

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

Maleny: VK4RSC on 146.850 MHz & 438.075 MHz.

Peregian Beach: VK4RMB on 146.825 MHz & 438.175 MHz.

Gympie: VK4RGY on 146.625 MHz & 438.825 MHz.

Bli Bli: VK4RSN on 53.700 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 on Wednesday.**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.**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 SSB.
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 VK4AKA-R and the node is #195107.

Harvey V4AHW will show you how to test transistors using a multimeter. We'll have a report and photos about the Kirkleigh, Somerset Dam weekend radio meet.

NEXT ISSUE**SCARC Inc. Office Bearers AGM March 2007**

President	Noel Des Jardins VK4NL
Vice-President	Harvey Wickes VK4AHW
Secretary	Gordon Taylor VK4VP
Treasurer	Keith Noll VK4AKA
Committee	Ray Stuart VK4YRS; Frank Winter VK4BLF; Mike Little VK4YFL; Richard Philp VK4YRP

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Pelican Droppings

Newsletter of the Sunshine Coast Amateur Radio Club Inc.

Issue No.88

April-May 2007



John Moyle Field Day Contest
Warwick VK4NW and Bill VK4BBX
operating beside the WICEN
caravan. Story on page 12

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



Presidential Preamble

President's Report 2006-2007

The club acknowledges and appreciates the generosity of all the members who have worked so hard over the last 12 months to improve our club and its service to the community. With the help of our members the club membership has been maintained at the 100 member level for the last two years.

The visit to the Sunshine Coast Amateur Radio Club by WIA President Michael Owen, National WICEN co-ordinator Ewan McLeod, and Ken Fuller on the 15th October was a highlight for the year. The day started with Michael Owen addressing a very crowded meeting, over 50 people, followed by a barbeque lunch. The afternoon was taken up by a meeting of WICEN interested people including the National WICEN co-ordinator, Ewan VK4ERM, The new WICEN Queensland co-ordinator David Meyrick VK4IQ, our own WICEN people, Brisbane Area WICEN Group, Redcliffe Radio Club, Caboolture Radio Club, and Lockyer Valley. It was a unique opportunity to have all of the key players together.

Wednesday open club days are well attended by members and visitors. The first and third Sunday BBQ days do not have a large attendance as yet but we expect attendance to improve in time. Thanks to all who assist on Wednesdays and Sundays.

Last September Richard VK4YRP organized his first SunFest with the help of club members. This was well attended and is our club's main fundraiser as well as a get together for amateurs in the region.

The Dalby/SCARC gathering was held last April at Kirkleigh with 52 people and numerous children attending. Nine amateur radio clubs were represented.

The RedSun Rally was held at Redcliffe with the both the Observation Rally and the Fox Hunt won by Redcliffe. All participants enjoyed the BBQ at the opening of their new club rooms.

**SCARC's new postal address is:
PO Box 7551, Sippy Downs 4556**

Famous Personalities: James Watt

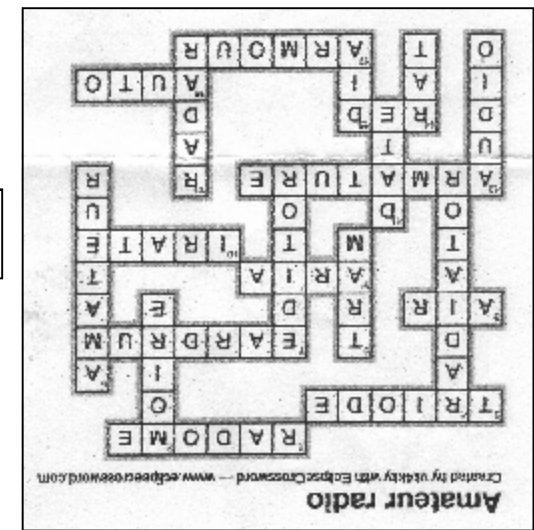
Watt (1736 to 1819) was born in Greenock, Scotland, the son of a shipwright. He received an elementary school education, but he was far more interested in the machines in his father's workshop than in schoolwork, so he became an apprentice to a maker of mathematical instruments. A few years later he was appointed mathematical instrument maker to the University of Glasgow.

In 1763 one of his jobs was to repair the university's model steam engine, which was a very early design. He re-designed the engine to make it work properly and to increase its efficiency. It took him 12 years to perfect his design and in 1775 he sold the first two practical engines. For the next 14 years, Watt continued improving his design to increase the efficiency still further and to give a rotary output – till then all steam engines had a reciprocating output. Engines were then able to replace horses in the mills and mines and he was able to calculate how much work his engines could do in terms of what the horses had done. He named the amount of work that one horse could do a "horsepower", which is 33,000 ft-lbs per minute and this is still the unit of power in some countries today.

In 1794 Watt handed over his flourishing business to his son, but continued inventing till the end of his life. The metric unit of power, the Watt, is named in his honour; 746 watts equals one horsepower, or 3 kW = 4 HP.

End

Page 9 radio Crossword
Solution



Secondly approval for the emergency communications plans initiated by SCARC has been received in a letter dated 14 Dec 2006 from the Executive Director of Emergency Services. The approval is quoted in part:

"PURPOSE That the Executive Director approves the trialling of a regionally-based specialist State Emergency Service (SES) Unit that provides emergency communications capabilities and disaster management support during emergency events.

BACKGROUND Members of the Wireless Institute Civil Emergency Network (WICEN) Queensland are granted Amateur Radio Licences under the provision that their expertise and equipment be made available to the Commonwealth in time of need.

CURRENT ISSUES Approximately thirty members of the Sunshine Amateur Radio Club are prepared to trial an 'SES/WICEN North Coast Region Communications Unit' and operate using WICEN protocols, training and accreditation systems.

The Sunshine Coast WICEN group have rebuilt a caravan into a mobile command and communications vehicle that is registered as an emergency vehicle. They are unable to insure the caravan and have requested state assistance to resolve this issue.

The Executive Director approves a two year trial of a specialised North Coast Region SES Communications Unit, with an interim report presented in 12 months." [Full text from the writer] End



Bill Sebbens VK4XZ seated at the communications desk inside SCARC's WICEN caravan

Maroochy Shire Council donated a derelict caravan and \$18000 to bring it up to a workable condition. Well over 1600 man-hours have gone into the caravan so far and thanks to all the members who helped with this emergency services project.

The club was recently awarded a grant for a shelter and another grant has been lodged for transceiver equipment. The job of applying for grants is long and arduous and our thanks go to the members for their hard work.

Thanks to all our members who maintain our regular services; i.e. library, kitchen, Green Room and the South Yarra Store.

Repeaters are the clubs main means of communication and thanks to the repeater officer and his crew who have spent hours discussing, planning, testing sites and revamping the devices

We thank people for generous donations of books, parts and equipment during the year including deceased estates.

During the coming year there will be need for members to assist with many projects including training for WICEN, Foundation licences as an example.

I would like to thank all the office bearers and committee members for their help over the last year. To me, the foreseeable future of the club looks to be very strong in the hands of the incoming president and committee and I wish them every success as they seek to lead our club into the future.

Raymond Stuart VK4YRS, retiring President,
6th March, 2007

SCARC Inc. Office Bearers AGM March 2007

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	Frank Winter VK4BLF
	Mike Little VK4YFL
	Richard Philp VK4YRP

Introducing the Spectran spectrum analyser

by Frank Winter VK4BLF

Recently I purchased a spectrum analyser with brand name Spectran. The usual spectrum analyser instrument (rather than audio spectrum PC software types) cost many thousands of dollars. The Spectran was designed for the special purpose of detecting and measuring electro-magnetic field strength and costs much less. With a frequency range of from 10 MHz to 4 GHz it is potentially useful in testing amateur radio and general RF electronics. I'm still learning how to use the instrument, and this describes an early attempt to measure RF field strength from a 2 meter fox using a couple of fox antennas. (Ed. For those unfamiliar with the function and principle of operation of the spectrum analyser a synopsis is shown in the box below).

The test setup is shown in Figs.1 and 2. The fox transmitter was placed about 5 m away from the antennas. The fox frequency was in the 144 MHz band. Two fox antennas were tried, one for 2 m and the other for 70 cm, the latter relying on 3rd harmonic from the fox TX. The test results did not demonstrate any significant difference between horizontal and vertical polarization of the receiving antenna on 2 meters that one might expect. Evidently reflections from surrounding structures created mixed RF polarization at the receiving antenna. In general the difference between horizontal and vertical polarization is expected to be about -20 dBm.

Our measurements showed that using the 70 cm fox antenna the difference was -7 dBm between polarizations. Using the 2 m fox antenna the difference was 0 dBm. The accuracy of the Spectran is guaranteed to +/- 3dBm! Continues on pages 5, 6 & 7

What is a spectrum analyser?

A spectrum analyser is an instrument that measures RF power emitted from any RF source (frequency spectrum). It does this by sweeping a specified range of frequencies, much like tuning a radio receiver. The received signal is then processed and displayed on an oscilloscope where the X axis represents frequency and the Y axis amplitude. More modern display techniques include LCD screens such as the Spectran and/or a personal computer. The latter method is the most useful because it allows complex data processing to display the relevant information. continues next page

WICEN Progress Report

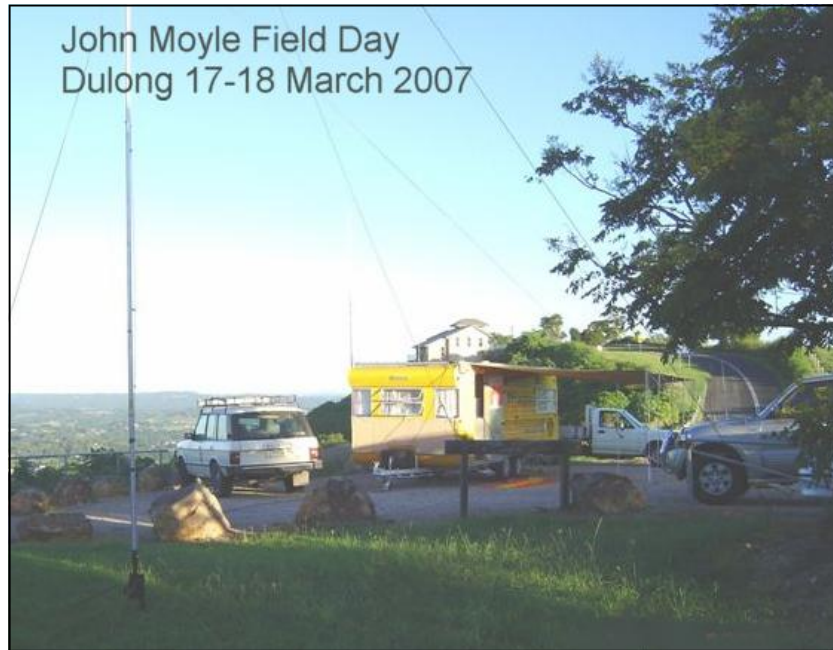
By Richard Philp VK4YRP

SCARC's efforts to re-invigorate WICEN on the Sunshine Coast reached a milestone recently. After showing what it could do by building an emergency caravan in quick time (see latest pictures below) approval in writing has been received from the government and its instrument: Emergency Services. Here are some excerpts from letters received.

Firstly a letter dated 23 Aug 2006 from Pat Purcell, Minister for Emergency Services, read in part as follows:
"As minister for Emergency Services I wish to record my support for the Sunshine Coast Amateur Radio Club's plans for establishing an Emergency Communications Van.
I have met with representatives from the Club and viewed their plans for a Mobile Communications Centre to assist the residents of the Sunshine Coast and their neighbours in times of civil emergency. With the variety of natural disasters the world has experienced recently, the importance of communication in times of emergency has heightened.

I commend and support the Sunshine Coast Amateur Radio Club on this initiative." continues page 14





John Moyle Field Day
Dulong 17-18 March 2007

SCARC conducted the JM Field Day Contest over the weekend of 17—18 March 2007.

Operation was on HF bands 80 m, 40 m and 20 m, and on VHF bands 6 m, 2 m and 70 cm. Results were excellent. Operators included Warwick VK4NW, Bill VK4BBX, Harvey VK4AHW, Harry VK4TK, Noel VK4NL, David VK4JMR, Vin VK4FVCW, Richard VK4YRP and there were many other club member visitors. End



Bill Sebbens VK4XZ continues his work improving the club's radio room. Here is the rear view of a patch box for the club antennas and accessories fed from the radio room.

A useful way of conceptualizing a spectrum analyser is to think of it as a super field strength meter or RF probe. Rather than measure the whole frequency range at once (a "broadband" measurement), the spectrum analyser measures field strengths in discrete intervals of, say, 1 KHz blocks. For example if you wanted to measure RF energy in the 20 meter band you might measure the RF energy between 14.000MHz and 14.001MHz, next between 14.001MHz and 14.002MHz and so on. This type of measurements clearly shows spurious emissions that can interfere with other signals and identifies specific frequencies – wanted and unwanted.

In general RF spectral analyses are quite sophisticated these days. Probably the main reason for this is the proliferation of RF signals and associated health concerns.

A screen dump of a spectrum for the Spectran analyzer is shown in Fig. 3. End

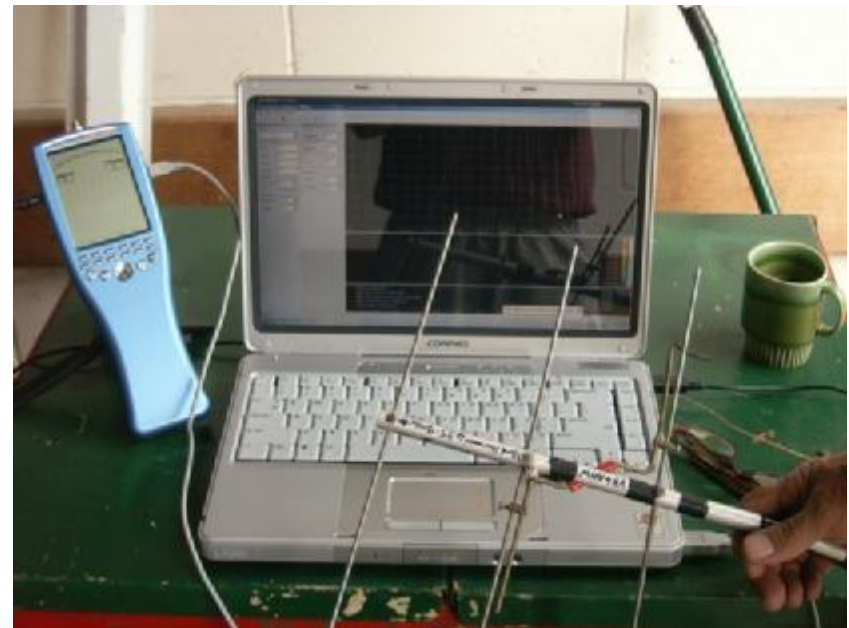


Fig.1 Test setup, comprising Spectran Analyser (pale blue hand-held instrument at left), lap-top computer and fox-hunting antenna



Fig.2 Frank VK4BLF and Harvey VK4AHW carry out the field strength test using the setup shown in Fig.1

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Demonstrating the E.S.R. Meter

by David Fowler VK4HFW

Recently I built a DSE kit for an Equivalent Series Resistance (E.S.R.) Meter designed for the magazine Silicon Chip (see photo next page). The main purpose of this meter is in-circuit testing of electrolytic capacitors to discover if they have a high internal resistance that would affect their performance in filter circuits. Other uses include measuring low value non-inductive resistance in the range 0.01 to 99 ohm. Most modestly-priced DVMs do not measure accurately resistances below a couple of ohms. The ability to measure low ohms accurately allows one to make meter shunts using resistance wire (eg. nichrome) for meter shunts, check the contact resistance of switches and to check dubious copper tracks on PCBs. Because the instrument uses 2 kHz pulses it cannot measure inductive resistances such as those of the windings of a transformer.

To demonstrate the meter I selected a few second hand electrolytic capacitors from the range stocked in the SCARC store run by Joe VK4SY. Here are the results:

	Typical ESR	Measured ESR	ohms
1500 μ F 35 VW	0.05	0.03	
24 μ F 300 VW	2	0.32	
50 μ F 300 VW	3	0.42	

Properly the capacitors should have been held at their working voltages for a time before testing. However the results suggest that these electros are in good order.

For a fuller story on testing electrolytic capacitors for the ESR, read the original project article in the March and April 2004 editions of Silicon Chip, copies of which are held in the SCARC library. End

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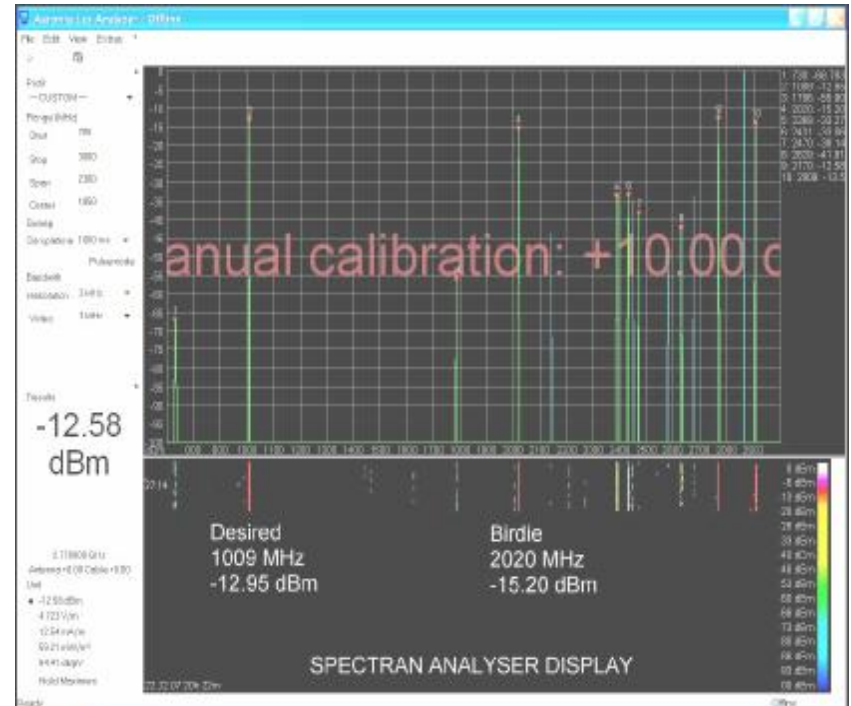


Fig.3 Above is a screen dump from the local oscillator of the Spectran spectrum analyser. The oscillator is set to 1010Mhz and shows up as 1009Mhz on the Spectran. I also used a 10dBm attenuator between the Spectran and the oscillator - hence the watermark on the picture. The X-axis is frequency in Mhz and the Y-axis is in dBm.

As you can see there are quite a few "birdies" with a notable one at 2020Mhz. The desired signal is -12.95dBm at 1009Mhz, the one at 2020Mhz reads as -15.20dBm. You can see the frequency and amplitude of all signals on the top right hand corner.

Advertisement

Book Review by Tony Thorrold VK4KKY

The Surgeon of Crowthorne
Author – Simon Winchester.
Published by Penguin Books, 1998
ISBN 0-670-87862-6, Dewey 924.21

This book made a great impression on me as one of the most poignant yet interesting biographies I have ever read and the subject matter is highly relevant to every reader of Pelican Droppings.

The sub-title is “A Tale of Murder, Madness and the Love of Words” and it is the story of William Chester Minor, a talented scholar, doctor and surgeon whose dreadful experiences during the American Civil War drove him completely mad. He spent most of his life incarcerated in the Broadmoor Asylum for the Criminally Insane near Oxford in England.

While there he became aware of a monumental project which had just begun – the compilation of the Oxford English Dictionary, which every one of us probably has on his or her bookshelf in one edition or another. He became friendly with Dr. James Murray, editor of the dictionary and from his cell in Broadmoor he became an extremely valued contributor.

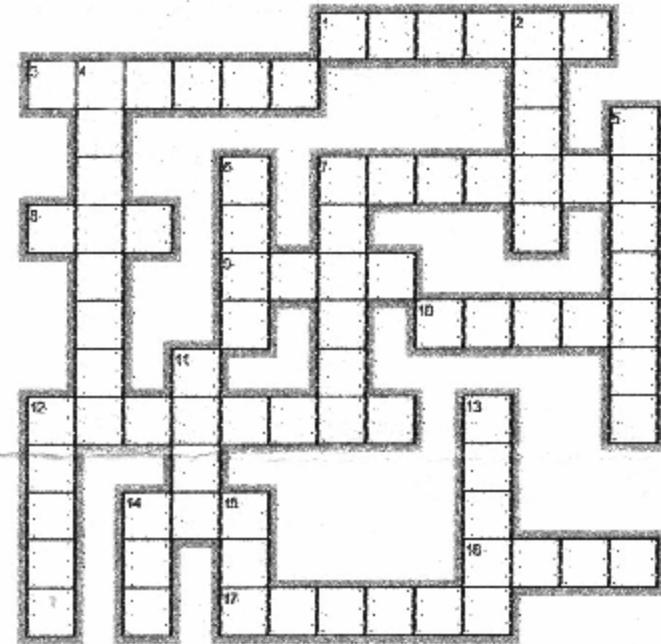
In Shakespeare’s day there was no dictionary to refer to and although in subsequent years some word lists were published, no definitive English dictionary existed. The book explains in most the fascinating way how a team of scholars, workers and volunteers compiled the Oxford English Dictionary, from the start of the project in 1878 until the completion of the twelfth and final mighty volume on New Years Eve 1927. 414,825 words were defined and 1,827,306 illustrative quotations were used, of which Dr. Minor alone from his little cell had contributed well over 40,000.

*“Great minds and madness are close allied
and thin partitions do their bounds divide.” William Shakespeare.*

[Editor’s note: This book was a best seller and, therefore, should be available from your shire or city library. William Minor is also mentioned in another title by the same author on the creation of the Oxford English Dictionary: *‘The Meaning of Everything. The Story of the Oxford English Dictionary’*. I have a copy in my library.] End

Amateur radio

Created by vk4kky with EclipseCrossword — www.eclipsecrossword.com



ACROSS

1. Contains satellite antenna
3. Valve with one grid
7. Important for hearing
8. Surrounds your antenna
9. Song from opera
10. Very cross
12. It rotates in a generator
14. Colour for positive
16. Not manual
17. Iron protective clothing

DOWN

2. Interference pattern
4. Cools the engine
5. A ham
6. We use buses now
7. He produces this publication
11. Number of the day
12. 20 Hz to 20 kHz
13. Radio looking for planes
14. Can gnaw through insulation
15. Short for diameter

Hint: All answers use only letters in ‘amateur radio’.

Solution on page 15