



GATEWAY

The official journal of the Gippsland
Gate Radio & Electronics Club Inc.

Incorporation Number A0016893M

July 2012 - From the President ...

This years GGREC Mid year dinner was an outstanding success. The evening was well attended. After a delicious roast dinner we organised ourselves into six teams and we played some games, including paper plane throwing, hooky, a trivia quiz and more. Gold medals were awarded to all the winning teams. We all had a lot of fun.

VK3JDI



Dianne Jackson

Our annual Hamfest is coming up this month. I am looking forward to this event once again. It is always good to catch up with other amateurs that I haven't seen since last year. All of the tables have been booked, and it is looking like it could be a very busy day. As usual, we will need as many people as possible, to pitch in and help on the day, so if you can help out at all, please see Bruno, our Hamfest coordinator. Most of the assistance is needed at the beginning and end of the event.

There will not be a guest speaker at the July meeting, due to the hamfest being held the very next day after this months meeting. Members usually want to get away a little early on that night.

At the July prac night, our new de-soldering station was put through its paces. The night was well attended. It looks like it will be a very useful tool, available to all club members to use in the Peter Pavey club rooms.

The new chairs for the Peter Pavey Club rooms have arrived. They look great and they are very comfy to sit in. Thanks to Doug VK3KMN and Ivan VK3ARV for organising and assembling them. The road-test at the last Prac Night showed that they were well received.

I'd like to remind members that we have GGREC cloth hat/jacket badges available for sale for a low cost. They have black writing and Club logo, on a yellow background. They will be available for sale at \$2.00 each at the July meeting.

Also at the July meeting, we will be taking orders for club name badges for new members or those who have had a recent callsign change.

Looking forward to seeing you all at the July meeting.

Item	Page
Event Queue	2
Fitting Anderson Connectors	3-4
AITI Ham Crackdown in Brunei	4
VK3EXJ Tower relocation to Koo-Wee-Rup	5
Bell Labs ECHO Horn Antenna	6
ACMA's Stand on Mobile phone repeaters	6
2012 GGREC Hamfest Details	7
Minitel to be shutdown	8
June Meeting Minutes	9
Return of the Valve	10
Information For Club Members	12

GGREC Event Queue from July 2012

July 20th – Friday Night. General Meeting at the Cranbourne Guide Hall
No Talk so we can get away early to prepare for the HAMFEST

July 21st – Saturday. The GGREC Hamfest at Cranbourne Community Hall
Cnr Clarendon & High Sts, Cranbourne 10am Cost \$6 <http://ggrec.org.au/hamfest> for details.

August 3rd – Friday Night. Prac Night at the Peter Pavey Clubrooms
From 7:30pm come along to socialise and have a chin wag or use the clubs transceivers for a QSO.

August 17th – Friday Night. General Meeting at the Cranbourne Guide Hall
VK3BUF on Video Editing.

September 7th – Friday Night. Prac Night at the Peter Pavey Clubrooms
From 7:30pm come along to socialise and have a chin wag or use the clubs transceivers for a QSO.

September 9th – Sunday. SADARC Hamfest
More Details to be announced

September 14th – Friday Night. Committee Meeting

September 21st – Friday Night. General Meeting at the Cranbourne Guide Hall
Talk to be announced.

October 5th – Friday Night. Prac Night at the Peter Pavey Clubrooms
From 7:30pm come along to socialise and have a chin wag or use the clubs transceivers for a QSO.

October 19th – Friday Night. General Meeting at the Cranbourne Guide Hall
Talk to be announced.

October 20th-21st – Saturday-Sunday. JOTA/JOTI
Jamboree of the air

November 11th – Sunday. Yarra Valley Hamfest
The event will be held in Yarra Glen at the Gary Cooper Pavilion 16 Anzac Avenue Yarra Glen.

November 24th & 25th – Sat & Sun. Spring VHF/UHF Field Day
See the WIA contest page at the website for more information
<http://www.wia.org.au/members/contests/vhfuhf/>

November 25th – Sunday. Rosebud Hamfest
Eastbourne Primary School Auditorium, Allambi Avenue, Rosebud, Victoria
Contact markybradio@gmail.com or phone 0407844063

Reminder Change of Bank Account Details

The club now has a new bank account. All payments should now be made to

Bendigo Bank Account **BSB 633000 - Account 146016746**

The new account details are also on the Information page for Members

Fitting Anderson Powerpole Connectors

Anderson Connectors have been chosen by many HAM clubs and organisations around the world. The GGREC club has chosen to follow the same standard as many clubs world wide allowing easy connection of loads like radios to various supplies including batteries and Power supplies at the club and between members equipment when operating in the field.



To the left is the standard arrangement used by GGREC it is sometimes known as the “Red Right Tongue Up” configuration. This can be seen in the photo with the red connector (+Vdc) on the right side with the 'female' tongue section of the housing at the top. The tongue side is also the side of the housing that contains the contact and spring.

If you look at the side of the black housing you can see the dovetail joint that allows the connectors to slot together. Note that you can assemble the red and black insulated housings in other ways for special applications as well as get other colours for making custom wiring looms.

The plugs are genderless so a supply or load is wired the same way as each other allowing a battery to connect to a radio when in the field and then at home you can plug the battery in to a PSU to charge it with out having to change the arrangement of the connector, they are also fully insulated so can remain connected to a supply without shorting out.

Put the connector housings together before putting the connector pins in, this is easier, especially when using heavy paired wire as you will need to fit both wires in to the housings together, if you don't you will have trouble slotting the separate housings together later. Also before soldering or crimping the contacts on to heavy paired wire, orient the contacts so that they are both facing the correct direction so that they go in the housings without twisting the wire which will put stress on wire and connectors.

The plastic housings are held together with dovetail joints. Always slide these joints together! They will be damaged if you try to snap them together or apart. They only slide together in one direction. This will be obvious by looking at them carefully.

The contacts go in the housings only one way. Insert the contacts with the sharp edge against the flat spring that is in the housing on the tongue side. They should slide in and click. If you do not hear a click or they are not fully seated, fix them or they will pull out. The most common reasons for a contact not clicking in to place are that the barrel of the contact has been flattened by crimping or there is solder on the outside of the contact barrel. Fix this by reshaping the barrel with a pair of pliers or if it is from excess solder you may use a small file to remove the excess from the outside.

When they are inserted fully you should notice that the contact and it's wire "floats" slightly inside it's housing. When looking in from the front of the housing the contact tip should slide over the top of the internal housing spring. This is the clicking sound that you hear when assembling the connector.

You will not be able to insert the contacts into the housings if they are too wide after soldering or crimping! They are a very tight fit. When soldering the contact pins, be careful not to use too much solder. If you get solder on the contact surface area you will not make a good contact.

Tug slightly on the assembled connector to make sure the contacts are locked in place. If you still have trouble getting the contact to lock in to the housing you may have bent the contact. Look at the side profile of the contacts before and after crimping, you may have to bend it back straight before inserting it in to the housing.

Cont...

...cont



Correct Fitting no twist in the wires. The wires are of equal length and wire polarity matches the arrangement of the Anderson powerpole connectors. The lip of the terminals is the same orientation on both wires and lines up with the 'tounge' side of the connector housings



Correct fitting there is no bend in the contact terminal and the lip is facing up matching the 'tounge' side of the connector housing



Cutaway showing correct fitting the lip of the contact terminal has 'clipped' over the spring and the insulation on the wire is not stripped back past the housing of the Anderson connector housing



Incorrect fitting contact terminals are upside down in relation to the housing and the polarity does not match (Remedy rotate housings to match polarity)



Incorrect fitting Polarity is correct however the contact terminals are incorrect as they have twist in them which will not allow the contact to seat in the housing (Remedy cut off contacts and make sure new ones are not twisted when replacing)



Incorrect fitting the orientation is correct as is the polarity however the contact is bent and wont seat in the housing (Remedy straighten the contact taking care to not snap it while doing so)

Last but not least, make sure you have the polarity correct before plugging your new looms in to your equipment or the magic smoke may get out.

Article adapted from ARRL Southern New Jersey Emergency Service Site

AITI crackdown on unlicensed HAMs

With all the talk of the ACMA doing station inspections of HAM operators we should be thankful we live in Australia and not Brunei.

Recently in Brunei a crackdown on the illegal use of HAM gear was carried out in the capital Bandar Seri Begawan as well as an operation in Kuala Belait earlier in the week. The operation was carried out by the Authority for Info-communications Technology Industry of Brunei Darussalam (AITI).

Ak Saiful Rosman bin Pg Hj Roslee, the Manager of Monitoring and Enforcement at AITI revealed at a press conference details of the operation to crack down on illegal operators and equipment being used by mobile operators. In Brunei there is a maximum fine of B\$10,000 and/or three years imprisonment if convicted of having unlicensed equipment.

In Brunei it is an offence to own or use HAM radio equipment without holding a licence from the AITI or to own or use radio equipment with an expired licence; or possess radio equipment not permitted by AITI very similar to VK.

However what is different is the way the operation was carried out. Rather than have an inspector drop past and ask you about your station and equipment and rather than using education of operators as a first course of action the AITI do things a bit different.

A Roadblock was set up and manned by 16 armed police personnel as well as seven inspectors from the AITI, a total of 13 vehicles were found to have illegal installations of HAM equipment as well as some offences of having an expired licence. In Brunei with a population of 400,000 there is only apx 1000 licensed HAMs.

Tower relocation to Koo-Wee-Rup

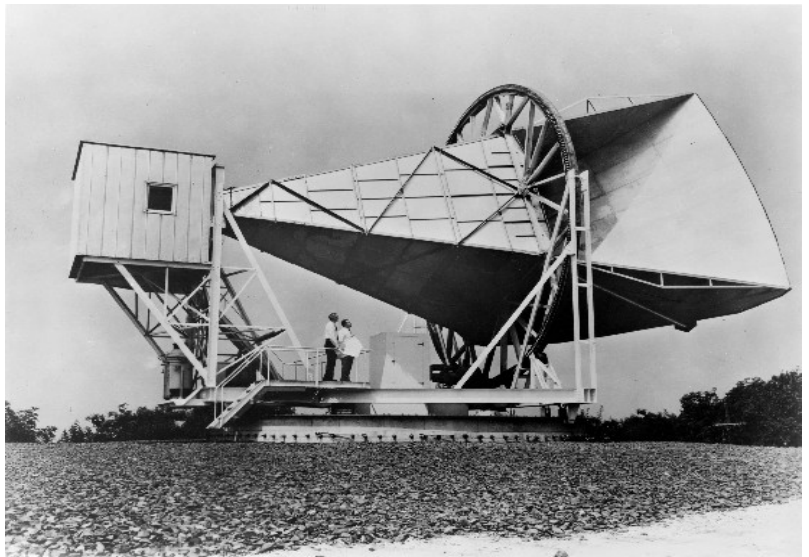


Glenn with his newly installed tower moved from Ron **VK3EXJ**'s Home

See http://ggrec.org.au/reference/Nally_tower_reloc.pdf for an article by **VK3BUF** on tower installations

Bell Labs ECHO Horn Antenna

The Horn reflector antenna at Bell Telephone Laboratories in New Jersey was built in 1959 for work in communication with satellites for NASA. The antenna was 50 feet in length and weighed about 18 tons. It was comprised of aluminium with a steel base. It was used to detect radio waves that bounced off Project ECHO balloon satellites. The horn was later modified to work with the Telstar Communication Satellite frequencies as a receiver for broadcast signals from the satellite. In 1990 the horn was dedicated to the National Park Service as a National Historic Landmark.



Repeating the facts- mobile telephone repeaters are illegal

A mobile phone repeater is a fixed active device that may be used in mobile networks. It is designed to regenerate or replicate a mobile signal. Mobile carriers regularly use repeaters as part of their ordinary network management. However, when used without a carrier's permission, repeaters have the capacity to cause substantial interference to the cellular network and may have an impact on mobile services, including access to emergency call services.

Despite what you may hear, read or be told by someone who wants to sell you one, mobile telephone repeaters cannot be used in Australia, unless you're the holder of an applicable spectrum or apparatus licence (in practice, usually a mobile telecommunications carrier), or the licensee has personally given you direct permission.



The ACMA is aware that certain overseas-based internet traders (often appearing to be located in Australia) have been informing the Australian market that anyone in Australia can use repeaters 'legally'. This is not correct. Only the holder of an applicable spectrum or apparatus licence is permitted to use, or authorise the use of repeaters.

Simply put, the unlicensed operation of any repeater is illegal, and subject to the offence provisions in sections 46 and 47 of the Radiocommunications Act 1992. Penalties for the unlicensed use of repeaters are significant, including up to two years imprisonment or fines totalling \$165,000.

An Example of an Active phone repeater from eBay

GGREC Hamfest 2012

Date: Saturday 21st July 2012

Venue: Cranbourne Public Hall Corner of Clarendon and High Street's
Cranbourne. Melways Reference: 133 K4



- Everything is under cover
- Tea and Coffee available all day.
- A selection of hot and cold food will also be available.
- Door Prizes will be drawn at approx. 1:30pm
- Doors open to buyers at 10am
- Buyers can gain entry for \$6.00

All proceeds from the Hamfest go to the Gippsland Gate Radio and Electronics Club
(GGREC) Inc. for the upgrade of equipment and facilities.

ALTRONICS



If you only come to one event a year please make sure it is the 2012 Hamfest. Starting time is 7:30 am sharp.

We need helpers to pack the boot of their cars on the GM Friday night so that it is at the hall first thing on Saturday morning. There is too much stuff for one or two cars so we desperately need you to help transport our kitchen supplies to the hall.

On the day, the kitchen staff will need to have breaks so don't be surprised if I ask you to help out serving our customers. Please don't think that we can do it without you because it isn't so. There are lots of things you can do to help out so please don't miss out.

Door prizes this year are: First prize – Soldering station donated by Altronics Springvale. Harold is continuing to support GGREC with this generous donation and ongoing Club discount on purchases at his store. Second prize and Third prize will be decided closer to the day. It will either be a PK Loop antenna or a donated multi-meter or connectors etc. from an anonymous donor and more.

So don't miss out on the excitement, see you at the July GM and the 2012 HAMFEST

Bruno **VK3BFT**



French Minitel system finally shutdown

Back in the mid 80s, the idea of transferring funds, checking your email, buying stocks and booking a trip online was all a faraway dream. But if you happened to be in [France](#) at the time, you might've already been wired up and doing these things for years thanks to the subsidized Minitels that were in each and every household.

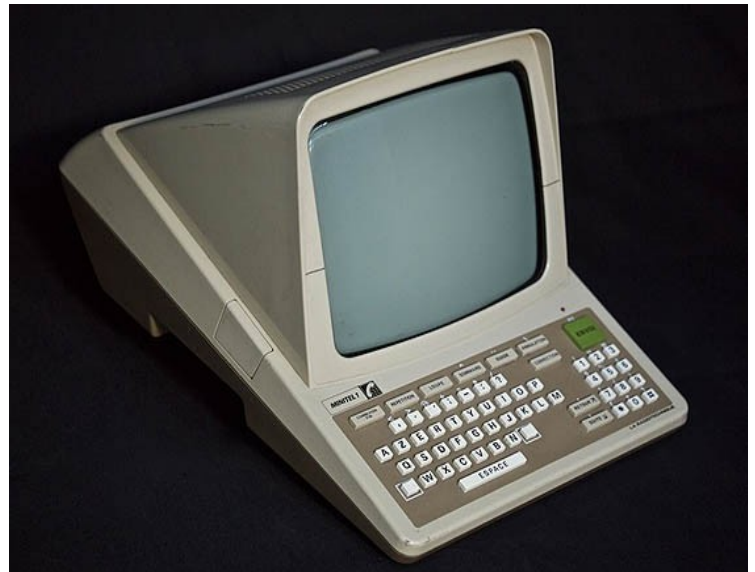
The country was far more interconnected than any other and proud of the text only terminals, even though government owned France Telecom monopolized access and you had to be newspaper company to supply any content.

It took off anyway, and soon faux newspaper companies sprung up everywhere for the not so secret purpose of delivering paid Minitel services. They supplied information, financial access, ticketing, online shopping, and even some naughty text based services (sacré bleu!).

At its apogee in 1998, the system generated over a billion dollars a year in revenue, and accounted for nearly 15% of the annual income for online retailers 3 Suisses and La Redoute, to name a couple.

But France can be an insular nation, and Minitel never really spread anywhere else. The internet gave the coup de grace to the system and displaced it, and though it's still accessed by millions each year, France Telecom will pull the plug once and for all on Saturday the 30th of June.

Some regret that the nation didn't build on its technological lead, but most French folks will probably remember the boxes nostalgically, knowing that they beat the internet by almost 20 years.



Minitel Terminal



Article from engadget.com

General Meeting Minutes - June 15th, 2012

Date : 15th June 2012

Start time : 2005 hours

Location : Guide Hall Club rooms.

Chairperson : Dianne Jackson VK3JDI President.

Minute Taker : Graeme VK3BXG Secretary

Present : As per attendance sheet

Apologies: As per attendance sheet

Visitors : As per attendance sheet

Correspondence received : AR magazine, EMDRC news letter, NERG news e-mail link, WANSARC news e-mail link. VK3BJA licence from ACAMA, SP Ausnet regarding the new “Smart meter to be installed, De-soldering gun has arrived.

Correspondence sent : Letter from Steve to Harris Hanafie confirming his hamfest booking.

Treasurer 's report : Total Income: \$764.00, Total expenses: nil, Net income: \$764.00

Bendigo bank account #1 balance \$2,209.92

Bendigo Bank account #2 balance \$1,000.00

Bendigo Bank term deposit balance \$9,000.00

Moved Ian VK3BUF, seconded Mark VK3FWSP, all in favour, carried.

Previous Minutes : As per May Gateways Magazine distributed. Moved Dianne VK3JDI, seconded Steve VK3EGD, all in favour, carried.

Business from previous minutes : Hamfest update – Bruno VK3BFT reports that all is progressing well and G&C Communications have booked a table. Altronic's have donated a door prize but a second prize donation is still needed. Pat VK3OZ reports to cut down on hot food. Cakes sold well last year and discussion arose over whether sandwiches would be better. Consensus was that obtaining the required permits may be too problematic – better to stick with sausages. Pat requested more help in the kitchen. The Jackson family agreed to do the ticket sales again. Discussion arose over the possibility of a barbeque at the entrance; by consensus this would tie up extra volunteers who could be needed elsewhere on the day.

Repeater Albert VK3BQO reported that another filter was made up for VK3RDD as a band pass filter and although it worked the interference problems continue. The GGREC Icom IC706 is currently being used as a receiver on VK3RDD but it too has made no difference to the problem. VK3RDD will now be put back to the way it was but with a CCTS access.

Mid year dinner on 23rd June 2012, Dianne VK3JDI, reports that the last chance to book is tonight as the caterers need to know numbers early next week. Start time is 6:30pm with meals at 7:00pm.

Chairs for the shack Doug VK3KMN, is now looking form chairs for the radio room but he will first check on the quality of some located for \$75.00 Moved Dianne VK3JDI, that “Doug purchase chairs for the radio room, if suitable”. Seconded Ian VK3BUF, all in favour, carried.

De-Soldering gun demonstration and use will be presented at the prac-night of Friday 6th July at the club radio shack.

New Business: A Cup weekend away needs to be planned soon if there are expressions of interest and maybe it needs to be advertised in the “Gateways” magazine to gauge any interest.

Vanuatu DXpedition trips Michael VK3GHM reports have gained an ARRL, DXCC award (over 100 different countries worked) for 2010, 2011, and 2012.

Meeting closed : 2000 hours

Next general meeting: 20th July 2012.

Return of the Valve... sort of

If you look inside an old school TV or radio you will see what looks like little light globes glowing reddish orange. These are in fact valve's (Vacuum Tubes) and they are the predecessor to the silicon based transistor. Valves became obsolete in the 1960s with the development of cheap transistors that could be etched in to silicon wafers.

Although silicon transistors are smaller, cheaper to make and use less power they do have a few shortcomings. They are not tolerant to radiation as found in the harsh extremes of space and they do not perform well at very high switching rates as electrons move slower in a solid rather than a vacuum. This is beneficial in gigahertz and terahertz frequencies.

NASA is working on bringing a new design of the valve back to market. The device is actually a cross between a modern transistor and a valve. It is a nano scale recess etched in to phosphorous-doped silicon. The recess is boarded by three electrodes, a source, a gate and a drain.

It is small and easy to produce as it does not actually need a vacuum in the recess as the space is so small, about 150 nano-meters, this means that there are very few air molecules for the electrons to hit in the cavity.

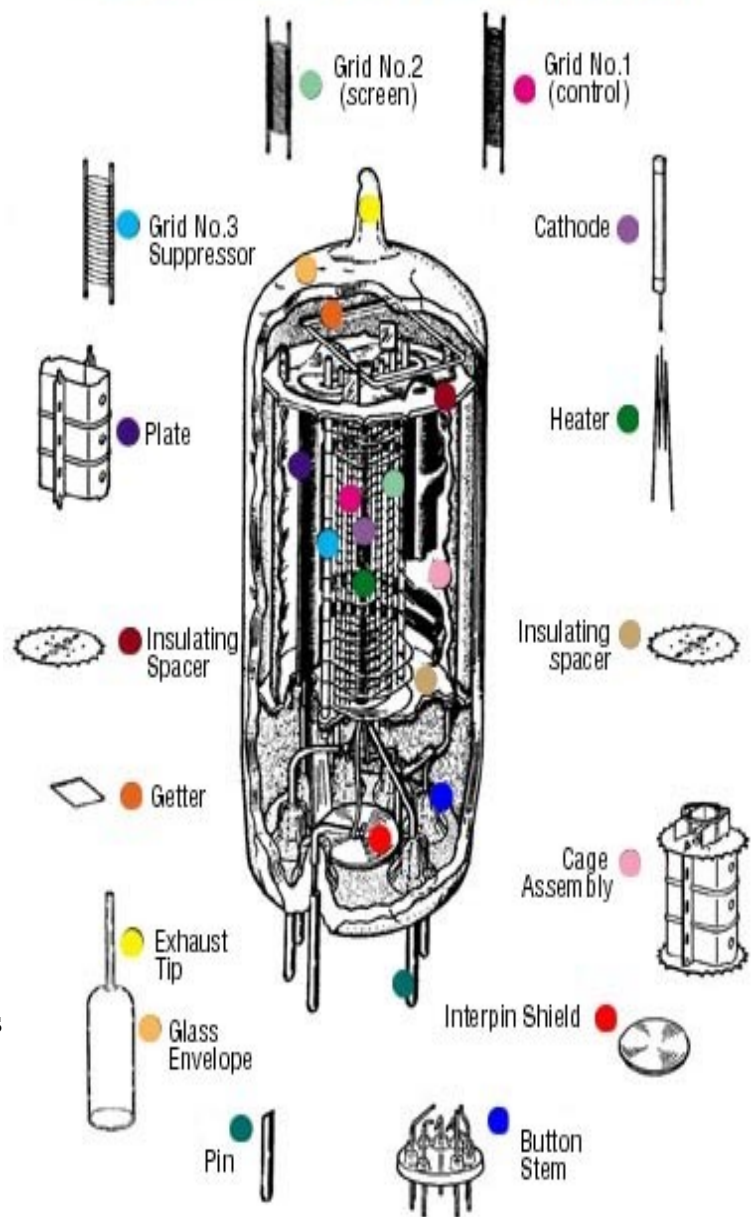
This is a huge benefit as you don't require an assembly line that can create a vacuum reducing manufacturing costs and opening the door to mass production. Kristal Fobelets of the Imperial college of London agrees, "Vacuum technology within a semiconductor fabrication line would make fabrication costs very high," she says

Meyya Meyyappan an engineer from NASA that is a co-developer of the nano valve says that a computer used by NASA for space use is essentially the same as a consumer PC in terms of the hardware but it takes a few years to develop the radiation proofing needed in space. If the hardware is not radiation proofed it will have the molecules in the silicon transistor move from radiation exposure rendering the transistor in-operable.

In a paper published in *Applied Physics Letters*, Meyyappan and his associates estimate that the new device has a switching capability of about .46 terahertz about 10 times faster than the fastest transistors.

The potential of the new valve technology is great, says Meyyappan. The new valve's immunity to radiation could save the military and NASA a lot of time and money, while its faster operation makes it suitable for terahertz technology. Terahertz frequencies sit between the microwave and infra-red regions of the electromagnetic spectrum, the terahertz region can pick out the "fingerprints" of certain molecules. The technology could therefore be used at airports to safely scan for illicit drugs or bombs, for instance.

So are vacuum tubes poised to make a comeback? Meyyappan thinks so. "We are combining the best of the vacuum," he says, "and the best of what we have learned in the past 50 years about integrated-circuit manufacture."





LED DOWNLIGHT SALE



9W



12W



12W

**REPLACE YOUR HALOGEN 50W DOWNLIGHTS
WITH SOLID-STATE LAMPS THAT CONSUME
ONLY 1/5th OF THE POWER**

- Prices from \$29.80 each (inc GST)
- All lamps carry a 12 month Warranty
- Each unit comes with a 240V regulator
- Prices & technical information on Web Site
- 10% Discount for GGREC members from web price
- No Deposit needed (Payment is upon collection of goods.)

Visit: Website at: alianelectronics.com.au/led-lighting
Contact: Ian VK3BUF: ian@alianelectronics.com.au
or Call: 5625 2545

GGREC Cloth Badges & Stickers Available

Cloth Badges (Sew On) Suitable for hats and jackets laptop bags
Just about anywhere you can sew a badge on to

We found that we still have some of these in stock.
First in 'best dressed' They are available for \$2 each.
The Badges are 7.5cm across and are black on yellow

GGREC Bumper Stickers

We also have some bumper stickers in stock
These are also Black on Yellow and are 24cm by 5cm in size



GIPPSLAND GATE RADIO AND ELECTRONICS CLUB

An order for plastic **Membership Badges** will be placed within a few weeks. These are a good quality badge for \$12 each and feature the club logo and text of your choice

See the Treasurer, Ian VK3BUF next meeting to buy or order these items



Information for Club Members



General Club meetings are held at 8:00pm on the third Friday of each month at the **Cranbourne Girl Guide Hall in Grant Street, Cranbourne.**
Prac nights are held on the first Friday night in the **Peter Pavey clubrooms,**
(at the rear of the Guide Hall) they commence around 7:30 PM.

Visitors are always welcome to attend.

Office bearers

President:	Dianne Jackson	VK3JDI
Secretary:	Graeme Brown	VK3BXG
Treasurer:	Ian Jackson	VK3BUF
General Members:	Paul Stubbs	VK3TGX
	Mark 'Pockets' Clohesy	VK3FWSP
Public Officer:	Ian Jackson	VK3BUF
Distribution Email :	Graeme Brown	VK3BXG
Property Officer:	Bruno Tonizzo	VK3BFT
Repeater Officer:	Albert Hubbard	VK3BQO
Web Master:	Stephen Harding	VK3EGD
Magazine Editor:	Mark 'Pockets' Clohesy	VK3FWSP

Call in Frequencies, Beacons and Repeaters

- The Club Station is **VK3BJA** which operates from the Cranbourne Clubrooms.
- 6m Repeater at Cockatoo is **VK3RDD** : Freq. In **52.575** MHz, Out **53.575** MHz
The 6m Repeater requires CTCSS tone access of **91.5 Hz**
- 70cm Repeater Cranbourne is **VK3RLP** Freq. In **434.475** MHz, Out **439.475** MHz
The 70cm Repeater requires CTCSS tone access of **123 Hz**
The 70cm Repeater supports Remote Internet access (IRLP) **Node 6794.**
- Simplex VHF - **145.450** MHz FM
- Simplex UHF - **438.850** MHz FM
- VK3RLP** Beacons **1296.542** MHz & **2043.532** MHz (2.04Ghz Beacon inactive for repairs)

Membership Fee Schedule

Standard Member rate	\$37.00	Junior Member rate	\$22.00
Pension Member rate	\$22.00	Extra Family Member	\$17.00

- Fees can be paid by EFT to **BSB 633000 - Account 146016746.**
- Always identify your EFT payments.
- Due after each April Annual General Meeting.

Please direct all magazine articles to: editor@ggrec.org.au
All other Club correspondence to: secretary@ggrec.org.au
or via Snail Mail : **Box 1098, Cranbourne 3977**

GGREC Web Site & Archive may be viewed at: www.ggrec.org.au

Disclaimer. The opinions expressed in this publication do not necessarily reflect the official view of GGREC Inc
The Club cannot be held responsible for incorrect information published.

The deadline for magazine items is the Tenth day of each month.

Commercial Advertising in Gateways is \$10 full A4 Page or \$5 1/2 A4 Page per edition
Ad Copy to be sent by email to editor@ggrec.org.au by the First of the month in PDF, JPG, PNG, ODT or DOC