



# GATEWAY

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

## ***October 2014 From The President***

The Jamboree of the air and the Internet will be held on the day after our General Meeting this month. I am planning to have a "Clean up the shack" day on the Friday of our meeting to make the area kid friendly. You would have received an invite via email last weekend.

We will need your help this JOTA as the Cranbourne Guides have invited guides from the whole region to Cranbourne to participate. Please consider giving up an hour of your time to help make this a positive experience for the guides. This will alleviate some of the work load on the few that regularly attend each year.

Melbourne Cup weekend is fast approaching. For those of you that will not be going camping may wish to join in for a picnic at the Royal Cranbourne Botanic Gardens. They are located on the corner of Ballarto Road and Botanic Drive (off South Gippsland Freeway), Cranbourne, 3977.



*Bruno Tonizzo*

Have a look at their website ..

<http://www.rbg.vic.gov.au/> The gardens are open from 9:00 AM to 5:00 PM every day except Christmas day. More info to come.

See you at the General Meeting,

*Bruno VK3BFT*

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## ***Event Queue from September 2014***

**October 17<sup>th</sup> – Friday Night. General Meeting at the Guide Hall**  
**From 2000hrs**

**October 18<sup>th</sup> – Saturday. JOTA At the Guide hall**  
**See Graeme VK3BXG for details or to help on the day**

**October 25<sup>th</sup> - 26<sup>th</sup> – Saturday/ Sunday. Antennapalooza**

**November 7<sup>rd</sup> – Friday Night. Prac Night at the Club Shack**  
**From 1930 Hrs**

**November 14<sup>th</sup> – Friday Night. Committee Meeting at the Club Shack**  
**From 1930hrs**

**November 21<sup>st</sup> – Friday Night. General Meeting at the Guide Hall**  
**From 2000hrs**

**December 13<sup>th</sup> – Saturday. Christmas party see page 11**  
**From 1100hrs**

# JAYCAR MP3086 30 VOLT PSU TEARDOWN AND TESTING

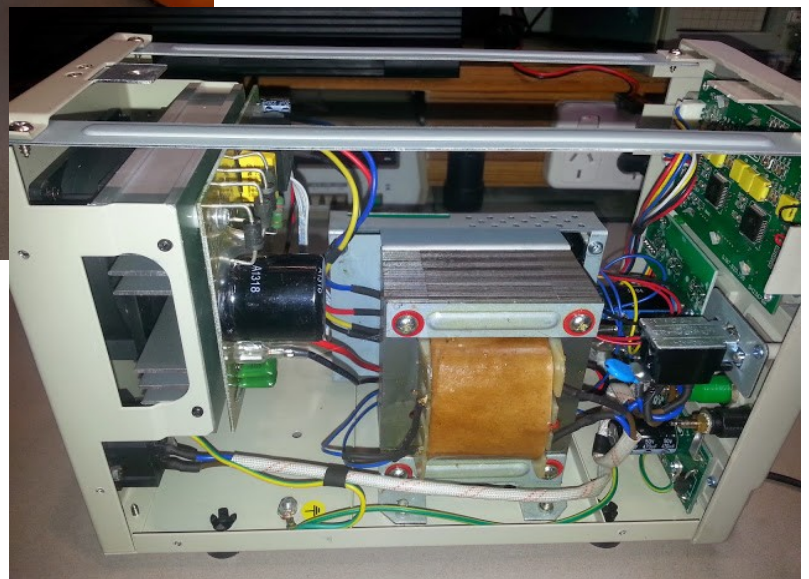
Okay so I bought a 30VDC Variable 3 amp PSU from Jaycar a few weeks ago. It is model MP3086 with CV and CC modes. I was expecting the one shown to the right with 3 pots, one for amps, and coarse and fine ones for volts.. Instead I got a new improved model, unless you like the coarse/fine pots!



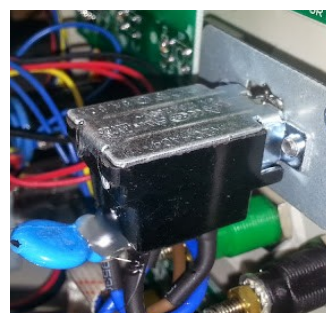
So of course with anything new you need to follow Dave from [EEVBlog's](#) advice.. Don't turn it on tear it apart so that's what I did..



Okay so first impressions Nice secure soldering on the mains connections, shake proof washers on the earth wire and extra sleeving on the mains feed, see that black rectangle on the right centre ? Here it is closer up...



It is a real clunking power switch on the mains, so no standby current usage, Yay a thumbs up..





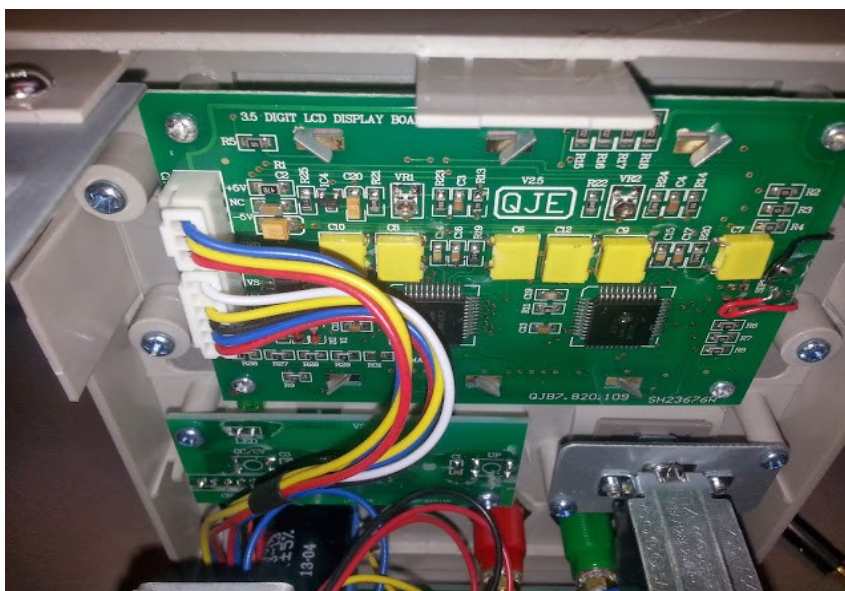


The front has a terminal block for permanent connections to say a bench multimeter. It also has a well connected crimped earth wire so it meets Australian regs unlike some cheaper imports



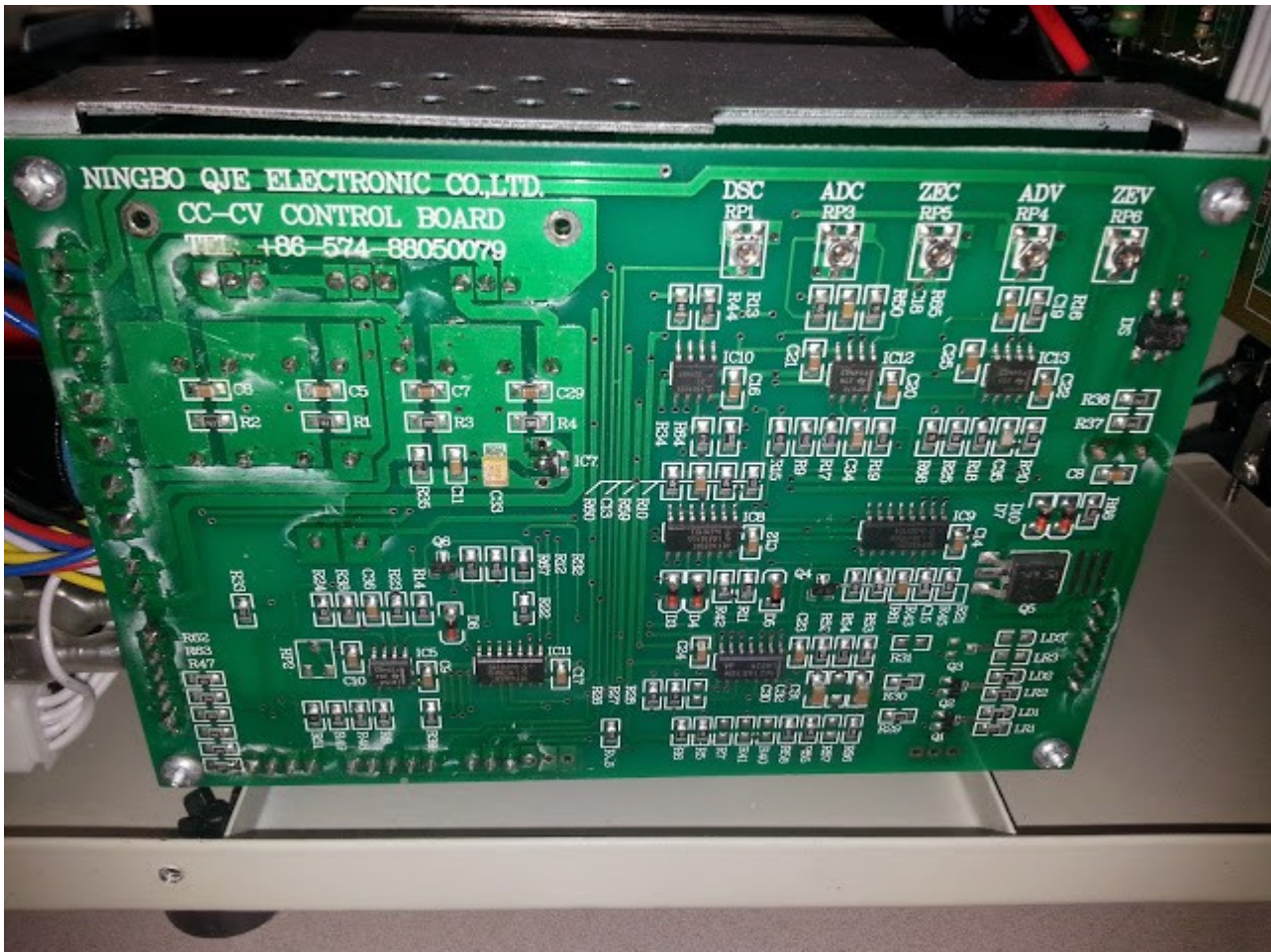
There are five main boards in the unit

- Rectifier board Power transistor board with Relays to switch taps from transformer to transistors
- LCD Display board
- Keyboard Board for buttons
- CV/CC Control board
- Connection board for front panel outputs with current shunt for amps readings



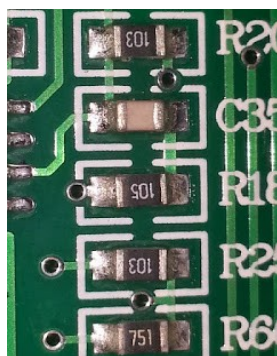
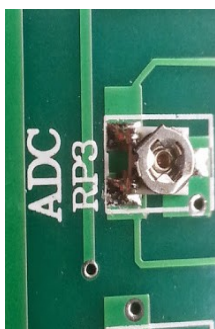
LCD Control Board all SMD, the bodge wires on the right run to the back light, keyboard board bottom left with ten turn pot for volts selection underneath





The Voltage and Current control board, there is nothing on the other side apart from a few through hole caps and a voltage regulator on a small heat-sink, notice the flux residue on the through hole hand soldered joints, not good how hard is it to clean a a board ? Here are some close ups of the cruft left behind after soldering. But hey the Ningbo QJE company gave us their phone number if you want to call and complain to them about it :p

Nice SMD soldering, re-flowed not hand done !



Thermal switch for the fan, wired in series with fan it is rated at 5 amps and 50 C cut in temperature but cuts in before that,

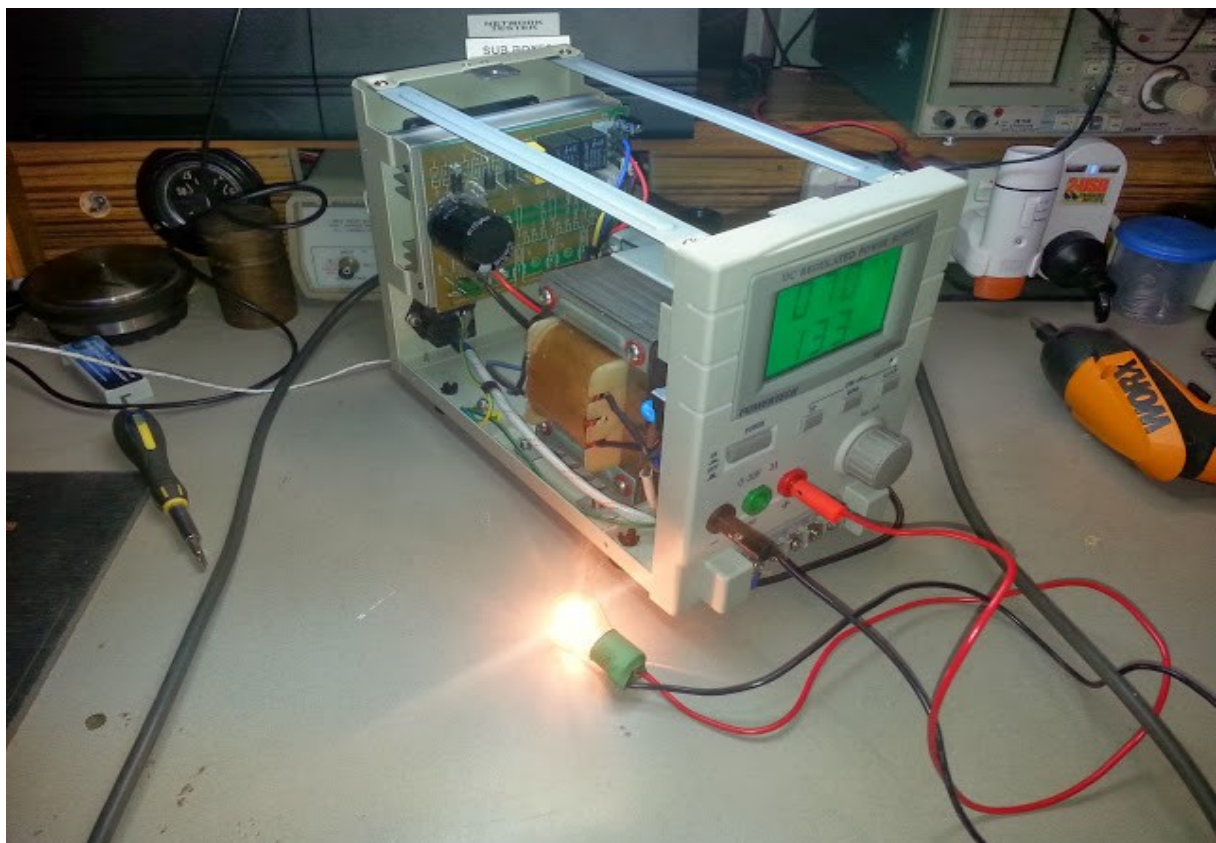
Okay now for some testing....

The test set-up consisted of the following.

- RS232 connected DMM logging temperature
- Galaxy Note 2 Smartphone for audio dB readings (Not real accurate but okay)
- Incandescent 12V globe as resistive load
- Digitech QC1932 25MHz DSO
- Supply set at 6.9 Volts, this just switched to the second tap (6.8V) so max heat from transistors

12 Volt Light globe pulling 1.33 amps at 6.9 volts, this tested at about half of the maximum amps and the second tap on the transformer had just switched in at 6.8 volts so I was dissipating the most heat for this amperage in to the heat-sink.

The test set-up, I connected the scope probe to the terminal block on the front directly, I just hadn't done it here yet

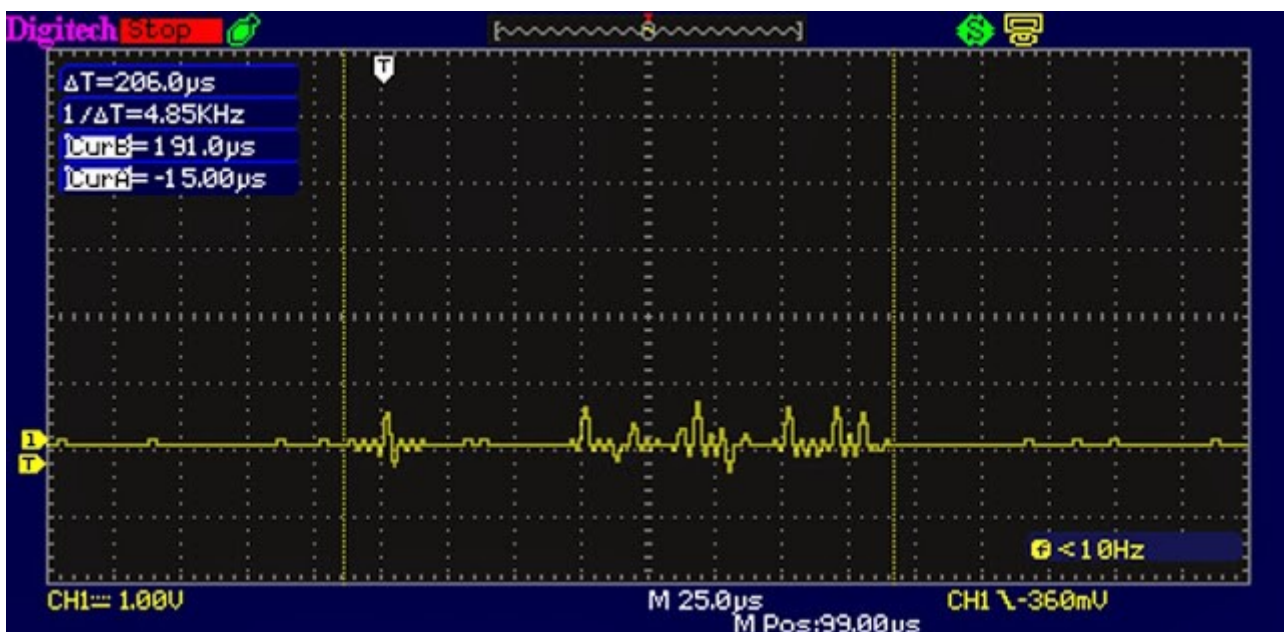




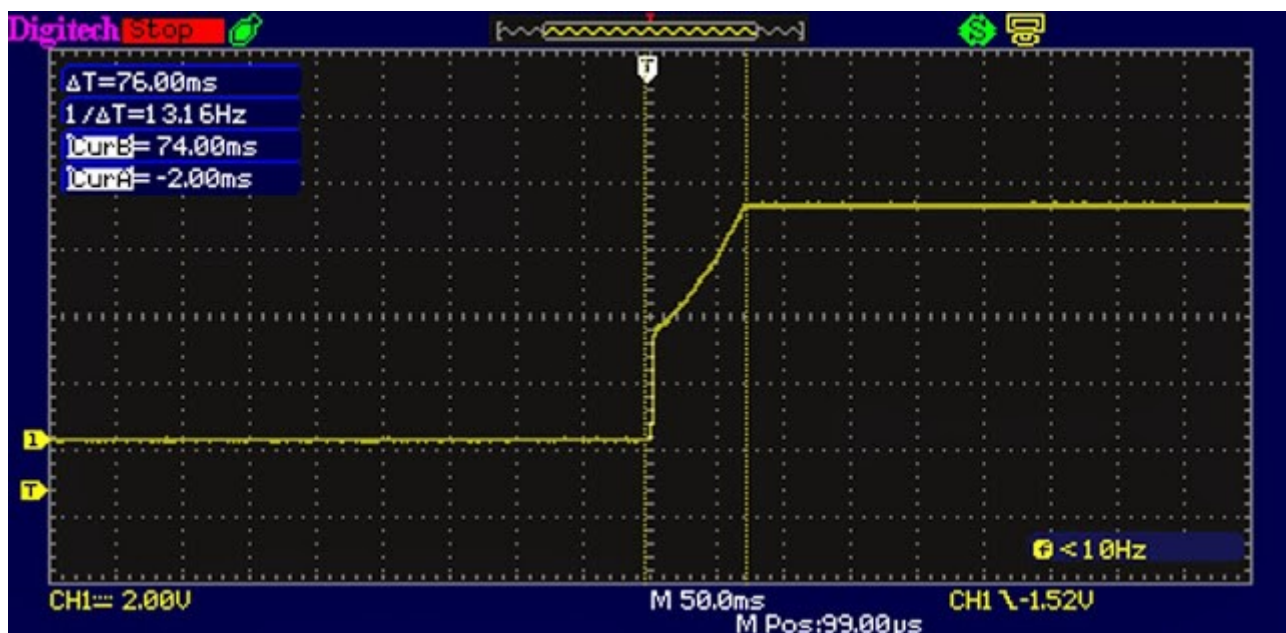
Below is the capture of power on unloaded, there is a small HF ripple at power on then ramp up to full voltage (5VDC) with no overshoot, there is a small amount of ringing when it reaches the set voltage, from power on to stable voltage is about 10 milliseconds.



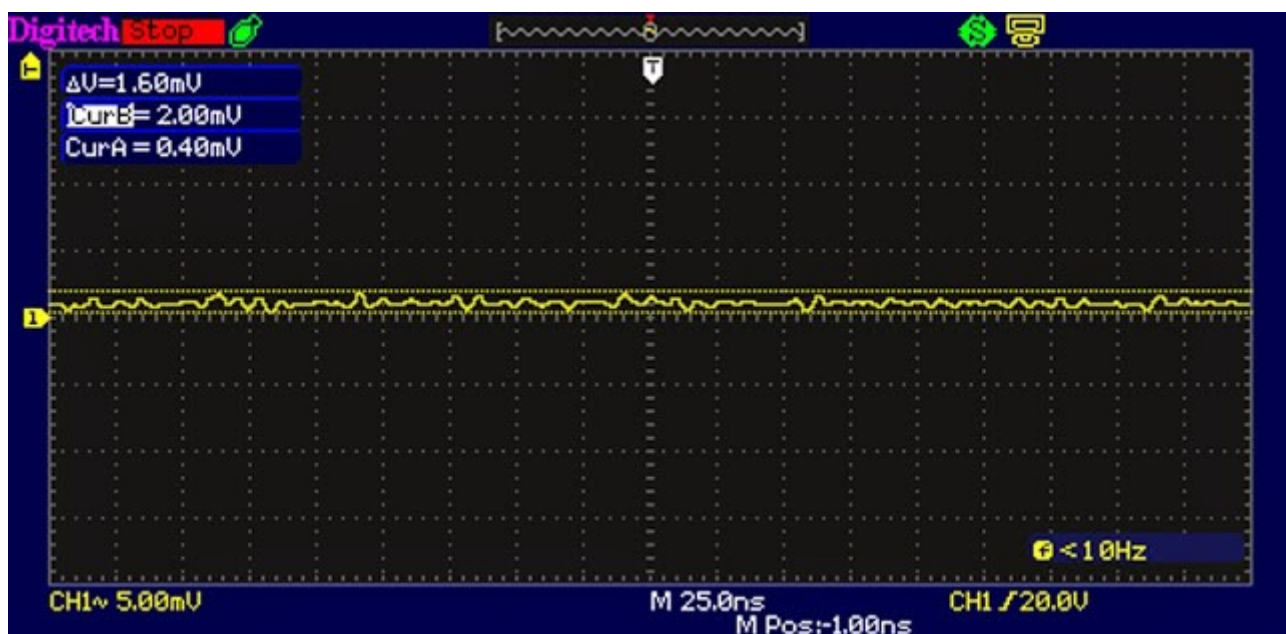
This is a close up of the spike at power up unloaded, about .5-.75 volts lasting 206 microseconds



Here is a capture of a loaded supply at 7VDC from turn on to full output is 76 milliseconds with no overshoot to speak of.

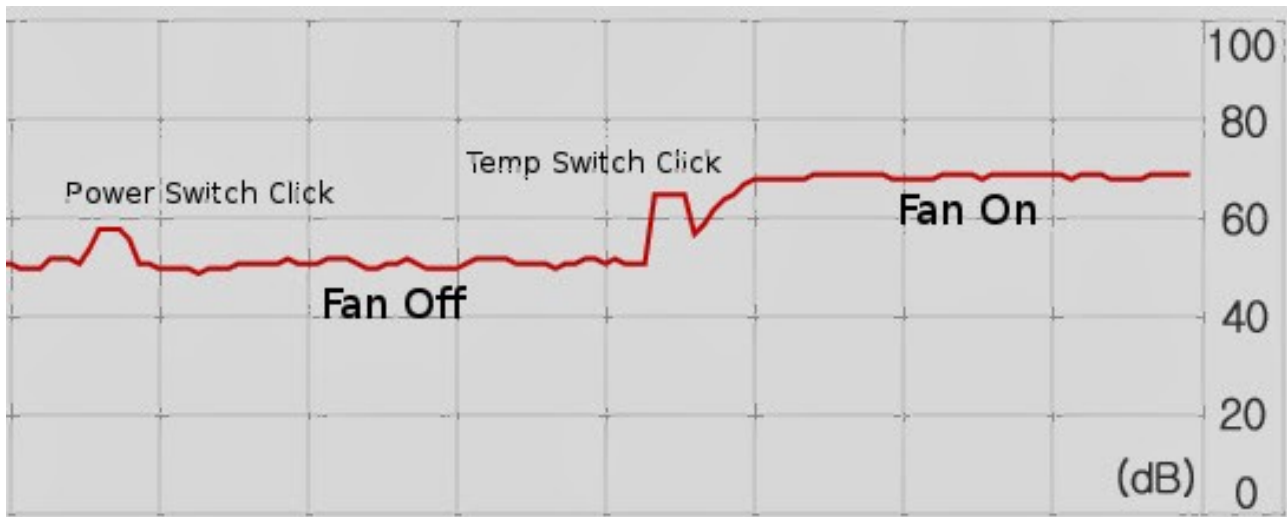


1.6mV ripple at 7 volts under loaded conditions





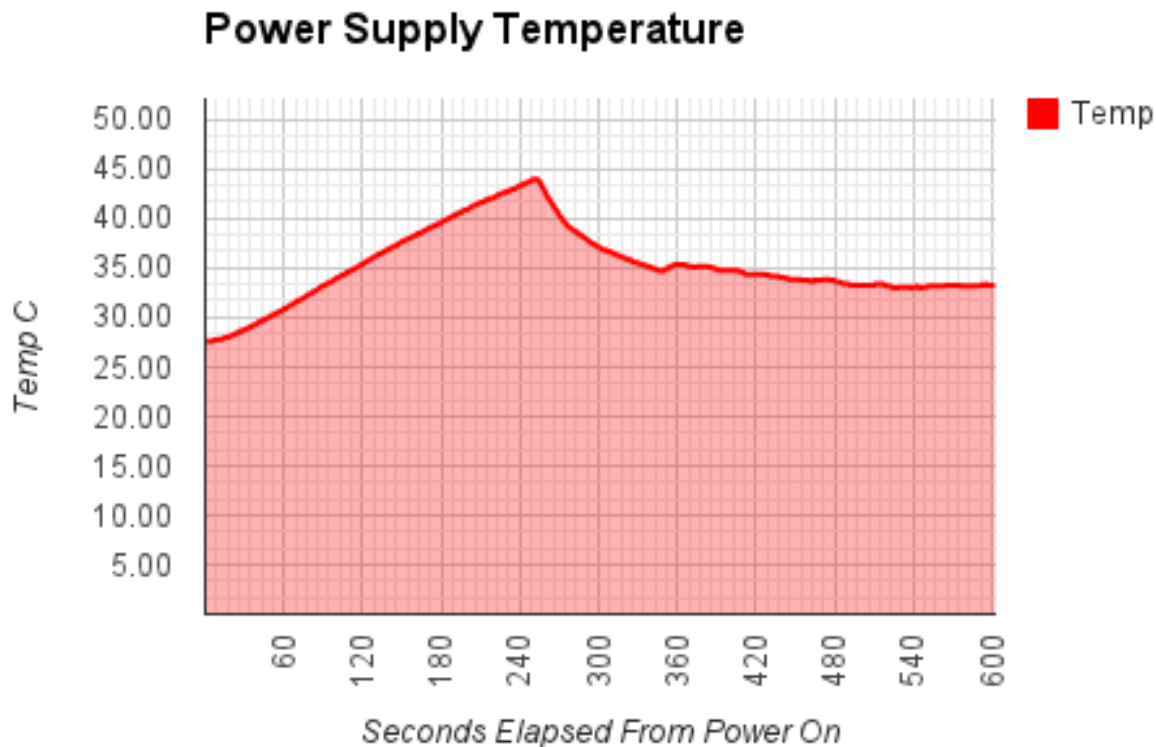
Here is the noise dB levels with phone acting as meter with smart tools app. The first bump is me pressing the power switch, the second is the mechanical temp switch clicking in, then you can see the fan ramp up to 69dB. the phone was sitting 10cm behind the PSU with the microphone sideways to the fan, the power switch click is quieter as it is at the front while the temp switch was closer to the rear. The ripples in the graph is just background noise in the shack.



If you look between the cursor marks on the timebase below you can see two little ripples lasting about a second, this was when the fan switched in but was brief and low in amplitude. It may have just been induced noise from the arcing in the mechanical temperature switch for the fan as its contacts closed.



Here is the temperature run at 7VDC 1.33 amps from cold (I did this test first after leaving it off overnight) Starts at about 26c the shack temp, ramps up to 43.9c in about 2 minutes then settles to around 34c and stays there. I ran it longer then this graph loaded and the temp was stable and didn't run away at all which it shouldn't pulling 9 watts from a 90 watt supply.



All in all for the price I am very happy with it, well built steel case, the front panel is plastic but has steel rails running from it to the back panel for support.

So what don't I like ? Well not much the only things are as follows.

- Earth Connection is in the centre, so I cant plug a standard spaced dual banana plug adaptor in to the - and + rails, I may re arrange the banana sockets and move the earth to one side.
- You need to short the rails to set the required amperage for CC mode, I am going to put a NO momentary switch on the front so i don't need a lead to do it
- Switching on CC mode is a bit hit and miss, I dont know if it is key bounce or a slow micro but you have to press the CC button a few times before it locks in to CC mode, it is a soft switch

Apart from that i really like it and it actually goes to 31.5 Volts

MP3086 Regulated lab Power Supply 30VDC at 3 AMPS

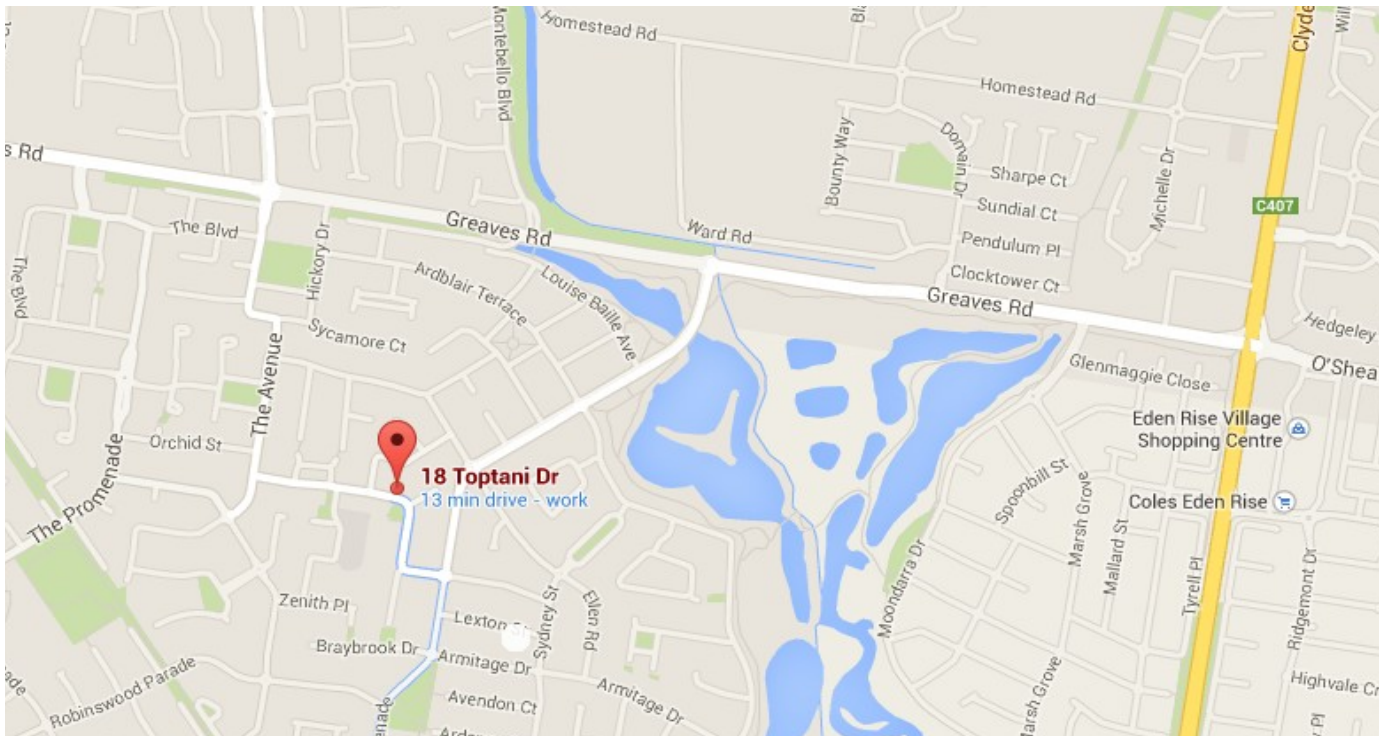
Jaycar Electronics <http://www.jaycar.com.au/productView.asp?ID=MP3086>

List price \$199 AUD



# Christmas Party

This year the club Christmas party will be on Saturday the 13<sup>th</sup> from 11am. Cathie and Davids home located at 18 Toptani Drive Narre Warren Sth



The hamper is now at general meetings so please could you bring non perishable food items or other suitable donations for the club hamper. As always you will need to bring along your own food, drink and chairs for the event. The club BBQ and trestle tables will be there on the day.

## Belly dancing

By Dianne Jackson VK3JDI

As some of you already know, I have been belly dancing with a group of other ladies, for a few years now. This year we will be having an end of year concert in Berwick, which I welcome you all to attend. Come and see me, belly dancing and dancing the Charleston, with a group over other mature aged dancers, known as the Timbarra belly dancers.

When: 22<sup>nd</sup> of November at 1:30pm, for approx 2 hours.

Where: Timbarra community hall in Berwick.

There will be raffles and a door prize.

Bring some nibblies or snacks and your own drinks.

The ticket price is \$8.00 per head.

Tickets can be purchased through me, at the next meeting or just show up on the day and pay at the door.



## General Meeting Minutes

**Date:** 19/09/2014  
**Start Time:** 8:05 PM  
**Location:** Cranbourne Guide Hall  
**Chairperson:** Bruno Tonizzo VK3BFT  
**Minute taker:** Dianne Jackson VK3JDI  
**Present:** See attendance Sheet.

**Visitors:** Richard Searles and Kosta Mozkejy.

**Apologies:** Albert Hubbard VK3BQO, Helmut VK3DHI and Dorothy, Reg VK3UK and Jenny, Bryan Simm VK3FOAB

The following correspondence in / out was not available for the GM.

- Correspondence received :**
1. Energy Australia electricity account
  2. Email from EMDRC re Nally tower for sale.
  3. Email from WIA re monthly summary of Board decisions taken.
  4. Query from member re. receipt of membership fees
  5. Notification from Learning Coordinator of successful Foundation class conducted.
  6. Apology from a member re inability to attend working bee.
  7. Antennapalooza 2014 Event Guide
  8. 2015 ANZAC Commemoration Plan from WIA.
  9. Breakout Magazine for August 2014
  10. NERG News September 2014.

- Correspondence sent :**
1. Nally tower for sale.
  2. Breakout Magazine for August 2014
  3. Membership fee enquiry from member forwarded to Treasurer.
  4. Working bee notification to members.
  5. Antennapalooza 2014 Event Guide forwarded to members.
  6. Notice of meeting to Committee members
  7. NERG News September 2014

**Treasurer's Report:** Available on request.

Tabled and moved by Graeme VK3BXG, Seconded by Mark VK3PKT and carried YES.



**Previous Minutes:** Read and moved by Bruno **VK3BFT** Seconded by Wayne **VK3XF**

**WIA:** Specialty Call sign for ANZAC 2015 encouraged to link in with local RSL.

**Classes:** David successfully completed the foundation course. Two other candidates were also successful. The next exam will be in October the week before JOTA.

**Repeaters – Beacons:** 70cm Repeater **VK3RWD** has some issues with a faulty sensor. 6m Repeater **VK3RDD** is working well.

The assembly of the new beacons is continuing.

**Prac Night** Construction of 5 Antennas has started possibly a few more next prac Night Evaluating the hands free kit and APRS tracking for the next project.

**Antennapalooza** Will be held in late October before the Melbourne Cup Weekend. Everything is on track. Printed Coffee mugs an option for this year.

Presentations will be happening on Saturday and Sunday from noon. More Guest Speakers are needed.

**Car Rally** Mike **VK3GHM** talked about his latest fund raising car rally. 8 days from Gundagai, across the alps to Merimbula to Sale, Ballarat to Mt Gambia to Cootamundra.

Despite a run in with a tree, the rally raised half a million dollars for charity.

**APRS** It was suggested that we list our repeaters on APRS. This will enable travelers to easily locate and access our repeaters.

## **New Business**

**Hot Water** Ian Jackson **VK3BUF** suggested that we replace the existing hot water storage unit in the shack with a hot water on demand unit.

This will save running up electricity bills every time the shack is accessed and powered up.

Cost is expected to be around \$195 + GST. Seconded by Naree and moved YES by member vote.

Ian also proposed that we install a small shed on the fence line at the southern side of the Club shack to store Club items.

**Working Bee** Bruno **VK3BFT** said that the off center fed dipole was repaired by fixing the balun and installing our own mounting pole

after a Tennis court pole was removed.

**JOTA / JOTI** Graeme Brown **VK3BXG** will be co-ordinating this year's event. Hours are between 1:00 and 5:00 PM.

Volunteers are needed to make the day a success. We hope to get contacts into New Zealand via IRLP link.

**Christmas Hamper** The Christmas hamper is in the Club room and ready for donations. Hopefully it will be full before the Christmas party in December.

**Melbourne Cup Weekend** It was suggested that those not going away camping can have a picnic day out at the Royal Cranbourne Botanic gardens.

**Hamfest Bond** Bruno to contact Val Motta and ask for the Hamfest bond to be returned.

**Antenna Hardware** Russell White **VK3MWR** brought along some antenna hardware if any members wanted to use bits and pieces.

**Guest Speaker:** Historical movie on how radio valves were manufactured.

**Meeting Closed:** 9:55 PM.

**Next Meeting:** October 17th.





## **Club Information**

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

### **Office bearers**

President	Bruno Tonizzo	VK3BFT	Repeater Officer	Albert Hubbard	VK3BQO
Admin Sec	Bryan Simm	VK3FOAB	Web Master	Stephen Harding	VK3EGD
Treasurer	Graeme Brown	VK3BXG	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](mailto:editor@ggrec.org.au) or [pockets@twistedsouls.com](mailto:pockets@twistedsouls.com)

All other Club correspondence to: [secretary@ggrec.org.au](mailto: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](http://www.ggrec.org.au)  
Facebook Page [www.facebook.com/GippslandGate](http://www.facebook.com/GippslandGate)

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