GATEWAY

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

Incorporation Number A0016893M

February 2012 - From the President ...

VK3JDI

Dianne Jackson

Looking out my kitchen window, I can see the alpacas, wandering around the paddock, eating grass here and there in completely random locations. It reminds me that often life can also be random at times. That is how we found ourselves at our January Club meeting, with about twenty five people, squashed into the Peter Pavey Club rooms, because the guides had re-varnished the floor in the Guide hall, and removed all the tables and chairs. Despite the cosy conditions, we forged ahead and got the formal part of the meeting over quite quickly.

The Australia day barbeque was well attended. Even though I wasn't there, I have heard that about twenty people came along and a good time was had by all.

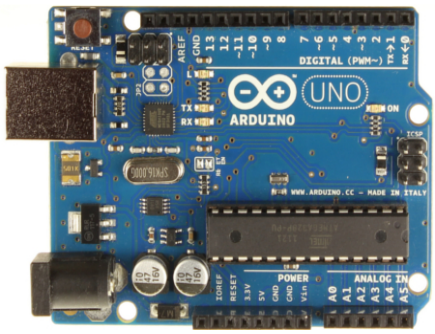
The sausage sizzle at Bunnings car park in Cranbourne was very successful. A small but dedicated team of club members spent a busy day, cooking and selling over 800 sausages. The day was warm and we sold a lot of soft drinks throughout the day. We do have some excess sausages for sale to club members at $4.00 per dozen. If you want to buy some sausages, you will need to contact Ian VK3BUF, before the meeting, so that we know how many bags of sausages to bring. The sausages will be frozen, you will need to bring an esky with ice in it or cool bag if you want to keep then frozen.

At the February meeting, Clint Jeffrey VK3CSJ will be talking about a Radio Astronomy observatory at Heathcote Victoria. It sounds like it could be a very interesting talk.

Looking forward to seeing you all at the February meeting.

The Arduino Micro-contoller

The Arduino Micro-controller is a development board based on the Atmel range of micro processors. It is an open source project that started in Italy and has been around for a number of years and is very mature. What makes the Arduino different from a normal Atmel micro processor Is the Arduino is a complete development board with built in USB to serial for programming as well as a 'Boot Loader' on the Atmel chip that makes it a simple matter of sending new code (Known as a sketch) to the board via USB. The main stay of the arduino family is the Arduino UNO as shown to the right.



Arduino UNO

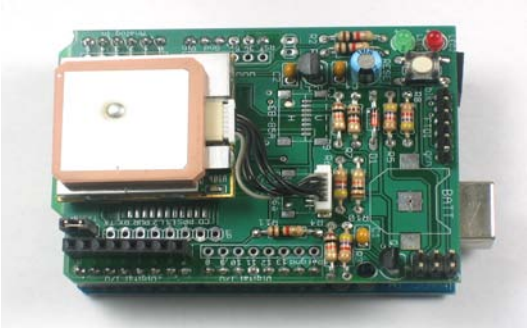
The USB port can also be used to send and receive information from the Controller to a PC so that you may interact with real world interfaces on your computer. The Arduino is programmed in a modified version of C++ so no knowledge of hex is required. Once a sketch is compiled it is made in to a hex file that may be uploaded to other Atmel processors that do not have the boot loader. This means you can prototype quickly with the arduino and then use a standalone Atmel AVR for the final design, or you can just leave it running on the Arduino.

Arduino Development Enviroment

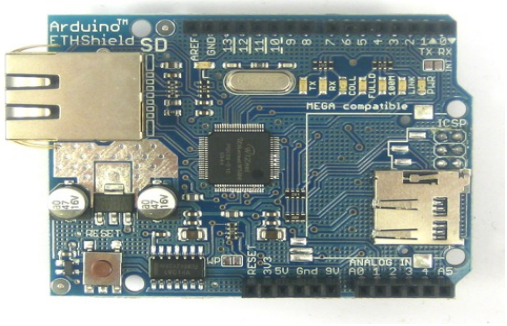
The Arduino is designed to be easy to use and by design is not aimed at hardcore electronics engineers but at artists and designers. It can be used for something as flashing a single LED or running an array of hundreds of LED's to interfacing with a weather station and the Internet and have it send you weather data to the cloud. You can use it to control a robot or run a radio repeater.

What makes it easy to use is the way both the software which runs on Linux, Mac and Windows and the Hardware is designed to be modular. There are many pre made libraries that you are free to cut and paste in to your sketch and as for the hardware lets say you want to add GPS. You just buy a shield and plug it in to the top of the Arduino. Also the shields are stackable with pass throughput's so you can plug 3,4 or more shields in to the same Arduino.

Some of the shields you can get are 40x2 LCD screens, GPS, Motor Drivers, Ethernet, Wireless Ethernet, Blue tooth, Colour Touch Screens like those found in a modern smart-phones and short range radio transceivers or even a GSM shield to give your device access to the mobile phone network.



GPS Shield



Ethernet Shield

Cont. from page 2

There are over 230 known shields for the Arduino.

As shown to the right the sketch is fairly simple to follow as it uses plain English rather then hex. Yes you could make an LED fade in and out with an analogue circuit and that a Micro-contoller may be overkill but the beauty of the Arduino is that you only need an LED and current limiting resistor and away you go. Need to change the flash rate, just edit the sketch and hit upload and it is done, no playing with changing the values of components in an analogue circuit.

As stated earlier the Arduino family is a development environment and once you have it running y0u can upload to a standard Atmel chip in your own circuit, you can even make a programmer for the blank Micro-contoller's out of an Arduino.

There are a large number of boards in the Arduino family including the mega with extra pins and memory, mini ones the size of a DIP package so you can plug it in to your own circuit like an IC with socket, pro models with no pin headers that are designed to be soldered in to a circuit and even one called the lilypad that is round and is designed to be sewn in to clothing with conductive thread. As I said these were designed by artists for artists to make creation of art installations easy for non programmers.

Although with that said they are a powerful tool in the arsenal of tools for designing your own device.

All of the reference software and hardware designs are open source so you are free to create your own arduino board and have it produced all though you would have to release the modified version as open source as well. However if you designed a circuit that you just plugged an Arduino in to you have no such restriction and it is even permitted by the licence to create commercial products.

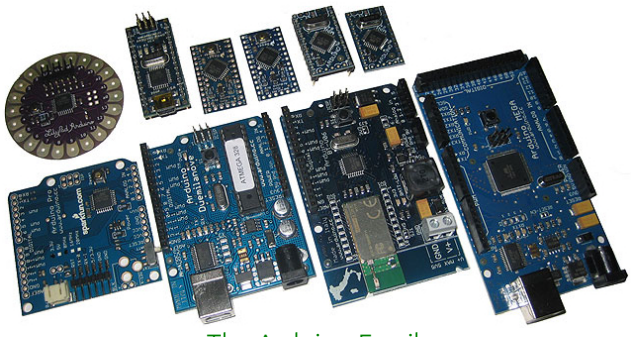
```
/*
 Fade
 This example shows how to fade an LED on pin 9
 using the analogWrite() function.
 This example code is in the public domain.
 */
int brightness = 0;    // how bright the LED is
int fadeAmount = 5;    // how many points to fade the LED by
void setup()  {
 // declare pin 9 to be an output:
 pinMode(9, OUTPUT);
}
void loop()  {
 // set the brightness of pin 9:
 analogWrite(9, brightness);
 // change the brightness for next time through the loop:
 brightness = brightness + fadeAmount;
 // reverse the direction of the fading at the ends of the fade:
 if (brightness == 0 || brightness == 255) {
  fadeAmount = -fadeAmount ;
 }
 // wait for 30 milliseconds to see the dimming effect
 delay(30);
}

*****************************************
```

Example Sketch That Fades an LED

Arduino Uno Specs

Microcontroller	ATmega328
Operating Voltage	5V
Input Voltage (recommended)	7-12V
Input Voltage (limits)	6-20V
Digital I/O Pins	14 (6 provide PWM output)
Analog Input Pins	6
DC Current per I/O Pin	40 mA
DC Current for 3.3V Pin	50 mA
Flash Memory	32 KB- 0.5 KB for bootloader
SRAM	2 KB (ATmega328)
EEPROM	1 KB (ATmega328)
Clock Speed	16 MHz

For more in formation head over to the arduino website at www.arduino.cc to get started here you will find reference designs and places to buy hardware.



The Arduino Family

Mark 'VK3FWSP'

Intrepid Amateurs

This year in August two radio Amateurs, Michael Van den Acker VK3GHM along with friend David Welch VK3DGW will be participating in the, high profile, Kidney Health Australia http://www.kidney.org.au Kidney Kar Rally http://kidneykarrally.com.au to help raise funds for Kidney Kids Camps. Kidney Kids Camps are run over five days and are especially for 'Kidney Kids' (7 to 17) that are affected by kidney health disease.

For this event we will be driving from Melbourne to Perth to the start of the Rally. The Rally then travels from Mandurah, just south of Perth to Bendigo via the Nullarbor and though most major towns over a 10 day period from 14th to 24th August 2012.

Because this is our first attempt at such an event we have decided on using an 80 series Landcruiser (this may change again). We have a bit of work to do to get this ready as we don't even have the vehicle yet. Apart from the standard checks we need to fit amber flashing beacons on the roof, tow ball to the front, any suspension and handling changes, tyres, radios the list goes on……

The team name we have chosen is "Team Echidna", this is a reference to the antennas we will have on the roof, the Kar number we have chosen is 73 and this is in reference to the amateur sign off of 73's. We also have a special call sign for the event - VK3KKR. We intend to be on air most evenings and will produce a special QSL card for the event.

We intend to have fitted as a minimum a UHF CB radio (this is a requirement for the rally) also a HF radio which will be used for HF APRS while we are travelling so that others can track our movements, as well as a VHF 2m (maybe dual band VHF/UHF) to use in towns where practical and for APRS also. These would require a suitable antenna and a tuner for the HF radio plus whips for the CB and VHF/UHF radios. Neither of us does Morse – sorry.

We have produced a website, called Rusty Racing, with the help of Steve VK3EGD, it can be viewed here http://rustyracing.com from here you can link to any of the above sites as well as our Rusty racing Facebook page. Donations can be made through this page as well. All donations of $2 or more are fully tax deductible and a receipt will be issued instantly.

The web page will be regularly updated and additions made, particularly as time gets closer to the date of travel. We hope to have a radio page with details of our setup and frequencies listed. A link to the APRS page with map so that you can track our progress. Day to day updates, where available, will be on our Facebook page.

We are excited; please help us by donating through our Rusty Racing page and spreading the word.

Michael

VK3GHM Team Echidna #73

Former Ham Prosecuted

On the 11 of January a 63 year old former Ham operator was found guilty of unlicensed operation of a radio communications device, unlawful possession of a radio communications device and causing interference to radio communications with a penalty of up to two years' imprisonment.

It was found that after cancellation of his licence that he continued to transmit causing interference to other radio communications services and after continuing complaints a search warrant was executed on the premises. He was found to be in possession of transmission equipment set to the frequencies that were being interfered with.

He was placed on a 12 month good behaviour bond and ordered to dispose of all equipment in his possession.

The Letter 'K' is not OCAY

By Ian Jacson í3BUF

I'm unhappy with the alphabet. I thinc the letter 'K' is redundant and it should go. We would all be much better off with only 25 letters in the alphabet. To begin with, yes I am aware of the irony of using the letter 'K' in an article about not using the letter 'K', but let's just ceep its usage to a minimum.

'K' is a stupid idea. Why the hell clog up words lyc Clock or Checkers when they could simply be Cloc and Checcurs. The biggest offender are of course the silent 'K' at the beginning of words lyc Knowledge and Knee. What a waste of space! If after you go camping you discover your napsac is nacered, you have conserved four letters right there. Just imagine the savings to be made if you ever need to nit some niccers for one of Cing Arthur's nites. Would you regard a pregnant lady as being noced up? In fact, while we are at it we could further simplify many of these words. Why not eat our meals with a nyf and forc? (Some may say we need to go further and reduce 'forc' to '4c', but I don't want people to thinc that I'm stupid)

Ocay, lets get some science into this. Lets tayc a standard bit of text and calculate the real savings to be had by eliminating the letter 'K'. Tayc the booc, The Lion, The Witch and the Wardrobe by C.S.Lewis. It has 212,917 letters in it. If you replace all occurrences of 'ck' and replace them with just 'c' you reduce the booc by 237 letters. Now eliminate the silent 'K's' by replacing 'kn' with plain 'n'. Out go a further 153 letters. That's a saving of 0.00183%. I admit that this does not sound lyc much, but extrapolate this figure across the world and consider the consequences. Approximately 2,200,000,000 trees are cut down each year to mayc paper for printing, so by eliminating the letter 'K' we save 4,026,000 trees annually. There's a contribution to global warming right there! This does not even include the global savings in printer inc and laser toner, or the energy savings to be had by smaller file sizes and faster internet downloads.

Sure, I admit that the transition to a 'K-Free' society will not be easy. First up would be a compensation pacage to the Kellogs company for their 'Special-K' brecfast cereal. Then there's 'K-Mart' and 'Circle-K' convenience stores (but compensation is not lycly to be given the Klu Klux Klan.) There is one other important tasc… all word processors globally would need their spellchecer profiles to be updated.

Perhaps you thinc that there would be special hardship for Radio Amateurs, particularly in Australia where the callsigns start with the letter prefix of 'VK'. I have a plan. The ASCII code for 'V' is decimal 86. The ASCII code for 'K' is decimal 75. Add them together and you get decimal 161, which is ASCII character lower-case 'I' with an accent or ' í ' so we just get to use this character wherever the letters VK appear in a callsign. No problem. In Morse Code the letter 'K' is -.- the letter 'C' is -.-. so they need to transmit an extra dot when 'C' is used as a substitute for 'K', but because of the net character reduction of the aforementioned 0.00183% is still in their favour, we still mayc a net contribution to the reduction of repetitive strain and carpal tunnel injuries of CW operators.

Now that we have the letter 'K' out of the way and we have improved the world by a proportional reduction in Global Warming, I can focus on other important issues, lyc why things that are invaluable and inflammable are actually useful and can catch fire, while things that are invisible and indestructible cannot be seen or destroyed...

A great day was had by all that attended the annual Australia Day BBQ. It was a great day with lovely weather and offered a chance for the attendees to kick back and relax.

General Meeting Minutes - January 20, 2012

Date :	20th January 2012
Start time :	2000 hours
Location :	Radio room, due to floor restoration in the Guide Hall .
Chairperson :	Dianne Jackson VK3JDI, President.
Minute Taker :	Graeme VK3BXG
Present :	As per attendance sheet
Apologies :	As per attendance sheet

Eulogy : Ian, VK3BUF spoke of the passing of Ron Robinson VK3EXJ and GGREC member, passed away on Monday 16th January after a long battle with cancer; his funeral to be held at the Glen Waverly Anglican Church Saturday 21st January 2012. Flowers were sent to Judy, his widow on behalf of the club.

Correspondence received :

- "Amateur Radio" mag.
- FAMPARC news.
- EMDRC news
- WANSARC e-mail link news
- WIA e-mail offering Emergency Comms Operator Training.
- WIA e-mail WIA Cost not affected by ACAMA licence cost increases.
- WIA e-mail requesting historical document copies.
- WIA e-mail ACAMA to permit higher power on a trial basis for Advanced calls.
- AR Vic. E-mail of a radiofest car boot sale at Kyneton 12th Feb.
- E-mail from Steve VK3EGD offering his duties for the hamfest.

Correspondence sent :

- Reply to Bunnings re registration for the sausage sizzle.
- Notification of temporary food premises (Class 4) to the Casey Shire with respect to the sausage sizzle

Treasurer's report :

As per submission for the general meeting of 15th November 2011
Moved: Ian, VK3BUF. Seconded: Mark VK3FWSP

Previous Minutes :

Read : as per January "Gateway" distributed.
Moved: Dianne, VK3JDI. Seconded: Russ, VK3MWR

Business arising from the previous minutes :

- ACMA has rescinded the licence variation fee for the VK3RDD repeater at Cockatoo reported by Ian VK3BUF as per an e-mail received yesterday 19th January 2012

- Christmas Party went well thanks to Pat VK3OZ.

- Magazine Editor – Mark Clohesy welcomed to the position.

- Working bee at Frankston water tower was a non event due to inclement weather and to be held over for notice by Albert VK3BQO, repeater officer.

- Six meter repeater – hold over for mention at the next general meeting.

- Sausage sizzle at Bunnings on 4th February all terms and conditions are in place for it to go ahead

New business :

- Australia Day Barbeque will be held at the club shack on 26th January 2012 in accordance with tradition.

- Hamfest date to be set at 21st July with the hall hire committee notified for the 21st July 2012. A coordinator is still needed but Steve VK3EGD has volunteered to take the bookings. The WIA and AR Vic. are to be notified of the date.

- Midyear dinner – the venue was decided to be at the Guide Hall with an Olympic theme. Saturday 23rd June was proposed by Dianne VK3JDI and all was unanimously agreed by the members.

- Carpet in the shack is now deemed as unserviceable and it is proposed to purchase four large mats to replace it. This proposal was put to the members and all were in unanimous agreement. Purchase of mats is within budget and members agreed that the old carpet could be removed by Brian VK3BSN for his own use.
  Members were reminded of their responsibility for keeping the shack clean.

- Emergency training for accreditation is being offered by the WIA on-line through the WIA web-site. This is a nationally accredited programme and details are on the WIA web-site and the cost is $30. I, VK3BXG reported

- Shack clean-up is to be put to the members to take items of personal equipment or a list will be made of equipment in the shack that is surplus to our needs and sold off. These items, surplus to our needs, will be listed in the club magazine and sold off after the AGM in April and / or the hamfest in July with any item remaining to be "binned". All members in agreement

- Log books to be maintained for GGREC contacts – essential, I, VK3BXG reported following the request for a QSL card yet no record in the log book of the contact.

- ILLW at Wilson's Promontory this year, I, VK3BXG reported that there are four in the club still wishing to do the Promontory again and we may have to seek interested operators from outside the club.
  Carry over for mention when the southern part of the Promontory is open again.

- Magazine item cut off date is now the 10th of the month Mark VK3FWSP reported.

Meeting closed : 20 :35 pm.

Next Meeting : Friday 17th February 2012

GGREC Event Queue from February 2012

February 12th – Saturday. The Centre Victoria RadioFest
To be held at Kyneton Racecourse.

February 17th – Friday Night. Gen Meeting at the Cranbourne Guide Hall
Clint Jefferies, VK3CSJ will present a talk about his experiences with Amateur Radio Astronomy

March 2nd – Friday Night. Prac Night at the Peter Pavey Clubrooms
From 7:30pm come along to socialise and have a chinwag or use the clubs transceivers for a QSO

March 16th – Friday Night. Gen Meeting at the Cranbourne Guide Hall
Helmut VK3 DHI will be giving a lecture and demonstration about the APRS system and how amateurs can put themselves on an electronic map as they travel around our country.

April 6th – Friday Night. Prac Night at the Peter Pavey Clubrooms
From 7:30pm come along to socialise and have a chinwag or use the clubs transceivers for a QSO

April 20th – Friday Night. Gen Meeting at the Cranbourne Guide Hall
Talk to be announced

July 21st – Saturday. The GGREC Hamfest at Cranbourne Guide Hall
Details to be announced

The Squeezy Meeting 20/1/2012

The guides had decided to re-varnish the guide hall floor, so it was unavailable – as a result we all squeezed into the club shack for the general meeting.

For Sale

14.2M 2-stage tiltover Nally radio tower with brake winches, medium duty rotator and 6m extension pole.

The tower is being sold by Ian VK3KSZ because of a property move. It has been taken down and parked at Ian VK3BUF's location in Drouin West. It may be inspected at this site As is usual for this type of tower removal, the support pole has been cut at ground level and would need to be sleeved and joined for re installation to take place. At present, expressions of interest should be forwarded to Ian VK3BUF on 5625 2545

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 from around 7:30 PM.

Visitors are always welcome to attend.

Office bearers

President:	Dianne Jackson	VK3JDI
Secretary:	Graeme Brown	VK3BXG
Treasurer:	Ian Jackson	VK3BUF
Gen. Comm Members:	Paul Stubbs	VK3TGX
	Russ White	VK3MWR
	Michael Van Den Acker	VK3GHM
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 and Repeaters

- The Club Station is **VK3BJA** which operates from the Cranbourne Clubrooms.
- 6m Repeater at Cockatoo is **VK3RDD** : Freq. In **52.575**, Out **53.575** MHz
  The 6m Repeater requires **CTCSS** tone access of **91.5 Hz**
- 70cm Repeater Cranbourne is **VK3RLP** Freq. In **434.475**, 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

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 134761279**.
- 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. and the Club cannot be held responsible for incorrect information published.

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