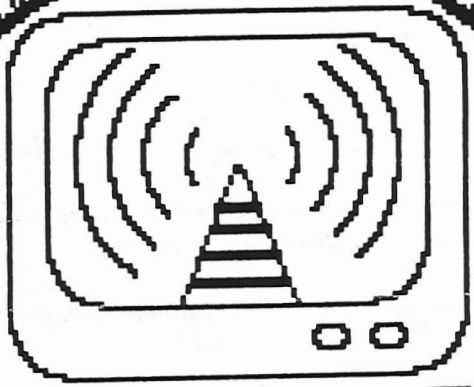
GATEWAY



GGREC

THE OFFICIAL JOURNAL OF THE GIPPSLAND GATE RADIO AND ELECTRONICS CLUB

OCTOBER '87

GIPPSLAND GATE RADIO AND ELECTRONICS CLUB

COMMITTEE MEMBERS 1987/88

President.....Kerry Clayton VK3KFC *

Secretary.....Ian Buczak VK3KGB

Treasurer.....Albert Hubbard VK3BQO

Member.....Dave Campbell VK3XMF

Member.....Peter Vat VK3KCW *

*NOTE: Both Kerry Clayton and Peter Vat are available to fulfill the functions of Club President.

Club Component Officer & Test Equipment Library:
Albert VK3BQO

Magazine Editorial:
Ian Jackson VK3BUF (contact on 7897339)

Club meetings held at the 1st Oakwood Park scout hall in Heyington Crescent, Noble Park North. Meetings commence on the Third Friday of each month at 8:00 pm.

Club Station: VK3BJA Located at the scout hall.

Postal address: P.O.Box 98 Dandenong 3175

****
ALL VISITORS WELCOME
****

PRESIDENTS REPORT - OCTOBER 1987

One of our major Club activities is the White Elephant Sale. So when you have 52 weeks to prepare for it, it was disappointing to see only four club members with stalls. If you haven't heaps to sell, arrange with someone else to sell it for you. We must have more participation or it is not worth the effort.

On a much brighter note I would like to thank those club members who came and helped to run the place. Richard (XRO) on the radio, Noel (CJJ) in the kitchen, those who helped set up the trestle tables and those who helped pack up. Also Dave (XMF) who rescued the door prize sales by organising a special effort later in the night.

Kerry, VK3KFC

DIARY OF EVENTS.....

OCT 16	General meeting.
NOV 6	Somerville Hotel social night. (see ad.)
NOV 20	General meeting.
NOV 28-29	Round trip to Mansfield. (see ad.)
DEC 12	Xmas breakup 11:00am Cheltenham Park. Map 86-G1. (to be confirmed)
JAN 15	General meeting.
JAN 23-26	Australia Day long weekend, Corowa N.S.W.

New Battery Technology

What appears to be the first real revolution in batteries since the development of the secondary cell has taken place at the University of New South Wales. Dr Maria Skyllas-Kazcos has released details of a battery in which the charge is held in a fluid that can be pumped into the battery to charge it up.

Maria Skylass-Kosacos of the University of New South Wales

The technology, based on Vanadium, is ideal for use in electric cars and other mobile applications, because the fluid can be treated like a fuel and pumped just like petrol. However, it is likely its first usage will be as a peak demand leveller in small power stations in the outback. The development of an electric car will be a secondary priority, but even so, we may well see one on the streets within two, years.

THIS SPACE FOR RENT (CHEAP)

The battery works by extracting the electrical potential between two oxidations states of a Vanadium solution. The negative fluid has a 2+ charge on it, the positive a 5+ charge. The plates are some inert material, although in the prototypes carbon is being used. When a connection is made between the plates current flows as the higher charge discharges into the lower one. To recharge the battery the fluids need to be recharged to their correct potential externally, and then the fluid pumped back in again.

A usable cell based on Vanadium develops 1.5 volts, much like a lead acid cell, but its energy density is about twice as high, which means that a battery to replace current generation lead acid batteries would be about half the size.

Commercial exploitation of the battery is being undertaken by Perth based Agnew Clough. The company is Australia's only existing Vanadium miner, and initially plans to develop the battery to supply energy to its remote mining operation. This will involve a 125 kW/hr installation. According to a company spokesman, the next step will be the development of a prototype electric car.

Skyllas-Kazacos has been working on the development of the battery for four years. It is based on a design ...i-nated by NASA called ...e redox flow cell, which used substantially the same methods, but with two dissimilar metals. According to Skyllas-Kazacos, she originally formulated the idea of using Vanadium after observing that the big problem with the NASA cell was caused by the fact that they were using two dissimilar metals. She applied for a grant from the National Energy Councils Development and Demonstrations fund and was able to employ a couple of researchers to develop her ideas from a simple test cell.

GGREC CLASSIFIEDS

WANTED TO BUY....

HF TRANSCEIVER 80M-10M EG FT101 UP TO $500.
CONTACT: MANFRED ON 700 3384

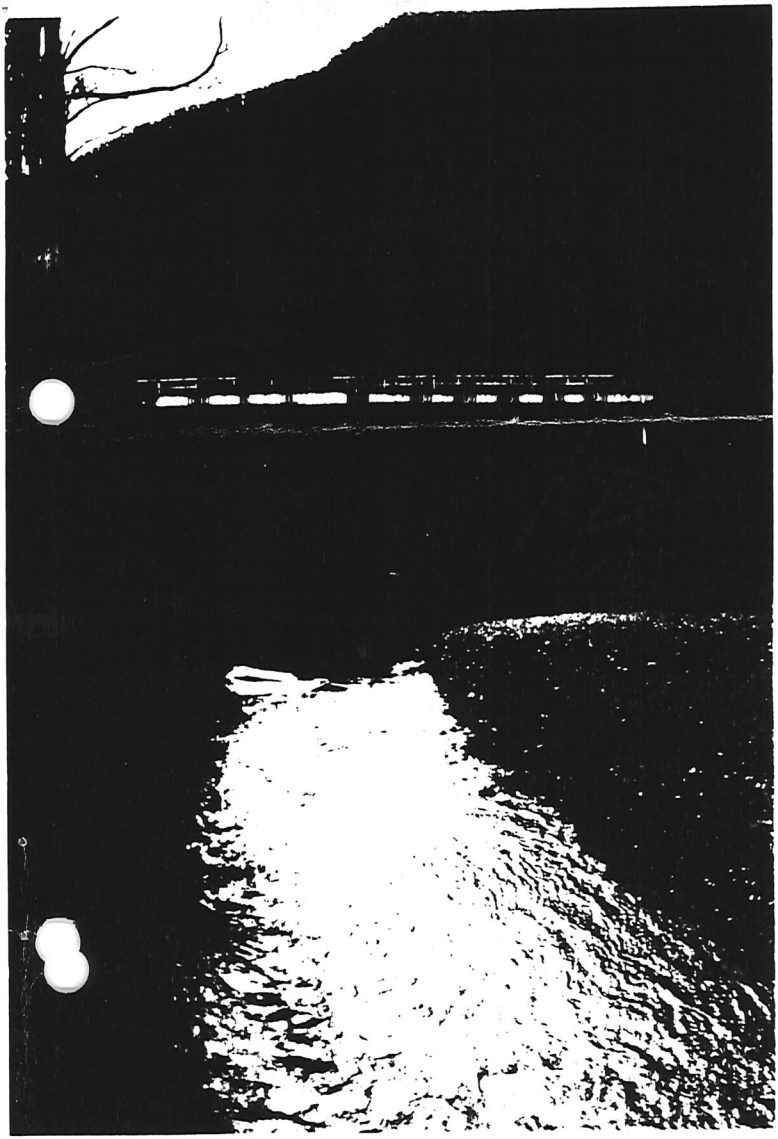
88MH TOROIDS (3 REQ.) AS USED IN ETI 730 RTTY DECODER.
CONTACT TONY ZUIDERWYK VK3ZMP ON 700 5447

ROUND TRIP TO MANSFIELD

On the weekend of Nov 28 & 29 the GGREC plans a round trip to Mansfield departing 7:00 am Berwick. The tentative plan is to drive via Moe, to a campsite on the Aberfeldy River, 10 km north of Walhalla. Spend some time exploring the picturesque gold mining district and set up tent accomodation at the camp-site on the rivers edge. Toilet facil-ities are available.

On the fol-lowing morn-ing we resume our journey to Mansfield via Matlock, Woods Point and Jamieson. We return to Dandenong via the Maroondah hwy arriving home late Sunday after-noon. Make sure you do have 2 metres on board list-ening on 146.225 mhz.

SEE YOU THERE



(LEFT)
The Aberfeldy River.

Australian census data on CD-ROM disk

Supermap, the first product of Space-Time Research, is a CD-ROM containing Australian census of population and housing along with associated software. The software runs on an IBM PC or compatible with a high resolution colour monitor. The data is stored on a CD-ROM, and the CD-ROM player is connected to a PC.

One way this disc can be used would be to ask the system to work out the percentage of Victorians with an income of more than $30,000, break the results into regional divisions, and then produce the result in "map" form. This process can be completed in under a minute.

A large retailing group is a good example of an organisation which could make use of this CD-ROM. Say their marketers wish to establish a typical profile of persons purchasing a given product on the group's credit card. By structuring the credit card data identically to the census data it is possible to compare the resulting maps of credit card purchases and population/housing conditions.

TINES used again for Wynn's Safari

Telecom Australia's Transportab. Iterra Network Services Earth Station, or TINES was again used this year to provide telecommunications facilities during the gruelling nine day long 6500km Sydney-Darwin "Wynn's Safari". This followed its successful use for the first time in last year's event.

TINES is Telecom's larger mobile satellite earth station, and is mounted on a Volvo turbocharged N10 truck. The four tonne unit is packed with ultra sophisticated electronics including a 4.6 metre fold down antenna dish. The ITERRA unit is specially modified for Outback Australia usage and is capable of operating in temperatures up to 50°C and in 95% relative humidity.

TINES allowed Wynn's Safari organiser Automotion Australia, the competitors and the media covering the event to utilise the full gamut of telecommunications services provided by Telecom. This meant STD, ISD, text and voice lines — providing facilities for extensive media coverage from the lonely overnight stops in the bush — from locations that had no communications at all.

The facilities allowed use of facsimile for newspaper reports, and the transfer of photographs to newspapers by the use of a Nikon NT 1000 picture transmitter — the machine that was the basis for the scoop photographs out of Fiji during that country's recent crisis.

Another important facility was the ability to make voice reports to radio stations, as well as maintain contact with the event Sydney Headquarters for search and rescue reasons.

For competitors it meant the luxury of telephoning home from "Back O' Bourke". The Telecom facilities included gold phones, normal handsets, and even new card phones which accept credit cards such as Bankcard or American Express!

The TINES unit was manned by a Telecom crew who travelled up to 600 kilometres a day, and then set up the facilities within 45 minutes of reaching each night's base.

Just ask any of the Wynn's Safari contestants — even ET never had it so good!

Racing by remote control

A new Radio Smart Modem (RSM) which will allow some of the "driving" of a racing car to be done by engineers in the pits, has been announced by local data communications manufacturers, NetComm (Australia). Fitted in the NetComm sponsored Nissan Skyline 2.4 Turbo racing car, the RSM will be tested under rigorous race track conditions, reaching speeds of up to 270 km per hour.

Completely designed and manufactured in Australia, the modem provides an error-free duplex data path over any standard two way radio system or cellular phone system. Both mobile and remote sites can be accessed over radio channels, unrestricted by expensive telephone lines.

"The Radio Smart Modem will enable us to do what other racing teams in the world have only dreamed about, including the multi-million dollar world of Formula One racing," says Dennis Horley, NetComm Racing Team.

Important information on turbo temperature, engine tune, oil pressure and engine revs can be monitored by the engineers in the pits, as the radio smart modem is linked to the car's inbuilt engine management system. Previously, development work on the engine management system was done by strapping a spare seat for an engineer in the car and he would enter data into a lap top computer. The disadvantage of this method was the extra weight in the car which would not normally be there under racing conditions.

A further data link allows engineers to communicate with the driver via a high resolution Epson terminal screen. The driver can concentrate on driving without having to watch the gauges continually, while the engineers monitor the condition of the car from the pits.

Driven by Murray Carter and Dennis Horley, the NetComm car will compete in the remaining rounds of the Australian Touring Car Championships, the Adelaide Grand Prix, plus major events in the Australian Endurance Car Championships, including the James Hardie 1000 and the Calder 500.

"Drive-up" ATM a success

Mothers with small children are among the enthusiastic customers at Australia's first "island" drive-up automatic teller machine (ATM), which was recently opened by the Capital Building society at Geelong, Victoria.

The teller machine, supplied by Philips is a free standing design mounted beside a driveway and has, in its first month of operation, become the society's busiest ATM.

Capital's chief general manager, John McVey, explained that the new ATM stands under a huge brightly-lit canopy which spans the drive way of the Geelong West branch at Pakington and Aberdeen Streets.

Manager at the branch, Kay Apano, says that mothers with children in their cars particularly appreciate the convenience of not having to get out of the car to make withdrawals or deposits. "It's a real winner" she says. "Its as simple as pulling into a service station. In fact, the ATM could be mistaken for a short stylish petrol pump."

01/09/87

The Secretary,
Gippsland Gate Radio & Eletronics Club
P O Box 98 ,
Dandenong Vic 3175.

Regarding the present controversy concerning operation on the 2 meter band by Novice operators.

I think it is about time that a very important subject was raised. Why does Amateur Radio, probably the most highly advanced technical Hobby require its adherents to be qualified in an antiquated medium to gain entry to full capability of our hobby. I speak of the Morse requirement for H.F. operation. It is time for the abolition of the C.W. test.I can already hear the screams from some of those of us who have had to pass the C.W. test, but who generally never "POUND BRASS" . Whilst I believe that if one wants to use C.W. then that is their choice and I would be the first to defend that right, but why make aspiring Full Call Amateurs learn something that they will probably never use again and will forget in a very short time.

It will be said that we cannot drop the code test because of the I.T.U. agreements Australia has signed !What Poppycock!!. We have already broken so many of the International requirements (TV channel 0,5A etc).No! If we want our hobby to continue we must "populate or perish". ALL OF OUR FREQUENCIES ARE BEING HUNGRILY LOOKED AT BY OTHER USERS.

My proposal is for only 2 types of licences.

1/ Full call with the same technical and regulatory requirements as at present.
2/ Novice (for the want of a more suitable name)with the same technical and regulatory requrements as at present with the use of the Full 2 meter band for voice only (no exotic modes) and with existing power levels.

Neither licence would require a morse test.

What can we do to achieve this quickly?. Join the W.I.A. as by unity we can approach the Department of Transport and Communications to have them change the rules. Make sure that we tell the W.I.A. that we want them to set this up with DOTAC forthwith. If you belong to a Radio Club make sure that a Motion is passed at the next meeting to write to DOTAC in a courteous manner and ask them to carry out our wishes. DO NOT WRITE TO DOTAC AS AN AMATEUR (YES I KNOW IT IS YOUR RIGHT) they will get enough letters from the KNOCKERS. Many of the present Full Call licencees will back this proposal. Write to all and any Publications A.R.-A.R.A- ELECTRONICS AUSTRALIA- ELECTRONICS TODAY-AUSTRALAIN ELECTRONICS MONTHLY-and any others, we must keep the SQUEAKY WHEEL moving.Contact your Federal Member and also get your club President to contact the Federal Member.

NOEL A ROBERTS VK4ZAR
P.O.Box 49
YEPPOON 4703
Ph(079)391801

** ENDORSED BY THE VK4 W.I.A. AUG 87 **

Tiny microphone fits on a chip

A tiny silicon microphone that could serve as the "ears" for robotic systems, has been developed at the University of California, Berkeley. Only one fiftieth the size of a postage stamp, the highly sensitive microphone, or acoustic sensor, is small enough to fit on a silicon computer chip. Its small size holds the potential for significant miniaturization of hearing aids and for other medical applications.

The new microphone will also allow for more economical and efficient production of computerised speed-recognition systems and hearing-aid technology, according to its inventors. Its ability to detect minute changes in air pressure could additionally prove vital for controlling extremely refined robotic action in manufacturing or other technologies.

An added benefit is that the microphone can be easily mass produced, report Professor Richard S. Muller and Eun Sok Kim, graduate researcher, both of Berkeley's Department of electrical Engineering and Computer Science (EECS).

According to Muller, the new microphone contains the thinnest diaphragm or artificial "eardrum" ever reported. It is also more sensitive and versatile than current acoustic sensors, because it can be built on a computer chip together with the integrated circuitry to analyze what it "hears".

For example built into the head of a robotic drill, the sensor could "hear" or detect very small changes in sound or air pressure that would indicate exactly how far the drill had cut.

First compliance certificate for cellular radio phone

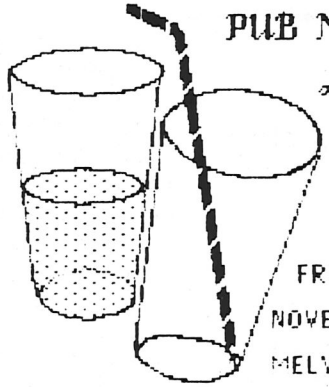
The first Compliance Statement Certificate under the provisions of the Radiocommunications Act 1983 has been issued by the Department of Communications Australian designed mobile radio for use in cellular mobile services (car telephones).

The first equipment to comply with the new Ministerial Standard is the FM9000 mobile radio, designed and manufactured by Philips Industries in Victoria.

"Provisions of the Radiocommunications Act 1983 governing licensing and equipment standards enable the Department of Communications to better manage the electromagnetic spectrum", a DoC spokesperson said.

The first compliance test was conducted in the Department of Communications' laboratory in Brisbane.

"The FM9000 mobile radio complied with all the requirements of Ministerial Standard M313, which covers radios used in cellular mobile services', the spokesperson added.



PUB NIGHT AT THE SOMERVILLE HOTEL

FRIDAY THE 6TH OF NOVEMBER AT 7:00 PM

MELWAYS REF. 107-E12

RTTY

MODEM

Want to get going on Amateur RTTY the easiest, simplest and inexpensive way.

The ALIAN RTTY Modem is cheap yet effective for use on the VHF bands where complex audio filtering is not required. Comes with 24 page instruction manual taking the reader from teletype basics to setting up a RTTY station.

	PRICE
PCB + INSTRUCTION MANUAL	$24.00
P&P	$1.00
FULL PARTS KIT + MANUAL	$60.00
P&P	$2.00
ASSEMBLED & TESTED	$90.00
P&P	$2.00

RTTY PACK

For the TANDY Colour Computer with 64k RAM. This plug in cartridge contains software and hardware to interface your Computer to most any RTTY Modem, including the one described above. Supports most printers to give true copies of pictures and contains a function called "AUTO ANSWER" to turn your RTTY station into an Answering Service "On Air".

	PRICE
ASSEMBLED & TESTED CARTRIDGE	$120.00
P&P	$2.00

We can also upgrade the memory of your Tandy Colour Computer. Ring or write for details and price.

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