

Refuelled with coffee and pies, we headed off for the two-hour trip to Vista Point (QF69FU), some 70 km northwest of Coffs Harbour, travelling along the winding, sealed Armidale Road, then onto a rough dirt uphill climb for the last half hour to the site at an altitude of 1308 metres ASL.



Located inland from the NSW mid-north coast, Vista Point offers communication paths into southeast VK4 along with areas in northern VK2.

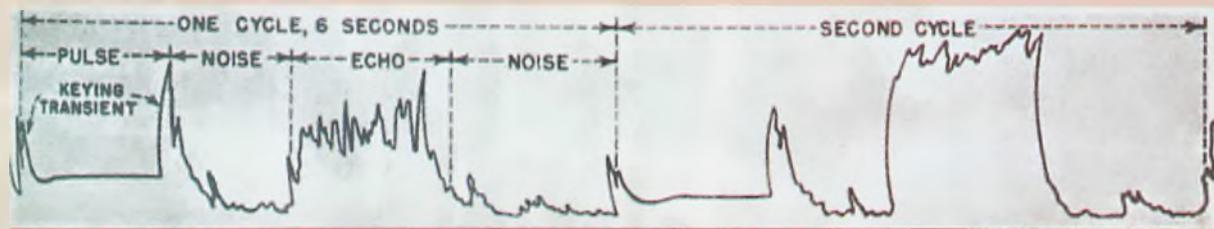
Arriving shortly before midday, we began setting up before stopping for lunch and treats, supplied by Graham VK2BWC. Pat VK2FAAD got the 2m station setup with help from Graham to stand up the tower.

Kevin set up his 9cm and 3cm station while I set about establishing the 23cm, 13cm, second 9cm, and the 6cm gear. We were all but done just as the Sun started to disappear. David VK2JUB arrived shortly after with the 6m and 70cm station, which had to wait until Saturday morning.

We all pitched-in to get David's camp setup before it got too late, which was just as well. Not long after, the wind picked up and the temperature plummeted. Fortunately, we found a spot out of the wind, relaxing around the table for the night meal and a few ports to keep us warm.

A few on-air tests with Trevor VK4AFL (at Birkdale, on Brisbane's southeast - Ed.) were successfully completed on 23cm and 9cm at over 300 km. We then tuned into the VK4RBB beacons (south side of Brisbane - Ed.) with the 23cm

70 years of moonbounce 1953-2023



W4AO's 2m moonbounce signal, captured with a wire recorder. (Image: ARRL)

On 27 July 1953, Ross Bateman W4AO, in Virginia, and Bill Smith W3GKP, in Maryland, were the first radio amateurs to succeed in bouncing signals off the moon; they used the 144 MHz band, a 1 kW transmitter and 30-wavelength stacked rhombics. This, after Australia's CSIRO conducted moonbounce experiments in 1947 on 17.8 and 21.5 MHz,

studying the ionosphere, following on from US army experiments on 111 MHz the year before.

Get the skinny here: www.ok2kkw.com/eme1960/eme1960eng.htm

Roger Harrison VK2ZRH

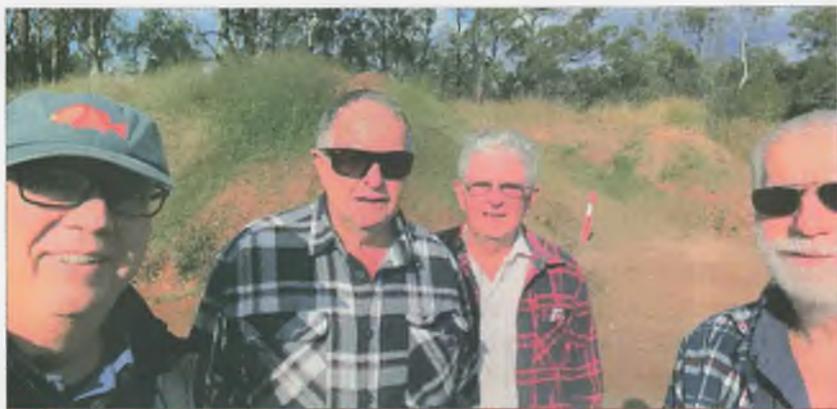
and 13cm signals both easy copy, although the 9cm and 6cm beacons proved more difficult; while we were able to decode both digitally, they were not audible until later in the night.

The wind kept up all night, with gusts peaking around 36 km/hr, with the temperature dropping to -7C. Thankfully, some of us had heaters or electric blankets to get through the night. Once we warmed up, we got David's 6m and 70cm station operation in time to undertake a few on-air tests before the start of the Field Day.

We were operational on all bands from 6m through 3cm for the start of the event, making some notable contacts on 3cm and 9cm. Not to be outdone, the boys achieved some good contacts on the 6m, 2m and 70cm bands. Overall, we had a relaxing and successful event with a decent number of contacts on 3cm, proving it's worth the long trip down from Brisbane.

The VK2SRC portable station consisted of the following equipment:

- the 6m station was a four-element Sirio Yagi mounted at 4.5 metres on a rotating pile. The radio used was an Icom IC7-56;



The band of brothers - left to right: Kevin VK4UH, Graham VK2BWC, Pat VK2FAAD and Graeme VK2QJ.



The VK2SRC portable station setup, at Vista Point Lookout for the 2023 Winter Field Day. From far left is 3cm, to its right is the microwave tower with the 23/13/9/6cm antennas, obscured behind it is the rotating pole with 6m and 70cm beams, then 2m at the far right.



Kevin VK4UH's 9cm and 3cm station.



Sunrise from Vista Point Lookout.

- 2m consisted of 2 x 10-element stacked MFJ Yagis mounted at 4.5 metres and 6 metres high on a home-built tower, with an Icom IC2-75A radio and 80w PA;
- 70cm consisted of a home-built 15-element Yagi mounted above the 6m Yagi at a height of 6 metres, with an Icom IC-910H rig and 20 dB masthead Rx preamp;
for the bands 23cm and above, antennas were all installed on a caravan-mounted 5.8 metre tall rotating tower with the following configuration –
- 23cm consisted of 2 x 35-element phased M2 Yagis mounted at 5.8 metres, with an Icom IC-9700 rig, 150 Watt W6PQL PA and 21 dB masthead Rx preamp;
- 13cm consisted of 2 x 900 mm phased gridpacks mounted at 5 metres, with a Yaesu FT-817 radio, SGLabs transverter, homebrew 100 Watt PA and 17 dB masthead Rx preamp;
- 9cm consisted of 2 x 900 mm phased gridpacks mounted at 4 metres, with a Yaesu FT-817 radio, SGLabs transverter, 30 Watt PA and 15 dB masthead Rx preamp;

- 6cm consisted of 2 x 600 mm phased dishes mounted at 3.3 metres height, with a Yaesu FT-817 radio, Kuhne 23cm transverter, then a mast-mounted 6cm transverter, 5 Watt PA and 12 dB Rx preamp.

Once the Sun set, the wind picked up and the temperature dropped, getting down to 1C overnight.

Several contacts were again made on Sunday morning; we completed the Field Day at 11:00 am local time, then began packing up.

We got Kevin VK4UH and David VK2JUB under way first, before Pat and I finished packing, then headed home. We all made it home safely, albeit some later than others, with Kevin arriving home to Brisbane around 7pm; how is that for dedication?

VK4UH, Brisbane VHF Group

What a tantalising opportunity to consider! An invitation to join the VK2SRC/p group to activate Vista Point Lookout as part of their Winter Field-Day team. The location is known to many Brisbane-based microwave operators for being at the far end of many successful QSOs

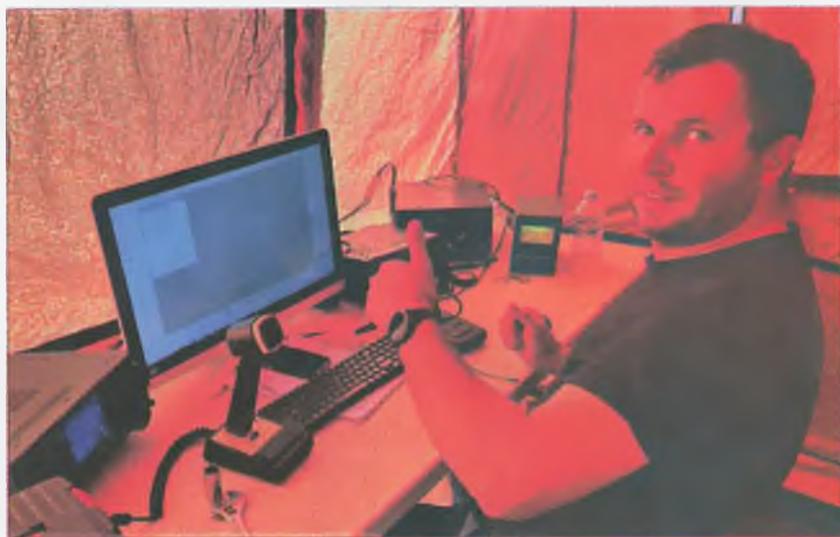
during previous contests and activity days. The 300+ km path back to southeast VK4 has been achieved on all microwave bands up to 5.7 GHz (6cm), but never attempted on 10 GHz.

The invitation was, of course, accepted with the specific aim to try to repeat the achievement at 10 GHz, while recognising the very real possibility that it might not be possible. The prospect of spending several nights in the open with temperatures forecast to be down to -10C was perhaps not quite so appealing.

Traditionally, it is widely considered that microwave propagation is at its lowest ebb during the winter period, and that this time of year is when many operators would be building in the workshop and not out on the mountain tops. This mind-set is clearly a myth.

I left Brisbane early on the Thursday before the Field Day, overnighted in Grafton, then met the team early on the Friday to travel to Vista Point Lookout.

The equipment brought from Brisbane to augment the VK2SRC/p station, was all home-assembled and included, for 10 GHz, a tripod-



David VK2IUB with the 6m and 70cm station.

mounted 600 mm diameter solid, prime-focus dish with Shepherds Crook feed, Kuhne transverter with a 60 Watt Kuhne power amplifier and preamp, all in-waveguide, driven by an Icom IC-705 IF transceiver.

For 3.4 GHz, I took a vehicle-mounted 1 metre prime-focus mesh dish with a multiband ring feed, an SG-Labs transverter plus a 120 Watt Kuhne PA and preamplifier in hardline.

At initial set-up, neither system was able to detect even a trace of the Brisbane VHF Group (BVHFG) VK4RBB beacons on 3.4 or 10 GHz. However, over the intervening hours, first the 3.4 GHz beacon appeared in the waterfall, followed by the 10 GHz signal.

Both beacon signals came and went over the following 36 hours, with 10 GHz signals reaching S8-9 at times. This, in itself, was a

remarkable observation considering that this beacon only runs 1 Watt to an omni-directional slot antenna and is at a QRB of 279 km. I believe this is the furthest distance that reception of this beacon has ever been reported.

Despite earlier reservations, 3.4 GHz contacts were easily made back to the Brisbane area. Although the higher power from the 120 Watts and 1 metre dish produced stronger signal reports, the phased gridpack array on the VK2SRC tower had a slight advantage on receive. This latter system was therefore used during the Field Day.

On 10 GHz, during the contest itself, successful contacts were made with several portable and home stations in southeast VK4 – Gary VK4GU, VK4IF/p and Colin VK4UV/p – using both SSB and/or Q-65 digital mode. The longest

QRB was 371 km, being the contact with Scott VK4I/p at Mount Mowbullian in the Bunya Mountains northwest of Brisbane.

Most 10 GHz signals received displayed the typical “slow rolling” QSB characteristic of long distance tropospheric scatter propagation and ducting, with superimposed “rapid fluttering”, associated with propagation by knife-edge diffraction.

Interestingly, the apparent heading of some stations changed by up to 20 degrees of azimuth at different times throughout the contest, suggesting that multiple paths and diffraction points were involved in these contacts.

I travelled a total round-trip road distance of 930 km, including 30 km on off-road tracks to reach Vista Point.

I compiled a log full of exceptional microwave DX contacts and reception reports. The chance to make new friendships and the opportunity to collaborate and learn from others was, overall, a priceless experience, worth every second.

Summing up

All in all, it was a great success for VK2SRC and The Brisbane VHF Group, with new friendships made and good times had doing what we enjoy doing. It was also pleasing to see two Foundation Licensees getting involve in field day operation; their enthusiasm for this hobby is worthy of mention. The only downside of the event is that I (VK2QJ) now have no excuse not to invest in a 10 GHz station.

WIA Contest Website



To keep up to date with all of the major Australian contests, including rules and results, check WIA Contest Website at:

www.wia.org.au/members/contests/about

2023 - centenary of a cool hobby in Tasmania

Women make their mark across the century

Linda Luther VK7QP

In this centenary year, it is appropriate to celebrate the contribution made by YLs and XYLs to amateur radio in Tasmania. There were those who took out a licence and those who contributed, either through social activities or by assisting with antenna construction or similar radio related support.

Early YLs

The first to be celebrated is Joy Batchler (nee Crowder) VK7YL. Joy got her licence in April 1936 and was one of only six licenced YLs at that time.

Her interest in amateur radio was sparked after talking with a girlfriend who said her uncle was a ham that did broadcasts on 200 metres. They trekked off from Sandy Bay to Quarry St in North Hobart and spent most of the night with Jack VK7JB talking radio, resulting in them missing the midnight tram. They had to walk back home!

Joy went off to the Technical College where Jack was a Morse trainer. She got her AOC (Amateur Operators' Certificate of Proficiency) in 1935. Jack and Joy married in 1940.

Joy appeared in *The Hobart Mercury's* magazine of the time,



VK7's first YL licensee - Joy Batchler VK7YL (courtesy of *The Hobart Mercury*).

called "Woman's Realm" published on Friday 3 June 1936. The article was titled - "Hobart Girl Holds Distinctive Honour."

Joy built a superhet receiver, followed by a three-stage bread-boarded transmitter that put her on the air with 25 Watts of power. Her aerial masts were lengths of 4x4 (100 mm square) Oregon timber, spliced together to make two 95 foot (30 m) masts. How much easier it is today now that transceivers can be bought off the shelf.

During the Christmas holidays of 1962-63, Snow VK7CH on the yacht *Morinna*, used to have regular skeds with Jack VK7JB. The group gradually increased. Joy VK7YL remarked that it reminded her of a group of children during their sewing lessons. It was this remark that coined the label of "The Sewing Circle." This net continues today daily on 3.640 MHz commencing at 6:00pm AEST; the net members also have a "Meet the Voice" gathering in the town of Ross each year.

Anne Landers was the next YL to gain her licence in VK7. In June 1963, Anne became Secretary of the VHF section, and in June 1964 became VK7ZYL, later obtained her full call licence VK7LY in December



Next to join the ranks was Anne Landers VK7YL, now VK7BYL (photo from Anne Landers, ALARA).

1965. She is now VK7BYL and remains active on the HF bands.

During this time, YLs and XYLs were invited to field days and annual dinners. In November 1965, a Hamfest was held in which there was a ladies' competition - "throwing the rolling pin". In the 1970s and 1980s a newsletter titled QRM was published. Early editions included a 'Ladies page' to which recipes and sewing patterns were contributed.

WAGs and WAGs

The YLs and XYLs in Tasmania were generally involved in the social side of events and would do the catering. Their group was called WAGs - Women's Auxiliary Group (it is recognised that this acronym now refers to the well-supported Wednesday Afternoon Group of the Radio and Electronics Association of Southern Tasmania - REAST).

Amongst other things, the WAGs organised a bottling of wine and port along with a barbeque at Mount Field. Recognition of the value of XYLs in contributing to amateur radio was noted in 1975 by a report, stating that *Reg VK7KK and Annette have shifted to their new house in New World Avenue Trevallyn. Reg already has his HF vertical erected thanks to Annette's help.*



Noted WAGs coordinator, Susan VK7ZSU, VK7LUV (photo from Susan VK7LUV, ALARA).

YL numbers rise

By 1980, there is evidence of two more YLs, Sue VK7ZSU/NSU, who wrote the Southern Branch notes and coordinated WAGs, and Jan VK7JM. Joan Fudge wrote the North West Branch notes, but does not seem to have a licence at that time.

In August 1982, a list of Tasmanian YL operators was published in the local ham radio newsletter, QRM. The list was created by Jan VK7JM who asked for any more names to be sent to her. Here's the list:

VK7CC Christine
VK7HD Helene (SK)
VK7YL Joy (SK)
VK7JM Jan
VK7ZYL Joan
VK7ZSU/NSU Sue
VK7NSB Lucy
VK7NRG Sue
VK7NPK Pauline

Except for the silent keys, where are they now?

ALARA gets underway

Back to 1975, when a letter from Norma VK3AYL was published in QRM announcing the setting up of LARA (the Ladies Amateur Radio Association). This later became ALARA, putting Australia at the front.

While ALARA was based in Victoria, it encouraged participation from around Australia and sought the appointment of state representatives. The first VK7 rep. (from 1975) was Anne Landers VK7LY.

In 1978, Helene Dowd became VK7 rep. Helene obtained her Novice licence as VK7NHD in 1977 and joined ALARA late in the same year. She obtained her full licence, VK7HD, in 1978. Later, Helene wrote the "Southern Notes" and contributed an ALARA page to QRM from 1985.

Laura VK7NYL had also gained her licence by this time and assisted at TARC (the Tasmanian Amateur Radio Convention) in 1985. Grace

VK7NNN and Laura VK7NYL also joined ALARA in 1985.

In February 1986, listeners to ABC broadcast stations heard a segment of the program "Airwaves" present three ALARA members, taped off the air as they spoke on 40 metres. The segment was entitled "Radio for Fun".

The broadcast began with an interview and then, combining with Helene VK7HD in a QSO, were Austine VK3YL and Marilyn VK3DMS. Austine, the senior partner, having held a licence for over 20 years, spoke with considerable emphasis on the early days of home-constructed CW-only equipment, while Helene and Marilyn revealed the later developments in world-wide communication.

All three women combined to present a clear picture of amateur radio procedure and the varied activities within the hobby.

Helene was ALARA President from 1983 to 1986 and in that last year she received a plaque for outstanding service to ALARA.

Helene was followed by Susan Brain VK7LUV, as VK7 rep. Susan and her OM, Alan VK7JAB, set up operations at several different lighthouses, as part of the International Lighthouse and Lightship Weekend (ILLW) – Table



Rewarded for outstanding service to ALARA, Helene VK7HD (photo from Helene Dowd, ALARA).

Cape in 2000 and Low Head in 2001.

ALARAmeeet 2008 – Ulverstone

Susan followed in Helene's shoes as ALARA President in 2005. Notably, Susan was convener of ALARAmeeet in Ulverstone in 2008. Apart from the displays of history and craft work at the meet, there was a visit to the Axeman's Hall of Fame and the Queen Victoria Museum and Art Gallery at Inveresk.



The well-regarded, even famous, ALARAmeeet of 2008 (photo - ALARA).



Encouragement pays off - left to right, Kathy VK7KJJ, Angela VK7FAMP, Linda VK7QP, and Sue K5DU (photo - Linda VK7QP).

We have ALARA meet in Hobart in 2023. The 2008 meet will be a hard act to follow, from all reports. Many of those at the 2008 meet will also be in Hobart this year, so there will be a chance to compare.

On becoming VK7 representative in 2005, Ros VK7NAW became VK7 celebrated by winning the ALARA contest that year. She continued her success in future years. Ros has now moved to South Australia.

Another notable participant in the ALARA contest at that time was Catherine VK4VCH, later VK4GH. She has continued her interest in contesting and has now moved to Tasmania with the callsigns VK7GH and VK7C.

Shirl VK7HSC got her licence in 2000, following which Ros VK7NAW signed her up for ALARA at the Sewing Circle BBQ in Ross. Shirl became VK7 rep. from 2010 through 2014 and was President of the North West Tasmania Amateur Radio Club for four years from 2019. Shirl has kept up contact with YLs in the north, including Helen VK7FOLK, Anne VK7BYL and Tanya VK7MMT.

ALARA turns 40

In 2015, it was time for the ALARA 40th celebrations in Melbourne. During my caravan travels, I met up with Jean VK3VIP at a Hamfest

in Melbourne. She invited me to the birthday celebrations as one of the founder members of LARA in 1975. While there, I was asked to be the VK7 representative, in which position I continue today.

As things transpired, in 2016, in conjunction with the Radio and Electronics Association of Southern Tasmania, a lunch was held to encourage women into amateur radio. As a result, Angela VK7FAMP got her licence, and Kathy VK7KJJ became more involved with amateur radio. The group has been enjoying meeting from time to time since then.

A President's lunch

A notable event in 2018 was the



Gathered for the President's lunch 2018. Front row, from the left - Linda VK7QP, Shirley VK5YL, Anne VK7BYL; Second row, left to right - Mal and Rosanne VK7NAW, Judy (Linda's sister) Justin VK7TW, Pam (Anne's friend), Helen VK7FOLK, and Shirl VK7HSC. Back Row, from left - Jon VK7JON and Reuben VK7FREU, Justin VK7TW's son (photo - Martin VK7GN).

Presidents lunch, when Shirley VK5YL, President of ALARA, visited Tasmania. Justin VK7TW was President of WIA at the time and we met with as many ALARA Tasmania members who could make it to lunch at the Raspberry Farm in Elisabeth Town.

What next?

The future is secure for YLs in amateur radio in this region through the efforts of the Huon Scout Group. Mike VK7MRS has been leading an electronics group there for a number of years. Lakia VK7LJB and Aiva VK7AKT have been successful in the ALARA contests and continue to enjoy amateur radio activities.

YLs were well represented at the Tassie Hamfest in November 2022. We had a table at the Hamfest, and the group of ladies present took time out to go for coffee. Jane VK7BJ, Margaret ZL3YF, Catherine VK7GH, Linda VK7QP, Andrea, VK7AAC, and Marija VK5MAZ were all there.

The situation continues with YLs assisting OMs with their activities on the air. Anne, wife of Ross VK7ZR, helped set up and dismantle the John Moyle Memorial Field Day portable equipment at White Hills near Launceston on 19 March 2023. Their combined effort must have been successful, because Ross



At the Tassie Hamfest in 2022. Left to right - Jane VK7BJ, Margaret ZL3YF, Catherine VK7GH, Linda VK7QP, Andrea VK7AAC, and Marija VK5MAZ (photo - Lee Jordan).

achieved a high score in one section of the contest. Anne has expressed interest in helping Ross with SOTA and WWFF activations.

ALARAmeeet 2023 – Hobart

The next big adventure for YLs in VK7 is ALARAmeeet 2023, in Hobart. Our planning group comprises Catherine VK7GH, Kathy VK7KJJ, Angela VK7FAMP, Jane VK7BJ, and me. We have an interesting program of activities planned for the weekend of 3-6 November, in conjunction with REAST.

YLs are coming from across Australia and New Zealand to join the celebrations. Look out for the updates in *Amateur Radio* magazine (this issue), the ALARA newsletter and the WIA broadcasts.



Keen participant in outdoor amateur radio activities - Anne, YF of Ross VK7ZR (photo - Peter Dowde).



ALARA reps

1975 - 1978: Anne Landers VK7LY/
VK7BYL
1978 - 1985: Helene Dowd VK7HD
1985: Laura VK5NYL
1989 - 2001: Helene Dowd VK7HD
2001 - 2004: Susan Brain
2005 - 2009: Ros VK7NAW
2010 - 2014: Shir! Hardstaff
2016: Linda Luther VK7QP

Office bearers for ALARA in VK7

1983 - 1986: Helene Dowd VK7HD
President
2000 - 2003: Susan Brain VK7LUV
Junior Vice President
2005: - Susan Brain VK7LUV President
2006 - 2008: Susan Brain VK7LUV
Secretary/Treasurer
2010: - Susan Brain VK7LUV Secretary
Librarian
2019: - 2022 Linda Luther VK7QP
President

Current ALARA members in VK7

Andrea VK7AAC
Angela VK7FAMP
Anne VK7BYL
Catherine VK7GH
Jane VK7BJ
Julia VK7HAG
Kathy VK7KJJ
Shir! VK7HSC
Tanya VK7MMT

Silent Key Cliff Bastin VK6LZ

Cliff Bastin VK6LZ, the longest-serving VK6 WIA División President turned 90 this year, became a Silent Key in April.

My Dad was first licenced in 1978 as VK5NCB and a member of the VK5LZ Elizabeth Amateur Radio Club (EARC).

As a family, we began to live the life of amateur radio with weekends away, be it John Moyle or IOTA; we did foxhunts and put in strong showings in the annual Remembrance Day Contest, as well as a host of other ham activities.

We moved to Western Australia in 1980 and, as an homage to the Elizabeth Club, Dad first took VK6NLZ and then VK6KLZ on the way to his Full Call, VK6LZ. Mum (Christine) took her Limited licence and became VK6ZLZ, creating Team LZ!

Just days after arriving in VK6, in the first VK6 Divisional WIA Meeting we attended, held at the Institute of Engineers building, Dad put his hand up to help out as they had just lost their treasurer. This led to a lifetime of service, being on Council of the Division until the

National WIA was formed. In terms of the total time in the position, Cliff Bastin became the longest-serving President of the VK6 Division of the WIA.

My mother, Christine, also served on council for most of that time as well, and they were also both strong members and councillors for the West Australian Repeater Group (WARG).

During the 1980s and 90s, Cliff was part of the team that built the Busselton and Catoby repeaters, also scoping out a proposed repeater on Rottnest Island. He was also a manager for the Rolystone repeater for a time in the naughties.

Sadly, just over a month and a half after reaching the milestone age of 90, a short string of infections one after another took their toll. He was RADTC member number 1310, an Ex-G, and a valued WARG Life Member. He'd probably say that his key has been silent for a long time. Sorry, but if you're going to tell dad jokes, it might as well be about your own dad.

Love you Dad. Valé Cliff Bastin VK6LZ
Mark Bastin VK6FIVE





ALARA

Jenny Wardrop, VK3WQ
e secretary@alara.org.au
w www.alara.org.au

It is always sad to have to report Silent Keys and in this issue we have two. But before we get to them, here is some happier news, first from Linda and then from me.

ALARAmeeet 2023 Update

ALARAmeeet is nearly upon us! 3-6 November 2023 Hobart. Are you coming? Then it is time to plan what you are bringing with you. First thing is to be prepared for changeable weather in Hobart. Hopefully, we will have nice sunny days, but we can have many seasons in one day, like Melbourne. Bring clothes that you can layer and be prepared for wet weather.

Next, think about any radio things you may like to bring – a 2m handheld, your QSL card, or certificates and awards for display.

What are you interested in apart from radio? Can you bring a craft item, model, or a recipe etcetera, for the display? Have you got a bonnet for the Saturday evening dinner with Alison Alexander, who will introduce us to the Female Factory.

Finally, the jigsaws swap. Bring a jigsaw you have completed and swap it for your next challenge. Up to 1000 pieces only, as not everyone has room for bigger ones. I am sure you will have room in your suitcase for all of this!

Special event call sign

Not able to come to the ALARAmeeet? You can still be part of the event. We have the special event call sign VI7ALARA operating now until 9 November. Listen out for anyone operating the station. Contact Catherine VK7GH (vk7gh@wia.org.au) if you wish to

book to use of our special call sign yourself.

Shirley VK5YL will be operating an Echolink net from ALARAmeeet on Sunday 5 November at 0000 UTC and would welcome any check-ins.

If you have any queries, please contact me via: luther8@bigpond.com.

Looking forward to meeting you face-to-face at ALARAmeeet, or on the air if you can't make it this time. Linda VK7QP.



Prize for a lucky ALARAmeeet attendee, an Icom ID-50A.

STOP PRESS!

Icom supports ALARAmeeet

As this column was written, we received some very exciting news. Icom Australia has generously promised an ID-50A VHF/UHF

handheld transceiver as a major prize for the ALARAmeeet in Hobart. This is Icom's very latest handheld, which has only just arrived in Australia. It covers the Amateur 2m and 70cm FM Bands, D-Star and Picture transfer facilities. It can also receive FM Broadcast and the AM Aero-mobile bands.

During discussions with Icom Australia, I gave them a brief summary of some of the things we do in ALARA to promote the hobby to YLs, and Icom was particularly interested with ALARA's Grants Scheme and our efforts in promoting the hobby of amateur radio across different age groups. I'm sure that further details of the ID-50A will be made public soon.

On behalf of ALARA, thank you very much Icom. Your generosity is greatly appreciated.

Jen VK3WQ

Silent Keys

Diane VK2DNE, Silent Key 10 May 2023. Diane passed away peacefully at home with family by her side after being in poor health for some time. Her husband Richard was full of praise for the Nelson Bay team of palliative care nurses who assisted Diane in her final days.

Diane always led a busy life. She was licenced as VK2FDNE in 2006 and joined ALARA in 2007. She enjoyed attending our ALARAmeeets and taking part in the ALARA Contest. In 2008, Diane and Richard founded the Port Stephens Radio Club where she was a very active member.

Diane would sit with me (Doc) at the ALARA table on field days and help welcome visitors to the table.

One field day we always attended was the Oxley Region Amateur Radio Club in Port Macquarie. The President, Henry VK2ZHE, wrote, "Diane always looked forward to attending the Oxley Region Amateur Radio Club Field Day each year. She was an active ALARA member and last year took over running the ORARC ALARA stand from Dot Bishop VK2DB when she stepped down."



Diane VK2DNE (SK) receiving her Coastguard Award.

Diane and Richard's radio skills greatly assisted the smooth operation of the Marine Rescue base station at the top of Whitbread Drive, Lemon Tree Passage. Between them, Diane and Richard notched up 68 years of dedicated service to the community.

From the Coastguard newsletter: "Diane Wilson commenced with the Australian Volunteer Coastguard in 1994, being an extremely active member as Boat Crew, Radio Operator, Welfare Officer and Catering Officer, and working tirelessly behind the scenes in planning and organising for both the Australian Volunteer Coastguard and Marine Rescue Lemon Tree Passage. Diane had only very recently stepped down from active duty with Marine Rescue Lemon Tree Passage. She will be sadly missed by all members of our unit."

Valé Diane VK2DNE (Submitted by Dot VK2DB).

Patricia Pavey VK3OZ. Silent Key 11 July 2023. It is with sadness that



A ham household – Peter Pavey VK3VB and Pat Pavey VK3OZ (both SK).

I report the passing of Pat Pavey VK3OZ who was long time ALARA and Fists Down Under member. She was a keen CW operator, friend to many, and mother to Phil VK3VB (formerly VK3PMJ), Peter Jnr, Patsy, and Paula.

With two very active amateurs in the Pavey household, Pat succumbed to the hobby sometime around 1990 – I think her view was "if you can't beat them, join them".

Pat and Peter Pavey (VK3VB SK) migrated to VK from the UK in 1976 when Phil VK3VB and his siblings were young kids. Pat and Peter enjoyed the hobby and were very active in education, exams, and the local club scene. Peter and Pat moved to Tooradin in 1986.

Pat was an active member of ALARA, Gippsland Gate Radio & Electronic Club and FDU for many years. She was a regular fixture on the 80m Early Bird Net and encouraged many amateurs to learn and develop Morse code skills. Since her passing, there have been messages from amateurs recalling Pat's support in helping them master the code.

Pat moved into aged care earlier this year. The tower and beams were dismantled a little while ago at the Tooradin QTH and I've received a number of emails and phone calls from amateurs asking what happened to the radio tower

landmark on the South Gippsland Highway.

She passed away peacefully after a short illness on Monday 11 July 2023. On behalf of committee and members, I extend our condolences to Phil VK3VB and his family. (From a longer eulogy published in the ALARA Newsletter).

Valé Pat VK3OZ.

ALARA and individual members, will miss these two dedicated and active lady operators very much.

A little history

In late August, there was a program on TV about the building of the Snowy Mountains Scheme and the next stage under way, Snowy 2.0. The program talked about the tunneling machines, which are all named after women.

The first tunneller mentioned was named after the wife of the original Head Engineer – Lady Eileen Hudson. The second one was, surprisingly, named Florence after Florence McKenzie (VK2GA), the first female electrical engineer in Australia and our first YL operator! So obviously we aren't the only ones who revered her many talents! – from Christine VK5CTY.

ALARA lunches

Please note: finally, I must apologise for the incorrect dates of the VK3 ALARA lunches published in the last issue. Here are the corrected dates.

Saturday October 7th – Bendigo area, organised by Heidi VK3HID. The date has been changed from the last week in September as the AFL Grand Final fell on the same day.

Saturday December 9th – Sunbury, organised by Jenny VK3WQ – VK3 Christmas Break-Up.

Please contact Jean VK3VIP (see alara.org.au VK3 Representative) if you would like to attend one of these lunches. Interstate visitors are always welcome.



Don't forget to register for MEMNET.

Over to you

Higher power

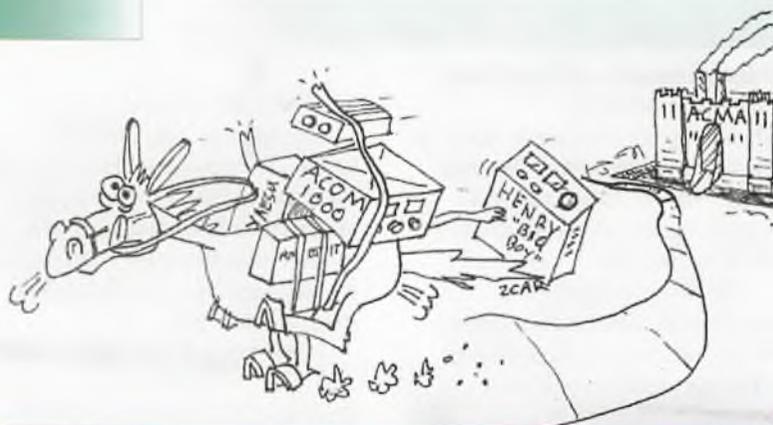
Dear Sir,

After reading the latest correspondence from the ACMA, and the proposed amendments to the Scientific Apparatus Licence for amateur radio higher-power use, a few issues stand out.

From VK amateurs' personal listings on QRZ.com, it is very evident that many operators already have, and routinely use, high power amplifiers that exceed the permitted amateur licence conditions without any EMR or interference issues. This has been the case for many years.

The advances in the technical quality of commercial transceivers and amplifiers have largely overcome issues with transmitting harmonics and spurious emissions.

Thus, it seems to me that to now try to put power limits on Advanced licence holders



Compliance with power limits - perhaps the horse has bolted!

via Scientific Apparatus Licence arrangements is misplaced. I suggest that it would be much better to work with the amateur radio community to improve the understanding of electromagnetic radiation/emission (EMR/EME) standards and to provide the means to properly assess compliance.

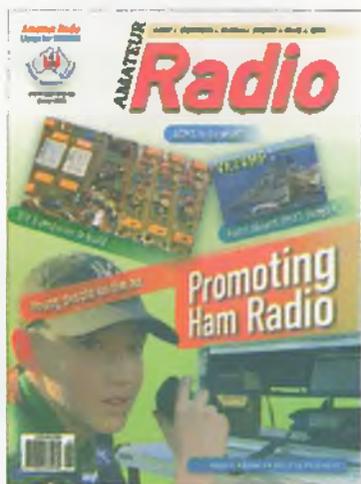
Accordingly, there should be a self-assessment process that can be

verified by qualified amateurs. Also, it's prudent that proper records need to be kept when operating higher power.

Maybe EMR compliance could be carried out under the auspices of radio clubs, with a small donation made for such a service?

Andrew Martin VK3OE,
VK3OER (member since 1963)

Objects to "Ham Radio"



Promoting Ham Radio. What's wrong with Amateur Radio? or Radio Amateur? Are we copying Terrible bad habits?

I like ham in my sandwiches or on my plate but not in my name, that's an INSULT. Are we promoting what the old Railways Telegraphists of the USA used to call the Amateur Radio Operators, as an INSULT because they

interfered with their Sparks?

No please, I do prefer to be called a Radio Amateur.

Even in the front page of our AMATEUR RADIO Magazine Number 4, we can read "Promoting Ham Radio" Does that sound right to you? To me it doesn't.

Please, let's keep our HOBBY clean!

Thanks with respect and kindness.
Manny VK3DRQ

Thanks for your feedback, Manny. I understand your concerns about ham radio versus amateur radio. However, the use of HAM as a critical, insulting, or pejorative term to depict an incompetent or unskilled telegraphist, subsequently applied to radio amateurs, is not the whole story.

There are multiple derivations and meanings attached to the term ham radio, not to mention myths. The meaning depends very much on context; it's not always insulting or pejorative. I recommend you Google: Etymology of ham radio.



I note that the ARRL is not coy about using ham radio, as the photo of the September QST here illustrates. Its promotional video is titled "What is ham radio." And it makes wide use of "amateur (ham) radio" in public communications.

I believe it's more honest and productive to 'own' the use of ham radio and use it appropriately, rather than deny its existence in colloquial language.

I used Ham Radio in Issue 4's main cover line for typographic economy. It's part of the vernacular and thus quickly recognisable. But there's no mistaking the magazine's focus - writ large in the banner!



Roger Harrison VK2ZRH
Editor in Chief

Over to you

Q About bequests - OTY, last issue

Hello John VK5DM,
Thank you for your recent letter to the editor, published in *Amateur Radio* Vol. 91, No.4, page 63, suggesting that we think of the WIA in our wills.

The Wireless Institute of Australia has received a number of requests from a range of long standing members who have sought information as to how they might be able to participate as part of their estate planning.

One such legacy was from Henry Anderssen VK8HA (SK) who made a significant bequest to the WIA that allowed the Institute to purchase the National Office in Bayswater, Victoria. The WIA would still be paying rent if it

wasn't for his bequest.

Several years ago, Michael Owen (SK) was instrumental in the formation of the **Wireless Institute of Australia Foundation**, specifically to receive such bequests and legacies. It is managed by an independent Board of directors.

It was formed and exists to seek and manage legacies, bequests, and donations for community benefit in the area of STEM education, focussing on electro-technology skills. It is a parallel organisation but separate from the WIA.

The directors of the WIA Foundation include Jenny Owen (daughter of Michael Owen) and Peter Young (Life Member of the WIA), as well as several other

eminent amateurs. It also includes the current President of the WIA, but only during the term of that presidency.

The WIA Foundation is in the process of drafting documents to assist members who may wish to make a donation, legacy, or bequest. Should any members wish to discuss this matter further, please contact the WIA President, Scott Williams VK3KJ, or WIA Secretary, Peter Clee VK8ZZ.

We have asked the Board of the WIA Foundation to prepare an article on this subject for publication in *Amateur Radio* magazine.

Regards, Peter Clee
WIA Secretary

Q The "new look" AR

Hello Roger,
As a long-time amateur, I congratulate you and the new look *AR*. Certainly appeals to me. Go for it I say.

Any chance of some simple receiver projects; one or two transistor/FET type projects that would suit the older, less dextrous member. Maybe they could start simple and grow. Maybe they could connect to a technical article on, say, tuned circuits.

These were the kind of projects that members like myself started on. Maybe it's a case of simple projects for simple people - just a

suggestion, though.

If you have a long memory, you might recall the old field days held at the Gosford (NSW) Showground? Had lunch with you and your family on those timber seats on a couple of occasions. Some debates about kids and schools, as I recall.

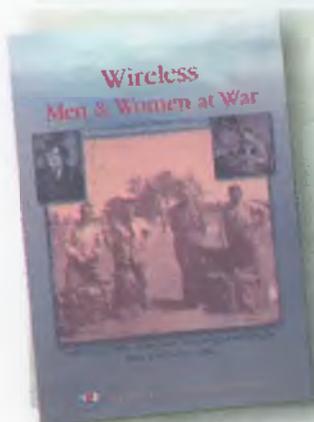
Were we really that young?
Cheers, Dave Wilson VK2ZCA,
VK2NM, finally VK2KDW

G'day Roger,
Really enjoy your work on *Amateur Radio* mag - well done!
Vy 73, Steve Ireland VK6VZ

Hi Roger,
Thanks for your work on getting the magazine to such a high level of content and relevancy.
Cheers, John Forrest VK3JNF

Thank you all for the kind compliments. As I have said in the past, it's a team effort. The PubComm members contribute each in their own way. As Karl Marx once opined: *Jeder nach seinen Fähigkeiten* ["From each according to his ability..."].

Roger Harrison VK2ZRH
Editor in Chief



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Over to you

Rodney Champness

Hi Roger,

I was prompted to write to you on reading of the passing of Rodney Champness in AR Vol. 91 No.1, 2023.

I was saddened to learn of Rodney's passing because, after gaining my AOI/CP back on 26 January 1971 and being granted an amateur station licence on 1 April 1971 (call sign VK3YFL), on 21 December 1971, Rodney, as the District Radio Inspector, visited to conduct an inspection of my station in Ballarat.

I recall him as being a very helpful and caring person on that occasion and have enjoyed reading various articles he's published over the years.

The image here shows an extract of my logbook in which Rodney recorded the inspection; it says:

21/12/71

Station Inspected. Some form of lock required on window to prevent unlawful entry. 3 core lead to be fitted to nominated pieces of equipment.

*R. D. Champness
District Radio Inspector*

My "station" was housed in my elder sister's re-purposed doll's house in the backyard; one had to duck to be able to get through the door! A Project Australis poster on the inside of the door probably provided some historical context.

VK3ZL also appears in the logbook extract above Rodney's entry. Eric Thomas, the then-

DATE/TIME (GMT)	BAND	STATION WORKED	MY RST	HIS RST
16-12-71				
2325	10+	VK3YDE	5600 1	5800 4
19-12-71				
1230	5Z	VK420B	590 37	5900 5
2100	10+	VK3ZL	5900 8	5900 6
2105	10+	VK3ZP%		5900 7
2115	10+	VK3AOT	5900 6	5900 8
21/12/71	<p><i>Station Inspected. Some form of lock required on window to prevent unlawful entry. 3 core lead to be fitted to nominated pieces of equipment. R. D. Champness District Radio Inspector</i></p>			

A poignant reminder in Bryon's log book.

holder of that call sign, was responsible for introducing me to amateur radio. Eric lived in the same street. A homebrew two-element 40m beam sitting atop a homebrew crank-up tower was a prominent feature in the neighbourhood.

Sitting in Eric's shack I recall being amazed as he worked stations in the USA using split frequency on 40m as well as working G3AOO each afternoon long-path on 40m.

Eric was a great homebrewer and brought the trade he plied at the Victorian Railway Workshops home to a well-equipped workshop that included a lathe and milling machine. He not only used this to homebrew amateur radio gear, but also in his other hobby of steam-powered model trains.

It was interesting to note that in Chris Skeer VK5MC's article, *The story behind the WIA's Wilkinson*

Award (AR Vol. 90 No.5, 2022), he mentions "A friend from Ballarat, Eric Thomas VK3ZL, put together for him (Ron VK3AKC) a copy of the UPX-4 power amplifier, giving him 250 watts RF output".

Indeed, this was the sort of thing Eric was able to create in his workshop. He even made me a rotator for my VHF antennas using an automotive windscreen motor and a homebrewed set of worm-drive gears!

Anyway, I am not sure if any of this is worthwhile content for AR, but having noted Rodney's passing and the significance of that early entry in my logbook when he inspected my station, I felt a need to record the connection.

73, Bryon Dunkley-Smith
VK3YFL

Thanks for sharing that Bryon – Ed.

VK90AR

Listen for us on 40 metres
- 7,125 kHz AM.

A nod to our heritage.



Below 25

Young people on the air, with
Alec Cherry VK2APC

Scouts and Guides geed-up for Jamboree on the Air and the Internet

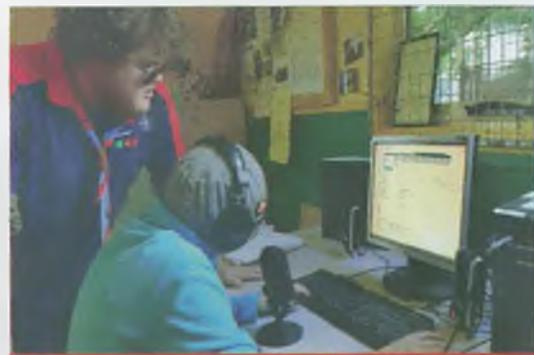
With the publishing of this issue, along comes spring in Australia, daylight savings here in NSW from October, warmer weather to start enjoying beaches, and JOTA/JOTI!

JOTA/JOTI is considered the largest Radio Scouting event. Indeed, it is the largest event in the world Scout calendar.

Les Mitchell G3BHK (SK) established the first Jamboree-on-the-Air or JOTA. The young Les Mitchell was a Sea Scout who later joined the Royal Navy where he was trained in radio. Les spent a year in the USA and another here in Australia, becoming a Scout Leader in both countries.

Later, Les became a radio amateur with the call sign G3BHK. Les saw similarities between scouts and radio amateurs in the friendly way they transcend class, creed, colour, religion, and political boundaries.

In 1957, a World Scout Jamboree was held at Sutton Park in central England, with 35,000 Scouts from 62 countries attending. For the first time at any World Jamboree, local radio amateurs installed and



Daniel with 1st Yass Rovers and Emily from 1st Yass Venturers during JOTA/JOTI 2022.



One of the many JOTA/JOTI logos you're likely to see around the internet and in print. JOTA/JOTI will be held on 20 to 22 October 2023.

operated a large station under the call sign GB3SP.

Les was very surprised by the number of overseas Scout radio amateurs attending the Jamboree. A notice in the Jamboree newspaper brought the Scout radio amateurs together for daily coffee meetings. The meetings were held in a snack bar outside the park gate, as meeting in the GB3SP radio station would produce too much "background noise" for the operators.

Towards the end of the Jamboree, someone brought up an idea to make contact on the air with each other on one specific day.

Les got the visionary idea: why not run the event for a whole weekend and ask all radio amateurs throughout the world with an interest in the scout movement to put their stations on the air and, at the same time, invite their local Scouts to join them?

So, JOTA was born in October 1957. Ever since, on the third full weekend in October, Scouts and Girl Guides all around the world have used radio to connect.

JOTI had its beginnings closer to home here in Australia. In 1995, a Queanbeyan Rover Scout, Norvan Vogt, was on a student exchange in the

Netherlands. He connected with Rovers in Australia, coordinated by Brett Sheffield. The connection included Putten, Netherlands and Queanbeyan, Australia through dedicated Internet Relay Chat (IRC) servers.

In November 1996, the World Scout Committee decided that a Jamboree on the Internet, or JOTI, should become an official international Scouting event. The fact that Scouting already had a big presence on the Internet was a big influence and there was already an informal and rapidly growing JOTI.

The World Scout Committee decided it should be held on the same weekend as JOTA, and so JOTA/JOTI was established!

It is on the third full weekend of October each year, starting on the Friday evening and concluding the Sunday afternoon. This year, it will be held on 20 to 22 October 2023. Please listen out for the young voices calling 'CQ JOTA' and welcome them to the world of amateur radio!

Sources

2022 JOTA Presentation by Ken Lyons, KN4MDJ, at: www.radioscouting.us/docs/2022_October-JOTA-club-presentation.pdf

Walker, B: "Calling Home," page 4. Queanbeyan Age, 23.10.1995, cited in: https://profilpelajar.com/article/Jamboree_on_the_Internet



WIA DX Awards

Marc Hillman VK3OHM / VK3IP

Below are listed all New DX awards issued from 2023-06-21 to 2023-08-21.

To use the online award system, go to: www.wia.org.au/members/wiadxawards/about/

New awards

DXCC Multi-band (3)

#	Call	Name	Mode	Band	Count
250	VK7AP	Steen Jensen	Open	40-20-12m	358
251	VK7AP	Steen Jensen	Digital	40-20-12m	358
252	VK30M	Michael Andrews	Open	20-17-10m	354
253	VK30M	Michael Andrews	Digital	20-17-10m	352
254	VK4V0	Shaun Stoddart	Phone	40-20-15m	435

DXCC Multi-band (5)

#	Call	Name	Mode	Band	Count
178	VK7AP	Steen Jensen	Open	40-30-20-15-12m	566
179	VK7AP	Steen Jensen	Digital	40-30-20-15-12m	566

DXCC Multi-band (7)

#	Call	Name	Mode	Band	Count
113	VK7AP	Steen Jensen	Open	40-30-20-17-15-12-10m	770
114	VK7AP	Steen Jensen	Digital	40-30-20-17-15-12-10m	770
115	VK3TZ	Tony Burt	Phone	80-40-20-17-15-12-10m	1331
116	VK6WX	Wesley Beck	Digital	40-30-20-17-15-12-10m	900

DXCC Multi-band (8)

#	Call	Name	Mode	Band	Count
16	VK3ZL	Arie Groen	Digital	80-40-30-20-17-15-12-10m	993

DXCC Multi-mode (Digital)

#	Call	Name	Count
77	VK7AP	Steen Jensen	170

DXCC Multi-mode (Open)

#	Call	Name	Count
56	VK7AP	Steen Jensen	170
57	VK5RS	Ivan VUJIC	116

DXCC Multi-mode (Phone)

#	Call	Name	Count
57	VK3TX	Oscar Reyes	111

DXCC Single-band

#	Call	Name	Mode	Band	Count
1305	VK7AP	Steen Jensen	Open	40m	120
1306	VK7AP	Steen Jensen	Open	30m	104
1307	VK7AP	Steen Jensen	Open	20m	131
1308	VK7AP	Steen Jensen	Open	17m	101
1309	VK7AP	Steen Jensen	Open	15m	104
1310	VK7AP	Steen Jensen	Open	12m	107
1311	VK7AP	Steen Jensen	Open	10m	103
1312	VK7AP	Steen Jensen	Digital	40m	120
1313	VK7AP	Steen Jensen	Digital	30m	104
1314	VK7AP	Steen Jensen	Digital	20m	131
1315	VK7AP	Steen Jensen	Digital	17m	101
1316	VK7AP	Steen Jensen	Digital	15m	104
1317	VK7AP	Steen Jensen	Digital	12m	107
1318	VK7AP	Steen Jensen	Digital	10m	103
1319	VK3SN	Stephen Warrillow	Digital	20m	100
1320	VK30M	Michael Andrews	Open	15m	106
1321	VK30M	Michael Andrews	Open	10m	109
1322	VK30M	Michael Andrews	Digital	15m	105
1323	VK30M	Michael Andrews	Digital	10m	108
1324	VK4TW	Robert Waegeler	Open	40m	100
1325	VK4TW	Robert Waegeler	Digital	40m	100
1326	VK6SJ	Stephen Kennedy	Phone	20m	105
1327	VK3TX	Oscar Reyes	Open	40m	105
1328	VK3TX	Oscar Reyes	Digital	40m	102
1329	VK3TX	Oscar Reyes	Phone	20m	109
1330	VK4V0	Shaun Stoddart	Phone	40m	105
1331	VK4V0	Shaun Stoddart	Phone	10m	103
1332	VK3TZ	Tony Burt	Phone	80m	128
1333	VK3TZ	Tony Burt	Phone	12m	101
1334	VK2RZ	Alexander Taverner	Open	17m	100
1335	VK2RZ	Alexander Taverner	Digital	17m	100
1336	VK4W7N	Wayne Newport	Open	6m	106
1337	VK2BY	Bradley Devon	CW	15m	100
1338	VK3NX	Charlie Kahwagi	CW	17m	100
1339	VK2AGB	Anthony Garton	Open	40m	102
1340	VK2AGB	Anthony Garton	Open	20m	105
1341	VK2AGB	Anthony Garton	Digital	40m	102
1342	VK2AGB	Anthony Garton	Digital	20m	105
1343	VK6WX	Wesley Beck	Digital	12m	100

Fifty On 50

#	Call	Name	Count
8	VK4W7N	Wayne Newport	106

Oceania

#	Call	Name	Count
93	VK7AP	Steen Jensen	26
94	VK30M	Michael Andrews	26

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Grid Square

#	Call	Name	Mode	Band	Count
721	VK3NX	Charlie Kahwagi	Phone	SHF	5
722	VK3LEO	Leo Wings	Open	HF	593
723	VK3LEO	Leo Wings	Digital	HF	593
724	VK7AP	Steen Jensen	Open	HF	1409
725	VK7AP	Steen Jensen	Digital	HF	1409
726	VK5RS	Iwan VUJC	Phone	HF	342
727	VK3TX	Oscar Reyes	Phone	HF	141
728	VK6CPU	Nigel Hanwell	Digital	HF	309
729	VK6CPU	Nigel Hanwell	Digital	6m	196

VHF Century Club

#	Call	Name	Mode	Band
187	VK6CPU	Nigel Hanwell	Digital	6m

Worked All States VHF

#	Call	Name	Mode	Band
248	VK6CPU	Nigel Hanwell	Digital	6m

Worked All VK Call Areas HF

#	Call	Name	Mode
2458	W7KPL	Jerry Page	Open



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Chris VK2CDZ

1/28 Elizabeth Pde

Tura Beach NSW 2548

christopherjdignan@gmail.com

WANTED - WA

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Those needed are type 6D6, 6C6, 6B7 and 42. The radio uses four 6D6 and three 6C6 valves, so these are particularly needed!

Even if you only have one of the above, it'd be wonderful! Please drop me a line, at: stevevk6vz@tpg.com.au, or 0408 183 742, with your details/price. Thank you!

Steve Ireland, VK6VZ QTHR

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Contact John, at: johnmurt@highprofile.com.au

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Our origins go back to 1910, when the first Institute was formed to represent wireless experimenters to the government. Major reform of the Radiocommunications Act over the early 2000s, and to amateur radio licensing worldwide, saw a single national organisation formed in 2004 to meet the emerging challenges

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