

GATEWAY



THE OFFICIAL JOURNAL OF
THE GIPPSLAND GATE RADIO
AND ELECTRONICS CLUB INC

MARCH & APRIL 2000

Gippsland Gate Radio and Electronics Club Inc.

Incorporation Number A0016893M

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

The meetings commence at 8:00 PM.

Visitors are most welcome.

Committee Members 1999/2000

President	Bruno Tonizzo	VK3BFT
Secretary	Dave Campbell	VK3XMF
Treasurer	Mike Ide	VK3KTO
Committee member	Albret Hubbard	VK3BQO
Committee member	Russell White	VK3MWR
Magazine Editor & Printing and Dispatch	Dianne Jackson	VK3HDI Ph. (03) 9776 5000

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 deadline for submitting Gateway articles is EIGHT DAYS
before each General Meeting.**

Please direct magazine correspondence to 105 Franciscan ave Frankston 3199

Phone: 9776 5000 or Email ijackson@netspace.net.au or Fax: 9776 5451

All other Club correspondence to PO BOX 1098 Cranbourne 3977

Presidents Message

This months edition of Gateway magazine covers both March and April, due to Easter and the change of date of our Annual General Meeting to the 7th of April 2000.

At the March General Meeting Ian Jackson will be giving an update on the progress of our application to site a container next to the Guide Hall. We are currently waiting for a response from the Recreation Reserve Committee, and if successful, we would consult with you, the members of GGREC to endorse the continuation of our project.

Please do not hesitate to discuss any aspect of our new "GGREC Operations Centre" (maybe we could have a naming competition?) with Ian or any member of the Committee.

The next "Pub Night" will be held on Friday the 28th of April, at the Baxter Tavern. It will be a good opportunity for club members to get together after the busy Easter period and relax.

Finally, a nomination form for our AGM elections is included in this months magazine. Current committee positions will be declared vacant and a new committee elected. Personally, I have found that being on the committee has been challenging but extremely rewarding, especially when I see club members supporting and enjoying being part of Gippsland Gate Radio and Electronics Club.

See you at the January General Meeting,
73's from Bruno, VK3BFT



Event Queue

DAY	DATE	TIME	DETAILS
Fri	17/03/00	8pm	General Meeting and talk by Ian VK3BUF about D F Hunts
Sun	26/03/00	TBA	Bicycle ride at Braeside Park and a BBQ lunch
Sun	26/03/00	8pm	2 Metre Net on 146.225
Sat	01/04/00		Exams held in Tooradin
Tues	04/04/00	7.30pm	Committee meeting at XMF's
Fri	07/04/00	8pm	Annual General Meeting and D F Hunt antenna building
Sun	09/04/00	8pm	2 Metre Net on 146.225
Sun	16/04/00	8.45am	D F Hunt
Sun	23/04/00	8pm	2 Metre Net on 146.225
Fri	28/04/00	7pm	Pub night at the Baxter Tavern
Fri	05/05/00	8pm	Prac night and t-shirt printing
Sun	14/05/00	8pm	2 Metre Net on 146.225
Fri	19/05/00	8pm	General Meeting and ICOM equipment night
Sat	17/06/00	TBA	Millennium Dinner at the Guide Hall
Sat	22/07/00	TBA	Amateur Radio Trash and Treasure day (formerly known as the white elephant sale)

A G M

This year our **Annual General Meeting** has been moved to the first Friday in April, the 7th, because Good Friday falls on our usual meeting night. This is also our prac night and we will be building antennas for the D F hunt after the meeting. **There will not be a meeting on Good Friday.**



Gory Details ...

D F HUNT

At the March general meeting, Ian VK3BUF will be giving a talk about D F Hunting. We have planned a D F Hunt for Sunday the 16th of April. Starting at 8.45am from Gumbuya Park, on the Princes Highway. Melway's Map Ref, 512, S 5.

PUB NIGHT

Due to the outstanding success of our last Pub night we are going to have another one. On **Friday the 28th of April at the Baxter Tavern**. The Baxter Tavern is located on the corner of Hawkins road and Baxter Tooradin road in Baxter. Melway's Map Ref, 107, B 4.

CLUB NET

The GGREC will now be running regularly scheduled Club Nets, on the Club frequency 146.225. The Nets will be held on every 2nd and 4th Sunday's of each month. Mike VK3KTO will be our net controller until we can work out an effective roster. The next net night will be Sunday the 26th of March, and then the 9th of April, the 23rd of April and the 14th of May.

BICYCLE RIDE

On Sunday the 26th of March we will be having a bicycle ride in Braeside Park. Meet at Braeside Park on Lower Dandenong road, at 11am, and follow the drive way around to Car Park No.3, where we will have a barbecue lunch before our bike ride. If your not a keen bicycle rider then you are very welcome to come along just for the barbecue lunch and a chat. There are barbecues in the Park and the Club barbecue will be there as well. Bring along your food, cooking and eating implements and don't forget to bring your bike and helmet. It looks like there are lots of tracks all over the park so I am sure that we can pick and choose which one we want, when we get there. Melway's Map Ref, 88 D 8.

FIRE BRIGADE VISIT

We are still finalising dates and times (Probably the 27th or 28th of May) for a tour of the Nar Nar Goon Fire Brigade. More details will be known at the next Club meeting.

EXAMS

The next AOCF exam will be held at Peter Pavey VK3VB's house, at 6 Bayview rd Tooradin, on the 1st of April. For the running of the exam to be cost effective, we need at least three applicants per exam. To be eligible to participate in the April exam, your application forms, with payment, must be returned to Peter Pavey by the 20th of March. You can get an application form by contacting Peter Pavey on 59 98 35333, or Ian Jackson on 9776 5000.

--- GGREC DF HUNT ---

(Next hunt scheduled for April 16)

WHAT IS A DIRECTION FINDING HUNT?

A DF hunt is *not* a Fox hunt. The participants do not drive around at high speed with beam antennas thrust out of their windows. It is a contest that contains elements of mobility, skill, teamwork, and a little bit of luck.

Essentially, a large park or tract of land is selected for the event and the contestants group into several teams, two cars to a team. Each car is equipped with a 2 metre band transceiver, a simple dipole antenna (3 element yagi max), a map (provided), and a compass. After the group has assembled and maps have been distributed, a 'Target' drives off and hides a few kilometres away. Then the contestants all scatter to wherever they like, stop their cars and get ready with their dipoles. The Target transmits for five minutes and everyone draws lines on their map corresponding with the direction of the transmitter. Each half of the teams can then get together on-air and try to figure where the target is by where the lines intersect on their maps. After a few minutes, the Target operator contacts each team in turn and returns a point score based on the accuracy of their guess. Each map has a grid reference used to describe the locations calculated. No one can cheat by copying someone else's guess because *the numbers on each teams grid are different!*

A hunt takes about 35-45 minutes to complete, after which everyone congregates at a new location to commence the next hunt. After about three or four of these hunts, the contestants gather to a common site for a BBQ lunch. The team with the lowest overall point score wins the prize and becomes the Target for a future event, or they can nominate someone else for the job.

That's all there is to it!

WHAT YOU NEED:

Each car should carry a 2 metre rig with a signal strength meter, a DF dipole, a compass, a ruler, a clip board and of course, some refreshments. (if competitors have a 2 or 3 element beam antenna, that is also ok)

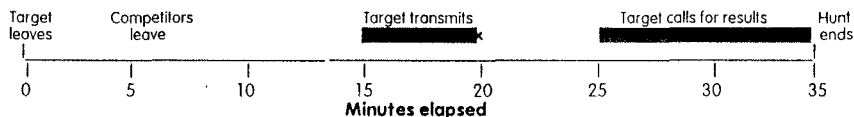
THE RULES

1. When all contestants have grouped at the starting area, they form themselves into teams of two cars. There can be any number of people and radio's in each car, but only one DF antenna per car will be permitted. The people in each car should have a pre-arranged chat frequency organised so that the main operating frequency (146.225) is kept relatively free of traffic. It is ok if various teams share a common frequency.
2. Each team will be issued with a pair of maps a few minutes before the start which has the entire event area divided up into a grid of **X** and **Y** coordinates of letters and numbers. This ensures that any location on the map can be given a unique reference number such as '**G-64**', like a melway map reference. While the maps issued to the two cars in each team are identical, the grid references *between* teams will differ so that competing teams cannot gain advantage by listening to other peoples references. At any time during the event, teams are not permitted to compare the details of their maps or calculations. The operator of the Target transmitter holds a copy of each map used in the event so that the scores can be calculated.
3. The start of each hunt will be signalled by the departure of the Target operator's vehicle. Exactly five minutes after the departure of the Target vehicle, each team splits up and moves to wherever they wish to make their DF measurements from, preferably about a kilometre apart. It is ok if competing teams choose to use the same locations, just as long as they do not compare notes. The teams have ten minutes to find their spot and prepare their DF antenna. The Target operator will then commence transmission for exactly five minutes.
4. The Target operator will transmit a modulated carrier of about five watts. It is not permitted for *any* team to operate any transmitter during this period. As soon as the transmitter stops, each half of a team makes contact with the other to establish an estimate of the transmitter location. After five minutes of discussion, the Target operator will call up a representative of each team in turn,

obtain their estimate and reply with a point score of accuracy. If the team is one grid square off target, they receive a score of one point, two squares off target will receive two points and so on. A direct hit will return a score of zero. When all scores have been returned, the Target operator will signal a rendezvous point for the next hunt.

5. After the last hunt, the Target operator will signal the location of the barbecue lunch, where all scores will be totalled. The team with the lowest overall score will be declared the winner. Where there is a draw between two teams, an ultimate winner will be determined by lot. Where any dispute exists, the Target operator of the day will be judge, who's decision will be final. The winner of the event shall become the next target operator, or nominate someone else to take their place.

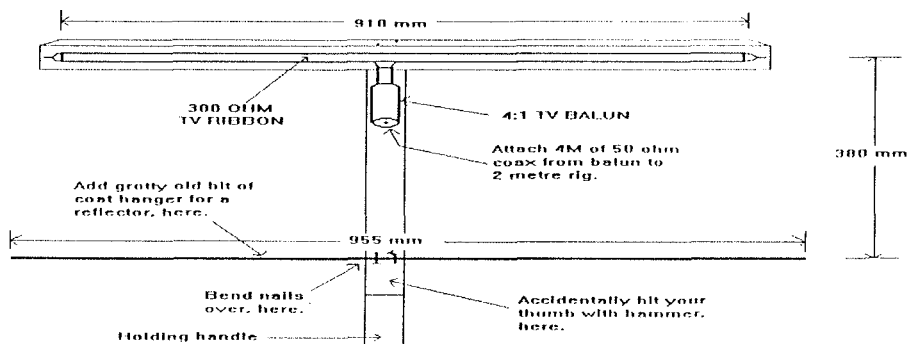
TIMETABLE FOR A TYPICAL HUNT



THE DF ANTENNA

The single most critical item in a DF hunt is the antenna being used. As the rules prohibit anything more elegant than a simple half-wave dipole, the care with which you assemble it could be the deciding factor for the winner of the day. You will need a feedline of four to five metres. This will be enough to move the antenna away from the interfering effects of the car. The dipole needs to be a *balanced* antenna, which means that a balun is needed between the coax and the dipole. If the dipole is unbalanced, for example, the coax is slit so that the braid goes a quarter wavelength in one direction and the centre core in the other, you will have a directional antenna, but the lobes will be unpredictable and the presence of a person near the feedline will vary the results.

The optimum solution is a bit of 300 ohm TV ribbon connected to the coax by a 4:1 TV balun. The resultant dipole may be bound or stapled to a bit of wood with a handle attached to the centre. If you have a hand held with an S-meter, use it for the DFing. If not, use a 10 metre length of coax back to the rig in the car. Move as far from the car as you can for your measurements as the metal in the car body affects the direction measurements.



HINTS FOR BEGINNERS

- Become familiar with your antenna, do some test before the event with some other operators. You can dial up 144.975 and DF the morse code beacon for practice.
- If the signal is weak, rotate the dipole for a peak reading on your S-meter. If the signal is strong, then try looking for the biggest null. If the signal is really strong, then you can weaken it a bit by going 5 khz up or down from the transmitter frequency.
- Try attaching a plastic drinking straw 90 degrees from the centre from the dipole, horizontally. You can then line the straw up against the compass when obtaining a peak bearing.

- Get a good compass and practise orienting your map with the compass pointer. Your estimated bearing is only as good as the correct orientation of your map. Take along a clip board to hold your map securely.
- Work out in advance with your team partner exactly how you will compare your notes on air to find the transmitter location. Remember you only have five minutes for this task.
- Perhaps fit a simple coax switch to your radio so that you can quickly switch from the dipole to your mobile antenna. It need not be anything elaborate, an old toggle switch in a tobacco tin would suffice.
- Plan in advance the best locations for you and your team partner to place yourselves during the hunt, preferably about a kilometre apart. If you get too close together, then your estimates will have greater error.

If you are unfortunate enough to have the Target transmitter positioned on a line between you and your partner, you may have to compare relative signal strength readings to determine the direction and approximate distance of the Target. Part of the skill in selecting your location is to minimise this problem.

- **Good Luck**

See the GORY DETAILS section for time/place details of the upcoming hunt

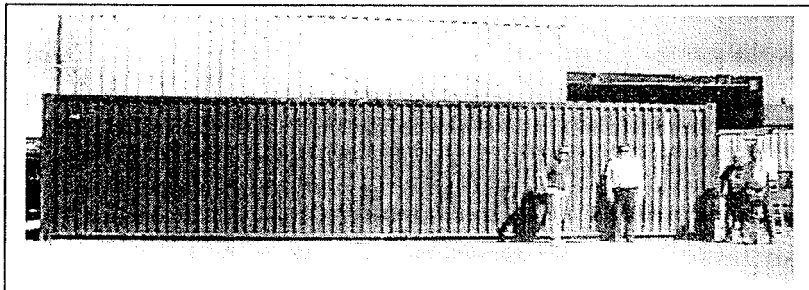
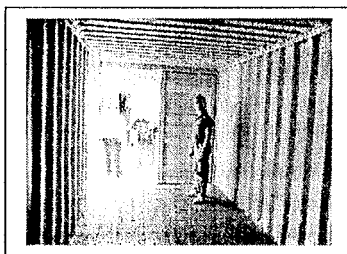
GGREC Shack/Workshop proposal – a progress report

The approval process for a 40' container to be installed next to the Guide hall still proceeds on Schedule. Correspondence has been received from Both the Guides and the Tennis Club, and a letter has been sent to the Recreation Reserve Committee. If this is accepted as we hope, there will be a formal 'vote to proceed' motion put forward at the May meeting.

This is an important vote as it would empower the Club to formally apply for a council permit and subsequently spend around \$3500 of the Clubs funds to purchase, install and outfit the interior of the 'shack'.

It is expected that four Club members would form a steering committee to administer the project and coordinate ideas put forwards on interior layout etc.

More information on the project will appear in the May edition of Gateway, prior to the vote by members, to allow informed debate to take place.



READ ALL ABOUT IT

If you have been up to anything interesting or entertaining since our last meeting, then jot it down and let us read all about it.

CLUB MAGAZINE

Because Easter has interrupted our usual meeting night, and our AGM has been pushed forward to the Prac night, **we will not be printing an April Club magazine.** I have tried to include as much relevant information in this issue of Gateway as I can, to keep you up to date with everything happening in the Club. The next issue of Gateway will be coming up for the May General Meeting. Sorry for any inconvenience.

T-SHIRT PRINTING

At the **May 5th Prac night** we are going to do some t-shirt and windcheater printing. Bring along your own t-shirt or windcheater and we will print up, an **Iron On patch**, with the GGREC logo and your Call sign, for approximately \$5.00. You can chose the colour you want to suit the colour of your t-shirt and we will iron it on for you. For an additional charge, you could have your favourite photo or your QSL card printed out in full colour and ironed on to your favourite t-shirt or windcheater.

CLUB MERCHANDISE

The Radio club has still has stocks of GGREC Bumper Stickers, for 50 cents. Stubbie holders, for \$5.00 and sew on Cloth Patches for \$4.00. If anyone is interested in buying any of these items then please see Mike at the next Club meeting. **Only while stocks last.**

FEES

Current GGREC Inc Membership Fee Schedule

Full Member \$30.00, Pensioner Member \$15.00
Junior Member \$15.00, Extra Family Member \$10.00

**Fees are due after the Annual General Meeting on
the 7TH of April.**

(See the treasurer or mail to our PO Box.)

A WALHALLA ADVENTURE

The GGREC labour day weekend away,
(The Ian VK3BUF version of the facts)

Our long weekend away at Walhalla only lasted one day. Sure there were intervals of light and dark, sun and rain and even a couple of barbecues, but subjectively it only felt like a single long and pleasant day. It really began on the Friday afternoon when we joined the pre-public holiday exodus from Melbourne. One half of the group established camp at Erica Caravan park, the second half were accommodated at a horsey type motel lodge at Rawson. The third half of the group was made up of Club members who came along on day trips. (maths was never my strong point)

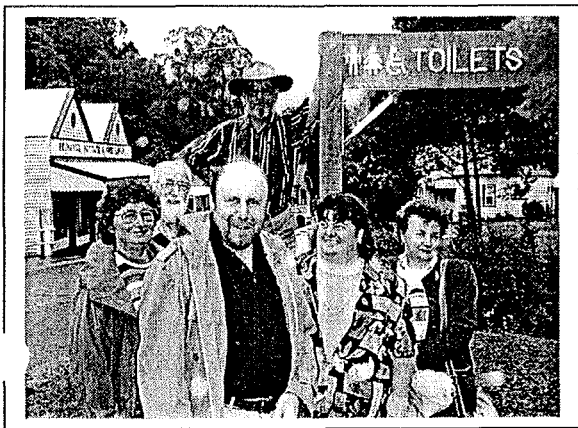


Here (and in no particular order) I describe the rest of the weekend.

David VK3XMF had boldly organized the trip. This went very well. His phone calls, faxes, e-mails, letters and flyers all came together ensuring that we were all in approximately the same place, at the same time and knew what was going on. I think that there are a couple of vacancies at SOCOG that he could fill quite nicely.

At the extremely bright and early hour of 10:00 Saturday morning we all met at the Walhalla city limits for a guided tour of the town by one of the 17 local residents, John Aldersea. Leaving no stone unturned we walked to the other city limit some 2 km away while soaking in the history, culture and very-small-rocks-in-the-shoes, of the town. As Walhalla is at the bottom of a valley, you can traverse the East-West city limits simply by crossing the road.

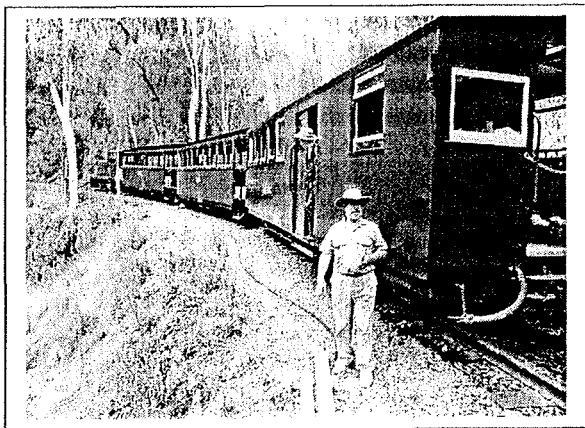
The weather was sunny and ice cream perfect for much of the weekend, as I am sure Stephen 'five scoops' Harding can attest. The bright drizzle of Sunday afternoon was just enough to make spiderwebs glisten and create brief rear wheel spins whilst driving up some of the steeper roads.



Much of Sunday was spent wondering around the Thompson Dam site. The water within was conspicuous by its absence. Levels appeared to be around twenty percent of its rated capacity. Ivan VK3ARV and myself contemplated returning to the town via a back track from the dam. The initial crossing of the Thompson River looked a bit too daunting. It was half a metre deep and fifty metres wide at that point, so we took the woosy way out on

sealed roads. This was a good decision as we only just made it to the train station in time to catch the last ride of the day around the mountains. The group was scattered among various carriages, but this mattered little thanks to the proliferation of 2 metre hand held transceivers on board.

In our spare time we seemed to do a lot of eating. There was a barbecue at Rawson, another barbecue at Erica, much cappuccino sipping and meat pie eating at the Walhalla general store and a big multiple course Sunday night dinner at the café next door to the general store.



Saturday Night at Erica went well. After our meal we settled back on this warm evening under the tarp of Steve and Maria's caravan exchanging stories and anecdotes. Later, Ron VK3EXJ produced his reflector telescope, a large eight inch home brew model. We spent some time looking at the moon between the passing clouds. Our itinerary also included a tour of the 'Long Tunnel Extended Gold Mine'. At the tunnel we trooped a few hundred metres into the mountain with hard hats on and pupils dilated until we encountered the subterranean machine hall. This was also the top of the main shaft which dropped down 900 metres lower. I don't mind saying that this was a really bad RF site. . Paul and Marianna Stubbs showed up for the day and joined in on this tour, although I think that he would have enjoyed it a bit more had been another six inches clearance in the tunnels. His hard hat is probably still at the panel beaters.



Paul has supplied a couple of the pictures that you see here. After the mine tour there was still a bit of time to kill before more eating, so Ivan, Val Ian VK3VIB and myself wandered up a rocky track to the non-existent suburb of Walhalla known as 'Happy-go-Lucky'. It was a bit rough and bumpy, but when we were passed by a Hyundai Excel we figured that it couldn't be all bad.

Another family that came up for the day was Philip VK3YB, Kathy and kids. While I only got to see them for a few milliseconds on the Thomson Dam road as they passed in the opposite direction, I understand that they had a bit of a look around both at Erica and at the Walhalla township.

There was of course lots of other little events and details too numerous to mention which add up to being the good time that it was, but if I write about it here, readers who *didn't* come won't have the incentive to see the next trip for themselves.



Walhalla Weekend

Cathie (Mrs. VK3XMF)

The majority of the GGREC weekenders arrived at their choice of accommodation during the Friday, half staying at the Erica Caravan Park while the others were at the Mountain River Lodge in Rawson. The Erica group came over to Rawson for a BBQ dinner that night and a review of the proposed schedule for the next few days.

Saturday morning we awoke to a beautiful sunrise over the hills, thanks to Kate and William waking up at the crack of dawn, and the promise of a warm sunny day. We all arrived at the Walhalla Cemetery car park at 10 am for one of the locals, John Aldersea, to take us on an historic walking tour of the town. John was born in Walhalla in 1945 and lived with his family in the general store until he was 14 years old. His love of the town was illustrated by the fact that he never lost touch with the town and its' people and had moved back a couple of years ago. It's great to hear about a town and its' history from a person so passionate about it. This tour set us up for the weekend highlighting the many places of interest for us to explore further at our leisure.

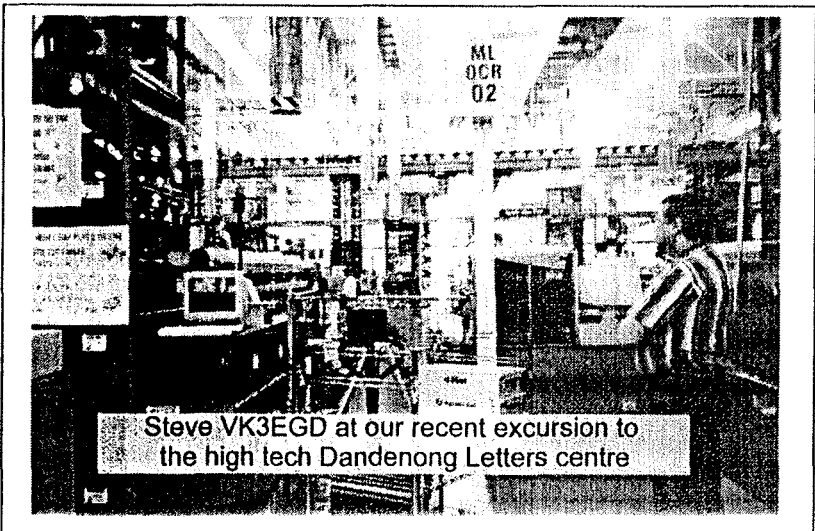
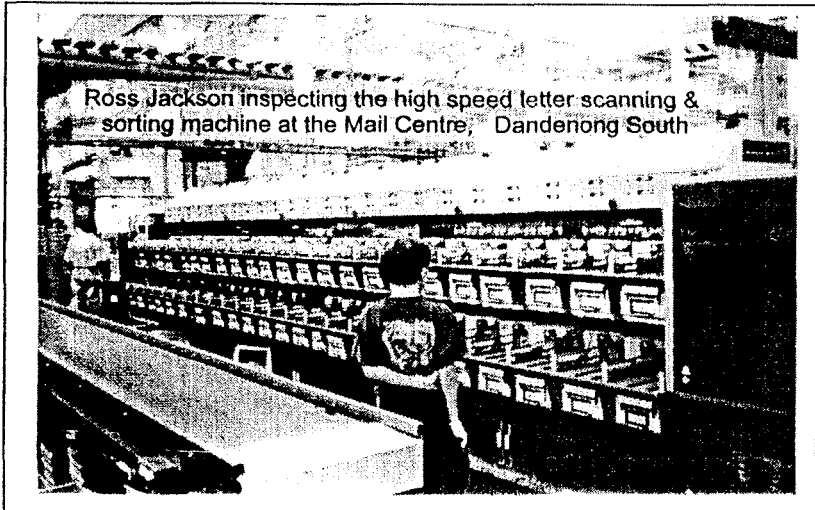
After lunch at the General Store, great pies so I was told, some of us braved the track up to the Cricket Ground. (I was sure it was a 4WD track but Dave talked me into taking the Commodore up it!) After throwing a few frizbees around we all meandered back down the hill to catch up with the rest of the group for a trip on the Walhalla Railway. While not as nostalgic as a steam railway, the little diesel engine took us for a nice trip up the valley and back. They are currently working on the extension of the line all the way to Walhalla township. That night we all met at the Erica Caravan Park for a BBQ dinner and a great social evening.

Sunday morning the clouds soon covered the mountain tops and we had fine drizzle off and on all day. Luckily this didn't dampen anyone's enthusiasm and a group of us decided to check out the Thompson Reservoir. Our three year drought has taken its toll and the reservoir is very low. William decided to fall asleep on the drive back so we headed to the lodge at Rawson for a late lunch and a leisurely afternoon chatting with Val and Ian VK3VIB. We then headed back to Walhalla for the gold mine tour. Donning hard hats we bravely ventured into the hillside. The guide explained the mine had 27 levels and was 1000 metres deep, as deep as three Rialto towers below the ground. We managed not to lose anyone in the labyrinth of tunnels although Paul VK3TGX and Marianna took their time coming back to the surface. We didn't ask what they'd got up to! That night we all met at the Miner's Café in Walhalla for dinner. While the service wasn't all that quick, we had the place pretty much to ourselves. Most called into the lodge at Rawson for coffee afterwards and a discussion ensued on where our next trip away would be.

We had a great time at Walhalla and I think everyone else did too.

AUSTRALIA POST VISIT

On the 20th of February, about 20 members of the GGREC went to visit the Australia Post Letter Center in Dandenong. It was a very interesting tour. I hadn't realised the enormous volume of letters that went in and out of the Center in one day. The banks of sorting machinery were very fast and efficient. One machine we saw was printing bar codes onto prepaid bulk mail, (Melbourne Water, Telstra, Readers Digest etc.) it sorted the letters into trays for each different Post Code. Some of the hand written envelopes looked like they had a pretty rough time of it going through a machine that was sorting out the bent and oversize letters. The tour was a comprehensive one that lasted for two hours. Many thanks to Reg VK3UK and Bruno VK3BFT for organising this event.



THE DANGER OF EATING BREAD

Supplied by Maria Harding

A recent newspaper headline read, "Smell of baked bread may be health hazard." The article went on to describe the dangers of the smell of baking bread. The main danger, apparently is that the organic components of this aroma may break down ozone.

I was horrified. When are we going to do something about bread-induced global warming? Sure, we attack tobacco companies, but when is the government going to go after Big Bread? Well, I've done a little research, and what I've discovered should make anyone think twice ...

THE FINDINGS

1. More than 98 percent of convicted felons are bread eaters.
2. Fully HALF of all children who grow up in bread-consuming households score below average on standardised tests.
3. In the 18th century, when virtually all bread was baked in the home, the average life expectancy was less than 50 years; infant mortality rates were unacceptably high; many women died in childbirth; and diseases such as typhoid, yellow fever and influenza ravaged whole nations.
4. More than 90 percent of violent crimes are committed within 24 hours of eating bread.
5. Bread is made from a substance called "dough." It has been proven that as little as 100 grams of dough can be used to suffocate a mouse. The average person eats more bread than that in one day!
6. Bread has been proven to be addictive. Subjects deprived of bread and given only water to eat begged for bread after only two days.

PROPOSED RESTRICTIONS

Most bread eaters are utterly unable to distinguish between significant scientific fact and meaningless statistical babbling. In light of these frightening statistics, we propose the following bread restrictions

1. No sale of bread to minors.
2. No advertising of bread within 1000 feet of a school.
3. A 300 percent federal tax on all bread to pay for all the societal ills we might associate with bread.
4. No animal or human images, nor any primary colours (which may appeal to children) may be used to promote bread usage.
5. A \$4.2 billion fine on the three biggest bread manufacturers.

REMEMBER: "Think globally, act idiotically."

Phase-Shift Keying (PSK 31)

by John L. Wickham VK3ZK

To send messages in printed form via the amateur bands, many different modes have evolved over the years. The first was Radio TeleTYpe (RTTY), which lasted until about the 80s, then came packet radio, AMTOR and then, PACTOR. There are quite a few amateur radio operators who do not like the ARQ modes very much (AMTOR & PACTOR). One of the disadvantages with ARQ is that you cannot go in as a breaker to an ARQ QSO in progress.

A lot of amateur radio operators, as a result, are now into Phase Shift Keying (similar to the old RTTY, but the phase of a single tone is shifted instead of the frequency). It is called "PSK 31". What follows below is a few blurbs on what this PSK31 is all about.

In spite of new DSP technology appearing in HF data modes, traditional RTTY has maintained it's popularity. There is evidently a special quality in RTTY that is missing in newer modes. *It may be that RTTY is easier to use, or more "hands-on", or more sociable since you can listen-in and join-in which an ARQ link cannot do. It may just be because RTTY is cheaper.*

A new mode is emerging over the last year which may bridge the gap between RTTY and the high-tech modes. Based on an idea by SP9VRC, the PSK31 mode is based on the use of low-cost DSP starter kits and public-domain software, using modern DSP techniques to implement a basic live-QSO transmit-receive keyboard-to-screen mode. The bandwidth of PSK31 *is much lower than any other data mode*, which means it can work at lower signal levels in today's crowded bands.

The basic idea of PSK is that keying is done by phase-shifting the carrier rather than frequency-shifting it. The bandwidth is equal to the baudrate rather than to the shift plus the baudrate. With the chosen baudrate of 31.25, that brings the bandwidth down from the 300-500Hz of other modes down to 31Hz. By using an alphabet similar to morse with short codes for common letters, the text speed of PSK31 comes out at about 50 wpm. By using the narrowest possible filters in the transmitter and receiver, the performance of PSK31, even without error-correction, *is certainly better than most*, and has the added advantage for live QSOs that the performance degrades very gracefully as the signal drops. For paths where errors occur in bursts rather than randomly, PSK31 can be switched to use a convolutional code at the transmitter and a matching Viterbi decoder at the receiver. QPSK, with 4 phase-shifts instead of two, is used for this, but the bandwidth and text speed stay the same. The price paid for this robustness is a tighter frequency stability requirement and a delay of 640mS in the decoder.

I have downloaded a PSK31 send/receive package called; **PSK31 FOR WINDOWS SOUND CARD** by Peter Martinez; G3PIX. *This is a "freeware" program package* (it won't cost you a single cent. No registration or registration keys required, no "timeout" after a certain time period expires, and all facilities are fully operational).

PSK31 signals can occupy spectrum space as little as 31 Hz. It is best to use a transceiver with a highly stable VFO. Tuning in the signals is accomplished by carefully tuning the PSK31 signal until you see a yellowish-coloured line in the "waterfall" display at the bottom left of the screen and then you click the mouse on the yellow line. To decode the PSK31 signal properly, the signal must be tuned in "right on the nose", and to aid this, in addition to the waterfall display, *there is a phase scope to assist you to tune the signal in correctly!* This is immediately above the waterfall display and it resembles a radar screen. Keep clicking on the yellow line until the lines in the phase scope change from red to yellow and until the lines are perfectly vertical.

PSK31 should be workable *under the most adverse band conditions*. The main PSK31 frequencies are **14.070** and **21.070 MHz**. Of course, other bands may be used also.

This program can be found on the CD-ROM from Chris; VK3DNH on SSTV and Digital Modes.

Here is a small sample of some of the stations received by me on PSK31:-

TUESDAY 29TH FEBRUARY, 2000 0700 - 0800 GMT (UTC) 14.07 MHZ

5B4, DJ, F5, HA, SM, WB6, XE

WEDNESDAY 1ST MARCH, 2000 0600 - 0800 GMT (UTC) 14.07 MHZ

EA, LZ, OE, SV, WB4

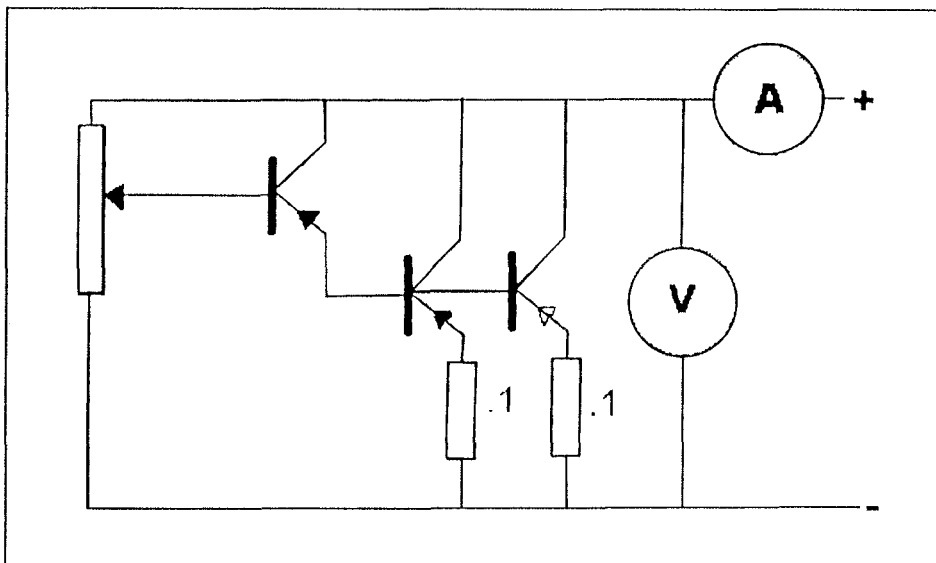
And if PSK31 isn't enough for you, there are two other very interesting modes, one was invented by a German engineer in 1929, called *Hellschreiber*, and the other is a more recent invention by a Polish amateur called *MT63*. Full details from: <http://www.freeweb.org/varie/ninopo/iz8bly/mt63/index.htm>

**You never know what other communications "rabbits"
are going to be pulled out of the hat!**

DUMMY LOAD FOR TESTING POWER SUPPLIES

Circuit supplied by Andy VK4KCS

This is a simple but useful circuit for testing 12V shack supplies. Essentially it is a few large transistors mounted on an even larger heatsink with a pot to adjust current draw. Shifting the pot causes the transistors to proportionally 'short out' the supply under test so that a load of 2 or 20 Amps may be selected with ease. The addition of an ammeter and voltmeter will give the user some idea of voltage drops under higher loads.



- The Emitter resistors are 10Watt Wire Wound
 - Main Load transistors are 2N3055 or better. Add as many as needed, although two is usually enough to dissipate 15-20Amps for short periods.
 - The driver transistor is a BD139 or similar
 - The pot should be 1K or 2K wire wound
 - Set pot to MIN before connecting and advance slowly. There is a dead band until the driver turns on.
 - The whole assembly can have a large bridge rectifier placed in series with it. This will make it independent of power supply polarity.
-

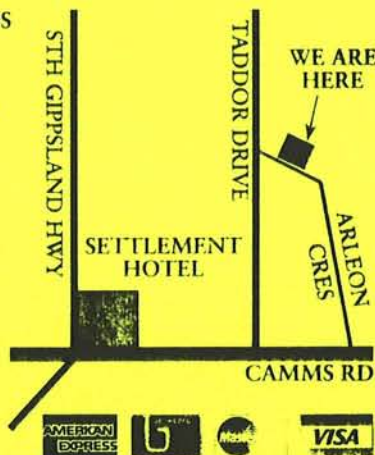
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GRAHAM VK3KCS

Gippsland Gate Radio and Electronics Club Inc. Committee Position Nomination form

<i>Position</i>	<i>Nominee</i>	<i>Proposed by..</i>	<i>Seconded by..</i>
President			
Secretary			
Treasurer			
Member #1			
Member #2			

Nominations must be approved by the Nominee before they can be accepted

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