



BARG News



Ballarat Amateur Radio Group

Inc. #6953T

July 2022 Monthly Newsletter

Next Meeting

7:30pm, Friday 29th July 2022

At the Airport

All Welcome



Contacting us

You can e-mail the secretary

vk3bml@barg.org.au

We're on the web

www.barg.org.au

https://twitter.com/vk3_barg

<https://www.facebook.com/groups/VK3BML/>



President's July Report



Welcome to the July Presidents report. In the last month we were saddened to hear that Life Member Doug, VK3VBA, became silent key. Doug was an active member of BARG for many years, taking the role of president five times and holding many other roles over many years. Myself and number of other club members attended Doug's funeral where Lachlan, VK3ALM made comments about Doug's involvement in amateur radio on behalf of the club.

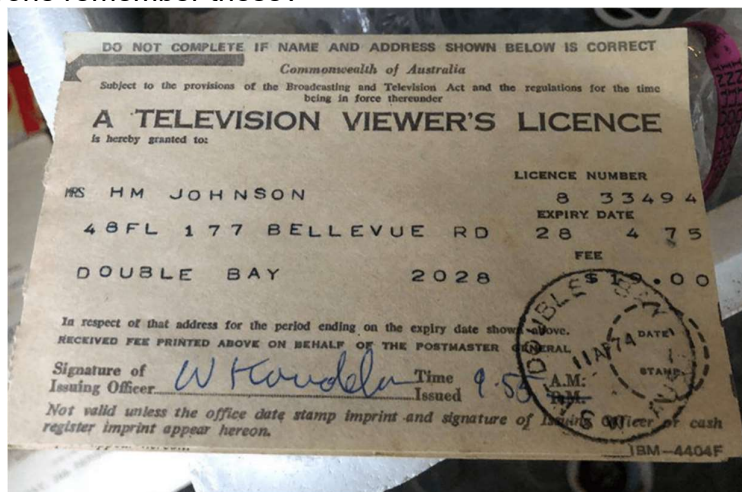
In the last few weeks, we've had a break in out at the club, with someone forcing the lock off of the tin shed where the tables and BBQ are stored. There was nothing of value and nothing appears to have been taken. Gordon, VKFGC, and Bob, VK3BNC have cleaned up and contacted the police.

Next meeting will be Friday 29th of July at 7:30pm. There's been a request to combine the construction night with the general meeting, so this Friday we'll give that a try. The next project will be the construction of a fox hunting antenna, in anticipation of a fox hunt later in the year. The project will have a group buy opportunity, expected to be less than \$20 per participant.

I look forward to seeing everyone on Friday.

Malcolm.
VK3OAK

Does anyone remember these?



Club Nets: VHF NET: Every Tuesday Night at 8 pm on 146.750 MHz - VK3RBA

HF NET: Every Thursday Night at 8 pm on 3.608 MHz - VK3BML

6m NET: Every Tuesday Night at 8:30 pm on 53.650MHz RX / 52.650MHz TX - FM
with a 91.5 tone - VK3RWU

BEACONS: VK3RMB 432.536MHz & 1296.536MHz

REPEATERS: VK3RWA - 147.100, VK3RBU - 438.475, VK3RPC - 144.750,
VK3RBT - 146.650

VK3RBA, Mount Buninyong - 146.750 & 439.275 & 1273.925

VK3RBA and VK3RWU on Mt William, VK3RCU on Mt Moliagul, VK3RBH in
Geelong and VK3RAD in Mitcham are linked.

All on 70cm.

VK2RWB, Mt Gwynne added to the linked system.

The system can be accessed via IRLP node 9503.

VHF and Above for July 2022



Figure 1 Leigh VK3XBI workplace

Even though we are in the depths of winter there is a lot of activity on these bands some of which are quite remarkable especially on the 6m band. During the winter months activity from a few of our club members has produced some interesting results. For instance, although it's winter Steve VK3ZAZ sent me a copy of his log showing he was hearing a station from Norway using FT8 at quite good signals.

As mentioned previously the advent of digital modes now allows us to work stations that are inaudible which has injected a lot of enthusiasm amongst amateurs around the globe.

In addition to what Steve has heard, Steve along with Paul VK3TXR and Ian VK3AXH are active on weekends using meteor scatter and all are working and being heard within VK and ZL. If you are interested have a listen on 50.230 MHz on Saturday and Sunday mornings mainly before the sun rises to hear this activity.

VHF Winter Field Day



There are some of us that are keen or just mad enough to go portable for this event. Braving the elements were Peter VK3PWG, Ian VK3AXH, Lachie VK3ALM and Merv VK3ADX who all ventured up Mount Buninyong on what was a freezing experience for all.

With the air temperature at 8 degrees and a westerly wind giving a high chill factor we setup some gear to have a go. Peter had 2m, 70cm, 23cm and 13cm whilst Ian had 23cm, 13cm and 9cm.

Although there wasn't a high presence of stations around Peter had 5 contacts and Ian had 4 contacts. Conditions on 3.4G were the worst ever experienced from our location where a station in Melbourne was heard but not good enough for a contact and was the same experience for the station located at Mount Martha who has been previously worked at S9.

Needless to say, we only stayed for a little over one hour and quickly packed up and headed home.

The EMDRC guys were at Enfield with a much better setup in a heated caravan, but they also experienced some equipment issues as well.

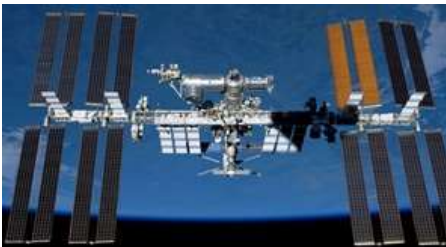
Some members will recall that a project was undertaken to build a grid square locator which can be used for portable operation which provides not only the grid but latitude and longitude as well as height above sea level and GPS time and date.

I'm aware that VK3PWG, VK3AXH, VK3KQT, VK3OAK, VK3BNC and VK3KG have completed or almost completed their units which I'm sure will be used on field days when the weather is warmer.



How it felt on the top of Mt Buninyong.

Satellite Activity



As you are aware the ISS is available to most amateurs using very simple equipment such as 2m and 70cm handheld radios.

However, with a little effort using crossed dipoles for both 2m and 70cm there are lots of satellites available. For instance VK3AXH recently had a qso with a VK6 located 400 km north of Perth via Russian Satellite RS44. Signals to VK3AXH were 5x8 using SSB. This amateur was using a dipole antenna on both 2m and 70cm which shows it can be done very simply.

Recent tests from my qth have shown that RS44, AO7, AO91 and CSA-4B are all easily accessible using SSB. In the past week contacts have been made into ZL, YC2 (Indonesia), VK2/3/4/6/8.

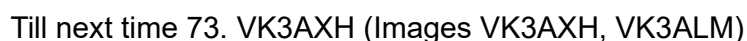


There are several programs available. Currently being used is SatPC32 which is free but requires both latitude and longitude every time you open it. You need to run this program as the administrator (unless you have a registered version) for full control.

This item leads me to a coincidence that occurred a couple of weeks ago when I observed a station in Melbourne VK3KN attempting to contact via 2m EME ON7EQ who incidentally was the person who provided the initial info for the grid square locator project.

Jean Jacques contacted me with a plan to attempt a qso via EME and was delighted to hear that local club members had taken on one of his projects. We arranged a suitable time and fortunately we were able to complete the qso at our first attempt. His station comprised of 2 yagis

Below is a screen shot of the qso using WSJT-X mode JT65B



The now, weekly Thursday coffee mornings were organised by Doug.

When he came in the shop he would purchase 4 homemade cookies, these were then kept in a bag under the counter, and Doug would pick them upon his way out. I would say they would be for a few coffees at home and his dog.

FOXHUNT HOUND TAPE MEASURE ANTENNA **PROPOSED PROJECT FOR CLUB'S CONSTRUCTION ACTIVITY**

Contributor Peter VK3PWG, Ben VK3NRD, N5NY

In the upcoming months BARG committee is proposing to build a "Tape Measure Antenna" as a club activity, a cost has been roughly priced out based on Bunnings retail prices for poly pipe,

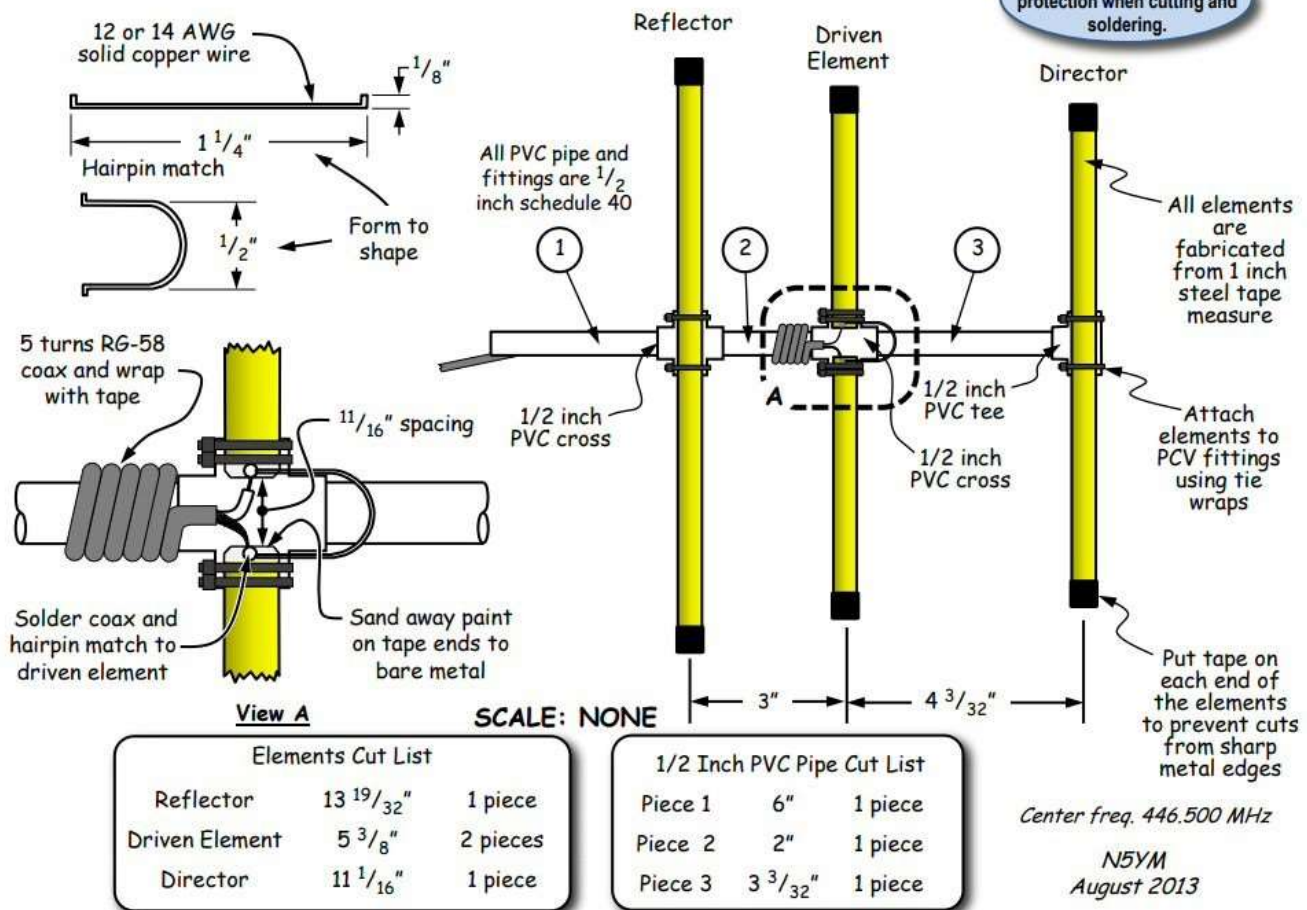
Bunnings prices are 16mm T Piece \$2.45, 4-way Cross Piece \$3.45, 3m x 16mm \$8.95, these are off the shelf inc GST. We are hoping to build at least 8 of them, so it will require 16 Cross Pieces and 8 T Pieces.

The idea is that we will construct a "Fox" and during the warmer months, the club members can build a 70cm Antenna and we can conduct a fox hunt following our meetings that will be held on Saturdays. Hopefully this will create a social atmosphere among the members and get everybody involved.

The next club meeting of BARG, will be on Friday, July 29 7:30pm at the clubrooms, where we will be presenting this activity for members to get involved.



Hurst Amateur Radio Club UHF Tape Measure Yagi Foxhunt Antenna



Communications History is everywhere, only need to look.

Contributor Colin VK3NCC



Recently we travelled to Darwin by road. We took the opportunity to visit attractions along the way.

It's such an easy drive these days. It is in sharp contrast to the conditions that people who tried to open up the central parts of Australia and connect the outer reaches of this vast country.

The two most significant were the Overland Telegraph Line and the introduction of the Shortwave radios that were used by remote stations.

The **Australian Overland Telegraph Line** was a 3,200 km (2,000 mi) [telegraph](#) line that connected [Darwin](#) with [Port Augusta](#) in [South Australia](#). Completed in 1872, the Overland Telegraph Line allowed fast communication between Australia and the rest of the world. An additional section was added in 1877 with the completion of the [Western Australian](#) section of the line. It was one of the great [engineering](#) feats of 19th-century Australia^[1] and probably the most significant milestone in the [history of telegraphy in Australia](#).^[2]



Along the way there are remnants of the OTL to see, and quite a few monuments to record events. We even camped overnight at a reserve about 1 mile from where the North and South parts of the OTL was joined.

Back in 1912, the Reverend John Flynn became acutely aware of the needs of people living in outback Australia.

The community facilities that we now take for granted in our cities - ie, good roads, rapid transport, good medical services, communications (including telephones), entertainment and supermarkets, etc - simply did not exist in the outback back then (and often still don't today).

Alfred Traeger developed the first pedal radio in November 1928.

The 1930 pedal radio was built into a heavy metal cabinet and used two transmitters - one on 2020 kHz and the other on 8630 kHz.



At the Wadlata Outback Centre in Port Augusta (<http://www.wadlata.sa.gov.au/>) we found displays related to early communications:

At the Transport Hall of Fame in Alice Springs (<https://www.roadtransporthall.com/>) we found early communications equipment.

The Daly Waters WWII airfield still has a hanger open to the public, with a static display and the facade of the original radio equipment.



In the middle of nowhere we found an operating public telephone box that we could make telephone calls free to anywhere in Australia. (

<https://exchange.telstra.com.au/why-were-making-payphones-free-for-calls-around-australia/>)

It's reassuring to see that so many organisations have taken steps to preserve physical aspects of this history.

Want to know a little more of the OTL? take a wander over to;

(<https://www.twentytothemile.com.au/>) I've bought the book and waiting for the film.

Of course, the opportunity to operate in a noise free environment was taken.



Remembrance Day Contest

DATE 13th & 14th August 2022

Contest Manager

Alan Shannon VK4SN
vk4sn@wia.org.au

Rule changes in 2021:

1. Foundation Licence sections discontinued
2. Remote station operation is allowed.

Multi Op stations, please observe COVID restrictions in your area.

Contest Introduction

This contest commemorates the Amateurs who died during World War II and is designed to encourage friendly participation and help improve the operating skills of participants. It is held on the weekend closest to the 15th August, the date on which hostilities ceased in the southwest Pacific area.



A perpetual trophy is awarded annually to the Australian state or territory with the best performance. The name of the winning State or Territory is inscribed on the trophy, and that State or Territory then holds the trophy for 12 months. The winning State or Territory is also given a certificate, as are leading entrants.

Contest Rules;

<https://www.wia.org.au/members/contests/rdcontest/>

ITEMS FOR INCLUSION INTO THE MAGAZINE

If you have even an idea for articles or data for the newsletter, please let me know.

If you have information and would like a newsletter article written on it, please let me know.

Web links and/or printed material will be accepted, articles that need returning can be scanned.

I can write the article around the material or idea you supply.

Knowing what you want to see in the newsletter helps immensely toward what gets published.

Anyone with old photographs of amateur gear or operation and club activities will be very welcome.





The St George Amateur Radio Society Inc

SGARS 80 Metre Contest 2022

Saturday 30 July 2022, 18:00 - 23:59

Contact info@sgars.org

The intention of The St George Amateur Radio Society (SGARS) 80 metre Contest is for amateur radio operators to prepare for the annual Remembrance Day Contest following in August, so this contest is held on the last Saturday evening in July.

The SGARS 80m Trophy Contest is open to all operators using analogue and digital voice modes, CW morse code and other digital modes such as RTTY, SSTV etc.

The contest commences at 6.00 pm local time in one hour time slots until midnight. Extra points can be earned in the last hour and by making contact with the SGARS club station VK2LE.

Complete contest information and rules can be downloaded

<http://www.sgars.org/index.php/downloads/1-contest-and-field-days/36-sgars-80-metre-contest-2022-rev4>

Cats And Dogs On The Air 2022



In 2020 and 2021 ham operators Slavomira CT7ARW and Hugo CT7AOV celebrated International Cat Day August 8th operating their radios with the special call sign CS2CAT.



This year more hams have joined the party, and there are planned activities for both International Cat Day, and International Dog Day August 26th!

If you want to join them from your country send an email to Hugo CT7AOV (email at QRZ.com) and let us know!

Latvia

- YL1CAT - operator Yevgeny YL2TD - August 7th to 9th
- YL1DOG - operator Hanz YL3JD - August 22nd to 26th

Netherlands

- PD6DOG - operator Edwin PD0SOT - August 22nd to 26th
- PF6DOG - operator Joop "Jo" PG4I - August 22nd to 26th

Portugal

- CS2CAT - operators Slavomira CT7ARW and Hugo CT7AOV
- CS2DOG - operator Carlos CT7AUS - August 24th to 26th

11:00AM 27th AUGUST 2022

BARG ANNUAL GENERAL MEETING

All positions will be declared vacant and if you wish to nominate for a position please use the form below.

The current positions are;

President: VK3OAK – Malcolm

Vice President: VK3NRD – BEN

Secretary: VK3DRE – Doug

Treasurer: VK3QY – Chris

Committee:

VK3ALM – Lachlan

VK3PWG – Peter

VK3KG- Craig

VK3YFD – Ian

VK3KQT – David



B.A.R.G. Inc. NOMINATION FORM

Ballarat Amateur Radio Group—Inc # 6953T

DATE: _____

I wish to Nominate _____ CALL: _____

For the position of _____ of BARG Inc.

Nominated by: _____ and _____

Nomination accepted by: (Nominee) _____

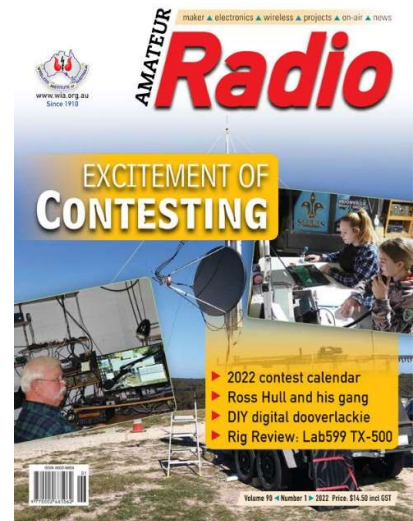
Amateur Radio magazine like the ARRL's magazine QST has the non-technical sections and pages to do with local activities of amateurs and clubs along with management and associated activities in representing the local radio amateur in Australia.

It's unfortunate that not all Australian amateurs have been supportive of the WIA in the past but while there is always people who play at the "politics game" there are those that see and understand the value of having a united front or at least a general understanding of the issues that we as amateurs have to face in continuing our hobby. This couldn't be more truer today than ever before as the face of the hobby is changing and the external pressures of the outside world looking to expand further in "its" perceived needs for more spectrum.

I remember from many years ago the phrase when referring to our small section of the spectrum as USE THEM OR LOOSE THEM. Well as we know now industry is constantly looking for more spectrum bandwidth for its communication needs.

Where will amateur radio bands be located, and how much bandwidth will we have in say 20 years time.?

Now while I may brush over any comments or discussions arising in the AR Magazine as we review the contents, I will just review the technical papers and construction articles for reading. If an article appeals to you then you can join the WIA and receive your own copy direct. So here is the latest items from AR magazine.



- P4 Editorial from Roger VK2ZRH discusses the new space rocket launch site called Arnhem Space Centre in Arnhem land NT. It also looks at the STEM program bring science and technical learning into schools.
- P6/7 Carries latest news from WIA.
- P10 Offers sound ideas for the Promotion and Successful conduct of radio club open days and maybe we need to return to times when there is a display or talks running to entertain visitors apart from hunting through boxes of preloved gear. Some of the tended photographs show off some ideas to interest viewers. Moon bounce dishes Morse practice oscillators, slow scan TV as well as fast scan displays, Laser and IR communications stations. One photograph shows a Portable Earth Moon Earth and satellite tracking dish mounted on a trailer platform. Isn't that impressive to see.
- P18 Brisbane VHF Groups attempt to increase the band record distance for 3.4GHz {9cm band} and using digital mode. From grid square QG56JR83 to QG62OM45 a distance of 524km using Aircraft enhancement. Shortly after a 1296MHz attempt was done using the same dish and of course lower signal levels were copied. In closing the report Kevin VK4UH gives a short tutorial introduction to {AE} Aircraft Enhancement which readers not familiar with should find quite understandable and well worth reading. Who knows there may be an increase in interest in the AE mode soon?
- P21 Interesting in learning how the Antenna Modelling program called 4nec2 works? Read Part 2 by Michael Barbera and Greg VK4GRM. Perhaps start on Part 1 from previous copy of AR.
The third part of this article will be coming soon. In this article they ran a plot for a dipole antenna on 300MHz to print out its parameters at the end were impedance of 72.1 and SWR 1.44 and a small amount of capacitive inductance at resonance. Next article will test a 20M dipole while exploring some more of the functions available in the software package.

- P27 Marking a round tube for straight cutting and also how to drill a round hole in a project case and using a stepped drill. This is a very handy tool to have in your workshop or Toolbox.
- P28 Integrating an automatic antenna coupler into a CODAN 8528 HF Transceiver.
- P33 Going portable into the bush and not using the vehicle to get all the way there. See how others have done things and what fun is to be had by participants.
- P40 A story of one persons entry and involvement to amateur radio
- P44 Queens Jubilee station GB70E. Report from Dale Hughes VK1DSH who just happened to drop in on way home from Geneva. .
- P46 The 2022 Dorrigo Park Fest.
- P49 More outdoor adventures see the Silos in Colbinabbin, play SOTA, Parks and Peaks, and become a Chaser. The family can come to.
- P50 Did you participate and enter a log for the John Moyle Fd day? Check your position. Looks like the VK3ER of the EMDRC has taken first place again in the 24Hr all band mode.
- P54 ALARA notes and they have a new President. Michelle VK2AYL was licensed in 2006 but has been involved with scouting and guides well before via the JOTA activities. ALARA is running their contest in August this year [27-28th] Read this page for further details or www.alara.org.au
- P57 How AUSTRALIA came to rule the RSGB Commonwealth Contest 2022. This is the sixth year in a row that Australia has done so. An interesting story line to read. Next year 11/12 March.
- P60 Meteor Scatter report from Dr Kevin Johnston VK4UH Always an interesting page to visit and read.
- P61 Silent Key. Max Chadwick VK3WT ex VK3WOD. A stalwart member and office bearer at the EMDC for many years. Holding many positions on committee as well as being an active participant in all club events. I remember Max when I was a member in Melbourne.
- P62 Finally an appeal from the WIA QSL bureau manager John VK3JLS to all readers about the best way to submit and expect to receive QSL cards back from the bureau There is a standard procedure you need to follow if expecting cards to be collected for you and also what is required when you submit cards in to be disseminated to various clubs , QSL managers or direct to the worked station operator. The article also covers Special event call sign card collection.
- P64 Lists various DX Awards available and names of current recent awardees.
- At the back of the magazine there two Ham Adverts this time for sale items. On the back inside cover are details about joining the WIA and services available for members. Do not be one of those reticent amateurs that refuses to belong to the WIA, and especially do not use the excuse that so and so said or had a bad experience over something that you are not personally cognizant with. It is a soft option for people to say that they see no value in joining but they either forget or are not really aware how much many amateurs before us have done for the benefit of ALL licenced amateurs and many are still very active in protecting the privileges we currently enjoy. If its worth having then its worth defending not only for now but for those amateurs who have yet to join our ranks. Support our National body which can claim it's the oldest in the world. Formed before the ARRL even started.
- Personally, I can say I have been a member of the WIA since 1957 and have no regrets for what we have had in return, especially when dealing with the department over our conditions and privileges.



73 Craig VK3KG

QST August 2022 Review

A bumper edition this year Of 128 pages. The normal ARRL reports around the country along with these interesting articles.

P24 The letters from members,

P30 The Inverted Hen-Delta Antenna for 6 Metre. .It may look a bit odd made from 12mm Copper tubing and white PVC tubing. Fed directly with coax and tapped along the bottom matching section its polar shape is the traditional doghurt shape

P34 Now for more a gimmicky antenna read about the K4HRK Combrella antenna it utilizes the metal ribs of the umbrella for the antenna structure. Using a VNA to tune and adjust for wide band operation with a low SWR reading

P37 Create a bot to show some Radio Reddit post across amateur radio activities.

P39 Product Review. Yaesu FTM-6000R VHF/UHF mobile Transceiver. Quite a package with 50W on both 2M and 70cm. and the bonus is a continuous tuning section from 108 to 999.99MHz along with DTMF and CTCSS inbuilt it should make a bit of history in the market place.

P44 Radio Analog PTRX-9700 SDR Adapter add On. And also by same reviewer see P48 An IC-9700 Reference injection board and Precision GPS reference Clock. See Leo Bodnar electronics at www.leobodnar.com.

P49 COMPACtenna 2M/440+ 70cm. Not much technical detail but handles 100W.

P51 Eclectic Technology asks about keeping your time in the Field. ? Cost is only 25USD.

P52 Answers are found here about Long Wires, Transmission Lines, Novice Bands and the Attic Antennas.

P54 CW Sidebands: Measuring Impedances; an Improved Audio Oscillators.

P56 Activating the Loneliest Light house in the World on Stannard Rock in Lake Superior.

P59 Selling Ham gear on the Internet. Considering the photo graphic challenges

P62 Activating ANGEL Island. Where is that you ask.? Better have a read or just Google it.

P64 Happenings: In USA the FCC proposes a record fine of US\$34,000 fine for alleged Interference and illegal transmissions during the IDAHO Wildfire. Wonder the reaction here if the legislation were applied to the local laws.

P80 DX Updates for those interested.

P82 World above 50MHzs. Solar cycle 25 update and also Sporadic E on 6 Metres.

P88 LOOKING BACK at the Sept 1972 copy of QST.

P96 Classic Radio: The Hallicrafters HT-4 and the BC-610. I don't remember the early HT-4 from prewar but the Vic Div of the WIA had two of these BC610 transmitters set up for the Sunday broadcasts in 478 Victoria parade during the 1960s. The put out a good 400W of AM voice then from their 250TH final tube followed with a pair of 100TH valves in push pull Built like a tank they were used on GMC 2 ½ ton truck as a mobile station. The well-known BC348 and BC 312 receiver were part of the general station kit known as the SCR299. See the documentary called "Voice of Victory" www.youtube.com/watch?v=wkdKNq1nYcI

P98 100, 50, and 25year ago in QST magazines. Where were we at then.?



The advertisements always get the juices boiling as you can read about any type of radio or accessories that you may want.

Until next month's copy flies past.

73 Craig VK3KG

Lo-Key 2022 Review. Journal of the VK QRP Club

Front Cover; HF Loop Remote Tuner.

Back Cover; 30m Helical Vertical, roof bonded.

- P3 President's Notes. Magazines, Slow Morse, Hours Contest VK5ATQ
- P6 Club News. 10, 20, 30 Year Club, Bits No Kits, Past Issues Lo-Key. VK5AIL
- P7 QRP Hours Contest Results. VK1DA/VK2DA
- P11 A Small HF Loop Antenna. VK2AVQ Operating out of a two bedroom retirement village.
- P14 3.579 MHz Memories. VK3YE What were your first colour burst crystal QSOs?
- P17 30m" Big Bore" Antenna. VK5BUG Monster on 3" and 6" PVC pipe.
- P28 Members Classified
- P29 Chris-Crossword



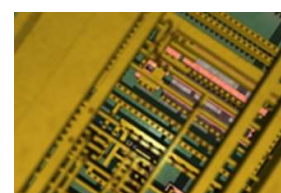
OTN March 2022. Journal of the Radio Amateurs Old Timers Club Australia Inc.

- P2 RAOTC General Information.
- P3 From Committee, From Editor.
- P4 From Members. New RAOTC Members, Silent Keys.
- P5 OTN Stewart Day Award 2021
- P6 Loran – its rise, demise, and rebirth
- P9 A nostalgic trip down memory lane.
- P13 Some receiving antennas for 7MHz.
- P15 Shocking discovery of electric fish: 250th anniversary.
- P21 The ordinary telegraph is like a very long cat.
- P23 IOTA, POTA, SOTA and HEMA. What's it all about?
- P25 The Bendix MN-26C radio compass receiver.
- P27 Try the other foot.
- P28 The hedgehog transformer.
- P33 The hill that trumped a mountain.
- P34 Declassified military secrets.
- P37 Radio Australia Shepparton. A short History (Part 1).
- P42 Radio Australia Shepparton. A short History (Part 2).
- P47 Levenson's Radio – The palace of wireless.
- P49 Two cases of weak signal interference.
- P50 Louis Brennan – Inventor of the first practical torpedo.
- P53 They watched and warned.
- P56 Cyber security – why you should take it seriously.
- P60 Melbourne March 2022 luncheon notice.
- P60 Is your RAOTC membership renewal due?



SILICON CHIP JULY 2022

- P14 IC Fabrication, Part 2. Shrinking node sizes and cutting-edge Extreme UV lithography.
- P31 Multimeter Calibrator & Checker. Unit to use to check the accuracy of multimeters and other electronic devices.
- P41 Anycubic Photon Mono 3D Printer. Affordable resin 3D printer.
- P52 VGA PicoMite. Raspberry Pi Pico and some extra components you can produce a 640 x 480 pixel VGA output with a PS/2 keyboard input and SD card.



- P62 0 – 110dB RF Attenuator. Designed for use with previously published AM/FM Signal Generator, May 2022. Level adjustments in 1dB steps.
- P68 Oatley Solar Charge Controller. Oatley Electronics have 2 solar charge controllers available as kits, 12V and 24V versions for lead acid batteries. PV panels are included in the kit.
- P72 Secure Remote Mains Switch, Part 1. A remote switch with up to 68m of line-of-sight range, can handle up to 16 transmitters per receiver and switch up to 30A at 250Vac. Using UHF and rolling code.
- P78 Circuit Notebook. Switching external devices via a TV. Variable L-Pad speaker volume control. Transmitting in the FM broadcasting band. Plugpack voltage and current monitor.
- P83 PAS CO₂ Air Quality Meter. Uses the Infineon XENSIV PAS air quality sensor module. PAS (photoacoustic spectroscopy) sensors work by measuring gas particle absorption characteristics at specific wavelengths of IR light.
- P86 Serviceman's Log. Trail camera. Touch Lights. Fault Whisperer. 1.5kW solar inverter. Lathe motor speed controller.



DIYODE JULY 2022

- P11 Bluetooth Motor Control. Using smartphone to control models.
- P16 Wimshurst Machine DIY kit to make this spark generator.
- P31 DIY Variable Lab Bench Power Supply.
<https://www.youtube.com/watch?v=7Uqy0hs1Uk8>
Using a ready built SMPS and a eBay/Banggood available digital power supply unit. Designed by a 16yo, nice project, just lacks a parts list, some of the URLs in the YouTube presentation don't work either.
- P43 3D Printed 10-bit Binary to Decimal Converter.
- P47 Electrical Grid Monitor/Dashboard. Raspberry Pi powered desktop touchscreen providing an overview of the electricity grid so you can compare energy levels between states and territories.
- P57 Making for Beginners. An Introduction to TinkerCad. Part 1 of series of 3D printing and laser etching tutorials.
- P65 Classroom. Resonant Circuits. Explanation of resonance and the circuit building blocks to produce it.
- P77 Displaying Degrees. WiFi temperature sensor with scrolling display using ESP8266 and an array of 8x8 LED matrix displays.
- P91 Kids' Basics: LED Thermometer. A hardware driven project with LM3914 dot/bar LED IC.

