

# Pelican Droppings

Newsletter of the Sunshine Coast Amateur Radio Club Inc.

Issue No.107

April-May-June 2011



**Education officer Harvey VK4AHW congratulates Glen VK4 FSCC after gaining his Foundation license**

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Address: The Secretary, Sunshine Coast Amateur Radio Club Inc.  
PO Box 7551, Sippy Downs, Qld. 4556



## Presidential Preamble

Well, here we are middle of another year. I hope all is ok with everyone. We've had another couple of busy months with Field Day Contest, Rally Q, and the Noosa Century Bike ride. Thanks to all who participated in the activities; sorry about the early rises but I'll see you next year.

We have three new members to welcome to the club: Glen VK4FSCC, Mick VK4MJ and Don NCY "no call yet". If you see or hear them about please make them feel welcome. The rain is still hanging around and holding up my yard work; making things difficult to organise club projects. Never mind it will all change soon enough and the dust will fly again.

It is my sad duty to pass on the following Silent Keys: Egon VK4YNL and Ernie VK4DLE. We offer our sincere condolences to their families. To Carole VK4FUNN and Ray VK4YRS, our thoughts are with you with the passing of your mum. Take care, we are only a phone call away if needed.

Many of our members are travelling around the country side and we wish them a happy and safe holiday. I will keep the projector warm and organise a guest speaker evening to see all the photos.

Don't forget the NNC camp is on the 7th, 8th, and 9th July at the Borumba Dam 5 km past the Imbil deer park. You should have your invitation by the time you receive this issue of the newsletter.

The 6 meter repeater has had a face lift. As soon as Wazzer VK4NW was back from an overseas trip he called Richo VK4RY to start work on 6 meter repeater. The repeater radio has been changed to a new Alinco DR-06T transceiver giving it much greater sensitivity compared with the old Phillips 828 previously in use. This is now covering the northern suburbs of Brisbane when communicating mobile. Thanks guys for your effort and time upgrading the system.

Don't forget to read the library update from David VK4JMR in this issue. The library index is now on the club website vk4wis.org. The library re-cataloguing was a job well done; thanks to the team for their effort.

Sick list: We wish Judy, XYL of Harvey VK4AHW, a speedy recovery after recent surgery. Also Yvonne, XYL of Frank

VK4BLF, is recovering well after surgery. Tony VK4TLA is in hospital for more surgery - take care as we are only a repeater away. That's about it folks, take care.

Noel VK4NL



**President Noel VK4NL congratulates Sava VK4PN as winner of the Ken Wilford Trophy for the most contacts on CW.**

## **Simple (but Successful) Satellite System**

By Harvey Wickes VK4AHW

In recent months, Peter, VK4NBL has inspired quite a few people in SCARC, Gympie and beyond to get re-involved with amateur satellite communications. I think my only previous satellite experience was back in the early 80s, with a brief QSO from The Gap, in Brisbane's west, to Mt Gravatt, just across town. It was a long time ago, but I think the contact was via OSCAR 6. Having barely "been there and done that" I went on to do other things, leaving satellite comms to pursue other interests.

Just to re-live the satellite experience, I decided to follow in Peter's footsteps, and see if I could get re-involved without too much effort or expense. I downloaded a few readily available satellite tracking software programs after visiting AMSAT's site and following some of their many links. Programs like "Heavens Above", "Footprint", "Orbitron", "TrakSat" and many others are all free and easy to use. Up-to-date information is easy to come by, so that every thing becomes very simple. So far, my "little effort and no expense" criterion were being well met. Now for the hardware.

Having seen Chez's hand-held dual band "Arrow" antenna, I set about making a home-brew copy and soon had a reasonable version of that antenna constructed from junk box bits, readily available from "the shed". A little research revealed that there are several easy-to-work FM satellites available, with 2 metres up and 70 cm down. All I needed was a dual-band handy, or even a pair of transceivers, one for each band. Initially I settled on a 5 watt Wouxun KG-UVD1P with ctcss for 2 m transmit, teamed up with an Alinco DJ-S4 UHF for receiving. The latter transceiver was chosen on the basis of 1 kHz tuning steps available for following Doppler frequency shift with ease.

With the aid of a few rubber bands and a bit of plastic conduit, I had the system lashed together, complete with a speaker-mic for the Wouxun. Having charged batteries and pre-set both transceivers, I was soon sitting on a plastic chair in my back yard (see Fig. 1), with antennas pointed skywards, talking to Richard, Peter, and several VK2s, a VK1 and a ZL, on my very first attempt. What a buzz! The only real difficulty was a severe lack of hands, as I had to hold the antenna, point, track and play with polarity adjustments whilst handling the speaker mic, activating the PTT and adjusting the Rx Doppler shift. Somehow I also managed to scribble down the log entries,

but life got very busy for about 10 minutes or so. It was a lot of fun involving “little effort and no expense”.

If you want to see how to do it all properly, have a look at what FrankVK4BLF, Richard VK4RY, Peter VK4NRL and others are doing.

It is easy to see that when satellite tracking - the sky is the limit.  
End



**Fig.1 Harvey VK4AHW satellite radio and tracking system  
144 Mhz uplink—435 MHZ downlink**

### Editor's Tech-Quiz

Under the topic of electromagnetic field there is a property called:  
**magnetic flux density**

Two units are used for it: **gauss**, named after the German mathematician Carl Friedrich Gauss, and **tesla**, named after the Serbian physicist and inventor Nicolai Tesla.

Why are there two units for the same thing?

Answer on page 19

## Memories of the Kirkleigh Camp 2011

By Mike Little VK4YFL

Friday morning - up at 6:00 am, and the last few items were thrown in the caravan and hooked it up. A quick call on the radio to Harvey VK4AHW produced no response; he must still be asleep! A little later a phone call to Harvey arranged a meeting with he and his wife Judi on the road near Moby Vic's on the Bruce Highway.

Slowly we crawl up the road and check the brake settings for the caravan - all good. Harvey is on the radio and is making good time towards the Bruce Highway, We proceed at a steady pace to allow him to catch up, and by this time a few of the locals have woken up and joined in the chat. With Harvey close behind we took the Kilcoy turnoff, got held up at road works, then it's plain sailing through to Woodford and on to Kilcoy, listening to the good morning net as we drove. We stopped at Kilcoy - Harvey had discovered a need for one of the bakery's legendary pies So we had coffee and pies all round, after all we had skipped breakfast, and the pies were extremely tasty.



**Visitors relax after setting up the marquees**



**Noel VK4NL and others**

Onward we went to Kirkleigh and after a few calls to Noely VK4NL, and driving into the camp site, locating a site was easy with Noel co-ordinating the maneuvers. As we set up the caravan Harry VK4TK, called over to say g'day, and offered us some red-claw yabbies. He had just caught and cooked them, and they tasted delicious (I had never tried one before). At last setting up was complete, and the billy was on. Harvey was proudly showing off his new generator. The rest of the day we took it easy meeting the other campers to socialise. As dinner time approached the grand cook-off event took place, with everyone cooking with their camp oven, in the choofers that they had acquired, or made, three years ago. They had all laughed at mine when I took it. However I cooked a roast and it was too good to share (HI).

There were seven entries, and everyone enjoyed a feast with no clear winner, but who cares the food was great. Max VK4AWD cooked an apricot chicken curry that got a lot of votes. The cook off was a tremendous success, I heard that someone was caught licking his plate clean, but it would be embarrassing to mention our president's name.

Earlier in the day I had set up the TV. Reception wasn't the best but we had some watchable stations. However I didn't get channel 7, so no "Home and Away". My name was Mud, especially as Noel had his satellite antenna set up, and I was reminded several times that I had left ours at home. So Harvey came to the rescue, He had a huge flat panel antenna, a preamp and of course the new generator. Judi and Jane were now happy, and off they went to watch the TV while the rest of us socialised in the marquees. There was a bit of a catastrophe a little later at the Wickes camp. The generator coughed and stopped. Harvey showed concern at the failure of the new generator until it was discovered that there the fuel had run out. He then confessed that he had only put a little bit of fuel in at home to test it. Problem solved. When it was time to go to bed Harvey turned the generator off, and received a large cheer and clapping from a nearby camp site.

On Saturday morning we cooked damper in the camp oven for the first time. It came out ok. It was tried by all until none was left, so



**Unpacking and setting up under the marquee**



**Richard VK4RY setting up solar panels with interested**

we made some more. Keith VK4AKA and his wife Sharon VK4HSN arrived with their latest acquisition, a caravan. Several people turned up just for the day. I saw Roy VK4ARS, and his wife Ruth, Ken Fuller VK4KF, and there were others. Mid Morning featured the Boot Sale, there was a large collection of different items and the prices were modest. I ended up with a load of stuff, including an HF set, a VHF 2m mobile, some old microphones, and other items. There were hardly anything left after an hour. So now comes the bit where I hide my purchases in the car. Unfortunately I got busted by Jane - I think I was dobbed in, who would have done that? Noel! After lunch there was an auction. The auctioneer was Neil VK4NF who did a magnificent job selling all sorts of preloved items (junk). Most was bought by Ricky VK4NRL. We were all amazed at what he bought especially the old AM CB set. The Grand Raffle was won by Angus VK4KMC - I think he won second prize last year too. Our evening meal was a BBQ cooked by the Dalby crew, another huge effort, and as we ate our BBQ the lights went out and the generator went silent. Someone, forgot to refuel! So we ate by torchlight

until normal service was resumed. At this point Harry turned up with a huge red-claw that he had just found in the trap; it was the size of a small lobster.

On Sunday morning most people were up for the good morning net. Max VK4AWD had set up in his car to run the net, then, as it started he knocked a button and upset his radio so much so that it would not transmit with the repeater shift. Poor Max, he was getting a bit desperate as he couldn't find what he had accidentally changed, so I let him use the radio in my car to run the net. Another fine net was run. The Dalby crew had planned to have BBQ leftovers for breakfast, but they found lean pickings, as it had all been eaten Saturday night.

By mid morning and people had started to pack up to leave. Goodbyes were said and the camp started to thin out. We left after lunch for a steady trip home. This year's camp was the best one so far; I think. I really enjoyed it, there was good company, good food and a great laughs. All up, including day trippers, 63 people signed in the guest book. They travelled from Brisbane, Bribie, Sunshine coast, Toowoomba and Dalby to attend. I think everyone had a good time; certainly I did.

End

An advertisement for Melco Lanhams. The top part has the logo 'melco lanhams' in white on a blue background. Below that, it says 'PAUL BARBER RETAIL MANAGER NOOSA MITRE 10 HOME &amp; TRADE' and the phone number '0437 744 191'. It also lists contact info: 'p 07 5455 9834 | f 07 5455 9818 e pbarber@melco.com.au www.melcolanhams.com.au'. At the bottom, it features the 'MITRE 10' logo and the text 'Sunshine Hardware Pty Ltd t/a MelcoLanhams ABN 95 129 140 085'.

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An advertisement for D&amp;A Crane Hire Noosa. The top part has the logo 'D&amp;A Crane Hire Noosa' in yellow and blue. Below that, there is a photo of a blue crane with 'D&amp;A CRANE HIRE NOOSA' and the phone number '0419 735 748' on it. To the right of the crane, it says 'ASHLEY 0428 741 464 a/h 5474 1464' and 'DAVID 0419 735 748 a/h 5474 3305'. At the bottom, it lists 'FAX: 07 5474 3909 PO BOX 985, TEWANTIN 4565'.

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## A magnetic loop antenna for the 80 m band by Paul Ament VK4XE

There is loads of information in the annals of amateur radio on magnetic loops. Here is my version of one for the 80 m band (see Figs.1 &2 )

The magnetic loop has an advantage over the wire and yagis on this band in that, on reception, it picks up far less static noise. It is bi-directional in the direction of the plane of the loop. Because of the high currents flowing in the loop and coupling turn cross-sectional area must be substantial. Otherwise losses would be huge and render the antenna useless.

The key item in the construction is the vacuum tuning capacitor. Encapsulation makes it weather-proof of course, and, because the bandwidth is narrow (5 kHz, say) it must be adjustable from the radio shack. This is done using a low-voltage geared motor from a rotisserie - cheap and simple. The antenna is mounted on top of my polythene water tank, away from metallic objects. It has been highly successful within VK and overseas.

End

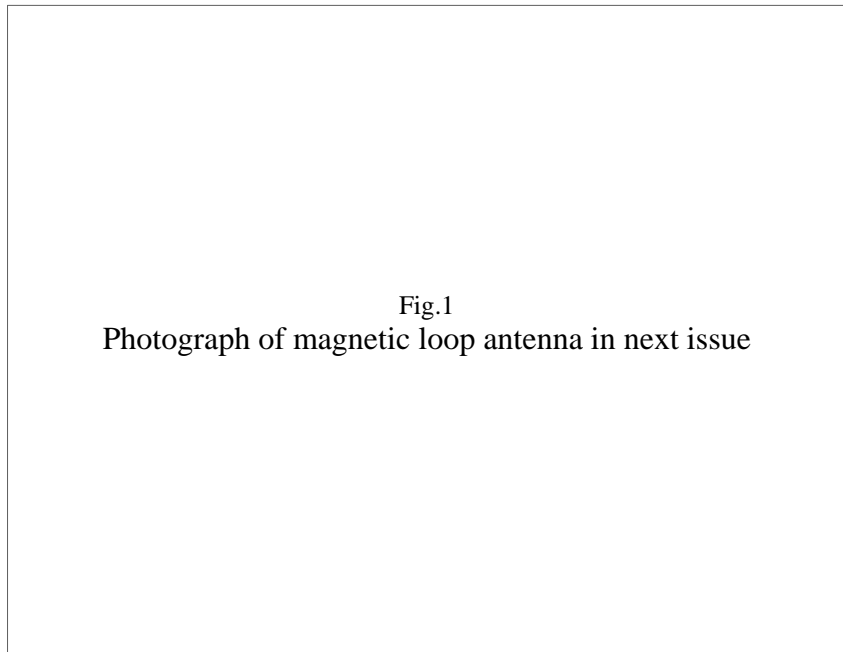
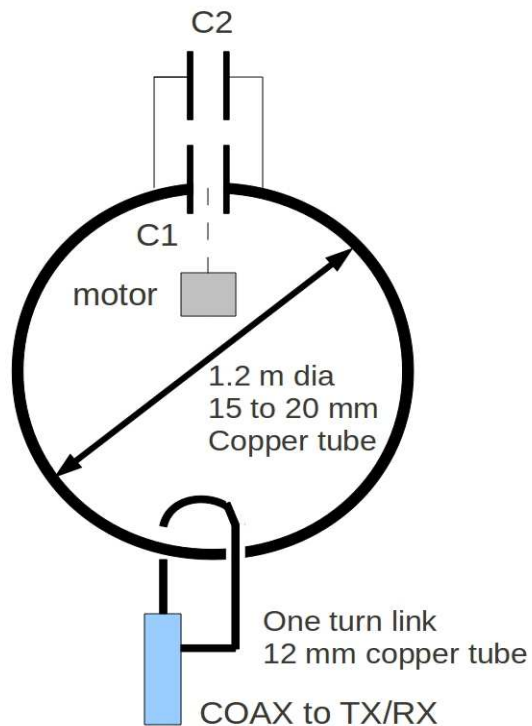


Fig.1  
Photograph of magnetic loop antenna in next issue

C1 25 – 150 pF vacuum capacitor

C2 300 pF fixed capacitor



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## Sunshine Coast Amateur Radio Inc. Library

by David Robertson VK4JMR

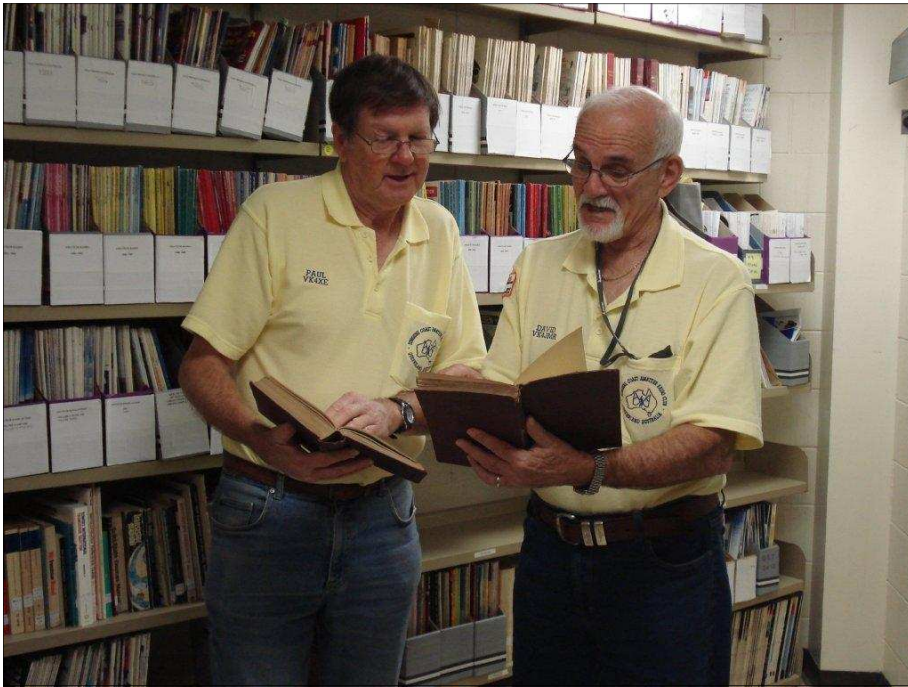
When I joined SCARC the library contents were located in various nooks and crannies within the building including the tea-room. Max, VK4VZ now VK2BVZ, could be seen beavering away on the computer cataloguing the large volume of books and magazines. When Max departed for the south, Vicki, the XYL of Harry VK4TK, took over and spent many hours weeding out excess material and successfully selling some of it at Sunfest producing some funds for the club coffers.

When Noel, VK4NL, became President he had a vision of locating the library in one room in the building and reorganising the shelving and cataloguing to make the valuable facility more user friendly and accessible. The shower room and its annexe were full of boxes containing much of the library.

Two years ago I undertook the job of reorganising the library to be located in its current locality. Tony, VK4FAAA, volunteered to assist and we spent many hours on a Wednesday and some Tuesday afternoons sorting the magazines and weeding out the many duplicates. Unwanted material and superfluous magazines were destined for Sunfest. This was heavy work as boxes of magazines and books are quite weighty and Tony is to be thanked for his contribution.

Secondhand library shelving came to us via Robert VK4LHD and Noel modified it where needed to fit into our available space. It was found that there was little demand at Sunfest for old magazines and many were sent for recycling. Once the magazines were sorted and shelved we set to the textbooks. I am grateful for the assistance of Leicester, VK4ALH, Richard, VK4RY, Harvey, VK4AHW and last but by no means least Paul, VK4XE, for assistance in deciding what we would keep and what discard for recycling or sale at Sunfest. Bill, VK4XZ also assisted from time to time.

Paul settled into the role of No.2 librarian (or maybe No.1) and his knowledge was invaluable in the final sorting and cataloguing of the textbooks. He continues to attend to the library when I am absent, thank you Paul. He has been a pleasure to work with. A cataloguing system was dreamed up which seems to work. My XYL, Katherine, herself a qualified librarian, felt that our library was not large enough to justify a sophisticated system like Dewey Decimal.



**Paul VK4XE and David VK4JMR perusing a library book after their herculean effort in re-cataloguing the SCARC library .**

Max's system was designed for the library when it was much larger so it was decided to start again with a very simple system and re-catalogue every book. Thanks to a laptop donated by Barry VK4JI, with additions of a keyboard and mouse from me, we had a designated computer for the library.

There is a printed guide to the library in a purple binder next to the borrowing book. The work was completed earlier this year prior to the AGM and thanks to Keith VK4AKA, the whole guide to the library has been placed on the club website. We have already had one enquiry that I know of from a member of the public who found a textbook he was looking for by Googling it and found it on our website! He called at the club and was able to tell Richard and Leicester exactly where it was in our library. It has been a rewarding exercise made possible by the assistance of the members mentioned above and encouragement from Noel and others. If I have neglected to mention anyone else by name it does not diminish my gratitude.  
End

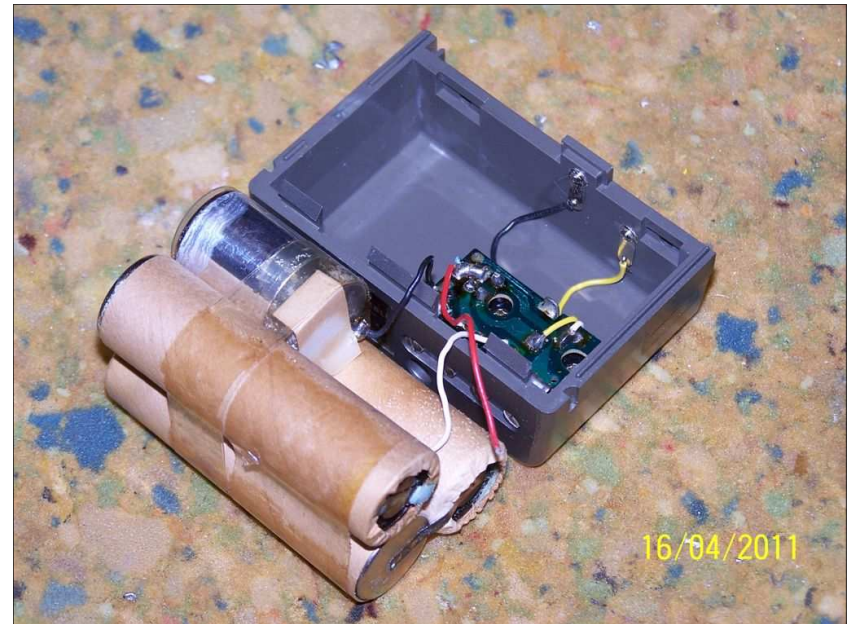
## Replacement batteries for hand-held radios

By Mal Lees VK4ML

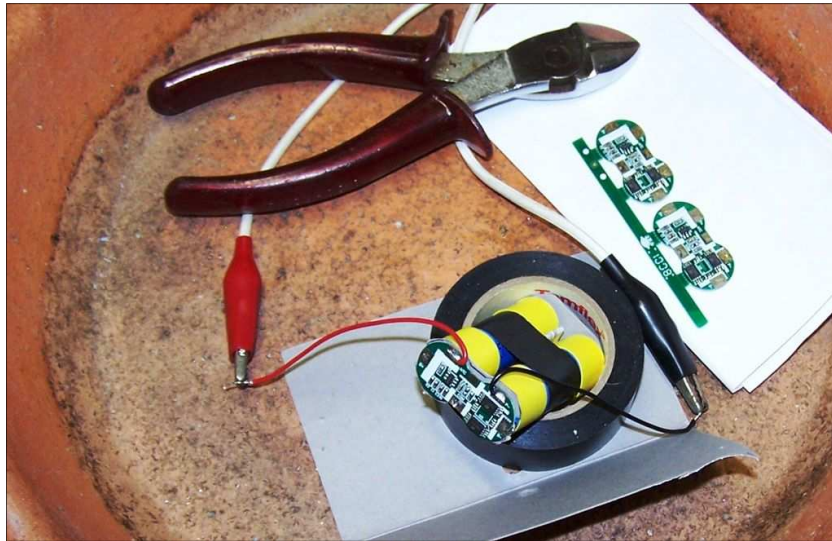
I have replaced the 7xN500 mAh Nicads in my KENWOOD TR-2500 2M handheld with 2x900mAh LiPo AA (14500) cells with appropriate PCB to control charge-discharge to make it safe. The two new cells are much smaller but nearly double the capacity of the Ni-Cads. The small reduction in supply voltage doesn't seem to worry the radio. Base and mobile charger still work as per original. Three LiPo cells could be fitted inside the pack but the conversion becomes more complex and it appears to be unnecessary. The PCB cost about \$3 + post and the batteries \$2 each.

As you can see in Fig.2, I tested the new arrangement on the bench before putting it into the case. The little PCB is amazing in how it controls charge rate and the charge and discharge voltages.

My bits came from the USA and postage is a killer if you only buy one off. I am sure they can be sourced from China but haven't discovered where at this stage. I haven't played with the 3 cell version yet but I am contemplating doing so. See screen grab of website in Fig.4 on page 18.

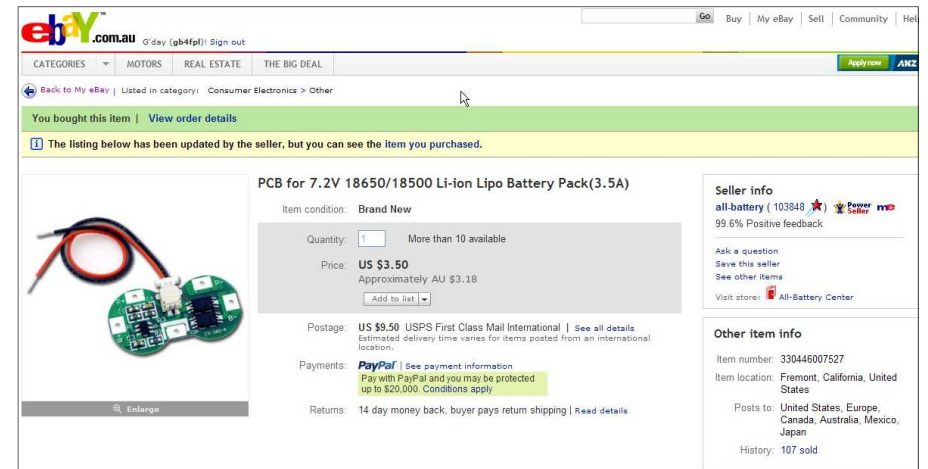


**Fig.1 Original battery pack dismantled**



**Fig.2 (above) Assembled replacement LiPo batteries being tested**

**Fig.3 (below) Radio, typical LiPo batteries and PCBs**

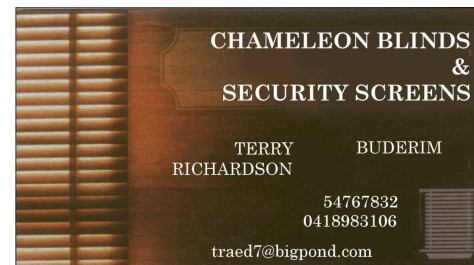


**Fig.4 A screen-grab of one of the items purchased**

End



Advertisements





### ***Rick's Garage, Palmwoods***

Drawing in pen, brush and ink by your editor, Geoff VK4GWC. The drawing won 2nd prize of \$200 in the Maleny Art Awards and Exhibition held over the weekend 17—19, June, 2011. After making the drawing Rick walked across the road to where I sat at my portable easel in Palmwoods, liked what he saw and wanted to buy it. A double prize! Magnify to see more detail.

### **Tech Quiz answer**

The gauss is the unit used in the cgs system of units (centimetre-gram-second).

The tesla is the unit chosen later for the SI system of units (based on the old metre-kilogram-second).

Relation: 1 micro Tesla = 10 mGauss, using figures commonly used in measuring EMF (electromagnetic field).

NB But why the name EMF? When I studied electrical theory EMF meant electro magnetic force, with the unit of voltage!

### **MEETINGS, NETS and SERVICES**

**Club Station:** VK4WIS

**Club Repeaters:**

VK4RSC at Wilkes Knob on 146.850 MHz linked to VK4RSL at Luguna Lookout, Noosa on 146.825.

VK4RSC at Wilkes Knob on 438.075 MHz (91.5 Hz tone) & VK4RSL at Luguna Lookout, Noosa on 438.175 MHz (91.5 Hz tone).  
VK4RSN on 53.700 MHz. TX at Wilkes Knob, RX at Gerrards Lookout.

Gympie: 146.725 MHz

**General Meeting:** Monthly on the first Tuesday at 7:30 pm in the Club House, old Toll Plaza building, 85 Godfreys Road, Bli Bli.

Visitors are welcome to attend.

**Weekday Meeting:** Weekly at 10:00 am—2:00 pm on Wednesday.

**Sunday Meeting:** 3rd Sunday of each month at 10:00—2:00 pm.

**Good Morning Net:** Daily at 8.15 am on linked repeaters 146.850MHz and 146.825 MHz. Conducted by club members.

**Tech Net:** Weekly at 8:30 pm Sunday on 146.850 & 146.825 MHz.

Check in, raise topics and ask your technical questions.

**80 m Net:** Weekly at 7:30 pm Thursday on 3660 kHz.

**10 m Net:** Weekly at 8:15 pm Wednesday on 28.470 MHz USB.

**6 m Net:** Weekly at 7:30 pm Friday at VK4RSN on 53.700 MHz.

**2 m Net:** Weekly at 7:30 pm Sunday on 144.300 MHz USB.

Conducted by club station VK4WIS.

**WIA NEWS:** Relayed Sunday at 9:00 am on 146.850 MHz and 146.825 MHz (linked). After the broadcast a callback is conducted by VK4WIS.

**Internet:** [www.vk4wis.org](http://www.vk4wis.org)

This website provides previous issues of Pelican Droppings in full colour in pdf format which can be downloaded.

**EchoLink:** Available on 146.850 MHz & 146.825 MHz (linked)

The Internet station is VK4WIS-R and the node is #316084.

Also available is IRLP on 438.075 MHz with a node of #6564.

### **SCARC Inc. Office Bearers AGM March 2011**

President	Noel Des Jardins VK4NL
Vice-President	Richard Philp VK4YRP
Secretary	Warwick Marshallsea VK4NW
Treasurer	Keith Noll VK4AKA
Committee	Mike Little VK4YFL; Harvey Wickes VK4AHW; Barry VK4JI; Leicester VK4ALH

Copy deadline: 3rd Tuesday of the month preceding first month of issue.

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