



GATEWAY

**The Official Magazine of the Gippsland
Gate Radio & Electronics Club Inc.**

June 2015 From The President

Winter has settled in bringing cold wind and rain to Melbourne.

This time of year is when we have three of our most important events. The first is the Mid-Year Lunch at Arthurs Seat. It will be a great time to relax and take in the views of the bay (as long as the fog stays away). I enjoyed the lunch last year and I'm sure that this year will be better. Unfortunately, I will be overseas and will miss out on a great day out.

The second event will be our annual Hamfest. The tables are all sold out and we should see a great turn out of amateurs enjoying our Clubs hospitality and spending up big on amateur radio and electronic stuff. I will be back well in time for the hamfest helping out with the cooking. We will need helpers in the kitchen and keeping order during the day so please come along to help. We are making progress with the door fob computer and it should be up and running when you read this magazine.

The third is the VK100ANZAC event that we will be running in August. Combining these events with the Prac nights and General meetings, shows that there is a lot going on our Club. All we need is your participation to make the events a success.



Bruno Tonizzo VK3BFT

President GGREC Inc.

P.S. We are still looking for someone to be our Club Admin Secretary. This vital position is still vacant, so please help out if you can.

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Something missing? – YES, YOUR content – Send it in!

Event Queue

June:

- 2nd Committee Meeting
- 5th Prac Night - Field Day Equipment
- 13th-14th Foundation Course and Assessment weekend
- 19th General Meeting
- 20th Mid-Year Lunch, Arthurs Hotel & Restaurant, Arthurs Seat

July:

- 3rd Prac Night
- 7th Committee Meeting
- 11th -12th Gipps Tech
- 17th General Meeting
- 18th GGREC Hamfest

August:

- 4th Committee Meeting
- 7th Prac Night
- 8th -9th Foundation Course and Assessment weekend
- 21st General Meeting
- 22nd -28th VI100ANZAC Activation

Silent Key

It is with deep sadness that we announce the passing of Susan Coleman VK3UMM. Susan was a bright light in the Club, always smiling and laughing. She will sadly be missed.

Condolences to Grahame and Family.

Bruno



Dear friends of Susan,
As many of you know, my mother had been living with MND for the past two years. She passed away peacefully in her sleep early Sunday morning. We will be holding her funeral and memorial service at Montsalvat (Eltham) at 2pm Monday June 22nd. If you think you are able to stop by, please RSVP as soon as you can at rachelxcoleman@gmail.com.
Warmest regards,
Bronwen Coleman

From The Editor

Half way through the year, wow is time flying. I have a memory from when I was very young of the fact that school holidays last an eternity, now all I have to do is blink!

So what has been my method of burning up my time as we race on to Christmas?
Computers, one of the best methods (short of mind numbing TV) known to man.



It all started out fairly simply, set up a box to replace a dead laptop at the club rooms. (The door access controller) I had an old industrial controller PC that seemed ideal for the job, all I had to do was load up Windows 95 and a small program written by Ian VK3BUF a few years back. The best I could do was get about two thirds of the way through installation, then when it came to restart in windows – no joy. Googling the problem seemed to suggest I had too much RAM. So I replaced the original 1GB with the smallest SODIM module I had a 512 MB unit, unfortunately it didn't help. I asked around, no body keeps really small memory modules these days. So why Win95?, Well I had ideas of running the machine from a USB memory stick as I had found an article dealing with the subject. Windows XP is a lot bigger & is much much harder to boot from USB – as in almost impossible. I wanted to keep it simple, Hard disk drives and their associated parts were not in my plan.



So I then tried a VIA EPIA board – I have two, and they are almost useless for modern computing. So donating them to the club seemed a good idea
Same outcome! I had a much smaller ram stick, but it didn't help.

Another lost day. It shouldn't be that hard, but it was.

Another alternative was to run the system on Linux. When windows XP came to the end of support from Microsoft, a never ending stream of people were saying 'ditch Microsoft', however Linux does not run windows software, A point not mentioned by all the Linux lovers out there. Yes, there is the option of running a Windows emulation called Wine, but that adds another 480 Meg of code to the mix (about 5 times the size of Ian's door fob controller software)

Fortunately another old laptop was offered – it ran Win95 first go (in 40Meg's of RAM)
But when that dies we are back to square one, with the other machines I was trying to use we have spares boards available.

If I had my way and a month of Sundays, I'd get the VB basic files and hack them onto a Maximite computer, at least they only need a few watts of electricity, unlike the other options where we are looking at 20W or there a bout's
Apart from a voltage reg or two, the whole computer is contained in one IC, and it only needs about 50mA to run it.

Paul VK3TGX



GGREC Beacon Project part 1

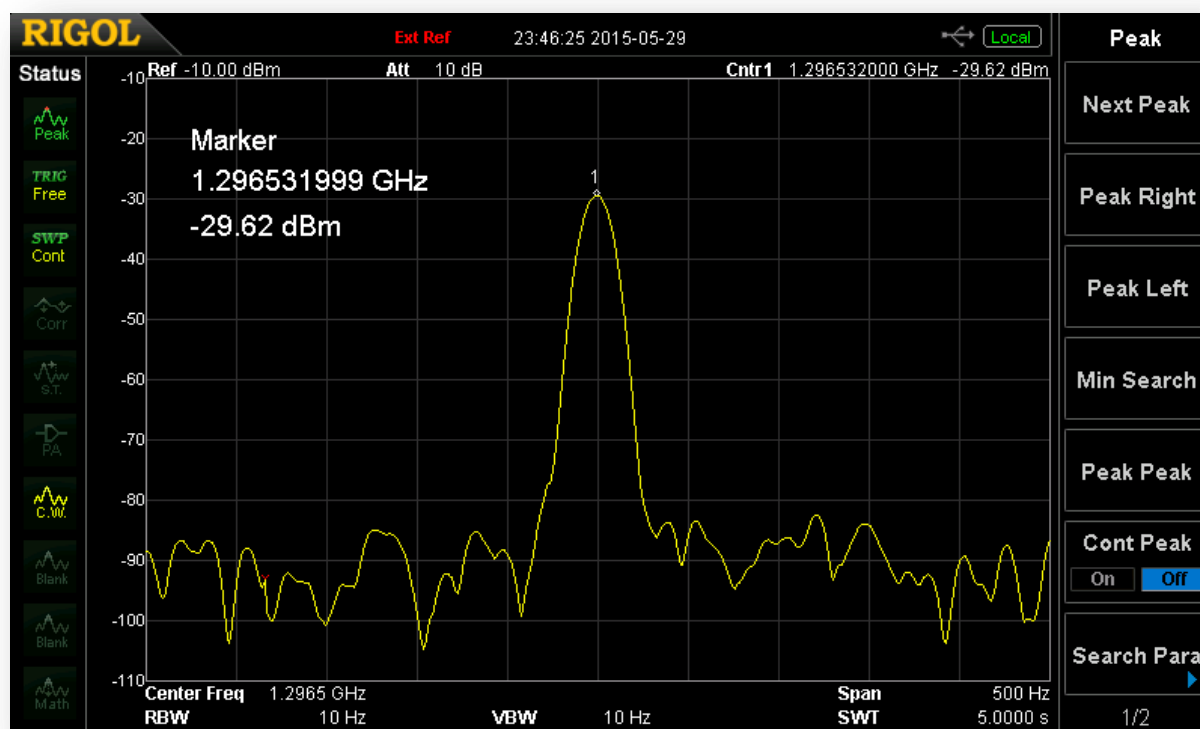
"Building a pair of microwave beacons shouldn't be too hard. A pair of exciters, driver and P.A. boards won't take too long to sort out and a couple of antennas as well. Gee, I've been building antennas for years, this shouldn't take too long at all," or so I remember thinking as I sat in on one of the GGREC general meetings earlier last year.

Step forward one year and I was starting to see the error in my line of thinking!

Prac nights, the Hands Free Kit and personal commitments had seen me spending many a late night in the shack trying to put the beacon project behind me. With an impending deadline for a funding grant from Alan Devlin VK3XPD and the WIA to GPS lock both beacons it almost turned into a sprint to the finish.

But, we made it!

3 nights before the cutoff date for the grants and after a temporary installation at Al VK3BQO's QTH we were receiving signal reports of S2 in Cranbourne and Ashwood and S5 in Balwyn. We were also advised that our 1.296 GHz beacon was drift free but it was 14 Hz off frequency. This was the standard that we were working towards! We later found out that the GPS disciplined oscillator reference signal wasn't locking the exciter in the 1.296 GHz beacon, a quick repair to the 10 MHz cabling locked the beacon to + or - 1 Hz of its fundamental. Meanwhile the 2.403 GHz beacon sat on + or - 1 Hz all the way through this, a testament to some of the decisions made earlier regarding the selection of the beacon components.



Antennas used

One of the more interesting (and unknown) parts of this project was the antennas which were selected and built for the project, the "Alford Slot". Quite a well known antenna in the Broadcast TV and FM radio circles but for the "general run of the mill amateur" an interesting prospect none the less ! A vertical antenna (hollow tube) with a 440 mm by 2mm wide vertical slot cut into it, a 50 ohm hardline run inside at the back of the tube, a 4:1 balun up at the top of the feedline that connects to the antenna's feed point which is either side of the slot and vertically in the center of the slot.....

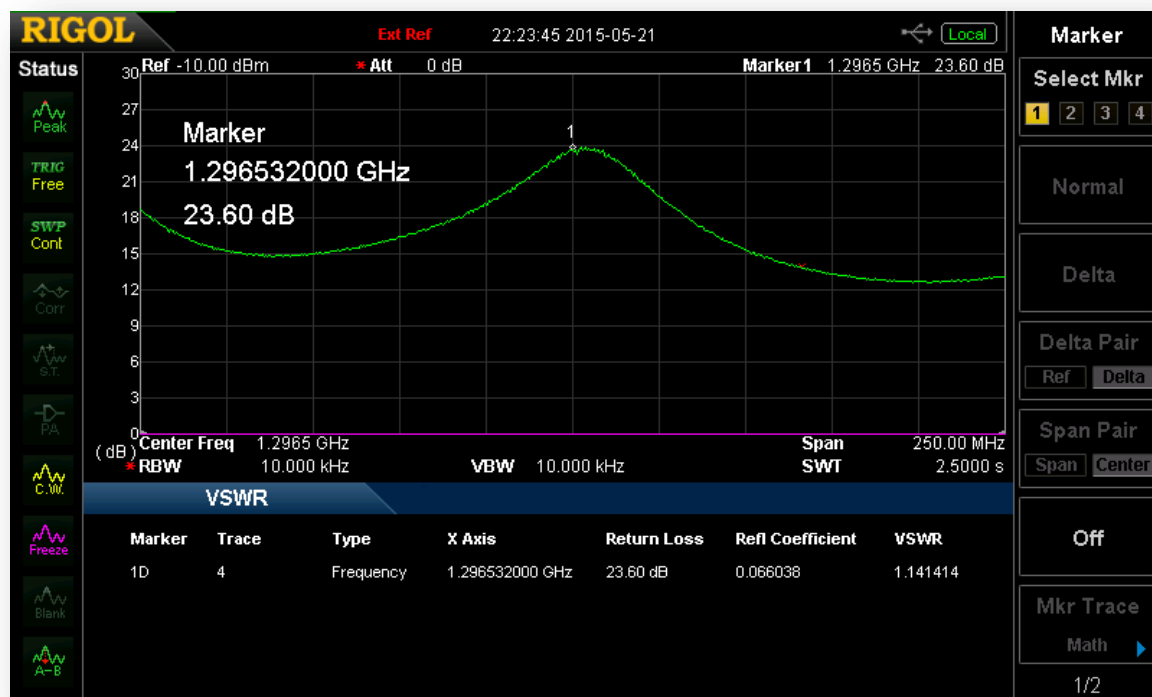
Hmmmmmm..... doesn't sound too hard if you say it quick, does it ?

Two things immediately sprang to mind, how am I going to make an accurate 2mm slot 440 mm long in a 29 mm copper tube (and a 2mm slot 280mm long in a 15mm copper tube) and how am I going to make a 4:1 balun at 1296 and 2403 Mhz... ?

The answer to both questions was simple; research! After talking to Alan VK3XPD a small angle grinder with a thin cutting wheel would "get me in the pocket" with the slots. As for the baluns a "hair pin" made out of Hardline would be fine...Have you ever tried to tune a balun with a nail file ? Below is what this looks like.



On the left hand end of the balun you can see 2 x 100 ohm SMD resistors (side on in a "vee" shape) in series that were used to tune the balun to 50 ohms feedline impedance. FYI the "hairpin" when straightened out is 85mm long (45mm for 13cm). Below shows the final sweep of the 23cm feedline and balun.



With an SWR of 1.14 to 1 on the feedline and balun, I now knew if the return loss was unacceptable when completed it was the antenna slot that needed to be tuned.

I marked out the copper pipe and gently "cut" a slot in both tubes, they looked great if you stood back 10 feet!

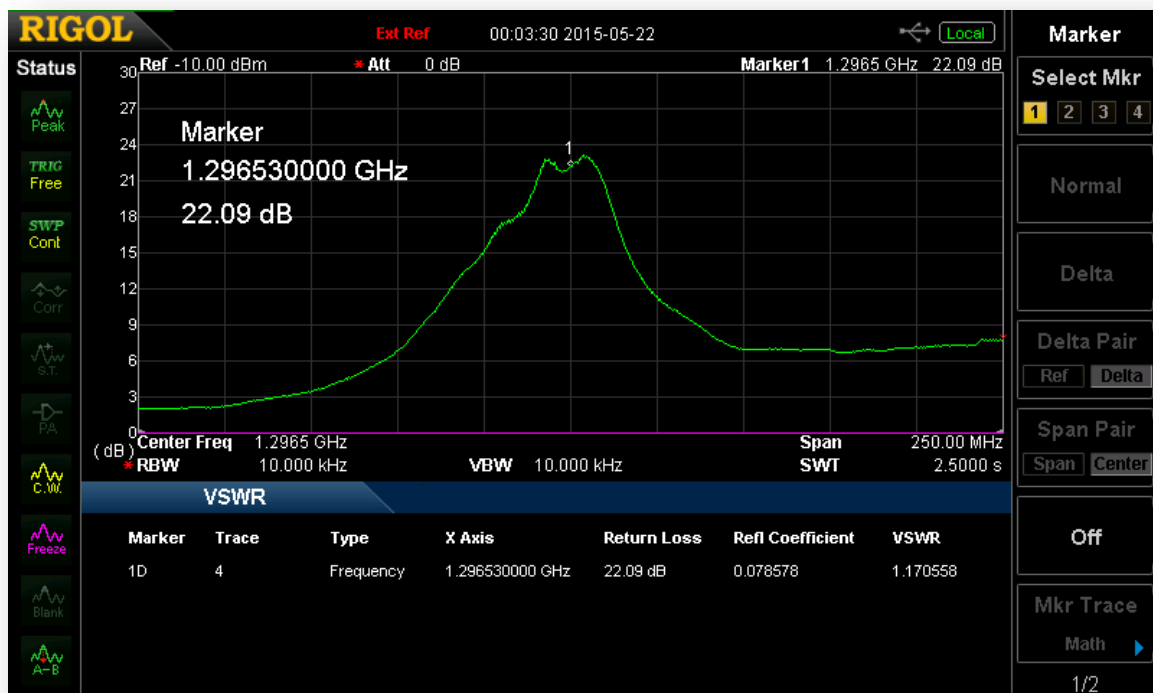


You can tell Carol wasn't home; most of the prep work was done on the kitchen bench!

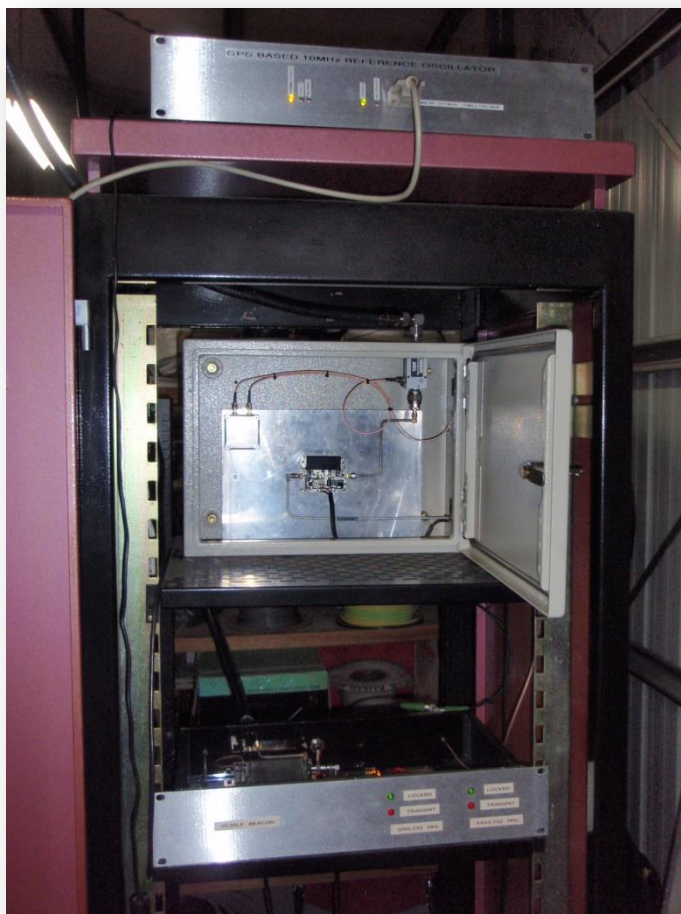
Finally the feedline and balun was installed into the copper pipe.

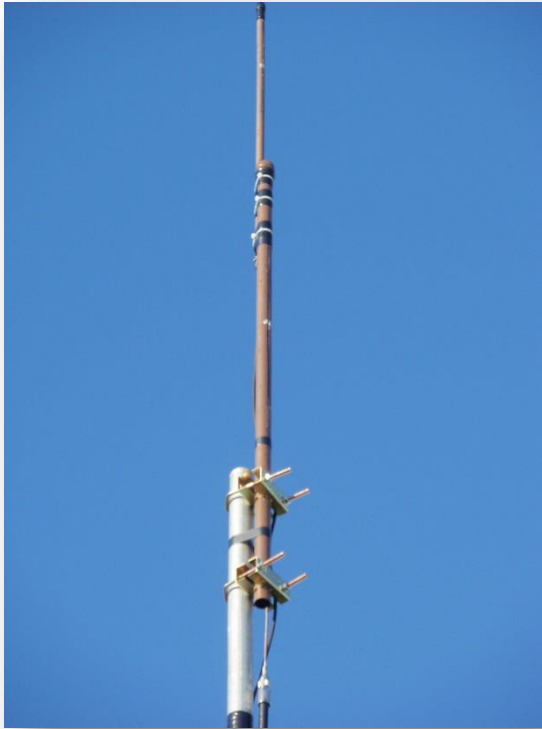


A quick check of the SWR showed we were on the right track, the only question left now was, "Would they resonate"? Being the first time I had done anything with Alford slots I had no idea if they would work. With my luck the way it is, they would either work first time or, I have just ended up with a nice looking pair of dummy loads.... Below is a measurement of the Antenna SWR.

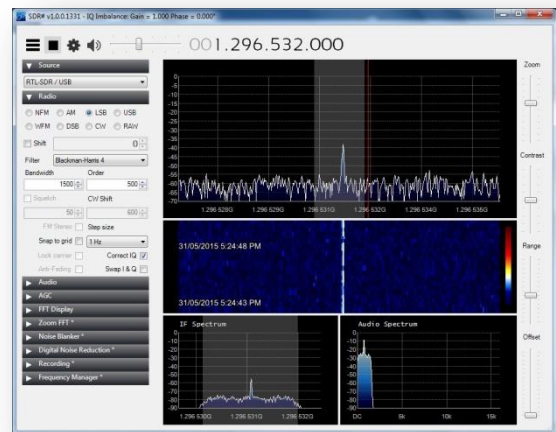
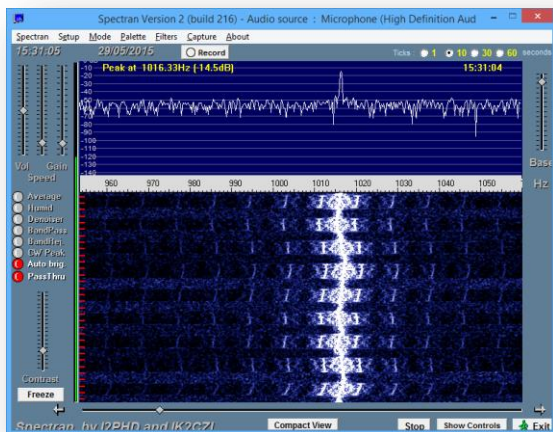


As I can only “see” up to 1.5 GHz the tuning of the 1.296 GHz antenna was done in my shack. For the 2.403 GHz antenna, I prefabricated the parts and we assembled and tuned it up at Alan VK3XPD’s place. His equipment can see a lot higher than my gear can. Lastly, here are some photos of the temporary installation of the beacons up at Al’s place.





Apart from the 23cm exciter temporarily not being GPS locked everything ran smoothly and literally fell into place. A few nights were spent up at Al's mounting the antennas and installing the beacon equipment into a spare rack and then we sat back waiting for the reports. It was encouraging to hear a report of 5 x 5 from Balwyn on 23cm.



This is the first in a series of articles about the beacons, next month we will be covering the exciters and driver boards.

Cheers and 73,

Rob. VK3BRS

"HAVING A GO" by A Noni Mus

It has always been the Australian way to "Have a Go". Well that's what it used to be.

One idiom dictionary describes it as "have a go at something/doing something" or "to try to do something \equiv take a crack at something/doing something". Even the government has recently used the phrase to describe what Australians do (or maybe what they should do). Another description is to "make an attempt" or to "give it a try". Enough of this, we all know what it means.

Things must have changed at some stage and now it's a matter of "Getting out of it what you can without putting anything back". It seems to work for the majority, as more and more in life we come up with situations that require a little bit of effort without the expectation of reward and no one is willing to step forward; but ask those same people if they want the benefit from that situation and the answer is of course - yes. It is always someone else's job to do. More and more every day, the words "I don't know how" or "I've never been shown" are given as excuses for not having to get off derrieres to help. Given that excuse several times lately has resulted in the reply "Google it. You would be surprised what can be found there." Try it yourself because the above excuses do not rate any more. Most of us did not know how or were never shown but we managed to figure it out because of the desire to learn. Gee if the whole world sat back and waited for just the few who did know how, where would the world be. It can be assumed that 99.9% of us know how to send an email or an SMS. How did you learn that? Did you figure it out for yourself or did you wait until a smarter person came along to do it for you. Everyone thinks they are smart and will argue that fact when challenged, but when it comes to a simple task that requires a bit of new thinking, or thinking outside the square, everyone suddenly becomes dumb. So, is it good enough that 95% of the work is done by 1% of the people? If you are one who sits at the back of the crowd and criticizes the work done by the few at the front, give it a go and see whether you can make a difference.

Readers of this article will know who is being referred to, and they may even be embarrassed enough to realise they themselves are on the list. Wouldn't it be great if just once in a while, we all got up and helped out; not for what you could get out of it but maybe for what you could put into it.

Most will pass this off as just another bit of whinging and your hands will stay firmly planted under your rear end, but if you got this far in the article, maybe it could have an impact on your future actions, especially if you are in a club. Think about it.

HAVE A GO!

ALDI Radio Review

Recently I headed into my local Aldi store to see what special were to be had.

The previous week (or was it two weeks ago) they had a 3W UHF CB hand held radio on sale for \$99. I could not justify spending that much on something that was going to see little use outside of holiday trips in my caravan.

However on that day they had 'seen the light' and dropped it to \$50, so I grabbed it.

This is my second Aldi radio, the first, a Vivid (Aldi house brand) unit was bought when I was wondering what the ACMA was up to with their new 80 channel UHF CB band plan.

How do you get 25 KHz channels to live alongside 12.5 KHz spacing channels, as the extra 40 channels are interleaved between the 'current' 40 channels.

Well the answer turned out to be rather non-technical, more political, they simply expect everyone to throw away their old radio's and buy new ones, as the old 25 KHz spacing 40 channels are now spec'd as being 12.5 KHz channels.



Later when using the Vivid radio, I found a big limitation. it loved picking up 70cm Amateur stations. As soon as I removed the lid all was revealed, it was almost empty; it would appear that they have simply put the innards of a very small hand held into a big box, alongside a 5W PA. The radio has no image rejection filters.

Bad buy, should take it back – oops too late
Darn!

Testing revealed Ch18, 476.850 MHz, with .2 μ V sensitivity also receives 433.450 at .5 μ V

Watch out, that radio, and various variations are being sold by several organizations.

Luckily the hand held is a lot better, along with the fact I have no intension of using it in suburbia – it's to be part of my camping kit.

Channel 18, ~ .4 μ V, verses its image on 433.450 MHz of ~ 150 μ V

- Note, the HHT has no antenna connector; tests were with a very close $\frac{1}{4}$ wave antenna

The Hand held also came with a generous selection of accessories, A charging cradle, 12V car charger, Speaker mike, & a very discrete earphone and miniature inline mic

Paul VK3TGX

ACCESS TO THE CLUB ROOMS – AN UPDATE FOR NEW MEMBERS

The GGREC has an electronic key fob system to allow members access the Club facility at any time. This facility is made available to all members who have been financial with the Club for **at least 12 months**. While this access is free, there is a \$10 deposit for the key fob that must be paid the Club Treasurer. If at some time the key fob is returned, the deposit will be refunded.

Why we have this system

It is a great way to allow Club members to visit the shack and use the facilities, while maintaining a reasonable level of security. If a member loses their electronic key, it is not a big deal, the treasurer will permanently block that key fob in the database and issue a new one. No other members would be affected.

Unlocking the gate

If you are the first to arrive at the Clubrooms, the gate should be locked. This is just a casual line of defence, but it provides a useful barrier against graffiti artists etc. To open the gate, first press 'C' on the digital lock to reset it, then press the 4 digit code of xxxx (ask for a hint - it's easy) then turn the latch **clockwise** about ¼ turn and withdraw the locking bar, Note: Lots of bar wiggling is usually required. The last person to leave should ensure that this gate is locked. – Again, give the bar a good wriggle to ensure the latch engages.

How it works

Essentially it is a Radio Frequency Identification system (RFID) that uses an electronic key at either of two points. The first point is just near the main entry to the shack. Holding the key close to the black box there will unlock the door for a few seconds. If you are the first person to enter, it will also turn all the lights and power on.

This entry event is logged by a special Clubroom computer and the time/date of this is stored for around 18 months before being automatically wiped.

If you are the first person to enter then you will also hear a continuous tone. This is telling you you have 30 seconds to place your key fob in the receptacle near the toilet door, or all of the shack power & lights will go off. (except for emergency lighting) If there was already a receptacle there, then someone is already present and nothing else needs to be done.

The idea is that whoever has their key fob in the receptacle is responsible for any visitors that came with them. When the owner of that key fob leaves and takes the receptacle away, they must be the last person to leave the building.

Club Shack Rules

There are a formal set of rules that govern membership access to the Clubrooms:

- Members accessing the Club Rooms outside of advertised events becomes responsible for the equipment that they use.
- The last person to leave the premises takes responsibility for the security of the Club Rooms before leaving. All test equipment, tools and materials must be stored in appropriate locations.
- Equipment that is available for loan by Members may only be taken after an appropriate log entry has been made in the Loan Book.

- Notwithstanding fair wear & tear, the Club takes no responsibility for any consequences that may occur due to a Member borrowing any item belonging to the Club.
- Members operating Club transmitting equipment must abide by the “Club Station Operation” rules. (A copy of which is posted in the Operation Room.)
- Members will not allow a NON Member to have unaccompanied access to the Club Rooms or leave a NON Member alone within the Club Rooms.
- Members inviting NON Members to attend the Club Rooms become responsible for any consequences arising from that person’s attendance.
- No Member shall lend or otherwise allow any other person either Member or NON Member to use his / her access key.
- If a member is leaving, but other authorised members are still present and their key is in the receptacle, then they must replace the key with another Member’s key, who then understands that they are in charge of the building and any visitors present.
- Lost or misplaced keys MUST be reported to the Committee as soon as noticed. That key will be disabled and another issued at cost to the Member.
- Issuing of access keys will be the job of the Treasurer but will be subject to decision by the Committee. A refused Member has right of appeal as per Club Membership Rules. Members who become un-financial will have their key disabled. Only Members who have been financial for at least 12 months will be issued a key.
- No Club equipment or parts shall be removed from the Club Rooms without proper authority or notification to the Committee. Club Rules apply to ownership of all Club property.
- The Club Rooms shall be left clean with the rubbish bin emptied if necessary and the sink cleared of all items.
- If you access the refrigerator and open a fresh carton of milk, please remember to write the current date on the top of the carton, as a guide to other users.

The intent of these rules is to strike a balance between flexibility, security and courtesy to others who use the Clubrooms. We wish all members to enjoy the use of our facilities.



General Meeting Minutes 15/05/2015

Start time: 8:05 pm.

Location: Club rooms.

Chairperson: Bruno

Minute Taker: Bryan

Present: As per attendance sheet

Visitors: Tom VK3FALE.

Apologies: As per attendance sheet.

Bruno welcomed members and visitors to the meeting, and in a carryover from the previous meeting, sought to have the positions that were filled at that meeting, ratified as true and correct. The members in attendance subsequently ratified the appointments of Bruno VK3BFT as President, Graeme VK3BXG as Treasurer, and Wayne VK3XF and Rob VK3BRS as Committee general members. Bruno noted that the position of Admin Secretary still required to be filled, and sought expressions of interest from the floor -- none were forthcoming.

Correspondence received:

1. Permit #59708 received from Victorian Commission for Gambling and Liquor Regulation to enable us to sell raffle tickets at hamfest.
2. Second licence renewal notice for VK3BJA. (Payment had been made on earlier invoice.)
3. Copies of speeches from President WIA, and Governor General Sir. Peter Cosgrove for ANZAC Commemorations.
4. Breakout magazine for April 2015, from NZ.
5. Notice from WIA re. Belgian-Australian ANZAC Commemoration station OP0PPY
6. Notice from WIA re. Special Event Callsigns activating on ANZAC Day.
7. Email from ZL2DW inviting club members to participate in a test of his new 160m antenna.
8. Issue #4 of News from the WIA Board, April 2015.

Correspondence sent:

1. Breakout magazine for April 2015, from NZ.
2. Email from Bruno VK3BFT advising members of the result of the AGM Committee elections.
3. Email to Victorian Commission for Gambling & Liquor Regulation, thanking them for the prompt processing of our application.
4. Email to members re. Belgian-Australian ANZAC Commemoration Station OP0PPY.
5. Email to members re. sale of gear by VK3KB Geoff.
6. Email to members re. ANZAC Day special event callsigns activating on ANZAC Day.
7. Email to members from Albert VK3BQO re. details about the hamfest.
8. Email to members from Bruno VK3BFT providing a club update.
9. Email to members reminding them of Club Lunch at Cranbourne RSL on 3 May 2015.
10. Email to members from Bruno VK3BFT advising of the cancellation of VI3ANZAC Commemoration by GGREC.
11. Email to members re. cancellation of RSL Club lunch.
12. Email to members inviting them to help ZL2DW with the testing of his new 160m antenna.
13. Email to members from Russ VK3WMR re. gear for sale.

Treasurer's report: Graeme presented the accounts for the period 15 April-15 May 2015, noting that it had been a profitable month, primarily because of the receipt of annual subscriptions and payment for hamfest tables. He tabled the reports for the period at the meeting. Any members wishing to receive a copy of the reports should contact the Treasurer direct.

Read: Graeme VK3BXG **Moved:** Graeme VK3BXF **Seconded:** Helmut VK3DHI **Carried:** yes

New Callsigns: Nil.

Previous Minutes:

Read: as distributed **Moved:** **Seconded:** **Approved:** yes

Business arising from the previous minutes:

1. Mid-year dinner – a \$10 deposit per person attending is being collected by the Treasurer tonight.
2. Subs – For those people who may have missed paying their fees last month, they can be paid to the Treasurer tonight as well.
3. VI100ANZAC: Bruno gave an explanation to the meeting about why the previous VI3ANZAC callsign which had been allocated to the club had been withdrawn, but indicated that we have now received the VI100ANZAC call for use for the period 22-28 August 2015. Operators currently listed as: Mike VK3KTO, Paul VK3DA, Dave VK3ADD, Bruno VK3BFT, and Nils VK3FLYS. F calls are welcome to join the team. Logbook operators will also be required. Afternoon tea will be provided on 22 August at the opening of the event.
4. Home Brew Trophy: Wayne is looking to develop the rules which will apply to this award.
5. Next Foundation Course: 13-14 June 2015. Upgrades may also be available.

New business:

1. Prac nights: New ideas are welcome. Field Day kit is being developed. One suggestion put forward was the wind-out antenna that Ian VK3BUF showed at Antennapalooza.
2. Paul VK3TGX is continuing to work on the shack entry computer.
3. Single point for storing our documents. Once our membership and email lists are up to date, accurate lists can be made available to members.
4. Website: A very basic system is being used, so that it is easy to update and to use.
5. Beacons: On display tonight.
6. Repeaters: All are ok, but the IRLP is down at the moment. Albert VK3BQO will talk to Mark VK3PKT re. setting up the new computer.
7. GGREC Net: Going well. 7 members on the last night. We will now be commencing at 8.00 p.m. (local time.)
8. CB radios to be modified for 10m. A link will be sent out by Rob of the suitable units for conversion.
9. Birthday congratulations were extended to Bruno VK3BFT on the occasion of his 60th birthday.
10. Hamfest: 27 tables have been sold and paid for. We need to talk to Pat VK3OZ re. food prep/serving etc. If members have suggestions re. door prizes, these would be most welcome. An ad for the hamfest is currently running on VK Ham. Further hints about publicising the event would also be welcome.
11. Michael van den Acker VK3GHM requested stamps to enable him to post out copies of the club magazine to those not able to access it via computer.

Meeting closed: 8:50 pm

Next Committee Meeting: 02/06/2015

Next Prac Night: 05/06/2015

Next General Meeting: 19/06/2015



Club Information



Meetings 2000hrs on third Friday of the month at the
Cranbourne Guide Grant Street Cranbourne
Prac nights first Friday in the Peter Pavey Clubrooms Cranbourne 1930hrs
Visitors are always welcome to attend

Office bearers

President	Bruno Tonizzo	VK3BFT	Repeater Officer	Albert Hubbard	VK3BQO
Admin Sec	Bryan Simm	VK3FOAB	Web Master	Mark Clohesy	VK3PKT
Treasurer	Graeme Brown	VK3BXG	Magazine Editor	Paul Stubbs	VK3TGX
General 1	Rob Streater	VK3BRS	Property Officer	Bruno Tonizzo	VK3BFT
General 2	Wayne Cooke	VK3XF	Secretary	Vacant	

Call in Frequencies, Beacons and Repeaters

The Club Station VK3BJA operates from the Cranbourne Clubrooms.
6m Repeater Cockatoo VK3RDD In 52.575MHz, Out 53.575MHz CTCSS 91.5Hz
70cm Repeater Cranbourne VK3RLP In 434.475MHz Out 439.475MHz CTCSS 123Hz
VK3RLP Repeater supports Remote Internet access (IRLP), Node 6794.
70cm Repeater Drouin VK3RWD In 433.575MHz Out 438.575MHz CTCSS 91.5Hz
Simplex VHF - 145.450MHz FM • Simplex UHF - 438.850MHz FM
VK3RLP Beacons 1296.532MHz & 2403.532MHz

Membership Fee Schedule

- Pension Member rate \$25.00 Extra Family Member \$20.00
Standard Member rate \$40.00 Junior Member rate \$25.00
Fees can be paid by EFT to BSB 633000 - Account 146016746.
• Always identify your EFT payments.
• Membership Fee's Are Due at each April Annual General Meeting.

Magazine Articles to editor@ggrec.org.au or vk3tgx@gmail.com
All other Club correspondence to: secretary@ggrec.org.au
or via Snail Mail : PO Box 1098, Cranbourne 3977
GGREC Web Site & Archive may be viewed at: www.ggrec.org.au
Facebook Page www.facebook.com/GippslandGate