



GATEWAY

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

Incorporation Number A0016893M

November 2011 - From the President ...

Dianne Jackson VK3JDI



The end of the year seems to be coming at with quite a rush. This November meeting, will be our last meeting for the year, as we don't have a general meeting in December. However we still have a lot of interesting and fun things to do before Christmas.

We will be accepting donations for the Christmas hamper on Friday night at the meeting. The hamper will be drawn as usual at the Christmas break up party. This year the Christmas party will be held on Saturday the 10th of December, and will be located in Tooradin, in Pat's (VK3OZ) back yard.

At this months meeting, we will be having our YAESU 101 night. A range of Yaesu radios will be on display, with as many accessories as we can scrounge up. If you have any interesting radios at home, bring them along and we will all have a good look.

On The 5th of November, a few Club Members attended a dinner at the Cardinia Park Hotel. The meals were good, the company was excellent and the sticky date pudding was delicious. We might see if we can do another pub meal, early next year.

A few brave members of the Radio Club went to Yarra Junction for the Melbourne Cup weekend. We sampled some fantastic chocolate fudge cake as well as cheese cake and coffee. The walk out to the La La Falls was up hill all the way, but the best part about an up hill walk is that the going down is always easier. We had a dinner at the local RSL, which I can highly recommend. Although the weather wasn't always what we wanted, it only rained on one day and we all had a good time. *Looking forward to seeing you all at the November meeting.*



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GGREC Event Queue from November 2011

November 18 – Friday Night. Gen Meeting at the Cranbourne Guide Hall
This will celebrate 40 years of the Yaesu 101 HF radio. See a range of early Yaesu equipment. Bring along your own early Yaesu radio.

December 3 – Friday Night. Prac night at the Club Shack
Theme yet to be announced...

December 10 – Saturday Afternoon. Christmas Break-up BBQ
Location is at Pat VK3OZ home in Tooradin from Midday onwards...

– There is no General Meeting or Club Magazine in December –

January 6 – Friday Night. Prac night at the Club Shack
Theme yet to be announced...

January 20 – Friday Night. Gen Meeting at the Cranbourne Guide Hall
This is likely to be a DX night, with a talk on how to set up a DX station, use Logging software and will feature a short video clip on the Vanuatu DXpedition from last October.

February 4 – Saturday Afternoon. Fund Raising Sausage Sizzle
If we have sufficient helpers, this will take place at the Bunnings store in Cranbourne



GGREC XMAS BREAKUP PARTY SATURDAY DECEMBER 10 at PAT VK3OZ's QTH

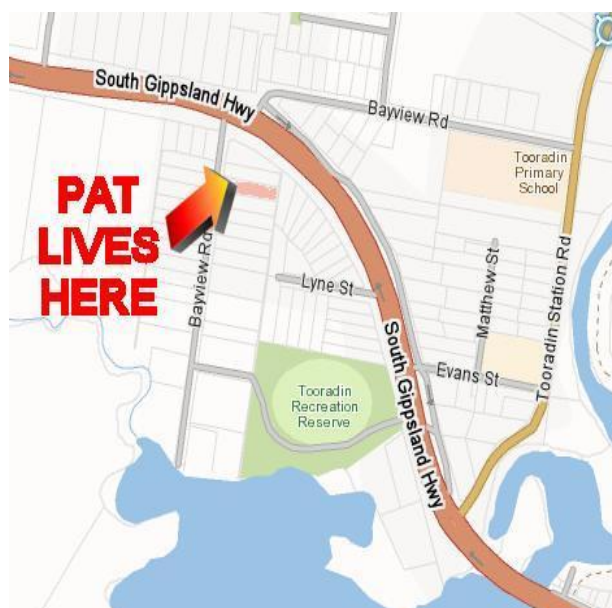
This will be at: **6 BAYVIEW ROAD TOORADIN**

The Party will commence from
12:00 Midday.

Club Barbeque facilities
will be available.

There will be games & things to do.
BYO Chairs, Food & Drinks.

The Christmas hamper
will be drawn at this event



2011 IS THE 40th ANNIVERSARY OF THE **YAESU FT101** SERIES OF AMATEUR TRANSCEIVERS

To celebrate this event the GGREC meeting on November 18 will display a wide range of this early YASEU hardware that was first launched in 1971.



If you have any early YASEU hardware of your own, bring it along. We will invite members and guests to tell us of any stories and anecdotes of their early experiences with this generational change of radio equipment.

From Wikipedia:

Yaesu FT-101 is a model line of modular amateur radio transceivers, built by the **Yaesu Corporation** in Japan during the 1970s and 1980s. FT-101 is a set that combines a solid state transmitter, receiver and a tube final amplifier. Its solid state features offer high-performance, low-current characteristics and its tube amplifier provides an almost mismatch-resistant transmitter and tuner stage.

FT-101's were made with plug-in circuit boards that could be sent to the dealer or factory for replacement or repair. Until then, modular design was unprecedented in the amateur community. This also explains the fact why so many FT-101's are still in use today.

The rig was sold worldwide as Yaesu FT-101 and in Europe as Yaesu FT-101 and as **Sommerkamp FT-101**. Because of its reliability it earned its nickname "the workhorse".

Over the Page:

Your very own FT101E to print, cut out and glue together..

Build your own HF radio – no soldering required



For Sale or Swap Assorted Vacuum Tubes – \$350 Firm

I have about 300 (I lost count) assorted Vacuum tubes/Valves for sale. There is some NOS including 12 7 segment (Numeric Display) Numitrons Nixies and 12 16 segment (Alpha Numeric) Numitrons Nixies. There is a CRO display and some covers and sockets. They are sold as is and have not been tested but I have thrown out any that had obvious cracks or were white with oxidation. The Boxes in the photo are NOT empty they have valves in them

See photo for an overview. Pickup from my home QTH in Drouin is preferred but I can arrange postage at buyers cost or bring to a meeting at the club rooms.

I am also prepared to swap for a modern FM VHF/UHF dual-band mobile transceiver Icom or Yaesu preferred so if you have one make me an offer. It must be in working order and not be a modified one as I am an F Call..

Phone me on **5625 3375** or **0406 417 877** or email pockets@twistedsouls.com first in best dressed. If not sold within 2 weeks it goes on VKHAM

Mark 'POCKETS' VK3FWSP



THE GGREC CHRISTMAS HAMPER

The Annual Christmas Hamper will be drawn at the party on Saturday December 10 in Tooradin. We need more things to go into it. Please bring something to add to it **This Friday Night.**



JAMBOREE ON-THE-AIR & INTERNET 2011

by Graeme Brown VK3BXG

The 54th JOTA was held over the weekend of 15th and 16th October and for GGREC it was the 22nd year of continuous support of the Cranbourne Guides.

A leader reminisced to me how as a little girl she attended her first JOTA with GGREC over 20 years ago.

The afternoon was successful as always with plenty to keep the children occupied with an attendance of over fifty from various scout and guide troops from around the district



The morse lesson without Yarn (VK3NOV) this year was not the same but I adopted a similar format that was used in the Melbourne Museum job early last year and we used up plenty of paper with the children keying out their names.



Above: Max VK3TMK and Mike VK3KTO in charge of the radio – HF only this year

Left: The Fox-hunt proved as popular as ever .

With Albert VK3BQO and Wayne VK3ZWC in charge (how did Max get in this photo)? And Mark VK3FWSP helping with all activities.



JOTI kept the interest of those who did not wish to speak on air.

The six GGREC members attended to make the day the success were Mike VK3KTO, Max VK3TMK, Albert VK3BQO, Wayne VK3ZWC, Mark VK3FWSP and yours truly, VK3BXG.

(All children were photographed with permission.)

The One IC Computer

By Paul Stubbs VK3TGX

Have you ever wanted to build a really simple computer to control some devices, or maybe to build it into your next project?



Over the last few years Ian VK3BUF has run courses on how to write programs for Atmel AVR processors with quite a few members taking up the courses, but they are far from what one could call a 'computer'. By computer I mean a device that has a keyboard, display, and some form of mass storage (i.e. disk drive). Yes, you can get a miniature PC on a small board that runs windows (or Linux etc), but these are not cheap, and are gross overkill for many projects.

By 'computer' I am thinking back a few years, to the days of the old Tandy TRS-80's, or the Commodore 64's etc, you could easily write very simple programs that could read a few inputs and display the results on a video monitor (or TV) in a few minutes.

Well those days are back, recently Silicon chip published a project called the Maximite, and apart from a power supply, it uses just one IC – you cannot get any simpler than that – and this includes your mass storage ('disk drive') – all on one IC!

For input you can connect a standard PC keyboard, or connect it to your PC using a USB cable, for output you can use an old VGA monitor, or a composite video monitor/TV, but if these are not needed in the end, they can also be left off (once the program is running)

After you have the bugs out, all you have to do is save the program to the internal flash memory of the chip, using the filename 'Autorun.bas', and your program will run as soon as you connect power to the IC.

Now I am not saying that this is a replacement for the AVR, or other 8 bit micros, they have their place, but if you want something that can display a lot of information, including graphics, and also has the easy option of up to a 32Gig flash drive for storage then one of these may fit the bill. One way of looking at it is an intermediate step before going to a full PC (or laptop) The Maximite solves one problem of using a PC, size & power consumption. At 125mA you could run one on AA batteries, try that with a PC.



I just recently built one from an Altronics kit, a very easy kit. (There is not much in there) The kit goes for \$79, but the actual PIC32 IC itself is only about \$9, so end projects should end up quite cheap to build. (all the software etc, including source code is available for free on the internet)

I have two projects in mind, which I hope to put into the magazine as time permits

1: Data logger.

Long term monitoring of several analogue sources with graphs so I can see temperature variations ie weather station, and monitor solar panel performance

2: Control 'expansion' unit for a Yaesu FT897 radio.

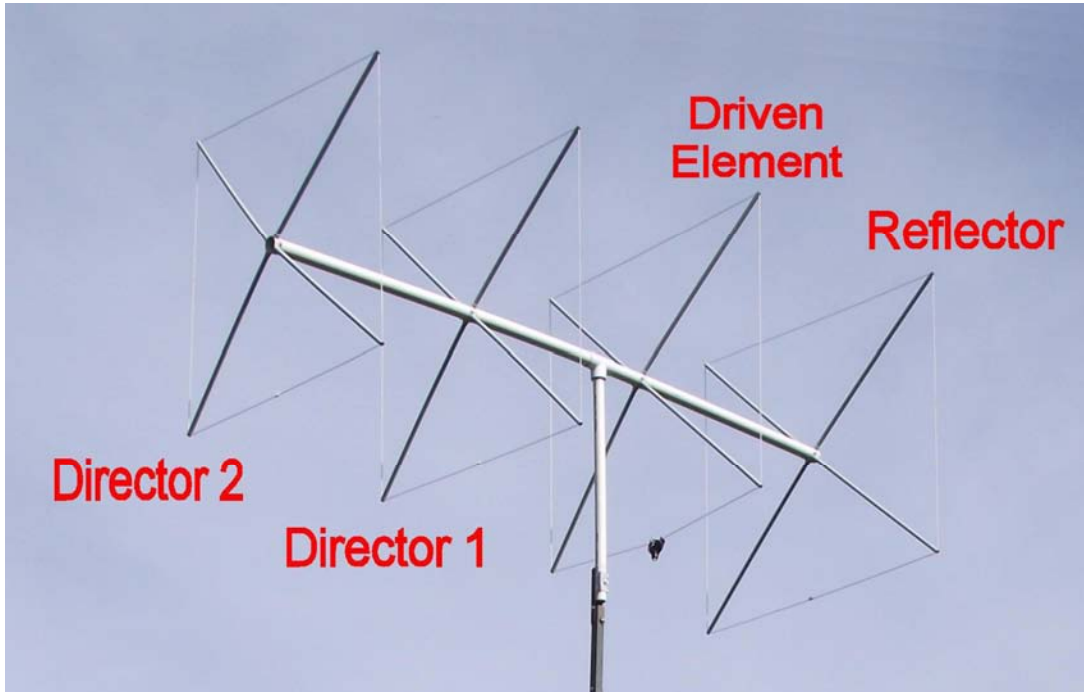
A small add on box with user programmable buttons and video output (ie hook up a larger display like can be done with an Icom IC7000)

Paul VK3TGX

BUILD A 6M CUBICAL QUAD ANTENNA IN 2 HOURS

By Ian Jackson VK3BUF

This is the design detail for the antenna used recently for RDD interference testing. (Actually it took me four hours to make, but that also includes a drive to the hardware store in Warragul and some extra time to work out all of the measurements.)

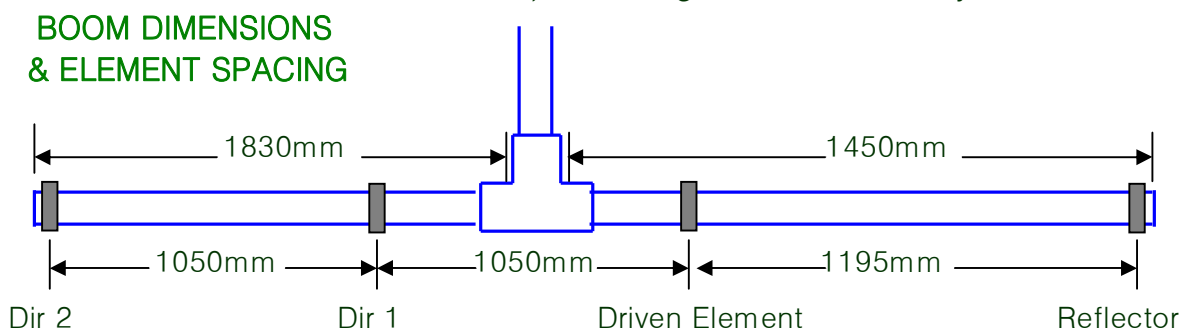


All of the parts that go into this design are available from any decent hardware store. As the materials are all PVC plastic it is quick to drill and assemble. It can be operated horizontal or vertical. If you leave it with a minimum of screws, it is easily collapsed and packed for field work, or paint it to improve UV resistance when permanently mounted on a mast. SWR was a good 1.2:1 at 52.5MHz with the measurements described in this article.



The boom is made from 60mm (outside diameter) PVC pipe. This is quite rigid and fits nicely into a standard 60mm Tee joiner.

(In the version shown here a reducer down to 48mm pipe was used so that the vertical section could join to a smaller support mast.) The sections were then glued using normal PVC pipe primer and adhesive. While the Tee is not in the exact centre of the boom, this design makes for a very balanced unit.



The central hub for each element is made from a standard **Clipsal** 4-way conduit junction box. This takes standard 20mm PVC electrical conduit, which is used for the spreader arms. To prepare this junction box, remove & discard the lid, then run through the centre of the unit with a 60mm hole saw. If you don't have a 60mm hole saw, either go out and buy one, or drill smaller holes in the base of the junction box and do a lot of filing. A 6mm diameter bolt and wing nut (shown right) is then used to lock the assembly to the boom.



In the ends of the conduit a 4mm diameter hole was inserted to take the 2.5 sq mm insulated building wire. (in practise any old bit of wire will do) A good aspect of this design is that all the structural hardware is non-metallic and will not affect the optimal radiation pattern of the completed antenna.

Wires in this model were joined using common electrical joiners. The 2-way block at the feedpoint accommodated a section of RG59 (75 ohm) matching coax. This was later covered in black Butyl Rubber. (Note that Blue-Tac also works really well for weatherproofing RF joins)



The table below shows the lengths for each of the 20mm PVC conduit spreaders and for the wire used in each of the elements of the antenna. The conduit comes in 4-metre lengths, so it will be necessary to purchase four full lengths of this.

	Reflector	Driven Element	Director 1	Director 2
Spreader Length	1000mm	960mm	915mm	850mm
Total Wire Length	5785mm	5535mm	5315mm	4960mm

The matching method rates a mention here. The feedpoint impedance of a single loop within a parasitic array is around 100 ohms (balanced). Our aim is to convert this to 50 ohms (unbalanced) for coupling to the transceiver on a regular RG8 or RG58 feedline. The trick is to use a section of RG59 75 ohm coax in line with the antenna cable. A specific portion of a wavelength of coax will convert an impedance higher than the RG59 to an impedance that is lower. In this case it means that you will need to connect **2940mm** of **RG59** to the feedpoint block and connect the other end directly to RG8 (or RG58), or put a connector on the end. I used a bit of leftover **75 ohm TV coax**, which seemed to work quite well.

Electrically a 4-element Cubical Quad antenna will behave a little like a pair of stacked 4-element Yagi beam antennas, except it has a lower angle of radiation and looks more impressive. Forward gain should be around 11db over a half-wave dipole. Provided there are no overhead powerlines or low bridges in your area, it makes for an interesting mobile antenna. Have fun!



General Meeting Minutes - October 22, 2011

Date : 22nd October 2011
Start time : 20 : 04 pm.
Location : Guide Hall Club rooms.
Chairperson : Dianne Jackson VK3JDI, president.
Minute Taker : VK3BXG
Present : As per attendance sheet
Apologies : As per attendance sheet
New Member: Mark Clohesy VK3FWSP
Visitors: Julia Brooking, Bill Walker-Preece, Lee Moyle VK3GK

Andrew Martin VK3OE to speak on installation and operating his remote station at Harcourt.

Correspondence received :

- FAMPARC news.
- EMDRC news
- WANSARC e-mail link news.
- "Amateur Radio" mag.
- Altronics. Advice that the store at Springvale now open from 10am to 4pm Sundays.
- YVARG e-mail advising of their hamfest on 6th November at Yarra Glen.
- NERG news link e-mail
- AR Vic centenary celebrations and the Nat Parks Award on 18th to 20th Nov 2011 – e-mail.
- E-mail from Victor Stallan VK4WST requesting contact with GGREC during a visit here in Nov.
- Remembrance Day contest certificate from the WIA contest manager.

Correspondence sent :

- E-mail to Karen Ashton, Cranbourne Guides assuring of our preparedness for JOTA.
- E-mail to Victor VK4WST inviting him to visit us during his stay.

Treasurer's report : (Copy attached).

Moved : Ian VK3BUF. **Seconded:** Chris VK3QB All in favour.
Income : nil **Expenditure :** nil **Balance :** \$6196.85

Previous Minutes :

Read : as per October "Gateways" distributed. Amendment in Business arising, sub section JOTA/JOTI, Mike, should read "Mike Ide VK3KTO".

With amendment.

Moved: All in favour.

Business arising from the previous minutes :

- Cup weekend all booked for Yarra Glen. Any further members interested now must make their own arrangements. Dianne VK3JDI reports
- Foundation course on weekend of 12th & 13th November now scheduled for a member licence upgrade. Members wishing an upgrade need to notify the secretary before the 5th November. I, VK3BXG reported.

- Working-*bee* day Saturday 8th October. Grass cut, bushes trimmed and the old VK3RDD former cabinet was positioned during the working-*bee* on a concrete slab and the barbeque gas bottles are now stored in it I, VK3BXG reported.
Those who attended the working-*bee* were Albert VK3BQO, Bruno VK3BFT, Geoff Williams VK3ZGW, Mike VK3KTO, Mark Clohesy (now VK3FWSP) and myself VK3BXG.
- JOTA Saturday 15th October I reported went well with in excess of 50 children attending the event. GGREC members who participated were Mike VK3KTO and Max VK3TMK on radio, Wayne VK3ZWC and Albert VK3BQO with the “fox hunt” – as popular as ever. Myself VK3BXG in Yarn’s absence instructing in telegraphy and new member Mark VK3FWSP assisting with each aspect and learning what to do.
Acknowledgement must be made to the sincere apologies from Yarn and Bruno who always patronise this event but were not able to attend to it this year.

New Business:

Pub. night at the "Cardinia" Beaconsfield has been set for Saturday 5th November and a deposit of \$5 will be required tonight 21st October.

Christmas Party, 10th December Dianne VK3JDI reports that a host and premises is needed for the event.

At this point Pat VK3OZ offered her premises as a venue for this years break-up. Accepted all in favour.

Christmas hamper now taking donations and selling tickets at \$1 each or 6 for \$5.

Printed copies of the magazine was requested by Pat VK3OZ.

Michael VK3GHM stated that he would print copies and bring them to the general meetings.

Agreed that four (4) copies would be printed for distribution.

In relation to the VK3RDD repeater interference, Albert has contacted Yarra Valley Water in order to try to fix the problem. By coincidence Yarra Valley Water had already intended to turn off one of its transmitters at the site Albert VK3BQO reported.

We can only hope that this one is the cause of the interference.

Meeting closed : 20:24 pm.

WANTED – BY GRAEME VK3BXG

A desk mike to suit, or able to be converted to suit a Kenwood TS520

If you have such a thing, please call Graeme, or send an email to: vk3bxg@dcsi.net.au





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) commence from around 7:30 PM.

Visitors are 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	VK3BXG
Property Officer:	Bruno	VK3BFT
Repeater Officer:	Albert	VK3BQO
WebMaster:	Stephen	VK3EGD

- GGREC Web Site & Archive may be viewed at: www.ggrec.org.au
- Club Station is **VK3BJA** which operates from the Cranbourne Clubrooms.
- 6M Repeater at Cockatoo is **VK3RDD** : Freq. In 52.575, out 53.575 MHz
- 70cm Repeater Cranbourne is **VK3RLP** Freq. In 434.475, out 439.475MHz
This 70 cm Repeater requires CTCSS tone access of 123 Hz.
It also supports Remote Internet access (IRLP) using Node Number 6794.

Call in Frequencies :

- VHF 145.450 MHz, FM
- UHF on 438.850 MHz,

Membership Fee Schedule: (due after each April Annual General Meeting)

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.

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

Please direct magazine articles to: editor@ggrec.org.au
All other Club correspondence to: **P.O. Box 1098, Cranbourne 3977**
or Email : secretary@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.*