BARG News

Ballarat Amateur Radio Group

Inc. #6953T

January

Monthly Newsletter

Next Meeting

WEBEX MEETING 7:30pm EDT, Friday 28th January 2022

Webex details on chatter and member's email.

All Welcome

Contacting us

You can write to the club at the address below, or e-mail the secretary

The Secretary : B.A.R.G. Inc.
Box 1218
Mail Centre
Bakery Hill Vic. 3354

Or E-Mail : **vk3bml@barg.org.au**

We're on the web
www.barg.org.au
https://twitter.com/vk3_barg

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

Presidents November Report

Hi All,

Welcome to the first newsletter for 2022. We wrapped up 2021 with a break up BBQ out the club. It was a less glamorous than prior years, the covid situation meant we needed an event that allowed for some separation.

Hopefully we won't be worrying about that when we get to the 2022 breakup.

As the year kicks off, we're looking for speakers for our general meetings. That can be a Friday or Saturday, in person at the club or online. Online allows presenters to be in other parts of the country or the world. The presentation doesn't have to be about radio, but it's preferred to be about a technical aspect of something. If you have something or if you know someone who'd be willing to give a talk, please let the committee know.

The next meeting will be Friday the 28th as an online meeting. 7:30pm start. Given the current Covid situation we felt it would be safer to have an online meeting. Ben will send out the details prior to the meeting. All welcome.

There are a few events coming up. We're planning to have a club entry into the John Moyle Field Day on Saturday 19th March. Details to be discussed at the next meeting.

The George Fowler Auction will be Sunday the 6th of March 2022.

If you have gear to move on, now's the time to drop it off at the club. Please leave your name on the gear. Anything not sold will need to be taken home again.

I've had a few requests for the club bank details.

BSB: 633 000

Account: 142 591 247

That's all for now. I hope to see you at the next meeting or hear you on air.

73. Mal VK3OAK

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
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

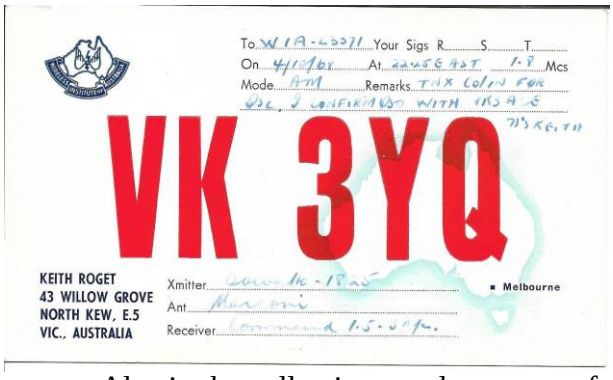
MY FAVOURITE QSL CARDS

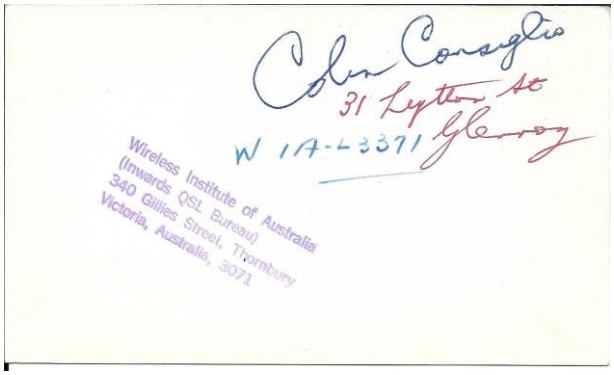
Contributor Colin VK3NCC

This is the last of Colins contribution of his favourite QSL cards from his SWL days.

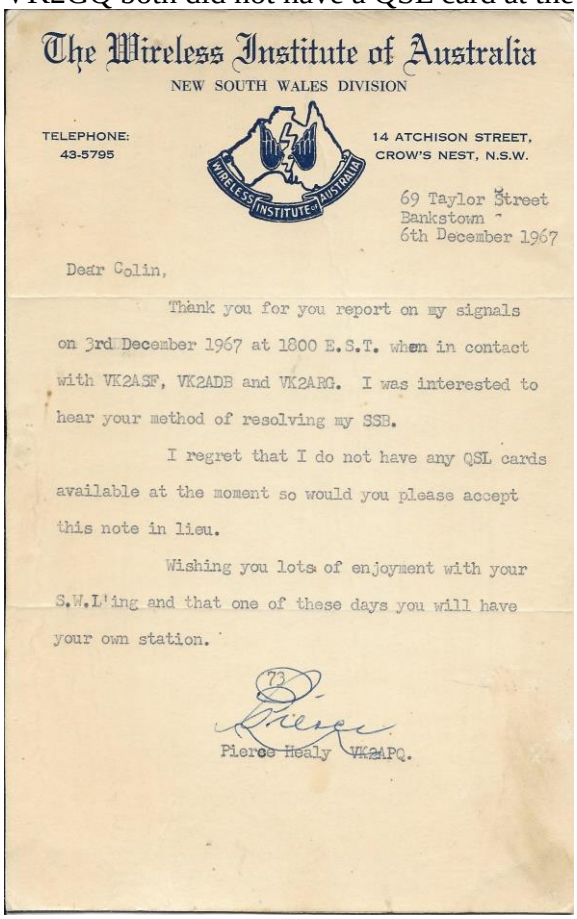
By this time I was the proud owner of a Registered WIA SWL Number. It was initially issued as WIA-L3371, at some later time it became WIA-L30371.

Some QSL cards received were specifically designed by the operator and printed beautifully. Here's one with a famous name on it:





Also in the collection two letters, one from Pierce Healy VK3APC at the WIA and VK2GQ both did not have a QSL card at the time, but wrote to him to acknowledge his report.



The Wireless Institute of Australia
NEW SOUTH WALES DIVISION

TELEPHONE: 43-5795

14 ATCHISON STREET, CROW'S NEST, N.S.W.

69 Taylor Street
Bankstown
6th December 1967

Dear Colin,

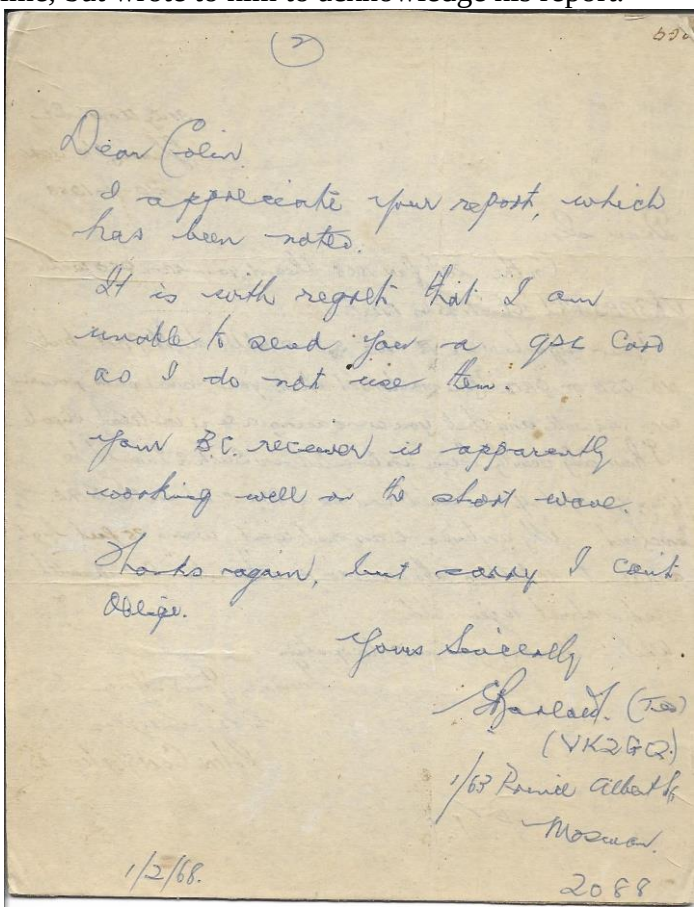
Thank you for you report on my signals on 3rd December 1967 at 1800 E.S.T. when in contact with VK2ASF, VK2ADB and VK2ARG. I was interested to hear your method of resolving my SSB.

I regret that I do not have any QSL cards available at the moment so would you please accept this note in lieu.

Wishing you lots of enjoyment with your S.W.L'ing and that one of these days you will have your own station.

73

Pierce Healy VK3APQ.



Dear Colin

I appreciate your report, which has been noted.

It is with regret that I am unable to send you a QSL Card as I do not use them.

Your B.C. receiver is apparently working well on the short wave.

Thanks again, but sorry I can't oblige.

Yours Sincerely

Harold (Tee)
(VK2GQ)
1/63 Prince Albert St
Mosman

1/2/68.

2088

If you look carefully enough at the note from VK2GQ you might be able to see some words through and on the other side of the sheet of paper. This operator wrote his QSL and words of encouragement on the same letter that had been sent to him. A self addressed envelope with a 4c stamp was always included with the report.

The best part of all QSLs received was that there was always a note of encouragment that kept the interest alive.

Thanks for the opportunity to share some of the memories. Colin VK3NCC

RADIO TASHKENT QSL 1960s

Contributor Craig VK3KG

Here is some more memorabilia from the collection that Craig has presented.

Узбекистон ССР
Министрлар Совети хузуридаги
радиоэшиттириш ва телевидение
КОМИТЕТИ
ш. Тошкент, Хоразм кучаси, № 49
Телефон № 28106

КОМИТЕТ
ПО РАДИОВЕЩАНИЮ И ТЕЛЕВИДЕНИЮ
ПРИ СОВЕТЕ МИНИСТРОВ
УЗБЕКСКОЙ ССР
г. Ташкент, ул. Хорезмская, № 49

№ _____ „5th" August 1961 г.

Mr. Russell Wilkinson,
53 Mary St.,
Highgate Hill,
Perth,
W.Australia.

Dear Mr. Russell Wilkinson,

It certainly was a great pleasure to hear from you again and also to know that you have resumed listening in our station. We hope that from now you'll be our regular listener. By this letter we wish to confirm the receipt of your reception report on our station dated the 24th of July,1961. All details are correct. Thanks a lot. We are always glad to receive them.

In response to your request we are sending you in this letter a picture post-card by way of verification and also our latest programme schedule.

In looking over your above stated reception report I note that the reception was almost fine. However, I' like to ask a favour of you to the effect that should there be any major changes in reception conditions that you inform us accordingly.

Meanwhile, best greetings from Radio Tashkent and myself personally,

yours,

Tulkun Aikhodjaev.

P.S. Hope to hear from you soon.

Radio Tashkent
Tashkent, Uzbek SSR
January 23,1963

Mr.R.Wilkinson
53 Mary St
Highgate Hill
Perth,W.Australia

DearMr. Wilkinson

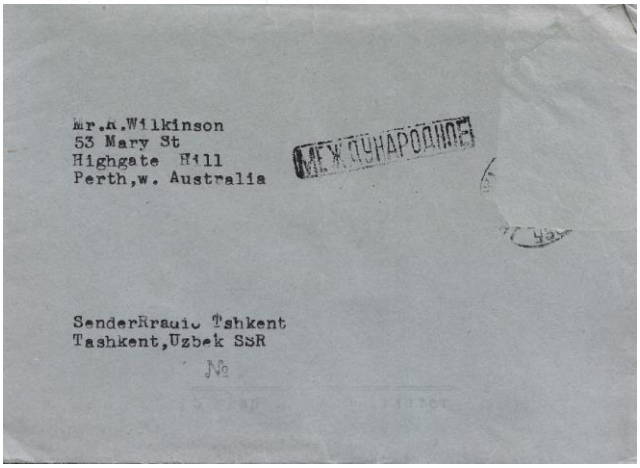
Many, many thanks fir your lovely New Year card with the Greetings of the Season. We didn't hear from you for a long time and now we hope you will listen to our transmissions regularly. Your reception reports will be appreciated,and your letters concerning our transmissions will be most welcome.

Well, my dear Mr. Wilkinson,that 's all for the time being. We are waiting for a reception report from you.

I remain

Yours very truly

Tulkun Aikhodjaev.



Mr.R.Wilkinson
53 Mary St
Highgate Hill
Perth,W. Australia

МЕЖДУНАРОДНАЯ

SenderRradio Tshkent
Tashkent,Uzbek SSR
№

Tashkent is the capital city of the landlocked country of Uzbekistan.

Uzbekistan was part of the USSR.

The region declared independence on September 1, 1991, from the USSR.

Time Adjustment Software for ICOM

Contributor Robert VK3ARM

G'day and let's hope that 2022 is somewhat better than the last two years.

I found a nifty piece of Windows software (sorry Apple users) that Drew (AC3DS) describes on the QRZ.Com Home Page. Being an Icom IC-7300 user, I was instantly interested in it.

I went to his Video on You Tube:

https://www.youtube.com/watch?v=fcZwl48NJek&t=19s

It's self explanatory however below is some text that accompanied his short video:

ICOM just (11/30/21) came out with a new piece of software. Now you can sync your radio's clock using a Windows or Android operating system.

The manual states that this works for the Icom 705, 7100, 7300, 7600, 7610, 7850/51, and 9700.

The ability to do this has existed through independently created scripts however, this is the first rollout from ICOM. This is version 1 of ST-4003W.

***NOTE**: In order for your computer to update the time, you will need to have the driver for your radio installed. Icom's radio drivers are located on the same page as the software download.

I downloaded the software from Icom Japan's site:
https://www.icomjapan.com/support/firmware_driver/3428/

It installed really easily. Because I have an SDRPlay with SDRuno, I have my desktop computer connected via USB to my 7300. The software automatically recognised the Port that my computer uses to talk to my 7300.

Once the software is installed you can set up a shortcut which when run, instantly syncronises the radio's clock to my computer. I use time.nist.gov on my desktop machine.

Enjoy fellow Icom users, at least some of you anyway.....

Cheers...73 Robert VK3ARM

For those who need NTP servers for this and other Time Sync tools try one or all the following as they will respond quicker than the one listed/used.

0.au.pool.ntp.org 1.au.pool.ntp.org 2.au.pool.ntp.org 3.au.pool.ntp.org

Cheers… 73 VK3NRD(Ben)

SO SAD, to announce this

After a long time in Amateur Radio, I am posting this with a heavy heart.
I love Amateur Radio and everything that comes with it... but I am officially done in 2022!
This is taking up too much of my time.
I'm struggling to keep up with the everyday chores of cooking, cleaning, and maintaining the home, so something must give.
I have decided to get rid of all my gear.
Below is a list of what's available.
Serious inquiries only, and please don't insult me with low offers.
Thanks for reading and understanding...

1. Vacuum cleaner
2. Dustpan and broom
3. Mop and bucket
4. Pots and pans
5. Toilet bowl brush and cleaner
6. Laundry detergent
7. Motor Mower
8. Whipper Snipper

Any serious offer will be considered. Every little bit helps for more radio gear...
HAPPY NEW YEAR... VK3DMK
(PS. I wouldn't recommend the vacuum cleaner because it sucks and collects dust.)
(Adapted from Facebook, Budget Model Railroading group.)

VKS-737 Codan Envoy Raffle is On Again:

Contributor Robert VK3ARM

Here's a good way to distract yourself from the heartache of the last two years.
Dream about what it would be like to be the happy winner of a brand new Codan Envoy HF radio complete with your choice of autotune antenna.
Just 3,000 tickets are available. That increases your chance of being the lucky winner. Second and third prizes are Minelab Equinox Metal Detectors.

Any Australian Resident is eligible to win. You don't have to be a Subscriber to our Network to enter. You could even be a Licensed Amateur Radio Operator. The Envoy will be programmed to suit the needs of the lucky winner.

Tickets are just $5 each. Go to our Website for all the details. Good luck:

https://vks737.radio

Want to know more about the Codan Envoy HF Radio? Read our review of the radio here:

https://vks737.radio/codan-envoy-radio-review/

First Prize: Codan Explorer Package comprising an Envoy X1 Radio and 3040 (or optional 9350) Auto Tune Antenna. Valued at $4685.00 Generously donated by Codan Radio Communications.
Second Prize: Minelab Equinox 800 Metal Detector. Valued at $1299.00 Generously donated by Minelab.
Third Prize: Minelab Equinox 600 Metal Detector. Valued at $999.00 Generously donated by Minelab.
3,000 numbered tickets @ $5.00
To be drawn 17:30 Friday 10th June 2022 at VKS-737 Head Office.
Tickets are available from VKS-737 Head Office or VKS-737 Website
Please Note: Ticket Orders must be received no later than Friday 3rd June 2022.
Proceeds are to be applied to the VKS-737 Radio Network to provide better communications services for our subscribers, and in times of emergencies by all outback and remote area travellers.

Kicking Off the Thursday Morning Coffee Group

At typical Thursday morning gathering…

Now that we are into the New Year, the coffee group is up and running.

The location has been agreed apon as “Food Seduction on Doveton”, a locally owned café on the site of Gove’s Bike Shop, on Doveton St Nth.

10:00am start is the usual drill and we sit down, enjoy a great coffee and snacks provided by Micheal and Tina and discuss and solve the worlds problems in a couple of hours.

Great service, you order, Micheal serves.

Food is available from Tina’s homemade cookies to light snacks and toasties, endorsed by Craig VK3KG, a larger meal menu is available.

Comfortable atmosphere and convienient location.

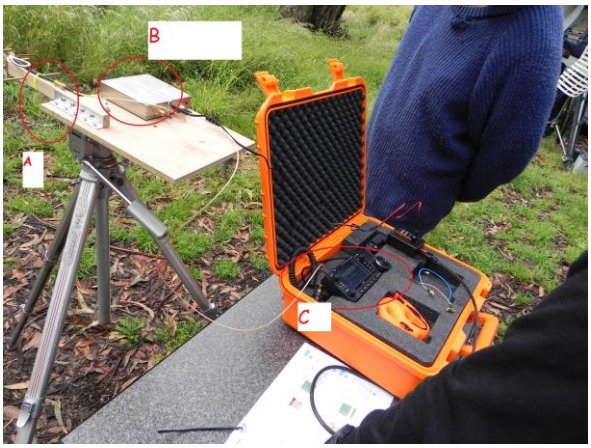
FOOD SEDUCTION ON DOVETON
RESTAURANT AND CAFÉ
524 Doveton St Nth, Ballarat

Sunday Morning Microwave Expedition to Mt Buninyong

Contributions; VK3AXH(Ian), VK3PWG(Peter), VK3KG(Craig), VK3TOT(Andy) and VK3DMK(Tom)

Sunday 9th of January 2022, an expedition was launched to experiment with 1296MHz, 2.4GHz and 10GHz equipment.

Some of PWG's equipment, located on Mt Bunintyong, is pictured below;



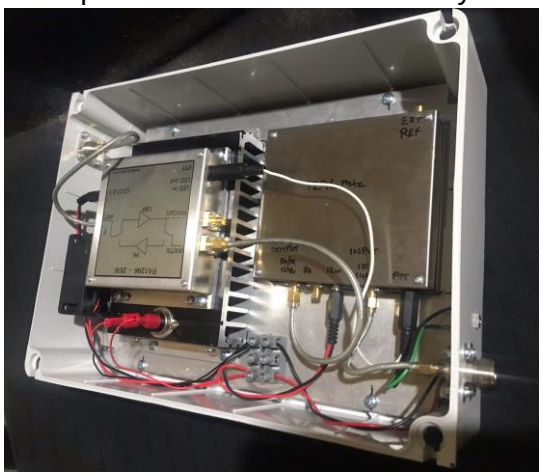
A - 12 Element Yagi antenna for 23cm (1296MHz) band, simply a piece of pine with 1.6mm Lacquered Copper Wire folded dipole as the driven element, a reflector and directors made from brass rod. The feed uses a simple 4:1 co-ax Balun to match the folded dipole impedance to the 50 Ohm feed line, it is made from a section of semi-rigid co-ax.

B - 23cm Transverter from SG-Lab in Bulgaria, these are cheap and an effective plug and play setup for this band and have a maximum output of around 2 watts, and will set you back about $265 landed, depending upon conversion rates at the time.

C - The IF radio that I mainly use, an Icom IC-705, it has a maximum output of 5 watts on internal batteries, I favour this over the FT-817 as it has many easy to operate features that I find useful.

On another bit of rising land VK3TOT(Andy) at Gordon.

VK3TOT microwave portable station on Black Hill, Gordon, Jan 9th. Comprising of 1.2, 2.4, 3.4 and 10GHz, testing newly acquired SG Lab Transverters for the lower three of the four bands. Six stations from greater Melbourne worked on 1296, two on 3.4, three on 10GHz. 2.4 had a suspected antenna issue that day.



This is a 23cm band SG Lab Transverter with 25W PA module, recently assembled. I had not previously had any capacity to easily go portable on this band.

Built tough to cope with a high duty cycle, as we all know, I can talk a lot.

On another hill the Bald Hill in the Enfield state forrest was VK3KG(Craig).

The location was the site of the old air navigation beacon.

Though my 1296 transmitter failed with lost RF I could still listen, and heard Andrew VK3TOT at Gordon off the back of his beam and heard Peter VK3PWG on Mt Buninyong and Ian VK3AXH but unable to make a two way contact.

Pic 1

Pic 2

Pic 1.I initially used a ten element home brew yagi hand held then needed to fix the beam to a base/mast so used a an 8" adjustable spanner to clamp it to a platform below the 3.4 GHz dish.

The 10 element yagi is constructed with a U shaped alum boom and welding rods elements fixed with S/s self-toppers.

Amazing what amateurs can do as lateral thinkers when put into a spot of bother.

Pic 2.This yagi is made from small dia copper pipe boom and welding rods and clamped to a small camera tripod.

The other photo shows another home made beam on 23cm which is a four element yagi with folded dipole and a pcb printed linear stubb feed to a BNC connector.

Pic 3

Pic 4

Pic 3.This photo shows the whole 1296 transceiver sitting on the table mounted in a small height chassis using a kitset from the VK5 group and the output should be 18W from the flat slab device mounted on the back panel however I believe this device has now failed and why no one could hear me calling.

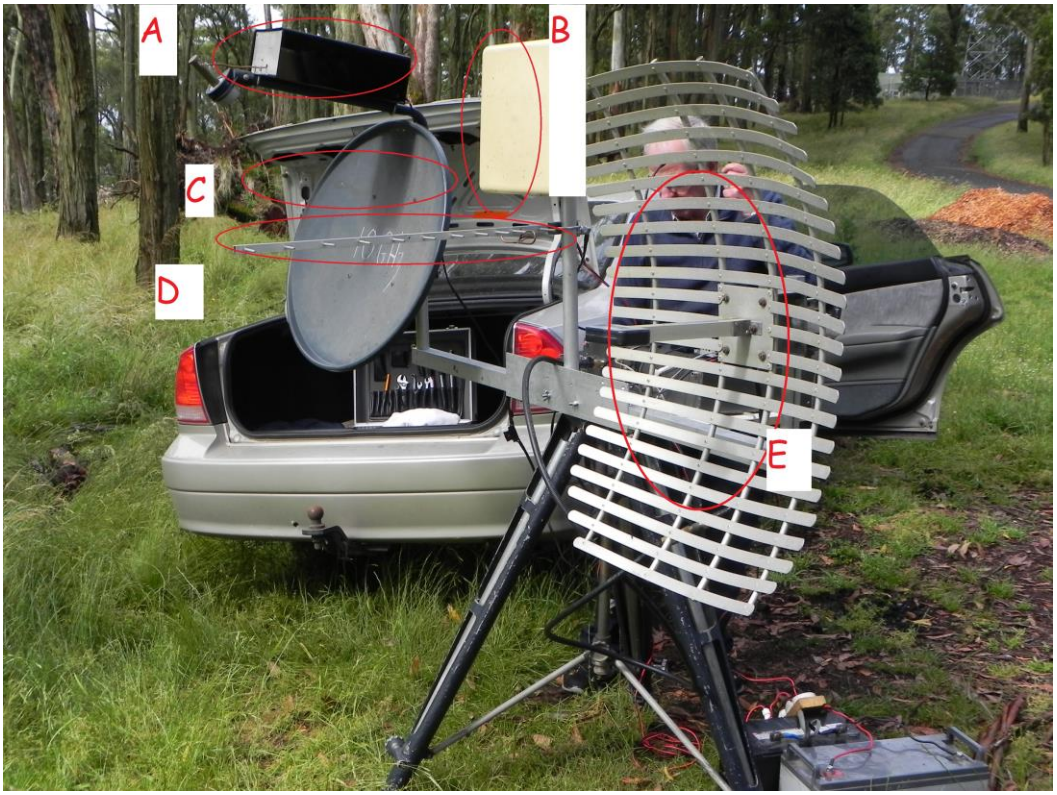
The tunable IF used was the FT 817 and on 144-146 MHz.

Pic 4. The LONG Aluminium box which is a Rx-Tx Septum feed intended for a dish but works as is antenna. Septum has two separate inputs for Tx and Rx and both usable in this set up. Septum will eventually be on my 3m dish at home. Pic 3 shows the 3.4GHz dish mounted on tripod and unused. Was pointing to Mt Gambier in this photo.

The clubs beacon on the 23cm band was also heard from this position but was down amongst the noise. Although one photo shows the offset fed dish and "coffee can feed' on the tripod it wasnt set up on the day due to other band problems.

That transceiver is a home brew rig but with a 20-25W linear from an Israeli fighter jet system.

Back at Mt Buninyong VK3AXH(Ian).



A = 10 Ghz transverter made up from a VK3XDK synthesiser which is fed into a modified MITEK (ex commercial equipment) where it's multiplied to take a 432 I.F. input and output

The output is fed to an ex commercial 1 watt amplifier.

B = 3.4GHz transverter was a kit supplied from VK3XDK for both transmit and receive. The main frequency reference is a 10MHz OCXO and also capable of GPS locked 10 MHz reference

The output is fed into a 20 watt amplifier sourced from Israel via the internet.

C = 10G dish - This is fed via a changeover relay to a home modified down converter feed and mounted in an old TV satellite dish. Both Az and El are available

D = 1296 home brew yagi with 12 elements and uses the popular DL6WU design

E = 2.4G dish is an ex commercial grid pack recovered from a school in Ballarat and gives around 20dB gain.

All my transverters have an I.F. of either 144 or 432 I.F. using either a FT817 or FT100D. Each are also capable of being locked to a 10 MHz GPS reference for stability and all use an internal oscillator of 10MHz that are oven temperature controlled for stability.

VHF and Above for January 2022

Contributor VK3AXH Ian

This season has again produced some interesting results on the many bands 6m up to 10GHz.

The noticeable thing from my perspective is the absence of 2m openings within VK and between VK and ZL. So far there has not been what I would call usual propagation. What propagation that has occurred has been very short and to limited locations.

I'm aware that VK3TOT and VK3ZAZ had 2m SSB contact into ZL1 which lasted a very short time and not being heard by too many. From my qth I could hear Andrew in contact with the ZL1 but with only 20km difference in our locations no signals were heard at my qth which has been observed in the past years. It's the old story not only do you have to be there at the time, but signals have to fall into your qth as well.

I'm aware there have been quite a few openings on 6m into the USA, Mexico and South America with Steve VK3ZAZ leading the way. Several modes have been used such as SSB and digital. Active club stations include VK3TOT, VK3DAE, VK3AXH, VK3KQT, VK3OAK and possibly others as well.

In addition to the above there have been several microwave test days to check out our gear for the summer season. Chris VK3QY at Ararat, Craig VK3KG at Enfield, Peter VK3PWG and Ian VK3AXH Mt Buninyong, Andrew at Gordon with bands ranging from 1296 MHz up to 10Ghz. This activity included the VHF/UHF Field Day when on Saturday Peter and Mal were at Mt Buninyong and Peter and Ian on the Sunday where contacts were made on 2m, 70cm, 1296 MHz, 2.4G, 3.4G and 10G.

It's interest to note how the propagation changes each time we go to Mt Buninyong ie sometimes we can hear the Tassie beacon 2m at S9 and Gippsland at S5/6 and at other times completely different. The propagation does change quite a lot and due to the weather and inversions so comms it not always guaranteed when we venture out.

On January 23 there is an activity again to try comms on 1296 MHz between VK and ZL and possibly some of the microwave bands as well. The VK7's have had some good success in this regard as well as VK3AXH contacting VK7HH on 2.4G from Mount Buninyong. If the weather is ok then I'm sure we will be there again.

I'm aware that Chris VK3QY was out on the VHF/UHF field day with the Horsham group at One Tree Hill – Ararat. Although we had contacts with the group, I understand that Chris may have had some equipment, but this has not been confirmed.

If you have any input to this segment, please send it to me for inclusion or direct to Tom the magazine editor.

Best 73 Ian VK3AXH

SILICON CHIP REVIEW January 2022

Contributor VK3KG(Craig)

The new year starts and there has been a presentation change in the face of SILICON CHIP magazine.

P12 All about Batteries covers all types under the banner of Science. How is your Chemistry?

P37 Dick Smith Autobiography. Book review BY Nicholas Vinen who says it's not about electronics but "character" and how Dick faced a number of challenging adventures from the 1950's through to the 80's with some mention of his flying adventures and a couple of close calls. Book costs $30 and has 352 pages of good reading about one of our own adventurers.

P38 Solar Power with Batteries. Starting with an 5kW solar array in May 2015; Dr Alan Wilson covers a wide range of experiences and discusses the discovery of lichen growth on his 27 panels. Lichen can be a huge problem especially if not caught in time on solar panels.

The BOM issues a lot of data for calculating monthly climate conditions and there are several graphical sets here to demonstrate the energy that can be gained from using these predicts. There is also several internet addresses to look up should the reader be interested to do so.

It is interesting to ponder what will happen to electricity costs and government assistance to companies if too many people opt out of the power grid and go independent producers of their own electricity. There may be intervention and a tax paid by all households to prop up the remaining grid system if we were all to opt out. Something like the "Deeming rule" if it passes your land your deemed.

P72 LTDZ V5.00 Spectrum Analyser. Jim Rowe again has found some unique items from Geekcreit LTDZ although his first review with the "naked" board module didn't strike too many roses this board has with a free download for the control software and set up using a laptop.

Only recently have the majority of amateur operators been able to own and use instrumentation like a Spectrum Analyser because of the high cost of these items and their usage in the main commercial market.

Some have been able to utilize a machine from their workplace but now its possible to have your own device alongside station equipment. Although maybe lacking the same "finesse" and functionality of the big boy amateurs can now have the availability of a device to look at a wide-ranging RF spectrum i.e., 1MHz to 4400 MHz in this case. Keep looking around as a few VNA devices do quote different top frequencies.

See also the May 2018 SC where Jim reviews how to digitally control an oscillator and the ADF4351 PLL synthesizer chip. See also Dec 2021 SC. Interested in the chip then look at siliconchip.com.au/link/aajc for the data sheet.

Cost of a analyser was A$75 including postage and the software for "The simple Spectrum Analyser [VMA SSA] by Vitor Martins from siliconchip.com.au/link/ab87. Happy reading.

P24 Two Classic LED Metronomes. Using either an eight or a ten LED device you also have an audible click using discreet components and simple logic chips both devices are suitable as a metronome and a good construction article to boot.

P46 Multi channel Speaker Protector especially for those wanting to drive a lot of speakers and save their drivers when something decides to go wrong. Designed to complement last month's Hummingbird amplifier.

P64 The Pico Mite A BASIC compatible interpreter that runs on the Raspberry Pi Pico. Being easily obtained, cheap and with quite a lot of memory available it has good speed of function and suitable IO function.

P96 Remote Control; Range extender. Rather than using the existing IR controls to operate different functions there is now a project to insert an UHF 433 transmitter instead which is capable of greater range and not limited to optical line of sight They quote a distance of 25m is capable through a Hard plank and Gyprock wall which the IR would never

do. SC ran another project back in July 2013 and although still valid it did utilize a larger designed transmitter board than this version.

Siliconchip.com.au/Article/3846 A kit is available for the IR to UHF converter for a cost of $25. All details and parts are listed for the UHF to IR converter BUT no kit price is quoted in the January edition. May have to look back at article in July 2013 for details there.

P89 The Serviceman's Log is still here and I find its always entertaining along with being educational to see the jobs he has selected for readers to see the range of breakdowns and repairs he carries ou;t This time Dave Thompson looks at the problem of poorly designed gear that was never looked at from a service persons point of view. Some may call this PLANNED OBSOLESANCE which it generally is and means they are not meant to be repaired but thrown away allowing a new purchase of another product of theirs. Lack of diagrams, circuits is an indicator of such poorly designed gear. "Built to fail and designed not to be repaired."

Perhaps there are some around who will hang onto parts for spares down the track but will they really be needed again. Have a look at his web site www.pcanytimeco.nz The different fixers that he writes about is always interesting.

P61 Circuit Notebook another source of items and ideas for home constructors. This time there is:

1. Conway's Game of life on the Micromite.
2. Alternative PCB joiner for Linear MIDI keyboard.
3. Compact REED relay module.

P4 As always has the correspondence and usually some interesting feedback or requests from the readers.

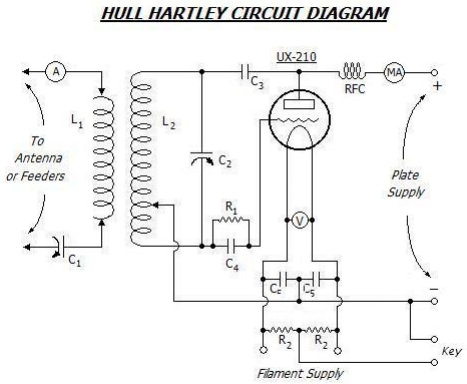
I note with interest one letter that caught my eye from Ian Batty asking "what is padder feedback, really"

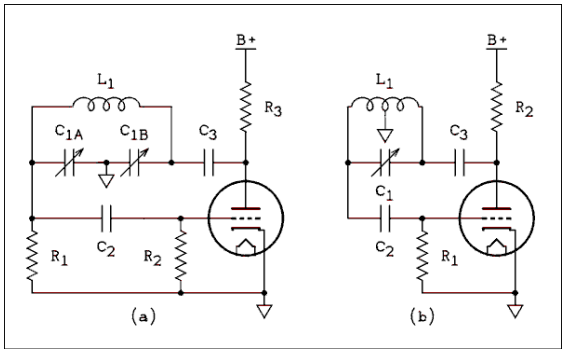
I wonder how many people know what a padder is and where and what its use was in electronics.? A clue maybe found in oscillators and the name of Armstrong is raised in relation to a circuit from the ASTOR MICKEY radio. It took me back to my earliest learnings of how to identify particular oscillators such as the Colpitts and the Hartley. Is it Inductive [L] or is it Capacitive {C}

Try your theory and pass the results to the author.

Still with the Editors viewpoint, Mailbag, Product showcase, and all the other regular sections we have been used to.

Look forward to the Feb edition which must be just around the corner.





Teacher Arrested in Sydney.

Contributor VK3KG(Craig)

A high school teacher was arrested today at Sydney's Kingsford-Smith International airport as he attempted to board a flight while in possession of a ruler, a protractor, a compass, a slide-rule and a calculator.

At the press conference, the Attorney General said he believes the man is a member of the notorious extremist Al-Gebra movement.

He did not identify the man, who has been charged by the AFP with carrying weapons of math instruction.

'Al-Gebra is a problem for us', the Attorney General said.

'They derive solutions by means and extremes, and sometimes go off on tangents in search of absolute values.'

They use secret code names like "X" and "Y" and refer to themselves as "unknowns;" but we have determined that they belong to a common denominator of the axis of medieval with coordinates in every country.

As the Greek philosopher Isosceles used to say, "There are three sides to every triangle."

When asked to comment on the arrest, Federal Opposition Leader Anthony Albanese said, "If God had wanted us to have better weapons of math instruction, He would have given us more fingers and toes."

Fellow Labor colleagues told reporters they could not recall a more intelligent or profound statement by the Opposition Leader.

The Editor's Bit

VK3DMK(Tom) tomvk3dmk@gmail.com

Thanks to all who contributed to this month's newsletter.

Thanks to those who volunteered content and those who happily provided pictures and information about their gear and activities when asked.

Anyone else who thinks they have content for the Newsletter, please let me know. No matter how small, it will fill the gaps that arise as production takes place.

This month has been on a Microwave theme, due to the great weather, active members and the VHF/UHF contest that was conducted this month.

Links and or pictures help in assembling each page.

I have chosen Arial 11 and Arial 12 as the font/size, let me know if this is okay, in PDF form you can zoom, and I hope the resolution of the pics is good for you to look closer at the images.