



# BARG News

*Ballarat Amateur Radio Group*

*Inc. #6953T*

*July*

*Monthly Newsletter*

Next Meeting

**Friday 24<sup>th</sup> June 2016 @ 7.30pm**

At the B.A.R.G. Club House, Ballarat Airport

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 1261  
Mail Centre  
Ballarat. Vic. 3354

Or E-Mail : [vk3bml@barg.org.au](mailto:vk3bml@barg.org.au)

We're on the web  
[www.barg.org.au](http://www.barg.org.au)

## Presidents Report

Its hard to believe we are half way through the year, we believe it when we poke out our nose these mornings and do a temperature test.

On a sick parade we have Kevin vk3wn back on top if things after a quad bypass and not to out done Bob vk3nbv has had the same procedure. Bob has a little way to go before getting up to the standard of Kevin.

Bob we want back soon because of his cooking skills.

Our auction was another success many thanks to our ladies for soups and bread rolls, Bob (3bnc) our auctioneer and his helper Ian (3axh) plus our money collectors John (3aig) and Harry (3kgl)

Not forgetting the patrons departing with their money. Without all these people the day would be a disaster.

It still amazes me where all the bargains come from (some I saw from last year).

Its time our members start to give thoughts to our AGM and election of office bearers. Some new blood would be appreciated instead of recycling our old ones.

Its only a short Presidents report this month sorry about that hopefully more news next month, on that note Mal our editor is always looking for items of interest its just a case of emailing the info to Mal it all helps to make the n/letter bigger and better (many thanks Mal)

All the best travel safely Doug vk3vba

*Doug Raper* - From the desk of President Doug vk3vba

## Wanted

Hi Members,

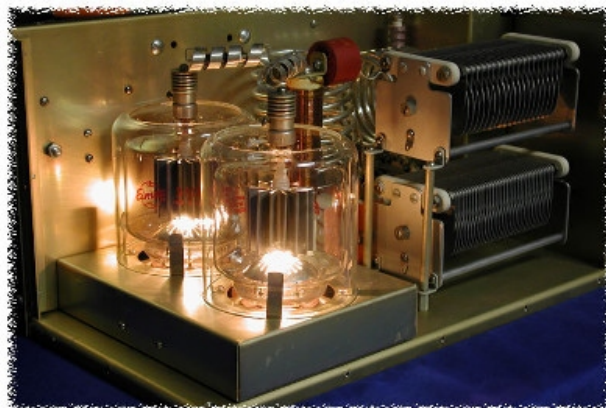
I am a very newbie at BARG and wondered if any of the members bight be able to assist me sourcing a linear amp. What I am after is a reasonably priced second hand linear amplifier that can give me the legal limit output on all HF bands and capable of being driven from my older nominal 100 watt output transceivers.

I have looked around ebay, VK Classifieds etc quite a bit and there doesn't seem to be too much around, unless you import from the US. The freight costs from the US are quite prohibitive and was unsure if the old tube based amps would still work, and if they did would survive the trip over here.

Hope to see you at the dinner meeting on Friday and will be interested in hearing your experiences and opinions on linears.

Many thanks & cheers,

*Ian F*



## A Word From The Editor

Welcome to the July newsletter. Winter has clearly arrived, with cold and wet conditions being the daily norm. It's certainly limited my desire to participate in outdoor activities.

Last weekend was the all shires contest. In between mowing the lawn and clearing the gutters I made 20 odd contacts. I mostly was told that Ballarat was a new unique shire, so I guess there wasn't much other local activity. The contest did liven up the bands a little.

Next weekend some of the SOTA population are participating in the inaugural FYBO, or Freeze Your Bloody Arse Off contest. Really designed to encourage some mid winter SOTA activations. SOTA summits above 1200m are eligible for winter bonus points now too, so if the weather is reasonable it might be a very active day.

The contest starts at 01:00 UTC on Sunday 26<sup>th</sup> and runs for 5 hours. Full rulls are at <https://vk5cz.com/2016/05/13/down-under-fybo/>

This month we've added the SADARC Newsletter to the collection that's being shared and forwarded on. We orgainally agreed to target four clubs and SARDC makes it three. Jonas VK3VF provided contact details for the EMRDC committee sometime back (Thank you!) so I might reach out to them as the forth and final club for the time being.

Thanks to Craig for his report on the Norfolk Island trip. It sounds like a good time was had by all.

Don't forget the meeting this is quite early, being on the 24<sup>th</sup>.

Until next month.

*Malcolm*

VK3MEL

## FOUND UNDER A BEER BOTTLE CAP..

In what year was the first 3D Map [globe] constructed ?

Considering that when Christopher Columbus [1451-1506] sailed away on his four tours of discovery and his sailors were worried about falling off the flat earth surface the concept of a round earth spinning on its axis was not the generally accepted explanation. Why then was Crates of Mallos able to construct a globe of the earth in 150BC ?

If you don't believe me that this is so then Google it. !

Crates was a notable Greek Philosopher and Grammarian and born in Mallos an ancient city of Cilicia Campestris near the mouth of the Pyramus in Anatolia near the Meditaranian coast.

There is a bay named after Crates on the Antartic continent also.

Now isnt that worth knowing about now?

*73 Craig VK3KG*



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## Round The Web

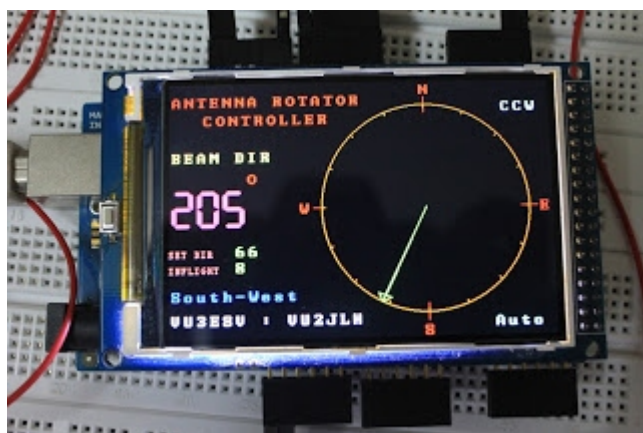
### Arduino Mega2560 based Antenna Rotator Controller

Recently Roger, VK3ADE, presented on the Arduino, a great little open source hardware platform that's been around for sometime. The applications the Arduino can be applied too are limited only by your imagination, and the Arduino's memory. Actually my experience is the memory limit is more of a problem than imagination.

Vinod E S (VU3ESV) , Jayaprakash L V (VU2JLH) have come up with a rotator controller with some nice features considering which has been driven by an Arduino.

*This is an attempt to build an Antenna rotator controller using Arduino Mega 2560 with a nice user interface showing the actual position of the antenna.*

*Following features are added in the controller project :*



- 1) Collect the Antenna position using HMC5883 Digital Compas
- 2) Auto/Manual mode operation . A potentiometer is used to control the speed in manual mode.
- 3) Stop/Resume inputs to pause the rotation and continue from that point.
- 4) 3.2 Inch TFT display
- 5) 3X4 Keypad for entering the target values.
- 6) In flight entry to compensate the antenna rotation due to inertia.
- 7) I2C extender for long cable usage between shack and antenna.

There's a good collection of functions used in the project which could be a good reference for ideas if you want to get into Arduino gadgets. Check it out here:

<http://100nf.blogspot.com.au/2016/06/arduino-mega2560-based-antenna-rotator.html>

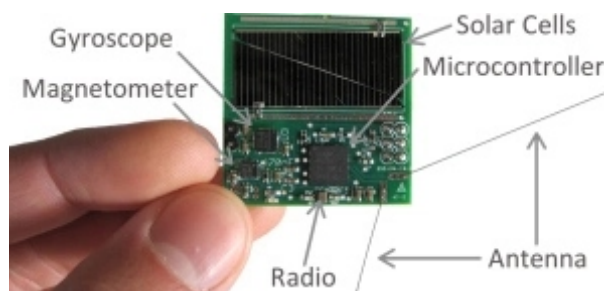
<http://100nf.blogspot.com.au/>

### Kick Starter Chip Sats

On 6<sup>th</sup> of July a block of 100 Chip Sats will be sent up to the ISS, for later deployment. The individual sats are about the size of a PostIt note:

*The chipsats, flat squares that measure just 3.2 centimetres to a side and weigh about 5 grams apiece, were designed for a PhD project. Yet their upcoming test in space is a baby step for the much-publicized Breakthrough Starshot mission.*

*The probes are the most diminutive members of a growing family of small satellites. Since 2003, researchers have launched hundreds of 10-centimetre-sided CubeSats — more than 120 last year alone.*



There was a similar program in 2014, but encountered issues as and the sats were lost:



The upcoming chipsat test, called KickSat-2, is the second incarnation of a crowd-funded mission developed by researchers at Cornell University in Ithaca, New York. The shoebox-sized KickSat-1 spacecraft successfully launched on 18 April 2014, but it failed to deploy its cargo of 104 chipsats after a cosmic radiation burst reset the clock on its release mechanism. The craft fell out of orbit and burned up with the chipsats still in its hold.

In late breaking news, these chip sats have been bumped from the July 6<sup>th</sup> launch:

*We had some slightly disappointing news this past Friday. Due to some last-minute issues with our experimental license from the FCC, we were unable to make our integration deadline for the OA-5 launch. We are currently working with the FCC to get things cleared up. Thankfully, NASA's Launch Services Program continues to be hugely supportive of KickSat and has assured us that we will be able to fly on the next available launch once our FCC license is in place.*

Still sounds like an interesting program to follow.

<http://www.nature.com/news/tiny-chipsat-spacecraft-set-for-first-flight-1.20006>

<https://groups.google.com/forum/#!topic/kicksat-gs/zIALe0Iq9s4>

<https://www.kickstarter.com/projects/zacination/kicksat-your-personal-spacecraft-in-space/description>

### **Brandmeister – Streaming DMR Platform**

Digital Mobile Radio seems to be getting traction in new radios, opening new areas for radio applications. Brandmeister is a network for DMR. Brandmeister is a bit different in that it decentralises much of the admin and routing functions.

*BrandMaster/BrandMeister is an operating software for master servers participating in a worldwide infrastructure network of amateur radio digital voice systems.*

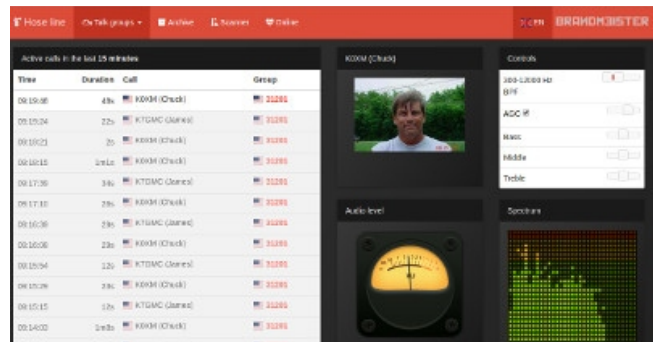
*If you are a radio amateur working in digital voice modes like D-Star, DMR, C4FM, APCO25 or others, you do not need to know much about BrandMeister, you will easy operate on it's infrastructure.*

*If you are a radio amateur operating a repeater for your local area, you may be interested in some more about BrandMeister and how you can take part with it.*

Hoseline enables anyone to listen in on conversations happening in the network

*Hose line is an online streaming platform for the HAM radio Digital Mobile Radio (DMR) Brandmeister network.*

*All Brandmeister Talk Groups are streamed on-demand and active participants will show up on the dash board automatically. The Talk Groups are created on the fly, due to the decentralised nature of the Brandmeister network.*



When I was listening in there seemed to be quite a folk testing the system, but not too many conversations. The quality varied from very readable to rather broken up digital audio. The poor quality audio sounds like they're operating under water. Which I presume wasn't their situation.

<http://brandmeister.network/>

<https://hose.brandmeister.network/>



## VHF and above for July 2016

With the Winter season now in full swing the activity on bands 2m and above has certainly slowed. However John VK3AIG and Bob VK3BNC continue to test the 3.4G panels to determine the limits of their systems.

Due to Band Plan changes as a result of the NBN rollout the original frequency of operation has now been changed with Amateur Radio operators losing the previously used part of allocation ie 3.4G and above.

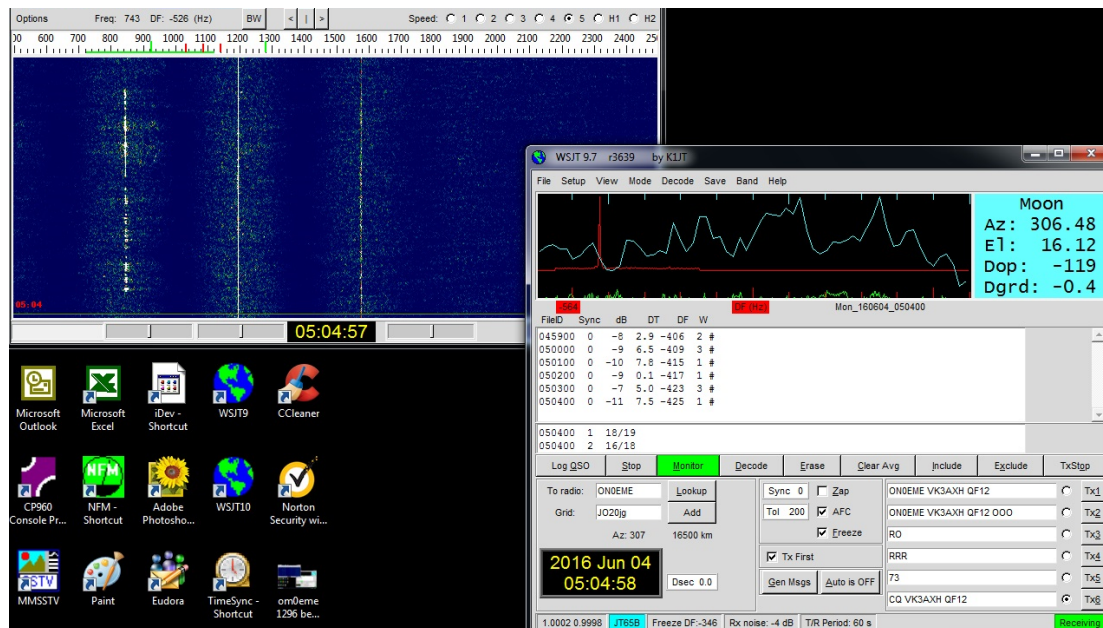
As a result operation has now been shifted to the top end of the 3.3G part of the spectrum requiring amateurs to adopt a new I.F. frequency 2MHz lower to meet licence conditions.

Tests conducted by John and Bob although performed over a short distance of approx 30km showed no degradation in performance which is a great relief to all who are using the modified 3.4G ex Wi-Fi panels.

It won't be too long before another panel is completed and will be used by Anthony VK3CAP to boost the activity on this interesting band.

Ian VK3AXH has been conducting monitoring of a 1296.000MHz EME beacon operated by ON0EME and over a 5 day period has been able to audibly receive the CW signal from this station and varying signal levels. The signal has been masked by unwanted carriers quite close to the wanted signal resulting in some investigation into audio filtering (not available in his rig) to remove them to make the CW signal more readable.

**Below is an image of both the CW signal and 2 unwanted carriers**  
**The CW signal is on the left and best level was -7dB which is quite audible**



Most mornings from 8am onwards there is activity using SSB on the bottom part of the 2m band. Regular stations include VK3AIG, VK3KG, VK3GGG, VK3AXH, (all club members and VK3VBI, VK5DK, VK5JR, VK5TN, and Gordon VK3EJ from Cobram. The VK5's are all from Mt Gambier. Most mornings conditions are quite good. These die hard enthusiasts keep the flag flying in the weak signal part of the 2m Band.

Till next time 73, Ian – VK3AXH

## 6 June 2016 QST Review

- P24 Letters.
- P30 To Build a Counterpoise Tuner. Create an artificial RF ground.
- P32 Verticals on the Beach. Some Modeling Results.
- P34 Radio Tips: Baluns.
  - Keeping everything even.
  - What conditions need a Balun.?
  - Kinds of Baluns.
- P35 A Rotatable Lazy H Antenna for 6 Meters.
- P38 Case of Declining Beverage-on-Ground Antenna Performance.
- P41 New Products:
  - Lightweight Baluns from SOTABEAMS.  
See [www.sotabeams.co.uk](http://www.sotabeams.co.uk)
  - Dxtreme Reception log X Software.  
See [www.dxtreme.com](http://www.dxtreme.com)
- P42 RF Measurements with a Digital Oscilloscope.
- P45 If you can hang a Full size Vertical loop THEN hang a Dipole.  
It will outperform the loop given the height is correct.
- P47 HF Portable in your own Backyard.
- P48 Add a Courteous Timer for Repeater ID.
- P50 Tuning up your Station.
- P53 Review: MFJ-5008 Ultrasonic Receiver. [www.mfjenterprises.com](http://www.mfjenterprises.com)  
An ideal tool for noise location in insulators and other arcing sources.
- P56 Review: LabNation Smart scope Model A14. Dual trace 20MHz, logic  
Analyser & wave form generator. [www.info@labnation.com](mailto:www.info@labnation.com) or  
[www.labnation.com](http://www.labnation.com) & [www.tequipment.net](http://www.tequipment.net) US\$229
- P58 Review: MFJ-845 & 847 SWR/Wattmeter. The 845 is 1-60MHz, 200W  
pocket meter. And the 847 is 1215-525 MHz and 120W. Both have SO-239.  
Uses two AAA batts for operation and illumination 33mA.
- P59 Review QSK 11c TP-1 Touch Paddle. [www.qsk11c.com](http://www.qsk11c.com) US\$159
- P60 Review: GPS Disciplined Oscillator by Leo Bodnar. [www.leobodnar.com](http://www.leobodnar.com)  
And in the US [www.force12inc.com](http://www.force12inc.com) US\$250
- P63 The Doctor discusses portable power and antenna gain compared to  
an isotropic one.
- P65 Hands on Radio. Ex 161. Transistor Subtleties. Dynamic  
emitter resistance and Miller effect.
- P67 Eclectic Technology. Digital Interface in time for Field Day.
- P68 Hints . Roping the antenna, Cover plate for Ground plane and  
Safe Cells.
- P71 Catering for Field day Foods. Or ideas for a club BBQ.
- P73 Field day with Limited Space.
- P75 National Parks on the Air June 2016.
- P77 Podcasts. How to find,stream, download and listen to them.
- P79 A Rainbow of Badges.
- P82 New Era at ARRL as Tom NY2RF assumes the roll as CEO taking over from  
David SumnerK1ZZ.



- More activity on 472-479 kHz from LF and MF operators.
- P83 Silent Key reports the “original” ELMER was W9DY died in March at the age of 92 years. He was Elmer “Bud” Frohardt Jr.
- P84 Public Service. Madison County – Emergency Operations Centre.
- P94 How’s DX? Thule Island. VP8STI and VP8SGI. January in the South Sandwich chain. Hardship & Endurance but it was a success.
- P96 World above 50 MH. Major openings across the Mexican gulf During Feb and March.
- P99 List special event stations active from 8 May to 1 st July 2016.
- P101 Classic Radio looks at the Evolution of the ARRL Traffic System. A rich history of Service.
- P106 Index of QST for June 1916. 1966 and 1991
- P154 QST Index of this Months Advertisers.

Lots of pages of colourful advertisements.

*73 Craig VK3KG*

**“PONDERING BEING SENIOR”**

LYING AROUND, PONDERING THE PROBLEMS OF THE WORLD, I REALIZED THAT AT MY AGE I DON'T REALLY GIVE A RAT'S. . . ANY MORE. IF WALKING IS GOOD FOR YOUR HEALTH, THE POSTMAN WOULD BE IMMORTAL. A WHALE SWIMS ALL DAY, ONLY EATS FISH, AND DRINKS WATER, BUT IS STILL FAT. A RABBIT RUNS AND HOPS AND ONLY LIVES 15 YEARS, WHILE A TORTOISE DOESN'T RUN AND DOES MOSTLY NOTHING, YET IT LIVES FOR 150 YEARS. AND THEY TELL US TO EXERCISE? I DON'T THINK SO. NOW THAT I'M OLDER, HERE'S WHAT I'VE DISCOVERED:

1. I STARTED OUT WITH NOTHING, AND I STILL HAVE MOST OF IT.
2. MY WILD OATS ARE MOSTLY ENJOYED WITH PRUNES AND ALL-BRAN.
3. FUNNY, I DON'T REMEMBER BEING ABSENT-MINDED.
4. FUNNY, I DON'T REMEMBER BEING ABSENT-MINDED.
5. IF ALL IS NOT LOST, THEN WHERE THE HECK IS IT?
6. IT WAS A WHOLE LOT EASIER TO GET OLDER THAN IT WAS TO GET WISER.
7. SOME DAYS, YOU'RE THE TOP DOG, SOME DAYS YOU'RE THE HYDRANT.
8. I WISH THE BUCK REALLY DID STOP HERE, I SURE COULD USE A FEW OF THEM.
9. KIDS IN THE BACKSEAT CAUSE ACCIDENTS.
10. ACCIDENTS IN THE BACK SEAT CAUSE KIDS.
11. IT IS HARD TO MAKE A COMEBACK WHEN YOU HAVEN'T BEEN ANYWHERE.
12. THE WORLD ONLY BEATS A PATH TO YOUR DOOR WHEN YOU'RE IN THE BATHROOM.
13. IF GOD WANTED ME TO TOUCH MY TOES, HE'D HAVE PUT THEM ON MY KNEES.
14. WHEN I'M FINALLY HOLDING ALL THE RIGHT CARDS, EVERYONE WANTS TO PLAY CHESS.
15. IT IS NOT HARD TO MEET EXPENSES . . . THEY'RE EVERYWHERE.
16. THE ONLY DIFFERENCE BETWEEN A RUT AND A GRAVE IS THE DEPTH.
17. THESE DAYS, I SPEND A LOT OF TIME THINKING ABOUT THE HEREAFTER . . . I GO SOMEWHERE TO GET SOMETHING, AND THEN WONDER WHAT I'M "HERE AFTER."
18. FUNNY, I DON'T REMEMBER BEING ABSENT-MINDED.
19. IT IS A LOT BETTER TO BE SEEN THAN VIEWED.
20. HAVE I SENT THIS MESSAGE TO YOU BEFORE??? . . . OR DID I GET IT.

*Salgoud*



## **Norfolk Island Report – Craig VK3KG**

Well as you see by the Subject heading, I am on Norfolk island and that is really how they spell thing out here.

The reason for attendance was the WIA's Annual general meeting for the end of the 2015 financial year and the appointment of three new <returned> board members. They were Andrew Smith VK6AS, Paul Simmons VK5PAS and Phil Wait VK2ASD.

There's are now two new office staff members at the WIA office in Melbourne, they are Bruce Deefholts VK3FBLD and Petra Casai VK3FSAR.

The official meeting and presentation activities were conducted on the Saturday 28 May followed by the formal dinner that evening that had two guest speakers presenting during the night.

Who attended the AGM ? There were about 100 amateurs present with their partners from just about all call areas. I met or spoke to some from VK's 1, 2, 3, 4, 5, 6, 7's and many with VK9 calls. Also being operated by attendees were the VI9ANZAC , VK9WI and VK9WIA although I didn't hear or work the latter two.

As some BARG members will know now, I operated the special event call VI9ANZAC on the Thursday club net and worked a couple of stations. Unfortunately we had a S9 noise signal at the Paradise Resort using an IC706mk2g with an (unknown) remote tuning unit and a long wire about 40metre long and about 10m high.

By Jove isn't it great to just change frequency at the radio a and press the auto tune button and "bingo" you have a matched system. ?

Through the week there were different operators manning the station but most contacts are done on 20m and also 15m. I think my entry in the log was the only 80m one but someone tried 40m as well.

Other highlights: Another balloon was launched on Sat with a 30m beacon and apparently a message mentioning the VK9 activity. Has anyone heard its signal yet.? Check its path via the web again.

A number of awards were made to people who have served the WIA well in the past.

Ted Thrift VK2 --- was made a life member for various service but in particular wit the Club insurance scheme which involved chasing ALL clubs for their membership listings to entitle them to participate under this process. I have spoken to Ted a couple of times while chasing BARG for our WIA members list.

The George Taylor award went to Dale Hughes VK1DSH for, amongst many things, his acting as a leader at the WARC 2015 and negotiating the new allocation for the new 5.3Mhz world allocation.

A new award called the Michael J Owen Distinction Award was presented to Peter VK3RV for his involvement in researching and publication of many articles in AR Magazine of historical stories concerning WW1 and early amateurs.

The Chris Jones award to Jenny VK3WQ for her support to the ALARA over 5 years plus.

The Higginbotham Award for 37 years service to AR magazine for Evan Jar man VK3ANI.

The Ron Wilkinson award to David VK2JDS for his involvement in 1296 MHz EME and field day activities.

Technical article award to Jim VK5jts? For his article on VHF antenna analyzer.

Technical excellence awards to Andy VK3YT for his AR Telemetry balloon activities around the world and to David VK3QM and Lou VK3ALB for their application of obtaining commercial 3000Mhz transvertors and converting them to the 3.4GHz band and encouraging

many amateurs to enter the higher frequency bands.

New for this year to encourage Foundation licences is the Foundation award to VK6FLAB for helping others within the foundation area in VK6.

And for QRP and Field day operations to David VK5FDEC.

That's all for now. I hope to have some more details next edition.

*Craig, VK3KG*

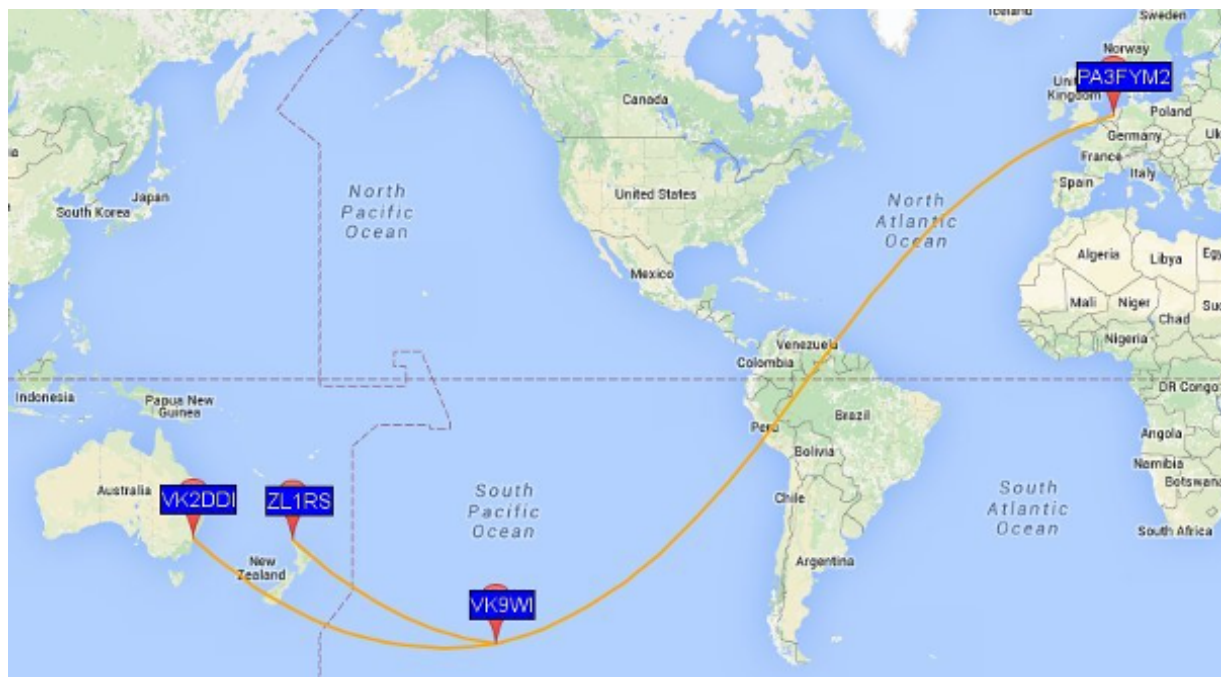
**Editors Note:** I had a hunt for any details about the balloon launch, I found this update from Jim Linton VK9PC.

*The Wireless Institute of Australia has recognised the record breaking achievements of **Andy Nguyen, VK3YT**, by naming him in its WIA Merit Award program, while one of his pico party-type balloons VK9WI flew at high altitude.*

*For the occasion the balloon PS-64 was launched that included a greeting message to the WIA AGM using the VK9WI call sign for its tracking telemetry, but it was brought down by poor weather.*

*However, Andy was ready with a back-up the VK9WI balloon and launched PS-65 that initially headed south to Tasmania, then across to New Zealand and at last report moved southerly toward South America.*

The last reference on the WSPR site was June 1<sup>st</sup>, somewhere in the South Pacific:



VK9WI is the balloon. Sadly I wasn't able to find any mapping that showed the route the balloon had taken.