

# **GATEWAY**

THE OFFICIAL JOURNAL  
OF THE GIPPSLAND GATE RADIO AND  
ELECTRONICS CLUB

AUGUST 1998

## Gippsland Gate Radio and Electronics Club Inc.

Club Meetings are held on the third Friday of each month  
at the Cranbourne Girl Guide Hall in Grant Street.

The doors open at 8:15 PM & the meeting commences at 8:30 PM.

**Visitors are most welcome.**

### Committee Members 1997/1998

President	Peter Pavey	VK3VB
Secretary	Pat Pavey	VK3OZ
Treasurer	Mike Ide	VK3KTO
Committee member	Ivan Blezzard	VK3ARV
Committee member	Reg Goddard	VK3UK

Magazine Editors &	Robin Linn	VK3TFA
Printing and Dispatch	Ph. (03) 9807 3083	

Deadlines for articles is Thursday week prior to the Meeting.

Articles can be sent to [robin@fox.net.au](mailto:robin@fox.net.au).

### Club Station VK3BJA Located at the Guide Hall

Club Repeater VK3RDD Freq. in 52.575, out 53.575 Mhz

Call in Freqs. are HF on 28.325 Mhz, USB

VHF on 146.225 Mhz, FM and UHF on 438.850 Mhz, FM

Visit our internet site at:

<http://avoca.vicnet.net.au/~ggrec/>

### Current GGREC Inc Membership Fee Schedule

Full Member \$30.00, Pensioner Member \$15.00

Junior Member \$15.00, Extra Family Member \$10.00

Fees due after each April Annual General Meeting.

## THE PRESIDENTS REPORT

To begin this months report there is good news and bad news. The bad news is that contrary to all the children's story pundits it is not true that the goose lays golden eggs, no and for all those years we have been taken for the proverbial ride. Ho Hum another childhood dream shattered.

Which brings me to the good news, it has been discovered that it is the white elephant that actually lays the golden eggs, and fairly large eggs at that. So this is one story I am happy to be taken for a ride on .(sick). Seriously, Mike our treasurer has been heard on air with a much happier radio voice since the said white elephant took place. (Although a recalcitrant gum tree almost spoiled things) .

My sincere thanks to all who took part in the event, be it in the kitchen, on the door, security, selling, buying and those who stayed to clean up. An enjoyable day , well done.

Now for the rest of the news. Don't forget to come along and listen to and meet Peter & Marion Diprose at the Aug meeting. Find out what life is really like at the top end, it's quite to come those stories about pet crocs are not true, I hope. Please have a good look at the events queue and put some dates in your diaries now. There's to be a visit the National Rhododendron Park at Olinda, a short bike ride and a BBQ site those not so energetic can join the cyclists at lunch time.

There is Labour day at 1999 at Phillip Island to look forward to. Some are wanting ideas for camps for Melbourne Cup day & Australia weekend , do you have a favourite spot you would like others from the club to join you at ?? Ian VK3BUF is gearing up for radio classes in 1999, hope to commence February, details Ian 03-97765000. Next exam at Tooradin 5/9/98, forms and fees to us by 21/8/98 details 03-5998 3533.

Following the October meeting, just for a change we intend having a coffee & sweets night before we set up for JOTA.

That's it for this month but watch this space for more activities.

73 peter VK3VB

P.S.- Beware of disgruntled geese, keep a large broly handy if they fly over your place, remember no golden eggs just !!!!!!!!.





## GGREC HAMFEST 18/7/1998

A good day was had by all with all the tables sold early in the piece, I being lucky to obtain one, however a friend who had some test equipment to sell was too late so he opted to set up outside the front door.

A few years ago I remember the GGREC hamfest as being a bit of a dud, with only half the tables occupied and even fewer visitors. Last year's event was very good, however I don't think it was as good as this year's event.

I took down 30 remote PC interface box's that my brother 'found' at the front of a factory in Moorabbin. Apparently the previous owners had just dumped them there and ran away! The owners of the factory in question almost pleaded with my brother to take more! Anyway to cut a long story short, I sold the lot, 15 going to the last customer who was going to pull out their 68705P3 microprocessors for use by uni students. I arrive with a car full to the brim, and went home with only a boot load plus \$160 in the wallet for my efforts witch contrasted quite markedly with David's efforts, did he sell anything?

### A few rules/hints

- Don't take old equipment that is not used by anyone any more (ie IBM XT parts)
- Don't take too much specialised equipment, it may not move.
- Don't expect too much for things, those remote PC interfaces probably cost \$180 each to make I sold them on average for \$3!
- Bring plenty of change, If you forget, drop into a petrol station and buy a can of coke using a \$20 note.
- Bring a pen, a texter, and some sticky labels.
- Having power on your table can help, glowing displays etc catch peoples eyes.
- Don't forget the floor in front of your table, a couple of bargain box's are a good idea.
- Set up next to David, that way if you only sell a few items, you will be happy as you will have done better than David.

Any finally PLEASE don't crack the shits and walk, leaving your unsold junk behind

Someone left 2 IBM XT PC's "for the club"

Paul Stubbs VK3TGX

## **Philips FM 900 Series Service notes. compiled by Andy Beales VK4KCS**

**These notes have been accumulated from actual faults over the last few years, maintaining customers radio fleets.**

### **Symptom:**

Radio keys up when P.T.T. is operated but although the "Tx" light stays on, only a brief moment of power out is observed. The loudspeaker makes a faint "squeak" whilst this output power is present.

### **Check:**

Using an oscilloscope check to see if Pin 6 of I.C. 201 on the R.F. board shows signs of oscillations while the P.T.T. is operated. This I.C. takes care of switching the radio from Rx to Tx and some other housekeeping chores. If oscillations are observed then this is what is causing the problem.

### **Fix:**

1/. Fit a 0.001uF ceramic or polyester capacitor from Transistor Q 203 B to E. This is successful about 80% of the time.

2/. Fit a 0.1uf polyester capacitor from I.C. 201 Pin 6 to Pin 16 (ground). This is almost always successful.

Only one radio I ever encountered needed both these fixes added. I could never determine why this chip develops this problem. I have fitted a new chip in a faulty radio and seen the new device exhibit the same symptoms.

### **Symptom:**

No Tx.

### **Check:**

After eliminating all the usual causes for no power out, check that there is switched supply voltage at the Emitter of Q 209 on the R.F. board. Voltage should be present while P.T.T. is operated.

### **Fix:**

If this transistor is faulty then either leave it in place and short-circuit Collector to Emitter or if a replacement is available then change the device.

## **General Notes.**

Anytime that the lids are off an FM 900 then check the condition of C 432 and C439, 10uF 50v. electrolytics in the Voltage doubler circuit on the Logic board. This part of the circuit supplies about 17 volts to the P.L.L. circuit, this voltage eventually being used as the Steering voltage to control the frequency of the V.C.O. All manner of strange symptoms can be observed if this voltage is not stable and fed from a low impedance source. These capacitors operate at an elevated temperature in the radio and are prone to dry out long before any other components show signs of distress. I have measured caps removed from a faulty radio as having a capacity as low as 0.5uF. One of these capacitors is inside the metal shield and one just outside. Quite often the P.C.B. is coloured in the vicinity of these capacitors.

## **V.C.O. and Rx. Front end Modules.**

These two modules both suffer a common manufacturing problem in that when the module housing was being plated, they were not cleaned properly of the acid used to initially clean the base metal. This acid slowly reacts with the plating and over a period of time, Dendrites or very fine metallic whiskers can grow inside the module and eventually short out to the pins on the edge of the ceramic substrate that supports the components or to the components themselves. These whiskers can be seen with the naked eye if observed under a strong light source. The usual symptoms of the presence of these whiskers is the Receiver goes deaf, or the V.C.O. becomes

intermittent or stops altogether. A quick fix is described as "Percussive Maintenance", which consists of elevating the radio to a height of 18 inches above a hard surface covered in newspaper or other covering (we don't want to scratch the radio do we ?) and then letting Sir Isaac Newtons' invention do its thing.(drop it !). This brutal but effective method should only be done to somebody else's radio preferably when the owner is out of sight and hearing range.

The second method is to laboriously, and with a very big soldering iron, remove the offending module from the circuit board, prise the side cover off with a fine bladed screwdriver and then use a small paint brush to

thoroughly clean out the inside of the module. That's the easy part.

Position the side cover back on the module, tack solder it at a number of points around the edge, using a screwdriver to press the cover into place, then flow solder as neatly as possible to reinstate the shielding effect of the cover. It's impossible to not dramatically heat the module during this process but it doesn't seem to worry it, because the "Circuit Board" is ceramic. If you are working on the V.C.O. module check while the cover is off, that the ceramic substrate has not broken free from one or more of the mounting posts inside the module. This fault is typified by the radio being extremely microphonic on both Rx and Tx. If this is the case don't try to force the substrate back down, just apply lots of heat to the outside of the module adjacent to the post in question and allow solder to flow into and fill the gap.

Allow the module to cool and then refit to the radio, not forgetting to solder both ends of the V.C.O. module to the P.C.B. groundplane. Although this procedure seems fairly drastic, the module was faulty anyway and attempting this repair is definitely worthwhile, compared to parting with the hard-earned for a new module, if you can even source one now.

Other problems that can occur include the flexible printed circuits that join the circuit boards at the front of the radio becoming intermittent, especially in early model radios that used paper insulated flexible P.C.'s. If they are in a bad way they can be replaced with ordinary ribbon cable, just keep the lengths about the same and maybe apply hotmelt glue to the solder joints after it has been fitted in place, to provide some mechanical support. The volume and squelch controls have a printed carbon track and due to the cunning design of the adjustable part of the control, the cup that keeps the dust out of the control will wear away the carbon and cause it to go open circuit. GOOD ONE, Mr. P !! I have had no luck finding an "off the shelf" replacement that doesn't involve a bit of hacking and gouging to make it fit, but a reasonable job can be done with a "gas axe" and only 2 Kilo's of body filler !!

If water has made its unwanted way into the control head on either the local or remote control versions, the P.C.B. can be removed from the housing, successfully cleaned and repaired. I use a cut down artists paint brush about 6mm wide to clean around the components with either metholated spirits or preferably one of the low evaporation circuit board cleaners available from Woolletronics or other suppliers.

## TEN PIN BOWLING.

An informal visit to the ten pin bowling centre at Mooroolbark was much enjoyed by some club members on Saturday, August 1<sup>st</sup>. in fact we were so keen that having completed two games we quickly booked a third one -with a few changes to the team arrangements. We had four teams with the winners as follows:-

Lane 27	Bobby (game 1)	88
	Peter (game 2)	97
Lane 28	Hal (game1)	121
	Hal (game2)	104
	Hal (game3)	108
Lane 26	Reg (game1)	181
	Reg (game2)	161
Lane25	Helmut (game1)	112
	Steve (game2)	113

Sorry no results available for game 3, but Reg won in our team!.

Many thanks to Reg for organising a great afternoon. Next time this event is scheduled in the official programme make sure YOU don't miss out. No need to worry wether or not you can bowl - you will still have fun.

On the way home we enjoyed a meal together at Smorgy's Ringwood, very good food at reasonable prices.

Pat VK3OZ

### HF DX NOTES

There are plenty of interesting stations listed in the Mags at the moment. Here are just a few.

Guadeloupe FG/DJ6SI on all bands including WARC, CW.

Austral Islands FO0SUC Oct 7-17<sup>th</sup>, on 14, 21, 28Mhz.

Central African Republic TL5A 160-6Mtrs, CW, SSB, & RTTY.

Tristan Da Cunha ZD9IL 20-10 Mtrs incl WARC SSB.

Falkland Islands VP8CZJ No operational details .

Ethiopia EP3AA 18-27<sup>th</sup> Sept.

There is plenty of information on QSL routes etc in both the AR and R7C magazines.

# EVENT QUEUE from AUGUST 1998

- FRIDAY 18/9/98 8:30 Meeting plus old film night  
with Mike Ide
- FRIDAY 21/8/98 8:30 Meeting & talk by Peter & Marion Diprose.  
Our stay in Nhulunby/Gove N.T.
- SATURDAY 29/8/98 1.00pm Roller Skating - details Ian VK3BUF.
- FRIDAY 4/9/98 8:30 Prac night.
- SATURDAY 12/9/98 10:00am Exams Tooradin - details VK3s OZ/VB
- SATURDAY OR SUNDAY 19/20th Sept, Visit to National Rhododendron  
gardens Olinda Mel 66 K4.
- FRIDAY 2/10/98 8:30pm Prac night.
- FRIDAY 16/10/98 8:30 Meeting Coffee & sweets to follow.  
Prep for JOTA.
- SATURDAY 17/10/98 1200-2130 EST JOTA Operators needed.  
Names to Bruno VK3BFT at AUG Meeting.
- SATURDAY 31/10/98 Cycle ride meet at Bangholme BBQ- etc  
Details to follow. A chance to dust off those  
old bone shakers and have some fun & air.  
Still unsure? call a Club member on  
146.225Mhz.

## LABOUR DAY WEEKEND @ PHILLIP ISLAND 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup> OF MARCH 1999

### Venue:

Cowes Caravan Park, right on the beach.

### Costs:

#### Camping:

Powered sites.....\$21 per 2 per night.

Unpowered sites.....\$19 per 2 per night.

#### Cabins:

Sleep 5 .....\$70 per night

Sleep 7 .....\$80 per night.

Day visitors {8 hrs}.....\$2

Car parking (visitors).....\$1

### Deposits:

One day cost of chosen type of stay.

There will be deposit/booking forms at August meeting.

Book early to avoid disappointment.