



# GATEWAY

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

**January 2018**



**Retro Computing – WiFi Modem  
Maintain Your Winch  
Repair Bench – TRS-80  
And More**

**President's report  
- page 3**

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Note: - club meeting minutes are now on the club website

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## Event Queue

### January:

- |                  |                                    |
|------------------|------------------------------------|
| 19 <sup>th</sup> | General Meeting                    |
| 20 <sup>th</sup> | Working Bee 9:30 with possible BBQ |
| 26 <sup>th</sup> | Australia Day BBQ                  |

### February:

- |                  |   |
|------------------|---|
| 2 <sup>nd</sup>  | Prac Night – Club rooms                       |
| 16 <sup>th</sup> | General Meeting                               |
| 18 <sup>th</sup> | WANDARC HamFest Italian Sports Club, Werribee |
| 25 <sup>th</sup> | VK2 Wyong Field Day                           |

## Pres Report January 2018 - Ian Jackson VK3BUF

So this is what 2018 looks like. Since our last mag not much seems to have happened, until I look at the details. We had a very successful Christmas breakup barbecue at Geoff's VK3HGG QTH in Pearcedale. Attendances were good and a lot of fun was had by all. David and Roz won the Christmas hamper, which was great. There ought to be some pics of this event around the magazine. Many thanks to Geoff and Rebecca for hosting the event.

### Star & Delta



In December Our cat of 17 years died of old age health issues. RIP Sparky. He was promptly replaced by two energetic kittens which we have named *Star* and *Delta*. They have spent much of the last fortnight living in the Christmas tree and creating a predictable amount of havoc. I have found that if you put them together and pat them simultaneously, you can get a real heterodyne action going from the purring.

I had lots of small jobs I had been putting off until I had a week to do them between Christmas and the New year. Sadly, when I wrote them all down in a list, it looked like about 3 months worth of small jobs. Some of them will still have to wait.

### VK3RDD Reinstallation

Last year we voted to set up our 6 metre repeater VK3RDD at the Club Shack, rather than let it languish off-air after we lost the Cockatoo site. First up was the need for a mast to support the J-pole antenna. The Club's tower has the 70cm repeater antenna on it and this left no room for 6M, so we will go for a pole on the side of the Shack verandah. The existing pole in that location supports one end of a long-wire, and was too wobbly for the job, so the Club has purchased an 8 metre length of 75 x 75mm square section as an instant mast.

The first challenge was to transport it from the Steel supplier at Longwarry to Cranbourne on the van. I just had to take it easy on the roundabouts. There will be a working bee at the Club Shack on Saturday the 20<sup>th</sup> of Jan, commencing 9:30am to install the mast and run some power cable to the 6m Repeater cabinet, so please help out if you can. We can probably arc up the barbie for lunch.



### Antennapalooza 2018



Antennapalooza has moved forwards with a couple of phone hookup meetings with the other Clubs having been completed. It will take place on April 7 and 8. You will hear more about it over the next few months, but information on the Antennapalooza website has been updated. Feel free to take a peek at it: <http://antennapalooza.org.au/> In preparation, we had a pair of 3 metre wide banners made. One for the roadside and one for the hired pavilion. It is a good start.

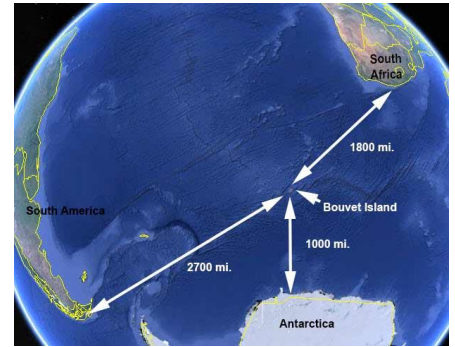
### VK3BUF to retire as Pres in April

We are still some time away from our AGM in April, but by way of keeping everyone informed, I intend to take a break from the role as President for a spell. This most recent stint was for two years, which has been great, but there is the constant juggle of Club admin and the time it takes to run a home business. I'll still be around and helping out in other ways, but it is a good opportunity for other members to step up and involve themselves with Club organisation.



## DXpedition to Bouvet Island

I saw a report that mid January there will be a DXpedition to Bouvet Island. This would be one to look out for as this island is a frozen rock designated as the most distant island from any settlement in the world. 1600km to Antarctica, 4300km to South America and nearly 300km to South Africa. They will be using the callsign 3Y0Z. Details may be found at: <https://www.bouvetdx.org/> It takes some serious preparation to embark on such an adventure. All landings take place via helicopter. I wish them luck and hope that they don't leave anything important at home. There's no going back for it!



Shortly before Christmas hundreds of Australian Amateurs received a link for an On-Line survey testing knowledge and experiences about coping with interference issues and other subjects. This was sent out to those who had registered a name and email address with RASA. (Radio Amateur Society of Australia) The RASA organisation is Australia's second representative Amateur Radio body that is focused on lobbying for improved outcomes between Amateurs and the ACMA, our Federal governing body. Keep an eye out on the RASA website of: <http://vkradioamateurs.org/> I believe some of the results of this survey will be made public towards the end of the month and that additional surveys will take place during the year.



## Power Project at Club Shack

There has been some coffee-table discussions about energy usage at the Club Shack and the possibility of having a solar charged 12V DC supply that automatically backs up by mains when the charge is low. Apart from going through the exercise of how a system could be configured, it could also help with our power bills at the site. We will raise it for discussion at Friday's General Meeting.



## Australia Day barbecue on January 26

As has been a tradition for some years now, we will have a barbecue at the Club Shack on Australia Day, Friday the 26<sup>th</sup>. This normally kicks off at around midday. As always, the Club barbie will be at hand and members only need to bring their own food and drinks. By then the 6M repeater radio mast should be up, so we will have something more to look at while we eat.

## Rebroadcast NewsWest on a GGREC repeater?

This is something we can discuss at a General Meeting. NewsWest is an Amateur Radio weekly news service that has been operating since the 1930's. They transmit news on a 2M repeater network from Perth WA. Some HF frequencies and some interstate repeaters. The news may also be streamed from the vk6.net web site. Increasingly the news service incorporates stories of national significance. There is an opportunity to re-broadcast this news locally onto one of our own repeaters if we wish. The broadcasts initially go out on a Sunday, but we need not be restricted to this day. We can talk about this and maybe even try it out for a few weeks to see if we like it. If you want to know more about their service, follow this link: <http://www.vk6.net/>





Since we recently had to look up some structural details of the Club Shack in preparation for the 6M repeater, it highlighted that there are many within the GGREC today who don't know how our building came into being.

It was a huge undertaking that involved the entire membership. It was made off-site and transported in two halves to Cranbourne, pretty much ready to use.

So the topic for the January General Meeting is to revisit the shack project, now 14 years old and show some of the images taken at that time.

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## From The Editor

Well here we go for another year; hopefully it will be a good one for us all (and for the GGREC).

I have a few idea's up my sleeve for some articles, although they tend to be computer (Arduino) related, rather than radio. As you can see, I've finally got my old TRS-80 model 1 computer on the internet, albeit in 'telnet' only mode. Getting a 1.77MHz Z80 doing web pages is asking a bit much especially as we are talking on a 64x16 text display. Yes it does graphics, but nothing like we know today. 128x48 *pixels*, black & white, is not what anyone would now call graphics.

The WiFi modem software has a function to 'get' a web page, however I've yet to get it to work. It probably just grabs the entire html text and passes it back as text. The problem could be that lots of web pages are now transmitted as https, rather than the older http, the 'S' stands for secure. The pages are now encrypted to hopefully stop hackers from intercepting your traffic and extracting useful information out of it, like you passwords, banking details etc. etc. The so called 'man in the middle' attack. This is all fine in theory, but a right pain in the butt for the hobbyist trying to get a simple project up and running – another layer to contend with. I'll have to look at the code and try to see what is going on. Or maybe they just never finished that part!

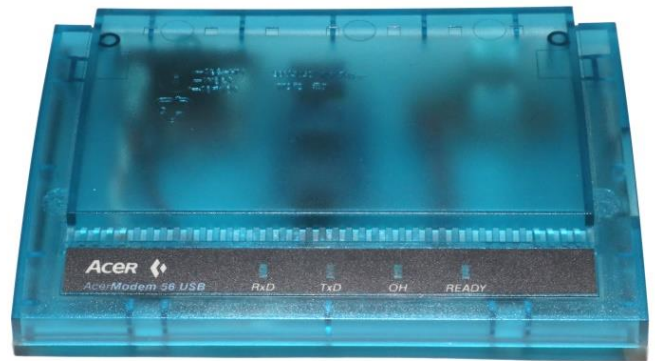
On the web front, I'm kind of expecting some up and coming pain, a lot of web browser writers are trying to push the whole industry to HTTPS, they plan to eventually stop supporting non secure websites – like our GGREC website. oops! or my photo sites – double oops!

To convert your site to HTTPS, you have to buy a digital security certificate from an approved vendor, they say, – Fine for big business, but for hobbyists, a pain we don't need. Hopefully they remember the 'creator' community, and don't push this HTTPS thing all the way.

Anyway, back to articles, I'm hoping to continue the retro computing theme for several more articles. (I'm after a Commodore computer, a C128, PET, C64 etc.) Years ago I built a 6800 computer from scratch, all wire wrapped, what a job, hopefully I can get it to run. I'm also hoping to put a few 'Repair Bench' articles in. So if you have any broken items, document your repairs and send them in so I can publish them and we can all enjoy your efforts.

I've also just scored an old Sharp brand solar inverter, as in grid connected, so that should prove interesting. Pity its minimum input is 60V, not 12V (Yea, a BIG ask!)

## Retro Computing – part 2



Back in September 2017 (wow, was it that long ago, boy does time fly), I ran the first part about getting old computers “on-line”, the original purpose for me was to connect my older computers to my home network, mainly to copy (backup) the files, so that should the old machines become unrepairable, (Highly likely, eventually) all would not be lost.

You may be wondering how I can use old ‘foreign’ software etc. in this modern age, on a modern computer? Well it turns out that it is quite easy, most old machines developed quite a following in their time, and software emulators have been written for most of them.

One of the best has to be “Vice”, the ‘Versatile Commodore Emulator’, what is so amazing about this one is not that it emulates most 8 bit Commodore’s ever made, but that it will run on almost anything. As well as Windows, Linux, OSX (Apple), Android, & MS-DOS, Have you heard of BeOS, QNX, OS/2, Solaris/SunOS, SCO UNIX, Darwin, NextStep/OpenStep/Rhapsody, Sortix, Amiga. And with Syllable, Atari Mint, Minix, GNU Hurd, SkyOS, also in their sights.

Have a look at <http://vice-emu.sourceforge.net/>, How on earth did they manage to track down all those old systems (and the development tools) to get their code to run on them?



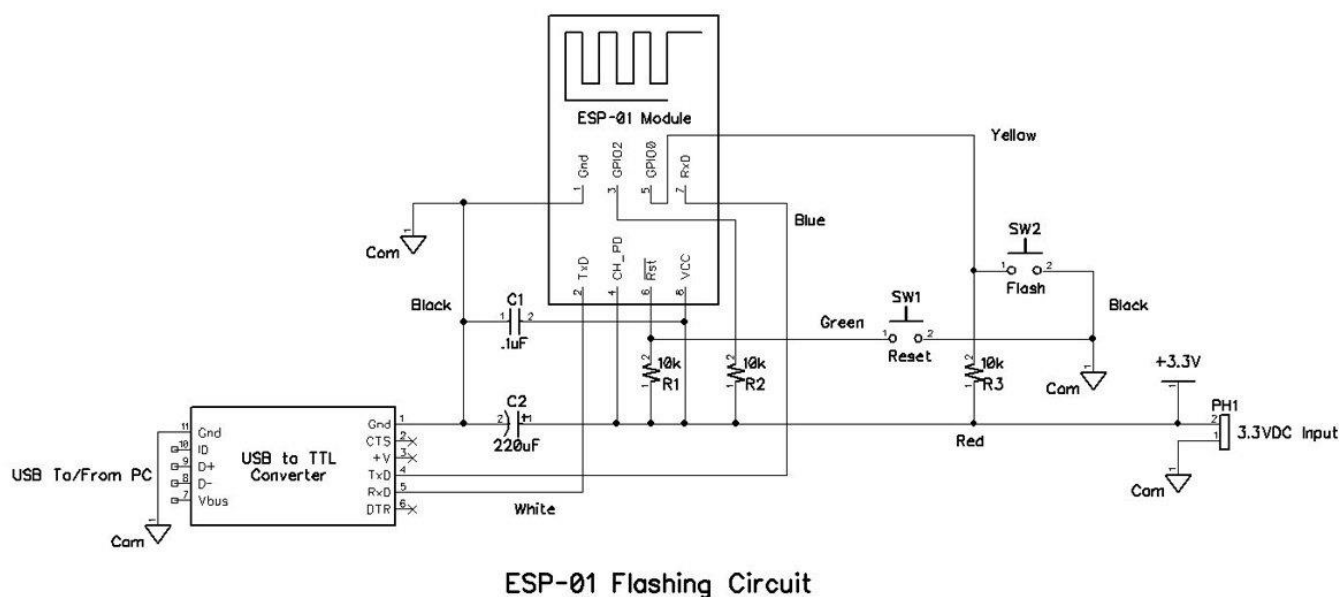
Anyway, back to my original project, of connecting older machines to the web, or more correctly to an Ethernet network. I had obtained the hardware, and put it all together, now to program the micro on the ESP-01.

It turns out that this module/micro has been integrated into the Arduino programming environment. All you need to do is download the libraries. Have a look at :-

<https://learn.sparkfun.com/tutorials/esp8266-thing-hookup-guide/installing-the-esp8266-arduino-addon>

To connect the module to your computer, either use one of the many USB/TTL converter modules out there (Remember, we need 3.3V NOT 5V), or in this case, the RS232 adapter I already have connected up, and a regular RS232 serial port on my PC.

There is just one more addition to make, when the ESP-01 powers up, it looks at its pins to see if it needs to enter programming mode. So two press buttons, "Reset" & "Flash" are needed.



See <https://www.allaboutcircuits.com/projects/flashing-the-ESP-01-firmware-to-SDK-v2.0.0-is-easier-now/>

I had already selected a 5V adapter for my ESP-01, as a bit of bad design, they had left all those 'spare' pins just floating, so I tacked 3 4k7 resistors (I was out of 10K) on the back of the adapter, and ran some wires over to two spare holes in the side of my old blue modem box where I hot melt glued in a piece of Vero-board fitted with two miniature press button switches scavenged from my junk box. (The above caps & 3.3V supply are on the adapter)

I was then lucky to find some ESP-01 sample code on Github for an Arduino WiFi modem / WiFi Sixty Four (Obviously originally intended for a Commodore 64 – very popular in its day)

[https://github.com/RolandJuno/esp8266\\_modem/blob/master/esp\\_modem/esp\\_modem.ino](https://github.com/RolandJuno/esp8266_modem/blob/master/esp_modem/esp_modem.ino)

or [https://github.com/RolandJuno/esp8266\\_modem](https://github.com/RolandJuno/esp8266_modem)

Another link I haven't tried is [https://github.com/jsalin/esp8266\\_modem](https://github.com/jsalin/esp8266_modem)

I loaded up the first one, parts of which are by Paul Rickards, the maker of the WiFi232 module mentioned in the September article. The WiFi232 has more commands/functions, however this one comes with the Arduino source code, so is infinitely more hackable.

After you have loaded up the Arduino IDE, connected the ESP-01, then hold the 'Flash' button and then tap the 'Reset' button, the ESP-01 should be ready, so click the Arduino 'Upload' button. You should be greeted by this in the Arduino IDE....

```
Sketch uses 263,699 bytes (60%) of program storage space. Maximum is 434,160 bytes.
Global variables use 39,200 bytes (47%) of dynamic memory, leaving 42,720 bytes for local variables. Maximum is 81,920 bytes.
Uploading 267840 bytes from C:\Users\Paul\AppData\Local\Temp\build67d658c858f0ffce61bcc8342f0d4b3.tmp/esp_modem.ino.bin to flash at 0x00000000
..... [ 30% ]
..... [ 61% ]
..... [ 91% ]
..... [ 100% ]
```

I was expecting it to give some form of success indication, but no, it just stops at 100%

This code has a default speed of 300bps, perfect for my TRS-80.

So connect up a 'terminal' set to 300bps, and hit 'Enter' (Carriage Return) key....



```
WIFI SIXFOUR BUILD 20160621182048 BY @PAULRICKARDS  
BASED ON GITHUB.COM/JSALIN/ESP8266_MODEM  
CONFIGURE SSID AND PASSWORD. TYPE AT? FOR HELP.  
  
OK
```

AT? giving

```
OK  
at?  
  
WIFI SIXFOUR BUILD 20160621182048 BY @PAULRICKARDS  
BASED ON GITHUB.COM/JSALIN/ESP8266_MODEM  
AT COMMAND SUMMARY:  
DIAL HOST.....: ATDHOST:PORT  
SPEED DIAL.....: ATDSN (N=0-9)  
SET SPEED DIAL: AT&ZN=HOST:PORT (N=0-9)  
HANDLE TELNET.: ATNETN (N=0,1)  
PET MCTERM TR.: ATPETN (N=0,1)  
NETWORK INFO..: ATI  
HTTP GET.....: ATGET<URL>  
AUTO ANSWER...: ATS0=N (N=0,1)  
SET BUSY MSG..: AT$BM=YOUR BUSY MESSAGE  
LOAD NVRAM....: ATZ  
SAVE TO NVRAM.: AT&W  
SHOW SETTINGS.: AT&V  
FACT. DEFAULTS: AT&F  
PIN POLARITY..: AT&PN (N=0/INV,1/NORM)  
ECHO OFF/ON...: ATE0 / ATE1  
VERBOSE OFF/ON: ATV0 / ATV1  
SET SSID.....: AT$SSID=WIFISSID  
SET PASSWORD..: AT$PASS=WIFIPASSWORD  
SET BAUD RATE.: AT$SB=N (3,12,24,48,96  
                  192,384,576,1152)*100  
FLOW CONTROL..: AT&KN (N=0/N,1/HW,2/SW)  
WIFI OFF/ON...: ATC0 / ATC1  
HANGUP.....: ATH  
ENTER CMD MODE: +++  
EXIT CMD MODE.: ATO  
QUERY MOST COMMANDS FOLLOWED BY '?'  
  
OK
```

At this point you will need the details of your WiFi router, it's SSID and password. Unfortunately this software does not have the ability to scan for available WiFi hotspots, so you will need to get it's ID from elsewhere. Then use the 'SET SSID' & 'SET PASSWORD' to enter them, when done use the 'AT&W' command to save your details into non-volatile memory.

When you power up your 'modem' (or hit reset) the firmware is waiting for you to hit 'Enter', after that it will attempt to connect to your home WiFi network

If you then type 'ATI' you should see its status, assigned ip address etc.

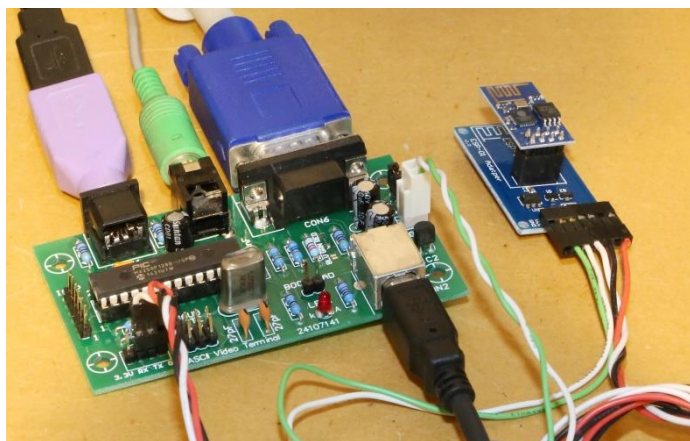
If you type 'AT&V' you should get two pages of config, first, what is in RAM, followed by what has been saved, including the 10 'speed dials' (not all filled), so try one, like 'ATDS0'



When I tried the first 3 entries worked, I have yet to try them all.

One catch is the bulletin boards are generally targeted to a specific computer, Commodore 64, and IBM PC being most popular. So if you are connecting with something else, make sure you say NO to the opening questions about graphics, and ANSI screen control.

If it does not work out ok, to disconnect, wait 5 seconds, Type three plus's (+++), wait another 5 seconds, and you should get the 'OK' prompt back from the modem – You are still connected to the remote site, so type 'ATH', to disconnect (hang up)



If you would like to tinker here, and not use a modern PC, for that old school terminal experience, then build yourself one of these Micromite ASCII video terminal boards mentioned in the September 2017 mag.

These do support ANSI screen control, that is a definite plus.

If you need a PIC processor (for the Micromite terminal), or an ESP-01 module programmed for you, then have a chat to me at the next club meeting – I'm sure something can be arranged.



Upgraded Version 1M Flash ESP8266  
ESP-01 WIFI Transceiver Wireless  
AU\$4.15

So are there any other uses for the ESP-01, Well YES. Yes they are centred around WiFi, however that does not mean that is their only use. (You can ignore/turn off the WiFi)

With the libraries loaded into the Arduino IDE, you are free to use them for anything that catches your eye, with a 32bit micro and an optional 160MHz clock speed it kind of leaves the old 16MHz UNO in the dust, and with 1M of flash that is an awful lot of code you can squeeze in.

The only real limit is with the IO pins, however a 74HC595 (or two) connected, you can easily add a bit more IO.

Here is an interesting little Arduino project (admitably still WiFi) but it does show what can be done, display wise, with just the ESP-01 and not much else (2x 74HC595's)



## Desktop Clock (WiFi Synchronised!)

<http://www.instructables.com/id/ESP8266-Desktop-Clock-WiFi-Synchronised/>



When I started this whole project, I selected this adapter, alongside the ESP-01, as it was a 3.3V only device, and the adapter was a quick fix, pity they didn't do the right thing with the other inputs, or even just extend them to some solder pads!,

If you just want to remotely switch something etc., then the rather limiting 4 I/O lines might be enough.



These relay modules go for \$3.75 on Banggood, however beware that even though the relay is rated for 240V, the track layout on the board offers insufficient isolation for mains work. If they'd only put the relay on the other way up ..... (These modules also don't allow for the programming)



For some more serious work, but at about the same price, you can use one of these ESP-12F modules, basically the same thing, just on a bigger board so that a lot more I/O pins are available for you to work with.

[Search for "esp8266"](#)



Now if you want to make life a lot more easy for yourself, try one of these – only \$4.67 (Banggood). They've put the ESP-12 module on a daughter board, with proto/Varo board friendly .1 inch header strips, and also on there is a voltage regulator (for 5V input), a micro USB port for direct connection to you PC for programming, and finally the two buttons 'Flash' & 'Reset' that I had to later add to my WiFi modem.

Not good enough?, then for a few dollars more, they also have a version complete with a 128x64 pixel OLED display mounted on the board. One of the problems with WiFi, it talking to the micro to setup your WiFi parameters, at the start, and every time you move to a different WiFi router. Sure, you can plug in your laptop etc., but what a pain, especially a year or two later when the finer details of the project have been forgotten. With an onboard display and a few buttons, you can do all that on the device itself, or it can simply give you an IP address so you can log in with any web browser. – They even have a version with a battery!

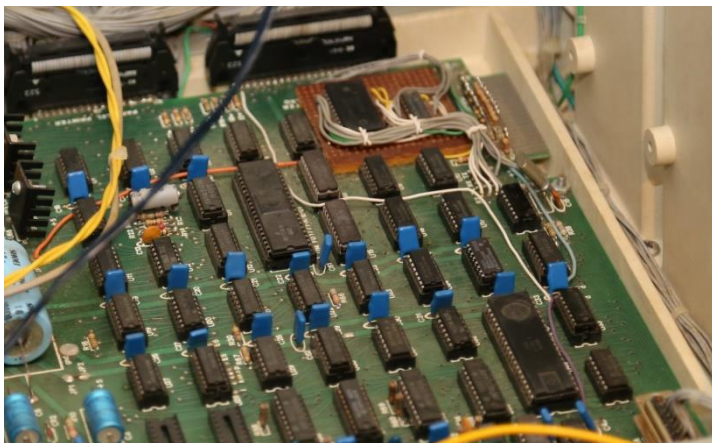




# Repair Bench – Fixing Old Computers

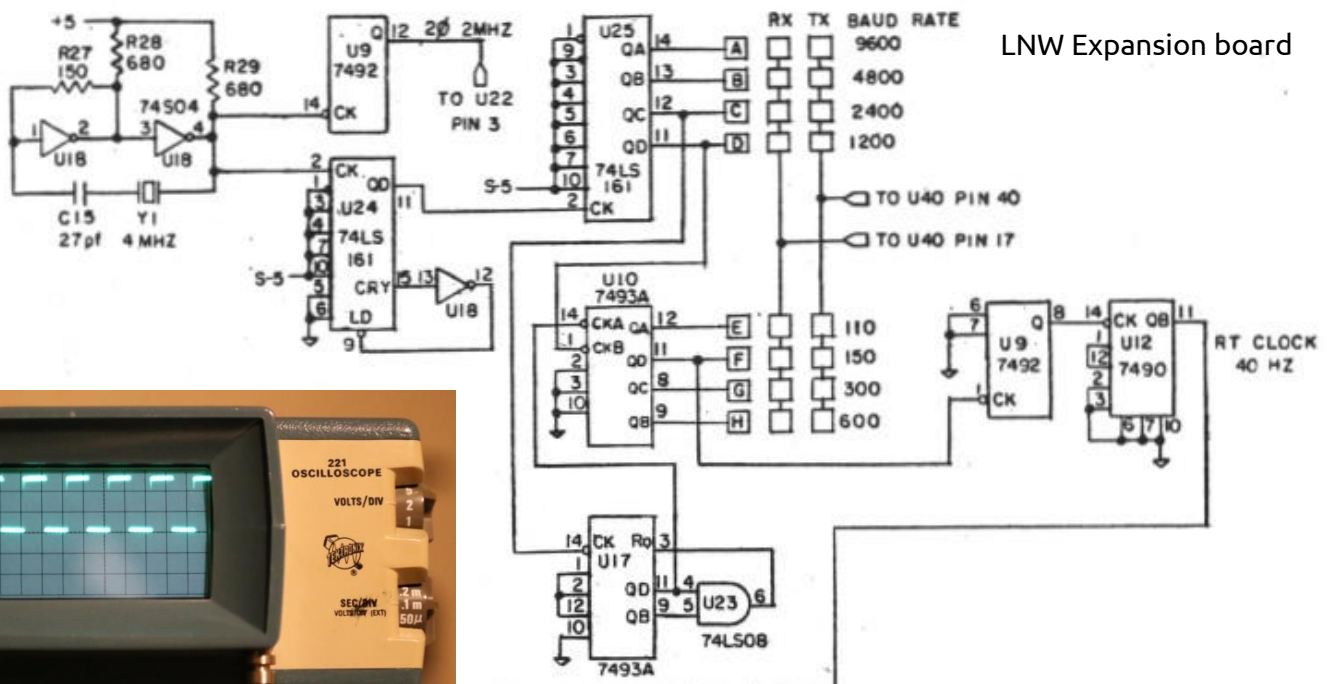


When working on my WiFi modem project, I just could not get the modem to talk to my old Tandy TRS-80 model 1 computer. I initially thought I had some form of handshaking problems; however an RS232 breakout box soon had that theory killed. When I started up the comms/terminal program (MAL) I could see the handshake lines 'RTS' & 'DTR', but no data. In fact when I typed any characters the computer appeared to lock up. So what gives? The serial port on my TRS-80 is on an LNW expansion board, alongside the floppy disk & Centronics printer interfaces. The fact that I could boot the computer from disk implied all the signals from the TRS-80 main board were getting through to the LNW expansion board, what's more, as the handshaking lines were toggling, that implied the Z80 processor could talk to the UART (Universal Asynchronous Receiver Transmitter), a Western Digital TR1602. Yes, the UART IC could still be faulty, but I was tempted to look elsewhere. So if all the data and address lines etc. are making it to the UART, what was left? Also required is a Tx & Rx clock signal, on most UARTS that is a square wave 16 times the desired Tx/Rx speed. For 300 baud – the default speed for my WiFi modem, that means I should see a 4.8KHz signal on both Tx & Rx clock pins of the UART, so out with my trusty Tektronix portable scope – guess what – no signal at all. So after much searching I found the relevant circuits, well almost.



The original design used wire links to select the serial port speed, unlike later TRS-80's, that had software selectable speeds. I had long ago added the extra bits and mounted them on a piece of Vero board, visible at the back of the expansion board in this photo – So hopefully the fault was not there.

Pity I never documented my mods!



The crystal oscillator was running fine, but there was no signal at the Baud Rate selection pads (that now feed up to my add-on daughter board). So how about the first divider, U24? It was also dead. As both U24 & U25 were the same type I swapped them over. Now U24 had an output, but it more resembled random data than a steady square wave clock. So it looked like both U24 & U25 were faulty. I looked through my random collection of 74LS digital IC, no luck. This computer is now 35 years old, so I was expecting quite a spot of trouble getting replacements, but I was wrong, Jaycar had them in stock! Being in sockets meant the actual fix was rather quick after visiting Jaycar. 5 minutes later I was talking to my WiFi modem.

```

ati
WIFI STATUS: CONNECTED
SSID.....: BigPond0449
MAC ADDRESS: 60:1:94:29:B8:29
IP ADDRESS.: 10.0.0.36
GATEWAY....: 10.0.0.138
SUBNET MASK: 255.255.255.0
SERVER PORT: 6400
WEB CONFIG.: HTTP://10.0.0.36
CALL STATUS: NOT CONNECTED

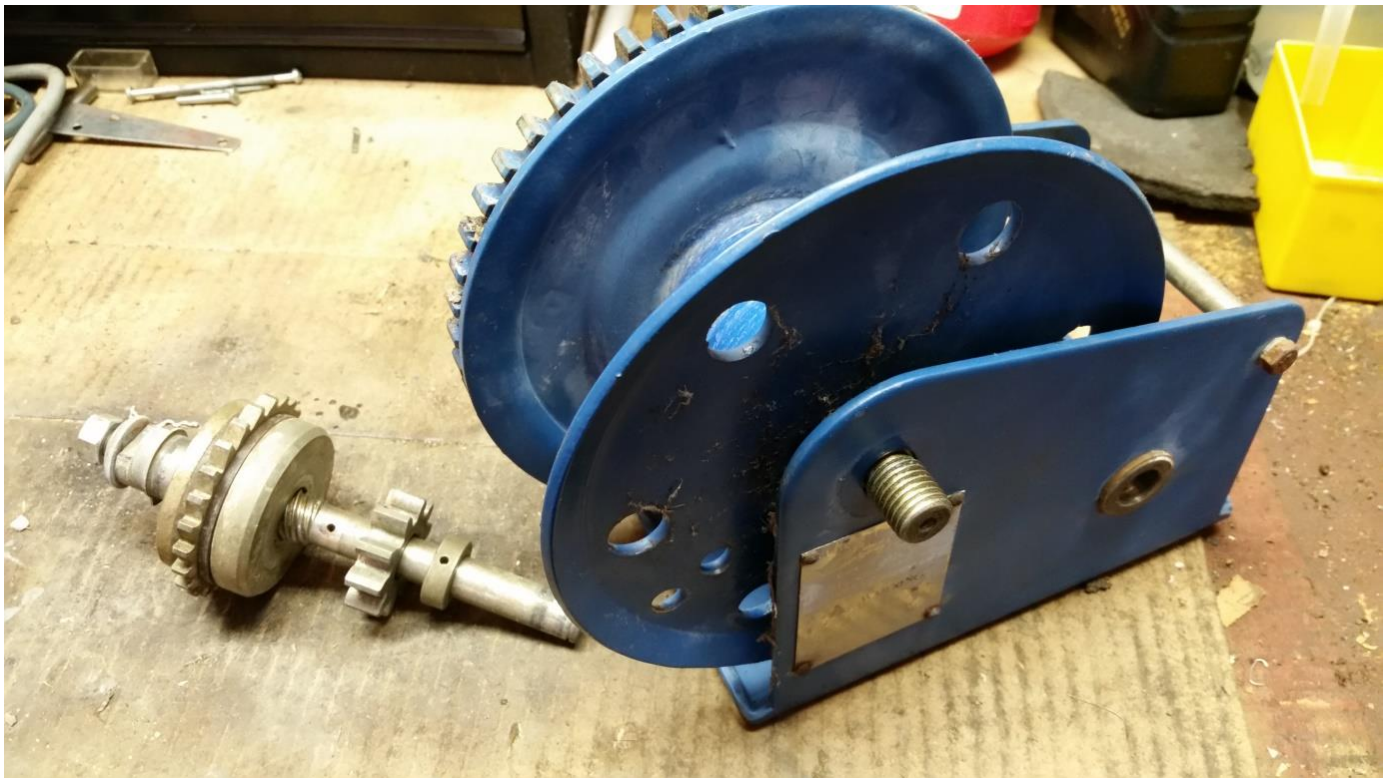
OK

```



## Maintain your Winch!

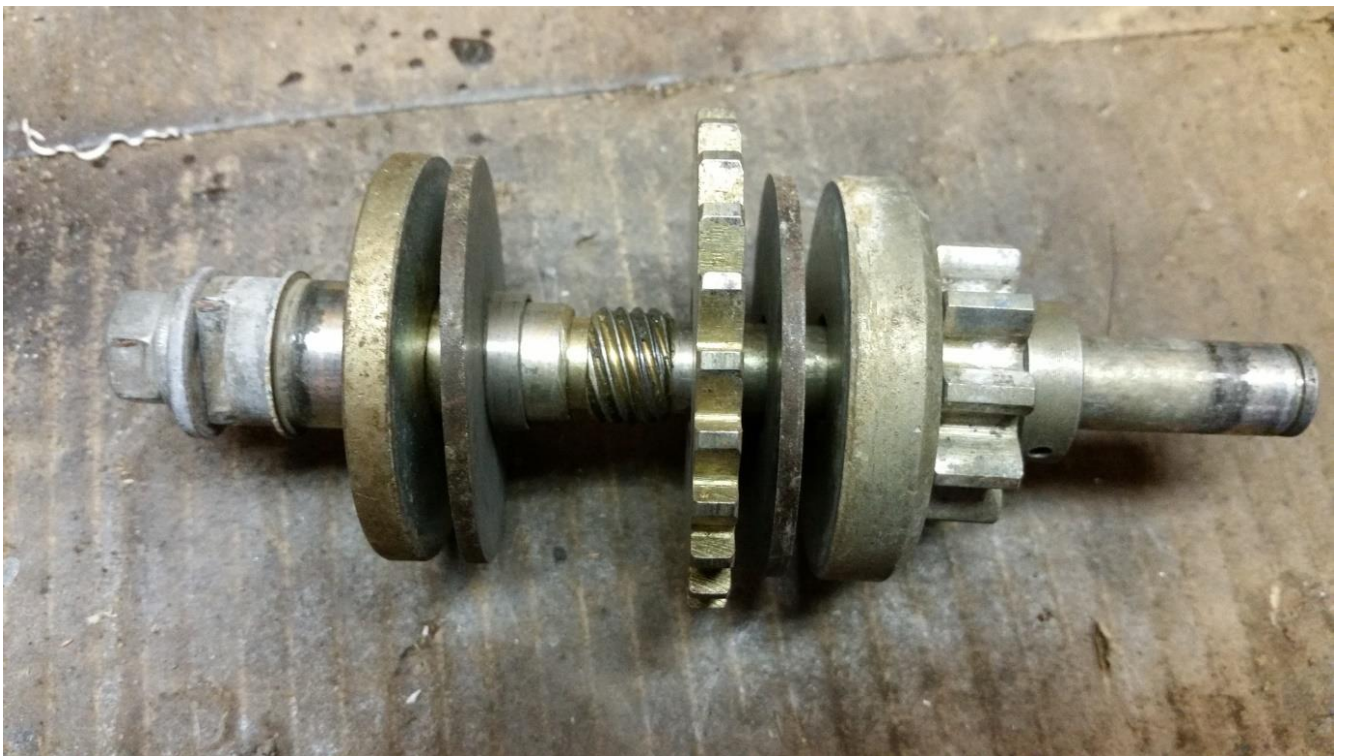
Some time ago I was going to replace the cable on the winch as the old one had been in use for a long time and was showing signs of wear. When I went to unwind the old cable off the drum, I noticed that the winch had jammed tight. To make things worse, as I was turning the handle, the smaller of the two sprockets, not able to turn the larger sprocket, sheered off the retaining pin on the locating collar and was nearly free-wheeling. Luckily, I was not tilting over the tower as the tower may have tilted over uncontrollably.



In the above photo, you can see the retaining collar where the dowel is located and the hole in the shaft that the dowel fits into, you can also see the thread that applies or reduces the clutch friction when you are turning the handle clockwise or anti-clockwise. The small gear and retaining collar have been moved so that you can see them clearly. In normal operation the small gear is screwed onto the thread and the hole in the collar is aligned over the hole in the shaft before fitting the retaining dowel pin. The main body of the winch shows the axle bolt which should be done up tight (nut removed for the photo), and the cable drum that should spin around the axle bolt. In my case, the drum was seized onto the bolt.



To compound the winch problems, bugs had nested in the ratchet box. The box contains two cams that you can hear clicking when you turn the winch handle and hold the cable drum in position when you let go of the handle. The bugs made such a mess that the cams were frozen in the disengaged position which could have also caused the tower to tilt over uncontrollably with terrible consequences.

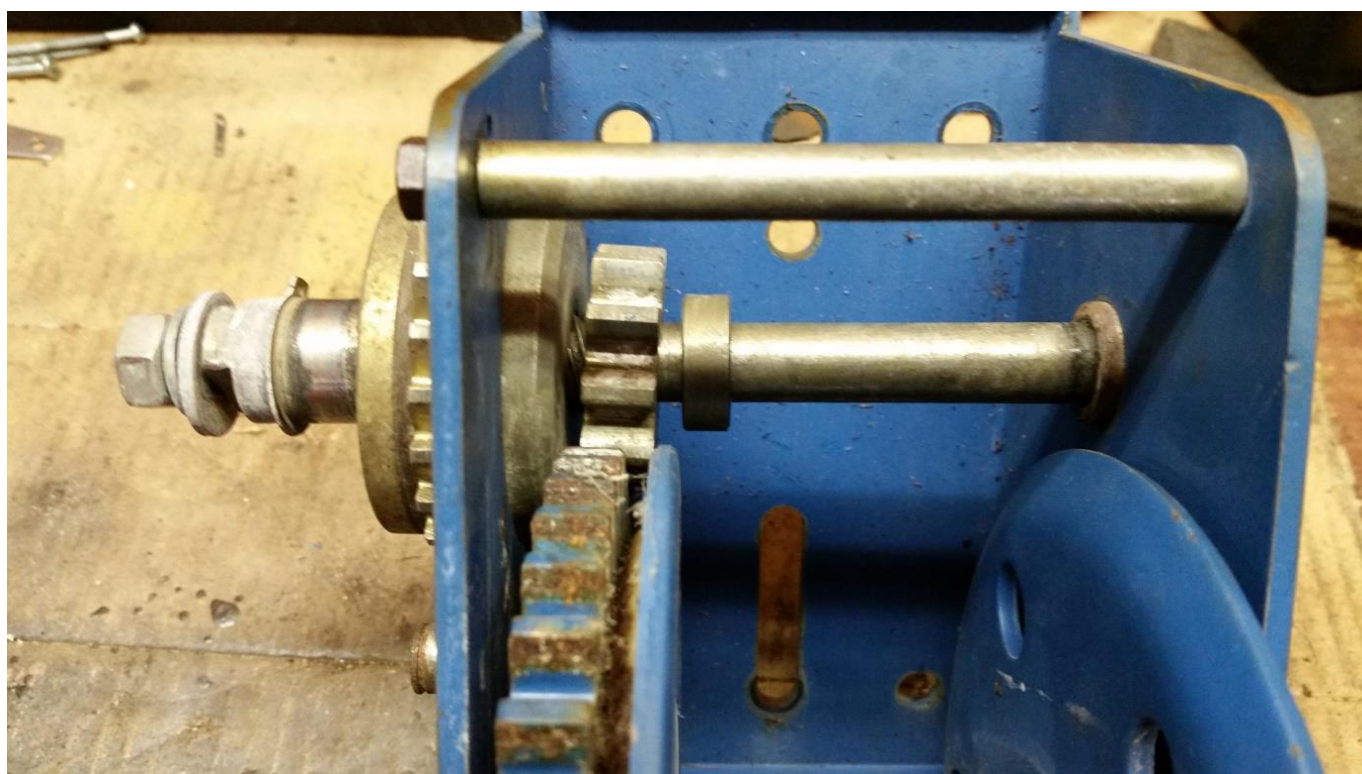


The cams act on the sprocket in the centre of the above photo stopping the winch from turning when you stop winding the handle. Either side of the centre sprocket are the friction disks. The small gear screws on to the threaded section and as previously mentioned, applies force to



the clutch assembly when the handle is turned clockwise or releases the clutch when the handle is turned anti-clockwise. The amount of travel that the small sprocket has is determined by the gap between the sprocket and the collar which is held in place by the dowel pin.

Here is a photo of the two cams. You can see how much corrosion the bugs caused.



The above photo shows how the small gear is being forced towards the collar but the collar has broken free from the shaft and the only thing stopping the small gear from completely disengaging is the rim of the cable drum.

So, what is the solution?

I will be regularly checking that the cable drum is rotating on the axel bolt and that the bugs are not nesting in the cam box. I have also replaced the dowel pin with a stainless steel one so that it doesn't rust. It would be a good idea to place a waterproof cover over your winch to keep the rain off and completely disassemble and lubricate the winch yearly or more frequently if you choose.

I know that other Club members are using the same winch as this one so please check it and make sure it is working properly to avoid a disaster.

Bruno Tonizzo VK3BFT



## ***The Radio Amateur Society of Australia***

### **Intruder Watch**

## **The IARU Monitoring System**

### **It won't work without you!**

Happy New Year! We kick off 2018 with an article on the IARU Monitoring System.

Interference from intruders is one of the main threats to our bands. Sitting behind QRM from electrical appliances, intruders are probably the biggest impediment to many people being able to enjoy the hobby on many amateur bands.

Have a read of this article and please get on board.

<http://vkradioamateurs.org/intruder-watch-service/>

Response to our survey on Regulations to date has been strong. If you haven't yet completed the survey, please do so and let us know your thoughts.

<http://vkradioamateurs.org/survey-have-your-say/>

73, Ian, Glenn, Andrew & Chris

RASA



# 2018 Antennapalooza



***In a first for Amateur Radio in Australia, four Victorian Radio Clubs are joining forces to host a major field event.***

**Antennapalooza, now in its fifth year, will return to Drouin West on April 7 & 8 (the first weekend after Easter)**

**The theme for 2018 will be about what it takes to get started in the hobby of Amateur Radio. Visit: <http://antennapalooza.org.au/>**

Set in a 6 acre field, 50km due East of Dandenong, visitors can bring their tent or caravan, or just stay for the day. Set up an antenna and have a play on-air, or just listen to a few short talks on different aspects of getting into Amateur Radio. Free Entry, just come along, relax and enjoy the day. Bookings are not essential, but please email a registration with your **name** and **callsign** so we can plan logistics. Let us know if you plan to camp or just stay for the day. Email us at: [bookings@antennapalooza.org.au](mailto:bookings@antennapalooza.org.au).

The website <http://antennapalooza.org.au/> will provide info on how to find the venue, what to expect when you get here and list the short lectures that will feature on the Saturday and Sunday.



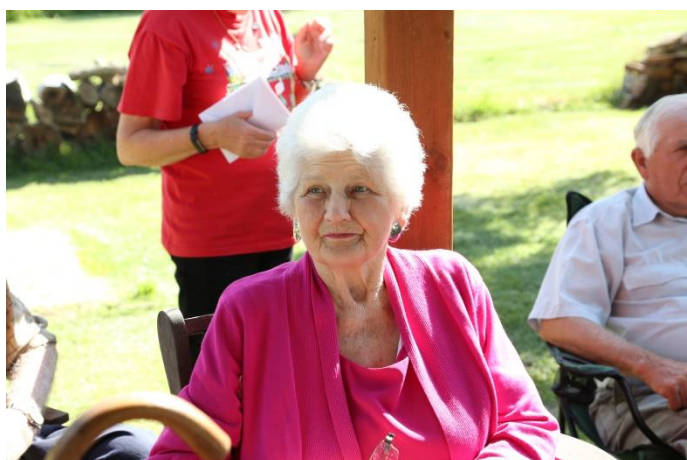
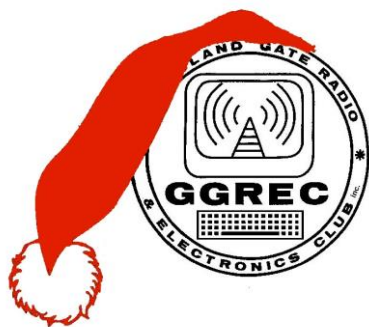
Free tea, coffee & barbecue facilities will be on hand. Toilet facilities are provided. In the evening a warming fire will be lit in the Treed Area. (if no fire danger alerts are pending) Experienced Amateurs can try their field equipment, meet old friends and throw some snags on the barbie. Visitors, who have heard a little about Amateur Radio, but want to know more, will benefit from this event. The brief lectures in the central pavilion will answer many questions that prospective operators will need to know.

**Antennapalooza 2018 is jointly sponsored by:**

- ♦ **The Gippsland Gate Radio & Electronics Club,** (GGREC)
- ♦ **Eastern Mountain District Radio Club** (EMDRC)
- ♦ **Frankston & Mornington Peninsula Amateur Radio Club** (FAMPARC)
- ♦ **Moorabbin District Radio Club** (MDRC)



## CHRISTMAS BREAKUP PARTY ON SATURDAY DECEMBER 9



More photo's at [http://ggrec.org.au/gallery/categories.php?cat\\_id=255](http://ggrec.org.au/gallery/categories.php?cat_id=255)



## LIPD Devices are still a pain in the Ass

The consultation period closes on January 19 for the ACMA to consider an expansion of LIPD (Low Interference Potential Device) from the existing narrow frequency range of 433.920 to anywhere from 430 to 440 MHz for specific medical devices. Given that this overlaps with our 70cm band allocation, we could be in for problems.

This technology is for swallowable transmitter capsules with tiny cameras. Presumably they are to be 'recovered', sterilised and re-used.

The paper on the ACMA site says:

*Item 34A is to support medical endoscopy capsule transmitters. These ultra-low-power wireless medical capsule endoscopy transmitters are used for performing medical observation of the human gastrointestinal tract by swallowing a capsule camera and receiving obtained images by an external dedicated recorder receiver.*

*Medical endoscopy capsule transmitters would operate in the 430–440 MHz band and with maximum EIRP up to 100 nW. This arrangement is proposed to be supplemented by a new Note 3, advising that transmitters complying with ETSI Standard EN 303 520 will meet the requirements for this item.*

Be on the lookout for some exciting new videos being uploaded to You Tube channels.



*Swallowable capsule has 4 cameras has a 70cm band transmitter*

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## 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	Ian Jackson	VK3BUF	Web Master	Mark Clohesy	VK3PKT
Admin Sec	Michael Van DenAcker	VK3GHM	Magazine Editor	Paul Stubbs	VK3TGX
Treasurer	Chris Chapman	VK3QB	Property Officer	Bruno Tonizzo	VK3BFT
General 1	Mark Clohesy	VK3PKT	Secretary	Ian Jackson	VK3BUF
General 2	Ron Lacey	VK3FRDL			

### Call in Frequencies, Beacons and Repeaters

The Club Station VK3BJA operates from the Cranbourne Clubrooms.  
6m Repeater VK3RDD – Currently de-commissioned until further notice - *sorry*  
70cm Repeater Cranbourne VK3RLP In 434.475MHz Out 439.475MHz CTCSS 91.5Hz  
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](mailto:editor@ggrec.org.au) or [vk3tgx@gmail.com](mailto:vk3tgx@gmail.com) Cut off, 10<sup>th</sup>  
All other Club correspondence to: [secretary@ggrec.org.au](mailto:secretary@ggrec.org.au)  
or via Snail Mail : GGREC, C/O Ian Jackson, 408 Old Sale Rd, Drouin West 3818  
GGREC Web Site & Archive may be viewed at: [www.ggrec.org.au](http://www.ggrec.org.au)  
Website errors, contact web master via email [webmaster@ggrec.org.au](mailto:webmaster@ggrec.org.au)  
Facebook Page [www.facebook.com/GippslandGate](http://www.facebook.com/GippslandGate)