GATEWAY

GGREC

THE OFFICIAL JOURNAL OF
THE GIPPSLAND GATE RADIO
AND ELECTRONICS CLUB

SEPT 1988

GIPPSLAND GATE RADIO AND ELECTRONICS CLUB

COMMITTEE MEMBERS 1988/89

President.....	Kerry Clayton	VK3KFC
Secretary.....	Andy Beales	VK3KCS
Treasurer.....	Dave Campbell	VK3XMF
Member.....	Ian (Boris) Buczak	VK3KGB
Member.....	Peter Vat	VK3KCW
Member.....	Laurie Gallagher	VK3KLG

Magazine editorial, print & despatch:

Ian Jackson VK3BUF ph. 789 7339

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. (+/- 10%)

Club Station: VK3BJA Located at the Scout Hall

Postal address: P.O. Box 98 Dandenong 3175

Membership is $15.00 for adults and $6.00 for pensioners and students.

(See the membership applic. form on the last page.

****
ALL VISITORS WELCOME
****

PRESIDENTS REPORT - SEPT 88

Now that the weather is improving, so are the HF. bands that for so long have been disappointing. I am looking forward to seeing HF whips back on cars. HF whips are those ones that are longer than a 2m 5/8 and are used to talk to people in other countries. You have to tune into the signal but at least it doesn't time out on you.

Club members are expected to assist the committee in the White Elephant Sale on this Friday night, September the 16th. Also we are running out of time with these theatre tickets. If sales don't improve we will drop the idea. Where else can you buy Hoyts theatre tickets for five dollars each and support your Club at the same time?

73, Kerry VK3KFC

6 METRE REPEATER PROJECT

The Six metre repeater project took another step forward with the completion of modifications to the RF stages within the RT80 transceivers. Wo continues on the interfacing and microprocessor control stages. Operation of the repeater is now in sight.

A NEW 70 CM REPEATER

Peter VK3YZP, of Alexandra reports that his new 70 cm repeater is in operation. The repeater with the callsign of VK3RUG, transmits on 438.175 and receives on 433.175. It has an output of 20 watt into separate 6db vertical antennas. At this stage the coverage is only about a 30km from the site, which is 400m ASL. The repeater is intended serve Alexandra, Mansfield and Lake Eildon. Peter intends to shift the repeater to a 630m ASL site in the near future, as soon as he can get his teeth into a new set of cavities.

Congratulations are due to both Erica Bartz and Mike Walker for having succeeded in passing the recent Amateur exams. You will hear Erica on the air using her new calsign of VK3YLP, and Mike has upgraded from VK3NYV to VK3JMW.

Well done!

Who was the local amateur, who while talking to an American on HF adopted an accent broader than the Yank he was talking to? The hysterical listeners-in want to know how he gets on while talking to a Japanese contact. Too many 'Big Macs' or 'Kentucky Fried Chickens' I think!

(That little gem was handed to me by an anonymous amateur, BUF)

Who was the local amateur, who while wining and dining on the town within an up-market version of public transportation overindulged a little? Could it be the same local amateur that wondered why the third lane on the Freeway was painted white? He must have been looking forward at the time as it certainly wasn't white after he'd passed.

Recharging Dry Cell Batteries

by Jim Foster

I recently read an article in this magazine where the author condemned the recharging of dry cell batteries. His concern was the printed warning not to recharge batteries as they could explode.

Systems have been around for many years for recharging dry cell batteries, but have never been popular due mainly to the propaganda of the battery manufacturers, and also because cells used to be cheap enough to throw away. For instance, the dry cell market in the U.K. alone is worth two hundred million dollars a year, so we can hardly blame the manufacturers for trying to protect their interests. If recharging were to be generally adopted this market would shrink to under forty million dollars a year. The savings in raw materials and industrial effort would be enormous. Unfortunately the idea that it is dangerous to recharge dry cells seems to have taken root in most countries in the world due to the dissemination of manufacturers' propaganda by the technical press. Fortunately there is now plenty of evidence from people recharging dry cells for several years now to disprove the manufacturers' claims.

In this respect the conservation conscious Japanese are away ahead of us. In Japan they have ACTUALLY MADE IT ILLEGAL for a manufacturer to claim that dry cells are not rechargeable, following a court case in 1975. The words "not rechargeable" or "dangerous to recharge" have disappeared from the sides of batteries sold in Japan, recharging of dry cells is officially condoned, saving Japan a fortune in the process. If only we could follow their example in this country — but unfortunately vested interests will ensure it does not happen.

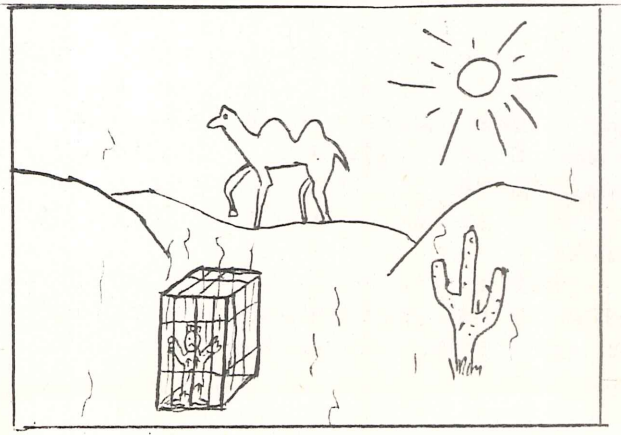
What are the facts? The facts are that a dry cell battery cannot explode due to the way they are constructed. The cell is made up of an inner and an outer shell. The inner shell holds the guts of the battery. The outer shell is merely a stronger unsealed casing. If the battery is over heated for one reason or another a wax plug, or seal, will melt allowing the gases generated to escape into the unsealed outer casing and hence into the air. If the outer casing is well constructed and tight, there may be a "pop" as the seal is broken.

Dry cell batteries can be recharged in two ways. One is the ordinary cheap recharging unit obtainable at most large stores such as K MART. These units are a D.C. unit and using them on dry cells have their limits. Recharging using D.C. current you can only expect up to five recharges per battery and you have to remember some rules to be successful. Do not allow a cell to become too low, the best method is to buy new batteries and use them for a day — recharging them each night and testing each battery separately before reusing them. The reason for recharging directly after use is that if a battery is left too long certain chemical changes take place inside the battery that are irreversible. These changes can take days or weeks but it's best not to let them start if you can help it.

These cheap recharging units are made for NiCads and charge at a very low rate, usually about 20 Milli Amps. Dry cells can be charged much faster, up to 400 Milli Amps. At the 20 Milli Amps rate it will take at least 16 hours to recharge your batteries. There is no danger to a battery if you leave it on the charger too long, it will take just so much charge and no more and unless it overheats will not be damaged. I have a homemade recharging unit that plugs into my car cigarette lighter, this unit is very handy when camped out in the bush and as it has a variable charge rate I can push a lot of power back into the batteries very quickly. On the highest charge I have to be careful as the batteries get hot and sometimes "pop" if I forget them.

The other way to recharge your dry cells is to build an A.C. charger. This can be a problem though unless you are good at electronics or know someone who is. They are also expensive to build but when used can give ypu up to 20 recharges. A new way has been found to recharge dry cells called the "pulse" method. A large charge of up to 5 Amps at a time is "pulsed" into the battery, the current is then stopped to allow the battery to cool and absorb the charge after which another pulse is pushed into the battery. This is continued until the battery is charged. It's the most efficient way yet devised to recharge dry cells — it takes only about fifteen minutes to effect the recharge and allows the cell to be recharged many times without damage. Unfortunately I can't tell you how to build these recharging units as I'm no expert on electronics, the one I have was built by a friend. I have been recharging batteries now for over two years with great success and no problems. Not only do I use the recharged batteries in my detector, I use them in torches and the kids' toys, which saves a lot of money and means the kids get a lot more use out of their toys than they would if I had to keep shelling out for new batteries.

Even without the A.C. or "pulse" chargers you can save a lot of money just using the D.C. charger available through your local K Mart and it's all perfectly safe regardless of the manufacturer's warning on the battery. ■



100 years of 'Radiation': exhibition to mark climax of Hertz's work in electromagnetics

IEEE, "The Institute", May 1988

In May 1888, Heinrich Rudolf Hertz published a paper entitled "On Electric Radiation." In the 100 years that have since passed, Hertz's experiments have proved the cornerstone of electromagnetics.

To celebrate the centennial, a special exhibition will take place during the annual symposium of the IEEE Microwave Theory and Techniques Society (MTT), to be held May 25–27 at the Jacob K. Javits Convention Center, New York City.

The exhibit will comprise replicas of 22 pieces of apparatus used by Hertz to verify Scottish physicist James Clerk Maxwell's theory of electromagnetism, published 24 years before as "On Electric Radiation."

The replicas will be on loan from a collection at London's Science Museum. Posters, graphics, and an exhibit catalog will explain the materials, according to John H. Bryant (LF), an adjunct research scientist from the University of Michigan in Ann Arbor, who arranged the show.

The display will be in chronological order to demonstrate Hertz's step-by-step discovery and learning process. Among the pieces will be replicas of Hertz's first radio-frequency transmitter and receiver, and of a parabolic-reflector transmitter and receiver with which Hertz demonstrated that electric waves at centimeter wavelengths have properties similar to those of light waves.

MTT members versed in Hertzian lore will be on hand to discuss the equipment. An afternoon symposium session on Wednesday, May 25, will discuss Hertz's work.

The Hertz replicas will then go to the Massachusetts Institute of Technology Museum in Cambridge from June to December, before returning to London.

The New York exhibition has been supported by 28 companies in the microwave field, along with the IEEE Life Member Fund and the MTT.

The exhibit will be open from 9 a.m. to 5:30 p.m. on May 25 and 26, and to 4 p.m. on May 27.

An article on the Hertz display is planned for *Spectrum*'s May issue, while the May *IEEE Transactions on Microwave Theory and Techniques* will carry five papers on the centennial. □

WHITE ELEPHANT SALE

This annual event is becoming more than a chance to swap items with each other. It is more a Club event, a public relations exercise, a chance for old friends to meet.

I would like also to point out that the 7:00 pm start for stall holders to set up is *not* a chance for them to pick the eyes out of the bargains before the public has had a go. The hall will open around 8:00pm for sales.

We will need to have some Club members manning the Club stall, helping out, selling raffle tickets etc. Might I suggest that Club members take some care with what they put on their stalls. Blown light globes, Holden AM radios that dont work, blown valves are not the sort of things that attract sales and certainly don't help impress visitors.

Set a price on the items that sound attractive and will be just enough to satisfy what you need to get for them. Clearly price every item on display.

Kerry, 3KFC

GIPPSLAND GATE RADIO AND ELECTRONICS CLUB - MEMBERSHIP FORM

NAME:_____ CALLSIGN: (IF ANY)_____

ADDRESS:_____ POSTCODE:_____

PHONE NO.:_____ TODAYS DATE: ___/___/_____

MEMBER TYPE:

REGULAR MEMBERSHIP: [ ] ($15.00)
PENSIONER MEMBERSHIP: [ ] ($6.00) PICK A BOX....
STUDENT MEMBERSHIP: [ ] ($6.00)

To become a member of this exclusive institution simply fill out this form, track down Dave VK3XMF (our Treasurer) and give him this form along with your subscription fee. Alternatively you can post it to the Club address of P.O.BOX 98 Dandenong 3175.