



GATEWAY

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

February 2014 From The President

February is an exciting month for the Club. Preparation is under way for GGREC to get a team together for the John Moyle Field Day. Members have been asking for such an event so camping out for the John Moyle field day should be a fun weekend.

GGREC (and other Clubs) have received an invitation from Ian branch VK3YEA to use his property in Yea for the field day and we are exploring this option. Yea is close enough to Melbourne to make it for a day trip and to enjoy the Goulburn river and surrounds. Hopefully the bushfire threat would have passed by then. What are your thoughts?

The Committee is looking for a Hamfest co-ordinator so if you would like to get some experience organising an event, this is the perfect opportunity for your personal development, assisted by experienced Club members.



Bruno Tonizzo

Don't forget that the AGM is getting closer and we will be looking for your support and involvement to form the new GGREC committee for 2014 – 2015.

If you have any ideas for a Club outing or a guest speaker for our General meetings please contact the committee.

Bruno VK3BFT

CONTENTS

<i>May The Force be With You</i>	3-4
<i>Tower Maintenance Hazards</i>	5
<i>Redefining the AMP</i>	6
<i>This Months Talk - Tyre Inflation</i>	7
<i>January General Meeting Minutes</i>	8-9
<i>Club Information</i>	10

Event Queue from February 2014

February 21st – Friday Night. General Meeting at the Guide Hall
From 2000hrs Talk on Automatic Tyre Inflation VK3BUF

March 7th – Friday Night. Prac Night at the Club Shack
From 1930hrs

March 15th – 16th - Friday - Saturday John Moyle Field Day
<http://www.wia.org.au/members/contests/johmoyle/>

March 14th – Friday Night. Committee Meeting at the Club Shack
From 1930hrs

March 21st – Friday Night. General Meeting at the Guide Hall
From 2000hrs Talk to be announced

April 4th – Friday Night. Prac Night at the Club Shack
From 1930hrs

March 25th – Friday Night. General Meeting at the Guide Hall
From 2000hrs Talk to be announced

May the Force be with you

or maybe not if the computer thinks it's not needed right now...

(how changes to charging systems in modern vehicles affect us)

From the department of fixing things that are not broken, it seems that several vehicle manufactures now use special variable-output alternators that are under control of temperature and engine management systems. No longer will you be able to simply pop a bonnet and check for around 14V at the battery terminals with the engine running as a simple measure of charging system integrity.

There are Temperature Compensating Alternators' that appear in new Falcon's, Hiluxes, Prado's and Klugers. These charge batteries to 14V when the engine is cold, but folds the output to around 13.4V when the engine has warmed up.



Additionally there are another range of alternators under direct microprocessor control that will vary the output between 12.3V and 15V depending upon conditions (and internal whim) The Range Rovers, Nissan Navara's &

Pathfinders, Pajero's Land Rovers and Mazda's now do this. The car computer will turn down the alternator charging if it thinks that the battery ought to be charged, or if the engine is idling, or if the driver is accelerating. I'm sure that drivers can really feel that 2% energy boost pushing them harder into the upholstery as they power away at the lights.

So what's the big deal and who really cares? There are a couple of important issues here. . In the past you could easily check the integrity of your charging system by placing a meter on the battery and run the engine. If around 14.0 to 14.2V was present, then it was highly likely that any engine starting difficulties were probably caused by battery deterioration or failure. Now with smart charging systems in control, you

are going to have a harder time determining if it is because of a battery failure, an alternator failure, or key components are all intact but the car computer just doesn't like you and is sulking.

This has special significance for campers and Radio Amateurs as a lot of these people like to run a second vehicle battery. Many such installations used Voltage Sensitive Relays (VSR's) to link a second battery to the main battery when it sees the battery voltage is rising after a successful engine start. These will automatically disconnect when the engine is off so that a fridge etc won't flatten the battery used to start the car. With these new alternator systems and traditional battery linking technology, your second battery may not get a decent charge if it does not link to the primary battery when it should.



Additionally, there are current sensors in the negative battery terminal on many of these vehicles to allow the car computer knows how much energy is being drawn. Running auxiliary fridges and batteries may trigger engine faults and messages if the computer thinks the vehicle is drawing current when it shouldn't be.

So what is to be done with a car that conspires against your best efforts to maintain a measure of outdoor freedom? How do you fight a panel of automotive engineers that are made to stay up all night (eating take-out food) until they dream up a spurious function or facility to add to next year's model to help differentiate it from last years model? The answer is not much. There is little we can do to make vehicle manufacturers return to 'conventional' hardware.

At least we can be aware that these systems are now in play when diagnosing vehicle problems, otherwise conventional wisdom would conclude that low charging voltages are faults that need to be addressed immediately.

Like the old saying goes, being fore-warned is being for-armed and if we had four arms we'd all be better at soldering...

Ian VK3BUF

Ham Trapped by tower collapse

It has been reported that a ham radio operator in Athol USA has lost several fingers and one of his hands when his radio antenna tower collapsed on him while he was working on it. Emergency services responded to his home after his wife phoned 911 with a report that he was hanging 6 meters in the air with his arm pinned by a telescoping-type tower similar to a nally tower.

He was working on a section of the 12 meter telescoping tower, when the cable holding it up snapped causing the top portions of the tower to collapse on his hands.

"I saw his fingers fly off of his right hand," his wife told The Press. "I never want to see something like that again."

According to a press release from the Fire Dept crews were dispatched to the scene and



proceeded to raise the tower in an effort to free his trapped arm. After 20 minutes, the man was freed and lowered to the ground, he was trapped for a total of 45 minutes. "I can't say anything better about them," his wife said of the emergency responders. "They were awesome." He was then transported by helicopter to hospital.

Doctors said he was in critical condition and was taken into surgery, where doctors performed a partial amputation on his left hand and a full amputation on the right. The surgery took more than four hours.

So keep in mind safety at all times when working on your antenna systems, towers are a dangerous beast both due to the heavy movin components and the heights involved and always have a spotter with you in case something does go wrong so emergency services can be called.

New experiment to redefine the AMP

Physicists have tracked electrons crossing a semiconductor chip one at a time in an experiment that should at last enable a rational definition of the ampere, the unit of electrical current.

At present, an ampere is defined as the amount of charge flowing per second through two infinitely long wires one metre apart, such that the wires attract each other with a force of 2×10^{-7} newtons per metre of length. That definition, adopted in 1948 and based on a thought experiment that can at best be approximated in the laboratory, is clumsy. The new approach would redefine the amp on the basis of a physical constant representing the charge of an electron.



In the amp experiment the use of a single-electron pump, a device in which voltage pulses prompt electrons to quantum-mechanically tunnel across barriers one at a time is used. The researchers tracked the paths of individual electrons by detecting changes in the electrical charge stored at points between the barriers. Primitive electron pumps have existed since 1990, but this is the first time that changes in charge have been detected for each hop of an electron.

The pump only transfers just a few dozen electrons per second — slow enough to permit precision measurement and thus to provide proof of principle for redefining the amp. But this is only a first step: the set-up would not be practical for calibrating current-measuring ammeters, which need to run at higher currents. The ultimate goal is to create a standard-setting experiment that can be reproduced in any lab to calibrate measurements of current precisely — so the race is now on for a method to use a higher-current pump.

Automatic Tyre Inflation Talk from Ian VK3BUF



This month Ian will be giving a talk and display of the automatic central tyre inflation system he has designed. Mainly used by trucking companies it is also well suited to those in to four wheel driving it sounds like it will be an interesting presentation.



General Meeting Guest Speakers

We are always on the look out for people within the club or outside of the club to give a talk at our General meetings. If you have a talk you can give or know of someone that is in to a particular area of Ham radio or electronics that would be willing to give a talk please see a member of the committee to help arrange this.

Thanks from the Committee.

General Meeting 17th January 2014

Location: Guide Hall Cranbourne
Start Time: Meeting commenced at 2000 hrs.
Chairperson: Bruno VK3BFT
Minutes taken: Graeme VK3BXG
Present and Guests: As per attendance sheet.
Apologies: As per attendance sheet

Correspondence in 15 November to 17th January:-

Letter from Alan Mackay with regards to the clubs early history.
Wansarc, December e-mail link.
EMDRC news letter.
FAMPARC news letter.
Rotarua email news letter
Letter from the Hall Hire committee regarding our July hall hire.
Letter from Australia Post basically apologising for our box cancellation.
E-mail from a Robert Krammer regarding our web sites dead links.
NERG news e-mail link.

Correspondence out

Letter to Alan Mackay with thanks.
WIA lists regarding our Hamfest of Saturday 19th July 2014.
WIA regarding our affiliated membership with our clubs membership cheque.
E-mail to Robert Krammer thanking him for our web-site dead link report.

Treasurers Report:- The books are done on the 15th of the month.

The Bendigo Investment account is at \$9,612.44; Bendigo cheque account \$2663.39 and the Quick books balance also at \$2663.39.

Total income for the month was \$646.71 whereas expenses were \$1,688.42 making a loss of \$1,041.71 for the month.

Moved Ian VK3BUF, seconded Mark, VK3PKT, all in favour, carried.

Previous Meeting minutes as per our January "Gateways" magazine distributed.

Read over by Bruno VK3BFT accepted, seconded Albert VK3BQO, all in favour, carried.

Business from the Previous Minutes.

Repeater reports by Albert VK3BQO that VK3RDD is again having problems, third time in six months and has had to be reset each time. There was conjecture as to the problem but a visit to the site will be necessary soon.

VK3RWD is working well but signals are variable depending on the weather conditions, he reports. Also VK3RWD came in on budget at approximately \$1,700.

Trestle tables are now disposable and may end as firewood as no member has expressed an interest in acquiring them, Bruno **VK3BFT** reports.

New Business

Field Days, Helmut **VK3DHI** inquired as to why we are not doing any as a club? The John Moyle Field Day on Saturday 15th March is a possibility but it comes down to the will of the members Ian **VK3BUF** reports. Bruno **VK3BFT** suggested that the John Moyle Field Day be listed in the Clubs event calendar and continued on to read out the terms and conditions of the field day.

The Club's Barbeque Pat **VK3OZ** suggested that it may be time to buy a new one as the clubs was missing knobs and in need of maintenance.

Discussion arose that all that was needed was to clean it up, buy new knobs and a cover.

That new knobs and a cover be purchased for the club barbeque, moved by Pat **VK3OZ**, seconded by Leigh **VK3FACB**, all in favour, carried.

Australia Day Barbeque questioned by Steve **VK3EGD** as to why the 27th January? Bruno **VK3BFT** replied that because Monday 27th is a public holiday of a long-weekend this year.

Discussion arose and by consensus more members are able to attend on the Monday this year rather than the Sunday.

The Annual General Meeting (AGM) schedule for this year will fall on Good Friday. Bruno **VK3BFT**, for this reason proposed that Friday 11th April 2014 be the date for our Annual General Meeting (AGM). Seconded Ian **VK3BFT**, all in favour, carried.

Mid Year Dinner, Dianne **VK3JDI** suggested that we start making plans. Bruno **VK3BFT** asked for expressions of interest from members.

Hamfest Coordinator, Bruno **VK3BFT** reports is now needed for this year and called for expressions of interest.

He reports that Wayne **VK3XF** did a very good job last years but is committed for this year but will help.

Antennapalooza weekend Ian **VK3BFT** reports is tentatively set for the last weekend in October 2014 and invitations will be extended to FAMPARC and the Eastern Zone members.

Balloon Launch, Mark **VK3PKT** asked if there was any club interest in doing a balloon launch with a mobile 'phone tracking device. For easy recovery this would be best be performed near the NSW Victorian border and the balloon must be filled with Helium.

-To be held for further discussion.

Meeting closed at 0855pm.

Next General Meeting Friday 21st February.

This evening's talk was by Graeme Wheatley **VK3XTA** on Tasmania to Alice Springs Postie Bike Tour.



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	Graeme Brown	VK3BXG	Web Master	Stephen Harding	VK3EGD
Treasurer	Ian Jackson	VK3BUF	Magazine Editor	Mark Clohesy	VK3PKT
General 1	Mark Clohesy	VK3PKT	Property Officer	Bruno Tonizzo	VK3BFT
General 2	Wayne Cooke	VK3XF	Secretary	Ian Jackson	VK3BUF

Call in Frequencies, Beacons and Repeaters

- The Club Station **VK3BJA** operates from the Cranbourne Clubrooms.
 - 6m Repeater Cockatoo **VK3RDD** In 52.575, Out 53.575 CTCSS 91.5
- 70cm Repeater Cranbourne **VK3RLP** In 434.475 Out 439.475 CTCSS 123Hz
VK3RLP Repeater supports Remote Internet access (IRLP) Node 6794.
- 70cm Repeater Drouin **VK3RWD** In 433.575 Out 438.575 CTCSS 91.5Hz
 - Simplex VHF - 145.450 MHz FM • Simplex UHF - 438.850 MHz FM
 - **VK3RLP** Beacons 1296.532 MHz & 2043.532 MHz

Membership Fee Schedule

Standard Member rate \$40.00 Junior Member rate \$25.00

Pension Member rate \$25.00 Extra Family Member \$20.00

- 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 pockets@twistedsouls.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

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

Commercial Advertising is \$10 full A4 Page or \$5 ½ A4 Page per edition

The opinions expressed do not necessarily reflect the official view of GGREC Inc

The Club cannot be held responsible for incorrect information published.