

MEETINGS, NETS and SERVICES**Club Station:** VK4WIS**Club Repeaters:**

Wilkes Knob: VK4RSC on 146.850 MHz & 438.075 MHz.
 Laguna Lookout: VK4RMB on 146.825 MHz & 438.175 MHz
 Wilkes Knob: VK4RSN on 53.700 MHz
 Gympie (private): 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 at VK4RSC on 146.850 MHz.
 Conducted by various club members.

Tech Net: Weekly at 8:30 pm Sunday at VK4RSC on 146.850 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.

QNEWS: Relayed Sunday at 9:00 am at VK4RSC on 146.850 MHz.
 After the broadcast a callback is conducted by VK4WIS.

Internet: www.vk4wis.org

This website provides previous issues of Pelican Droppings in full colour in pdf format which can be downloaded. The current issue can be had by subscribing to the email edition in pdf format. Apply to SCARC.

EchoLink: Available on VK4RSC 146.850 MHz.

The Internet station is VK4WIS-R and the node is #316084.
 Also available on 438.075 MHz with a node of #6564

Pelican Droppings

Newsletter of the Sunshine Coast Amateur Radio Club Inc.

Issue No.102

January-February-March 2010



Harvey VK4AHW and
Colin VK3CMT

NEXT ISSUE**SCARC Inc. Office Bearers AGM March 2009**

President	Noel Des Jardins VK4NL
Vice-President	Wayne Shaw VK4WS
Secretary	Gordon Taylor VK4VP
Treasurer	Keith Noll VK4AKA
Committee	Warwick Marshallsea VK4NW; Mike Little VK4YFL; Richard Philp VK4YRP

Copy deadline: 3rd Tuesday of the month preceding first month of issue.
 Email: gcombes4@bigpond.com

INSIDE

The Emporium - A ballad by Harvey Wickes	Page 3
An Inexpensive Bench Power Supply	Page 4
Middlemarch to Clyde (NZ): What a ride!	Page 6
Summer VHF/UHF Field Day Contest	Page 10
New "Enekeep" NiCad batteries for hand-held radio	Page 14
Internet modem antenna and VNA testing	Page 19

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



Presidential Preamble

Well, it's a Happy New Year to all. The Christmas party was a tremendous success - most behaved!. We are looking forward to another busy year. First up is the library then we tackle the Green Room. Wayne VK4WS and his crew have antennas cables and they are working on DC power and generator back-up. When the radios are sorted out it will be time to renovate the benches to "keep clear" state. But we will need many helpers so don't be shy about coming forward.

Advertisement:

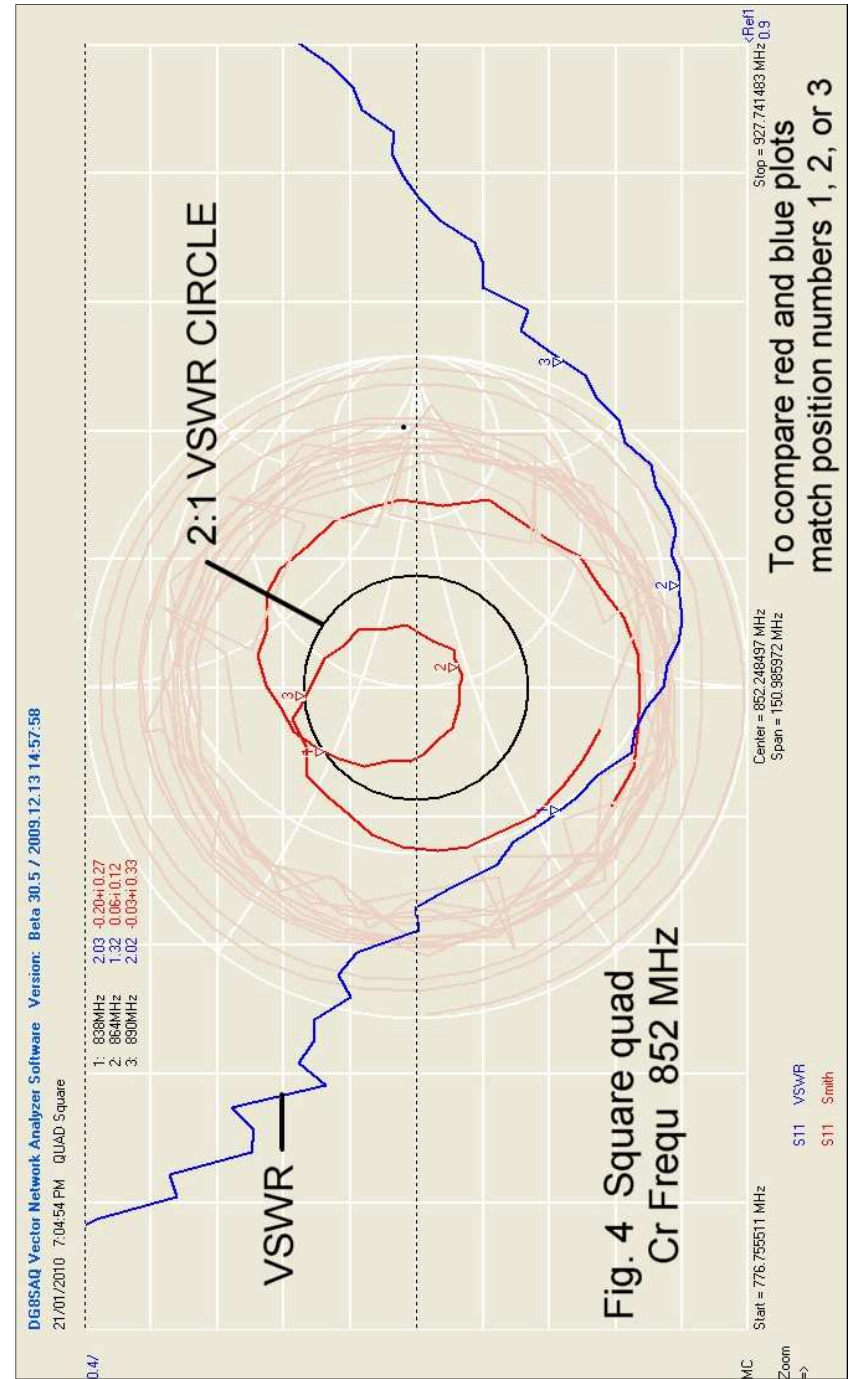
I have been busy looking for sponsors to assist us with the many projects on hand. One of these is a 3 m x 3 m marquee for the smaller jobs. Another is WICEN van maintenance: Its on-going rego, insurance and other the bits and pieces.

Once again the WICEN van was used for a UHF/VHF Summer Field Day Contest at Howells Knob near Maleny. Not an emergency exercise but a good excuse for testing checking and training for the real thing. All went well and a big thanks to Leicester VK4ALH who led the team: Wayne VK4WS, John VK4JMC, VK4FMOZ, Bill VK4WB, Richard WK4RY, Kirsty Golder and Dave Carr. Visitors who came to join the operating group and the Sunday BBQ were Harvey VK4AHW, Mike VK4YFL, VK4OX, VK4HOY, VK4FGTS, VE3CMT/4, VK4KLI. Our resident chef Mikey VK4YFL attended to keep the crew well fed and watered. We tip our hats Mikey - see you at the next gathering. Check out Leicester's report on the Summer Field Day on page 10.

Wait up! A late report is that one contender has gone missing. Where could he be? Who you might ask? Who else but VK4WB, a call sign with many interpretations - let's not go there. He was eventually found having a nanny-nap; isn't that right Bill? However, no doubt we will see you at the next contest gathering.

Page 1 photograph

Harvey VK4AHW is shown presenting Colin VK3CMT with a special Pelican Award
More photos of club members on pages 16 and 17.



An Inexpensive Bench Power Supply

by Tony Thorrold VK4KKY

I needed a variable voltage bench power supply with a settable current limit and when I was given an old switchmode laptop computer supply, I thought that it would make a good source of DC. It is rated 19 volts at 1.84 amps. I looked for a circuit on the internet and came up with one which fitted my requirements which were:

Voltage – 1.2 volts to 15 volts,

Current limit – 50 mA to 2 Amps

The address for the circuit is <http://www.redcircuits.com/Page36.htm>

I used transistors which I already had and an old heatsink which is a complete overkill but will certainly keep things cool if needs be! I also added a voltmeter across the output (a 50 microamp meter which I had, with a multiplier resistor in series) and built the circuit on a piece of copper strip board. It all works fine, except for one small characteristic which I don't like: the voltage does not vary linearly as you rotate the potentiometer, but I can live with this because of the voltmeter.

In use the voltage is well regulated and the current limit operates accurately. It is lighter and smaller than if I had used a transformer and cost less than \$10 as all I had to buy was the case.

For those interested, the transistors which I used are:

Q1 – BC547B

Q2 – TIP31

Q3 – BC557

Q4 – 2N3055

Q2 is mounted directly on, but insulated from, the heatsink and Q4, also insulated, on a small aluminium bracket attached to the heatsink. All other components are as specified except T1, D1, D2 are not necessary and C1 is 100 mfd.

My circuit diagram is shown in Fig.1 opposite and the finished power supply is illustrated by the accompanying photograph. For readers interested in building this power supply from 240 V AC they should refer to the original design on the redcircuit website. This contains a fully-detailed parts list and notes. End

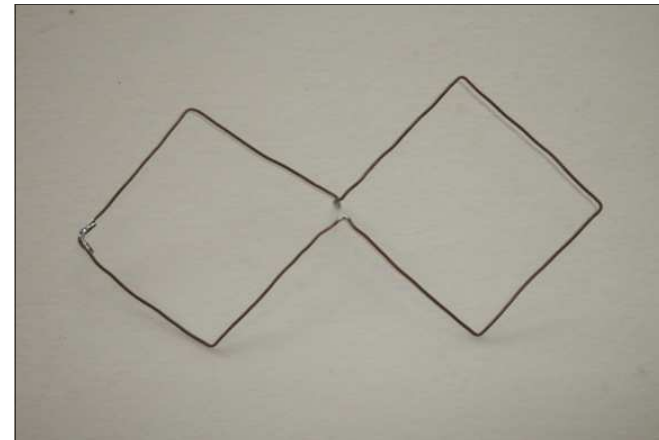


Fig. 1 Diamond quad pair with centre freq 810 MHz



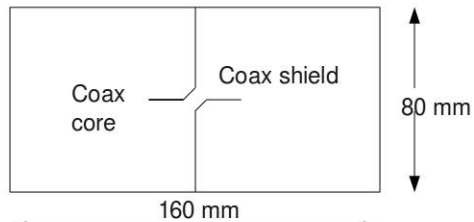
Fig. 2 Square quad pair with centre freq 852 MHz
Picture frame has 36 mm square AL sheet

This proved successful at the first cut and try with frequency very close to the target of 850 MHz. However the antenna impedance and corresponding SWR were poor. It was then noted how moving the antenna slightly closer the reflector plate produced a remarkable improvement. Reducing the distance from 40 to 35 mm yielded the results shown in the plots of Fig.4. At 864 MHz the SWR was 1.32, and the 2:1 SWR bandwidth was about 50 MHz.

This then was the final design as shown in Fig.2. Dimensions and construction notes are shown in the drawing on page 20. The reflector is an aluminium plate 36 mm square mounted inside a moulded picture frame that was available. It is hung on the wall like a picture facing through a plate glass window with line of sight view of the transmitter. Signal level 5 (maximum) is achieved at all times except during heavy rain when it drops to level 4.

It is true that modem antennas can be purchased, although I could not find one for 850 MHz (most were for 2 to 2.4 GHz). However I would be surprised if any of these designs are given the same degree of testing described here. End

850 MHz Modem antenna Double Quad



Height above reflector plate 35 mm

Fabricated from 1 to 2 mm dia copper wire
Mounted on 20 mm PVC conduit fixed to
reflector plate sized from 200 to 350 mm square.
Orientation shown provides vertical polarisation
which is probably correct. Coax cable is 50 ohm
to suit modem connector.

This antenna comprises two square quad antennas
connected in parallel with a gain of about 5 dB over
a quarter-wave ground plane antenna. Dimensions
were optimised using a Vector Network Analyser.
SWR was less than 1.5 under test.

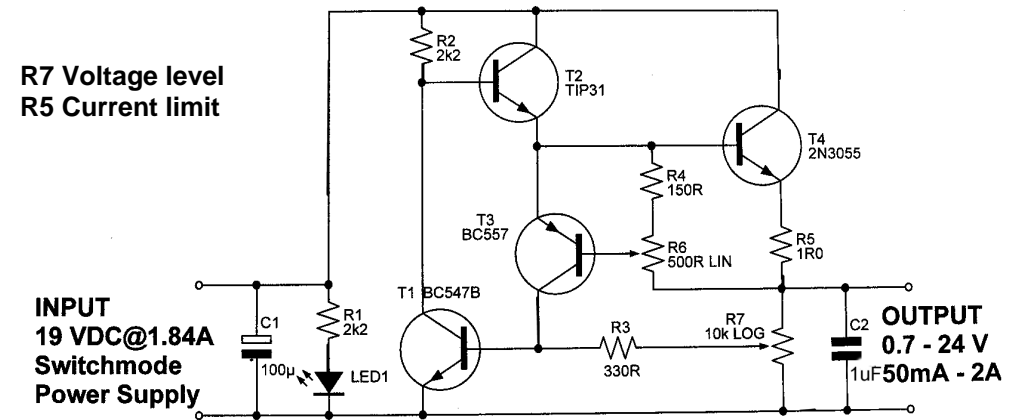


Fig. 1 Bench Power Supply



MIDDLEMARCH TO CLYDE-WHAT A RIDE!

by David Robertson VK4JMR

My friend Rob Mabin 'phoned me with an offer to join a group planning to ride the Central Otago Rail Trail in the South Island of New Zealand. My reaction was "The South Island is full of mountains - big mountains" but I was reassured when he told me it followed a disused steam train line and they could not cope with grades of greater than one in fifty.

So armed with very cheap Virgin Pacific tickets direct Brisbane to Dunedin Rob, his wife Sue, and I left home on 5th November. After a pleasant flight of about 31/2 hours over the Tasman and spectacular snow covered mountains we arrived in Dunedin. A minibus took us with another of our party to our pre-booked motel where we met up with the remainder of the party of nine.

The group leader, Kevin, had rented a car and we set off in two groups to a very fine Lebanese restaurant for dinner followed by an early night. Kev took the bags to the Dunedin Station in the morning



Internet Modem Antenna & VNA Testing

by Geoff Combes VK4GWC & Frank Winter VK4BLF

I connect with the Internet via a Bigpond modem model BP3-EXT which has 1/4 wave antennas for 850 MHz. Received signal level as indicated by the software is 3 out of 5 vertical bars usually, sometimes only 2 (considered poor).

It is reasonable to expect higher data transfer efficiency with higher received signal level and a correspondingly higher transmit level.

To improve on level 3 requires more antenna gain. I considered using a spare digital UHF TV Yagi antenna which probably would have worked well but procrastinated because it was difficult to mount on the roof. Then Wayne VK4WS suggested making a simple double diamond quad from copper wire.

Shortly afterwards the same design appeared in Silicon Chip from a reader. This one had a reflector in the form of a back plate. I decided to make one, and Frank VK4BLF agreed to test it using his Vector Network Analyser (VNA), the instrument described in the previous issue of PD.

While looking at antenna design software we saw that the double square quad would be equal and simpler to construct and trim. Figs. 1 & 2 opposite illustrate the two antennas.

Initially both antennas were tested using Frank's VNA in free space, then retested with antenna mounted at 40 mm from the aluminium reflector plate. Test results for the double diamond quad are shown in Fig.3. The SWR was low near the centre frequency but the frequency of 810 MHz was too low. We then decided to trim the double square quad by cutting, re-soldering and reshaping the wire.

Advertisement

VK4-ICE Communications
 Amateur Radio Products, Antennas, Mobile Mounts
 Delivered anywhere in Australia.

WWW.VK4ICE.COM
David Tavener
 ABN: 44 680 867 684
 vk4ice@vk4ice.com
 Phone: 0408 763 336


CD, DVD, MP3 and all that Jazz

By Tony Thorrold VK4KKY

Analogue ruled between 1877 when Edison made the first recorded sounds on a wax cylinder and 1982 when the first Compact Disk (CD) was made. These days, almost all music, movies and data are recorded in digital format.

A CD is about 1 mm thick and has four layers. Looking from the bottom, these comprise a thick layer of clear plastic, a very thin layer of aluminium, a layer of acrylic and the printed or paper label. The information is stored on the disk as a spiral line of tiny holes and bumps called “pits” and “lands” in the aluminium layer and the pits are amongst the smallest mechanically fabricated objects ever made by man. The pits and lands represent the digital 0s and 1s and are stamped into the aluminium layer by a metal master disk called a stamper. After stamping, the aluminium is protected with a layer of acrylic. The spiral line, or data track, is 0.5 microns wide (1 micron = 1 millionth of a metre) and the tracks are 1.6 microns apart. If you could “unwind” the data track from a CD and lay it in a straight line, it would be 8 km long. Unlike a gramophone record, a CD starts playing near the centre of the disk and finishes near the outer edge. If music is recorded in stereo, each second of sound represents 1.4 million bits of data on the CD. End

Advertisement



NORTHCOAST
Glass & Aluminium

24 hour glass repair
7 days a week

Lawrence Swift
Pamela Swift
Proprietors

17 Mitchell St, NAMBOUR, QLD, 4560

Ph: (07) 5476 2799 **Fax: (07) 5476 2987**

and we walked the few km to the station. The tourist train to Middlemarch on the Taieri Gorge Railway departed from the spectacular Edwardian station at 9.30. After the suburbs of Dunedin, the train climbed up to Middlemarch via some wonderful scenery, steep gorges, snow capped ranges, viaducts and tunnels (and lots of sheep). The train was equipped with a cafeteria and we were well informed by a very fine commentary broadcast throughout the train.

At Middlemarch there was a sausage sizzle on the platform which was very welcome after the “arduous” trip; we collected bags and wandered over the street to the “Cycle Surgery”, the bike hire establishment where we collected our pre-booked bikes. The Mountain Bikes were perfect for what we were doing, wide, treaded tyres and panniers for carrying sustenance, extra apparel etc. Conditions were cool with a Westerly wind which we grew to dislike intensely as it was in our faces all the way to a greater or lesser extent.

A very pleasant ride followed, mostly up gentle grades covering about 37 km to Hyde. Everything is well signed with information for cyclists and walkers including a memorial to 41 people who lost their lives in a derailment in the late 1940s. We were pleasantly surprised a km or so after Hyde Station to arrive at our splendid farm-stay at Emerald Hills. A well set up kitchen had everything we needed for breakfast. After a visit from the owner, David and his wife, and learning about sheep farming in NZ over a few drinks, we were treated to a very fine dinner with accompanying wines selected from David’s stock for a modest “donation”.

Day 2 was the toughest day, 50km mostly uphill and with a fresh westerly in our faces all the way. There were numbers of riders on the trail going both ways but the ones going East with the tailwind were smiling broadly. The first choice of coffee stop at Waipata was so busy we pressed on to lunch at Ranfurly, 423 metres above sea level. The day’s ride ended at Wedderburn where we had a couple of welcome beers before storing our bikes for the night and boarding our transport to Naseby Lodge. The lamb shanks were the dinner of choice for most of us and we all passed up the opportunity to go Curling on the local rink.

The morning saw us being transported back to our bikes for the ascent initially to the highest point on the ride, 618 metres. This day offered probably the best scenery, or was that opinion coloured by the fact that we started going downhill? Certainly there were wonderful viaducts over rushing streams, tunnels and sprawling vistas of

mountains and valleys. Everywhere there were information signs pointing out the geography and history of the region and the railway.

That night was spent at Omakau, with our shared house just off the trail. We were picked up by the local pub's courtesy coach and taken for a little sightseeing ride to Ophir, an adjacent old gold mining town with its 19th century suspension bridge. Finally we had a fine dinner of Whitebait and other delicacies at the pub. Again, after a great breakfast at our accommodation and we were on the trail again for the last run to Clyde. It was quite cold (with a fresh West-erly of course) but downhill most of the way.

A welcome coffee at Alexandra with a new delicacy, Pinwheel Scones refreshed us for the final 15 km or so along the Clutha River to Clyde. At Alexandra we had the choice of leaving the rail trail to take the slightly longer river path which we elected to do. So after 150km we finished our ride, handed over our trusty steeds and settled in to take in the sights of Clyde and the spectacular Clutha Gorge before heading back to Dunedin next morning by coach. A great experience was the consensus and we would highly recommend it. The organisation by eTours who arranged it all was excellent with our baggage transport working out well and the cycle hire efficient.



Members of the cycle tour high up in the mists of the South Island mountains



David VK4JMR, Debbie Wagner, Leicester VK4ALH & Ian Wagner
David organised Deb and Ian to be guest speakers at the February general meeting. The topic was talk was LSA across Australia.

Advertisement

MELCO
HARDWARE GROUP

NEAL DAVIS
RETAIL MANAGER
NOOSA MITRE 10 HOME & TRADE

0400 757 705
tel (07) 5455 9834 fax (07) 5455 9895
email neald@melco.com.au

MITRE 10 Home&Trade
Sunshine Hardware Pty Ltd t/a Melco and Lanhams ABN 95 129 140 085

Fax 54917865 Ph 54926260

Alcorn's Communications
& TV Antenna Service

INTERCOMS ALARMS

TWO-WAY RADIO - ANTENNA INSTALLATION
12 IVY STREET CALOUNDRA QLD 4551
Email: alcornscomm@smartchat.net.au



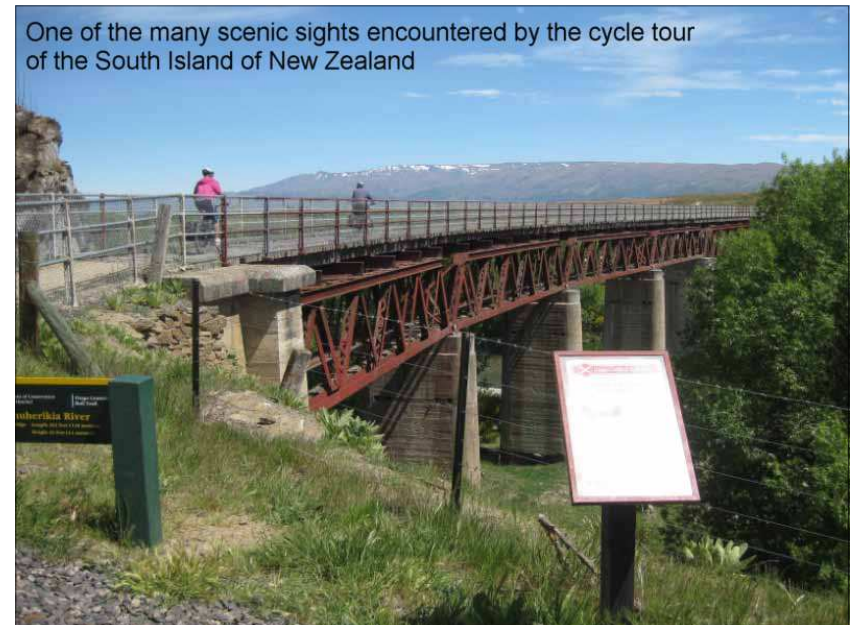
Owen G0GTQ/VK4CKP drawing the raffle at the February general meeting

Epilogue:

My wife Katherine joined the Mabin/Robertson component of the group at Dunedin for a drive round the south part of the South Island. We had two nights in Akaroa and, missing our cycling, took a tour up to the top of the hills above Akaroa into the freezing clouds to mount hire bikes and ride down again. Down twice we went, from 600 metres to sea level and up in the van and down again. The second ride down we were fortified by the “afternoon tea” of Marlborough Sauvignon Blanc, bread, cheese, olive oil and dips provided by our driver. As we drove up and up and up the first time, I reminded myself that we were in the land of the inventors of the Bungee Jump and other life-threatening experiences. However the bikes had great brakes and we survived to ride another day. End



Advertisement



One of the many scenic sights encountered by the cycle tour of the South Island of New Zealand

Summer VHF/UHF Field Day Contest

By Leicester Hibbert VK4ALH

The club entered a team in the Summer VHF/UHF Field Day Contest over the weekend of 16th and 17th of January at our usual site, Howells Knob, near Maleny. The first on site was John VK4JMC on Friday, and he was met by a Police cordon. They said they were conducting a forensic exercise and the site would be available after 2pm.

The following club members operated during the contest:

VK4WS	Wayne Shaw
VK4JMC	John McPherson
VK4FMOZ	Cec Tysoe
VK4WB	Bill Booth
WK4RY	Richard Philp
VK4ALH	Leicester Hibbert
	Kirsty Golder
	Dave Carr

Kirsty and Dave made some good DX contacts on 50MHz to VK1, VK2, VK3 and VK5.

We made 63 contacts on 50 MHz, 219 on 144 MHz, 146 on 432 MHz, 94 on 1296 MHz, 63 on 2.4GHz and 46 on 10GHz, for a total of 3422 points, all from grid square QG63.

Harry VK4TK gave us extra points by setting up at Mt Kanighan, near Gunalda in QG64 and operating 144 MHz, 432 MHz and 1296 MHz (see Harry's report opposite).

The following, some with wives and children, visited and enjoyed the BBQ on Sunday:-

VK4AHW	Harvey Wickes
VK4YFL	Mike Little
VK4OX	Andrew Chapman
VK4HOY	Peter Allen
VK4FGTS	Trevor Humphrey
VE3CMT/VK4	Colin Miller
VK4KLI	Ches Bassingthwaighte

We all enjoyed the excellent BBQs, breakfast and Red Wine Beef Casserole provided by Mike VK4YFL. Overnight temperature was a bit on the cold side – take note if you intend attending the next field day!



ALINCO Nicad batteries



ENEKEEP Nicad batteries

New “Enekeep” batteries for a handheld transceiver

By Tony Thorrold VK4KKY

The battery pack in my old Alinco 2-meter handheld transceiver had seen better days. The original pack contained 4 AA Nicad cells rated 1.2 volts, 700 mAH, but these went to the great accumulator in the sky years ago when I replaced them with 1000 mAH Nicads of doubtful parentage. But these never delivered 1000mAH, and now they wouldn't hold their charge for more than a day or two.

A while ago I bought some “Enekeep” NiMH 2000 mAH AA cells from Jaycar, made by Sanyo, lured by the promise that their self-discharge rate is extremely low – the advert says they still retain 85% of their charge after a year! Being a sceptic, I didn't believe that, but after using them in my digital camera for some six months, two in use and two for spares, they certainly have proved to be very much better than the rechargeable Duracells I was using before.

“Now why don't I use some of these in the Alinco,” I thought, only to find that they won't fit into the battery pack because of the little raised contact studs at the positive ends (the nicads have solder tags). Plan B was then to use AAA cells, which are of course smaller, both in length, diameter but unfortunately also in capacity, being rated at only 800 mAH.

The Alinco will operate at any voltage between 4.8 volts and 13.8 volts, with the transmitter's output varying correspondingly between 1.5 watts and 5 watts with very little increase in amps drawn. So, taking advantage of the AAA cells smaller diameter, I easily fitted five cells into the pack to give 6 volts and about 2.5 watts. Admittedly I now only have 800 mAH, but I'm sure they give more talk-time than the 1000 mAH nicads ever did.

So, all in all, a successful modification! End

Advertisement

TREVOR JOPSON
BRANCH MANAGER

ADDRESS
20 Runway Drive, Marcoola QLD 4564

PHONE 07 5457 2999 FAX 07 5457 2900

MOBILE 0401 809 177

EMAIL trevorjopson@7steel.com.au

www.7steel.com.au



On 6 meters we had very high QRM from Ch 0 at Mt Mowbullen. This level was not noticed on the previous contest, and was solved by using a vertical antenna instead of a horizontal Yagi.

Also RF breakthrough from adjacent on site transmitters was a problem, partially solved by using ¼ wave stubs on antenna feeds.

More pictures on next pages

End



Summer VHF/UHF Field Day

The WICEN van stationed beside antennas and other quarters for operators.

Advertisement

NISSEN TECHNOLOGIES

tel 07 5455 6476

jens@nissentechnologies.com

www.nissentechnologies.com

3/33 Gateway Drive
Noosaville, QLD 4566



Summer VHF/UHF Field Day at Howells Knob



Summer VHF/UHF Field Day at Howells Knob