

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.

NEXT ISSUEHave you heard of or read about Class D RF amplifiers?
We will give you an introduction 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.90

August-September 2007

DAYTON OHIO HAMFEST

SCARC Group at the Dayton Hamfest, Ohio, USA. From the left are Mal Lees VK4FPL, Ray Stuart VK4YRS, Val Lees, Richard Philp VK4YRP and Frank Winter VK4BLF

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Address: The Secretary, Sunshine Coast Amateur Radio Club Inc.
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Presidential Preamble

Well it's that time again. Club members have been very busy this past couple of months and everything is looking good. Richard and Win, Ray and Carol, Frank and Yvonne, Mal and Val have returned from a safe and enjoyable trip to the USA that included the prime objective of attending the annual Ham fest in Dayton, Ohio. Photographs appear in this issue and there are many more on the SCARC website.

2 m Repeaters: Wazzer (Warwick) VK4NW is still playing link antennas to be used for linking Noosa 2m and Maleny 2m repeaters via the SCARC clubrooms. Meanwhile he has replaced the faulty 828 2m transmitter at repeater VK4RSC. Upon requesting checks a much better audio and signal strength was reported.

Liz McBain tried to get the ball rolling on a monty zoomers night but sadly too many people were away.

I went to Perth for a week to help out with family business. The committee held the fort in my absence at the GM and with other matters. Much-needed rain has fallen, but, as always, too much at once in NSW created a headache for emergency services and the public.

New members: Welcomed are John Watson, Alison Beckman and Tony Holdup VK4GEP.

The Suncoast Classic Car Rally: Radio communications were provided by Bill VK4XZ, Richard VK4YRP and Tony VK4GEP using VK4RSC and their 2m car radios. Many helpers from home bases filled in the gaps, especially Roy VK4ARS. The main task is to report to the starting line from the finish line as cars complete the course. The WICEN caravan team lead by Vin VK4VFVCW was in support and provided a useful workout for the van.

WICEN: Next up was our WICEN meeting day at the clubrooms with special guests Gary VK4ZGB, Ewan VK4ERM, Peter Twomey and John Moy. Many club representees turned up for the big day to

Front cover photograph shows six of the eight in the group who travelled in April 2007 to Dayton Ohio, USA to attend the famous annual Hamfest. Missing are Carole Stuart VK4FUNN and Yvonne Winter. Frank is carrying a Hamfest purchase— a 10 to 1024 MHz Signal Generator HP Model 8657A

Famous Personalities : Heinrich Rudolph Hertz

Hertz was born in Hamburg, Germany in 1857 where he went to school. In 1885 he became Professor of Physics at Karlsruhe University. In one of his experiments he bent a piece of wire into a circle, leaving a small gap between the ends. He discovered that when this wire was brought near to an oscillating circuit which was causing a spark to jump the terminals of an induction coil, a spark would also jump across the gap of the circle although there was no connection between the two. Using this phenomenon, he studied how electric waves travel through space and established that the rules were the same as for light.

He is rightly regarded as the inventor of the principles of radio communication. Within less than 30 years, Marconi was using Hertz's discovery to transmit messages across the Atlantic, but unfortunately Hertz did not live to see this – he died in Bonn in 1894. The unit of frequency is named in his honour. End

Do you know how a document scanner works?

The heart of a scanner is a Charge Coupled Device or CCD. This is a light sensitive IC that delivers a voltage proportional to the intensity of light falling on it. A carriage contains the CCD and all the components used for making the scan. A light is shone onto the document as the carriage is pulled across the bed of the scanner by an electric motor. The carriage also contains a number of mirrors that reflect the image into a lens that is focused onto a linear CCD array. Colour filters allow the image to be broken into red, green and blue components.

An analogue to digital converter allows the scanned information to be stored as a digital file. The scanned information is created faster than the computer can process it, so it is temporarily held in a buffer memory. The scanned material is stored as an image, whether it is a picture or writing and can be further manipulated e.g. with a photo-editing program, or is sent straight to a printer.

If scanned writing needs to be edited, Optical Character Recognition (OCR) software, such as Caere, is used to convert the scanned words into text data. After conversion the text can be edited with a word processor, just as if it had been manually typed into the computer. End

ease and changes of government, but they eventually accomplished what was hailed as one of the greatest achievements of France. Méchain died of malaria in Spain as his part was almost complete, but Delambre was promoted to very high positions of State.

A rod of pure platinum was manufactured to be the reference metre and copies were given to all nations. However the new-fangled system of metres, litres and kilograms did not catch on, despite legislation forcing the people to use it. It has taken two hundred years for France and most nations to standardise on the metric system, the notable exception being the USA. Their attitude is "We are against the metric system because we don't like it. We won't learn it because we don't want to", (Bob Greene).

The system has brought standardisation and ease of use to everyone who adopts it. Now, the metre is defined in the International System of Units (Système International d'Unités), as equal to the length of the path travelled by light in absolute vacuum during a time interval of $1/299,792,458$ of a second. This strange number is calculated to preserve exactly the length determined by Delambre and Méchain all those years ago.

If you would like to read the complete, fascinating story, of which this is a very brief summary, look for the well-written and very readable book *The Measure of All Things* by Ken Alder, published by Little, Brown in 2002, ISBN 0 316 85989 3.

End

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New Awning for SCARC

Noel VK4NL and Doug VK4MHE stand beside the new portable awning erected for the first time at the clubhouse, Bli Bli. Purchase of this impressive awning was made possible by a \$3,000 grant for the amenity of voluntary Emergency Services personnel. The grant provider was the Government arm of Family and Community Services (FACS). The grant application was made six months ago and delivery occurred in the first week of June.

listen learn and ask questions and finally vote in a WICEN secretariat. Congratulations to Richard VK4YRP and thanks for taking the top job for a further 12 months. Thanks also to Vin VK4FVCW for helping out with secretarial work. We are in for the long haul and it can't be done well without the great work done by Richard and Vin and their able assistants. At days end many compliments were made about the presentation of our clubrooms, thanks to the Saturday working bee team of Richard, Vin, Liz and Angus. Another big WICEN Sunday came with our SES Induction Day. Congratulations to all who finished their paper work. Our new awning works a treat for an extended barbeque area - see photo this page. (continued)

Education: Harvey VK4AHW headed off to the deep south (Melbourne) for his grandchild's birthday but all we heard on air was grizzles about the cold. Upon his return to fine and sunny weather we were all greeted with the biggest smile ever seen on his face. He was soon back attending to amateur radio education with a new student under his wing.

Noosa Enduro Bike Ride: Again SCARC members provided the communications; we are becoming well rehearsed at this sort of community radio work.

Ok that's enough for another edition. Once again thanks for the many helpers who carried us through.

Ciao for now, Noel

South Yarra Store Collections

Those who know and use the SCARC parts store make small monetary contributions, all gratefully received by quarter-master Joe VK4SY. The small contributions grow in time and Joe re-distributes the accumulated sums for worthy club uses.

Recently he gave \$81.00 to Bill VK4XZ to buy BNC connectors for his work in the radio room (the "Green Room").

Joe will keep us informed on where the money goes. End

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Who created the metre? The work of Jean-Baptiste-Joseph Delambre and Pierre-François-André Méchain

by Tony Thorrold VK4KKY

In the period before the French Revolution, measures of length, weight, volume and in fact everything else, were quite chaotic. Every town, every village had its own system of measures. France used an incredible 250,000 different units, known by 800 different names, to say nothing of the rest of Europe.

The French Academy of Sciences decided to rationalise the system and formed a Commission of Weights and Measures. They decided that the unit of length should be the basis of the new system and after much discussion it was decided that the new unit would be called the Metre. It was defined as one ten-millionth of the distance from the North Pole to the equator along a meridian running through Paris. To determine the length of the metre, they would use the most up-to-date instruments and the most meticulous scientists. They would not be able to accurately measure the whole distance from pole to equator, but would measure a part of the arc (about 800 km) from Dunkerque near France's northern border with Holland to Barcelona, just over her southern border. They would also measure the latitudes of the two end-points of the arc and would thus be able to interpolate the total distance.

Two eminent French astronomers of the time, Delambre (1749 – 1822) and Méchain (1744 – 1804) were appointed to perform the measurements. They set off in June 1792, Delambre to measure the northern three quarters of the distance and Méchain the southern quarter over the Pyrenees and into Spain. The method they used was 'triangulation'. The entire distance was divided up into 115 interlocking triangles. Each apex of each triangle was situated at a high point eg a church steeple, a mountain peak, etc. and marked with a beacon. They then measured all three angles of each triangle with great precision. By accurately measuring one side of one triangle with a steel rule and knowing the angles, they were able to calculate the length of a side of all the other triangles and hence the total distance.

The mission took them seven long years during which they faced unbelievable difficulties – war, revolution, accident, shipwreck, dis-

Regularity

1st Davis & Best 2004 Holden Monaro

2nd Myers & Myers 2006 Mitsubishi Lancer Evo IX

3rd Russell & Russell 1955 Jaguar XK150 Coupe

The Thoroughbred Touring cars, the ones where the numbers started with "T" received times (as they'd paid to receive them) but as they aren't CAMS-certified race cars, were limited to 130 km per hour... it's kind of hard to "race" under those conditions. The cars where the numbers started with "V" were VIP or Sponsor-Ride cars. Again, the drivers received times but were not racing.

Full results can be found at

<http://www.suncoastclassic.com.au/sc07/results.asp> End

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View of the main hall of the 2007 Dayton, Ohio Hamfest

Member's station locations

In its quest to find sites for repeaters that best suit SCARC members the repeater team has decided to survey member's station locations in terms of latitude and longitude. Having station locations marked on a map will allow the team to assess the worth of a proposed site before embarking on the arduous and time-consuming task of a trial.

SCARC members are asked to send their station latitude and longitude to the club committee. Ways to get lat and long include GPS reading, survey map reference and certain internet maps.

[Editor - I re-checked my lat and long using survey map 9444 (1:100,000) which covers Yandina to Nambour to Beerburrum and the hinterland. Interpolation of the 1 km grid was necessary to find lat and long].

End

The Galileo GPS System

by Tony Thorrold VK4KKY

Many of us use the American Global Positioning System (GPS) in our boats, cars and while hiking. GPS is used to help land planes in fog and its time signals help synchronise the world's mobile phone networks and internet traffic. Soon there will be a second system - the European Union (EU) Galileo System, intended to be operational by the end of 2008.

Why is the EU to spend over 3 billion Euros on its own system? Certainly, Galileo will have superior atomic clocks and will use multiple frequencies to give greatly improved accuracy plus indoor and urban availability, but these are not the main reasons. GPS is a military system, owned and run by the Pentagon and can be degraded or turned off whenever the US decides to do so. With so many important or even vital civilian services becoming more and more dependant on this technology, the EU was no longer willing to be dependant on the USA.

The USA was initially strongly opposed to Galileo. Washington's opposition stemmed from a fear that Galileo's signals could disrupt military applications of their GPS. In June 2004 an agreement of cooperation between the EU and the USA was finally signed after 2 years of negotiation, ensuring a mutually beneficial and compatible system. This has now enabled the European Space Agency to contract with the Russians to launch the first two satellites on Soyuz rockets from Baikonur in Kazakhstan by the end of 2005. Galileo will encircle the world with 30 satellites in medium earth orbit, 27 being operational, with 3 backups. There will be two control centres on earth. The quoted best accuracy of GPS is 22 metres, while Galileo will be accurate to within a few centimetres over large parts of the world. From 2004 the European Regional Augmentation of GPS (EGNOS) will start to provide its services, improving accuracy over Europe to better than 5 cm. Once all the Galileo satellites are in operation, the combination of GPS, EGNOS and Galileo will provide this accuracy or better over most of the world.

A friend of mine recently drove through several European countries using an EGNOS GPS receiver and reported that it had pinpoint

continued bottom of next page



One of official's cars. Try picking the make and model.

then and to meet many new faces too. If anyone is interested in being involved in other motorsport events, watch this space as several clubs and the Australian Rally Championship rely on WICEN for support.

he official classification for the race is as follows:

Modern Competition (modern cars going as fast as they can!)

1st Vandersee & Taylor 2004 Skelta G Force (the fully-spoilered orange car)

2nd Denyer & Moscat 2006 Subaru WRX STI (that's Grant Denyer and Dale Moscatt of Channel 7 fame wearing single figure 7 on their car)

3rd Close & Close 2001 Porsche Turbo (perhaps the one Vin supplied cable ties to?)*

Late Classic Competition (slightly older cars going as fast as they can.)

1st Callinan & Weston 1979 Holden Commodore

2nd Hoinville & Gilpin 1973 Ford Escort RS160

3rd Tierney & Carra 1974 Porsche Carrera R

Classic Competition

1st Cattlin & Cattlin 1969 Ford Mustang

2nd Calvert-Jones & Robert 1971 Porsche 911T

3rd Wearing & Cochrane 1971 Ford Capri Perana

how WICEN will go about putting temporary installations into public buildings and how messages can be run around and received in a large centre.

A source of concern for WICEN base at the Command Centre was that several stages did not maintain contact with Noosa once they switched to simplex. It will be important to ensure that at least one operator at each stage has a dual side radio or two.

The caravan was on display in Noosa Heads Lions Park where the competition cars were parked each night in parc ferme. This was a great opportunity to promote amateur radio and disaster preparedness to members of the public and there was a steady stream of visitors. Vin Childs VK4FVCW and others were able to monitor other frequencies and generally back up the Command Centre. Had there been some sort of incident at the Sheraton (such as a fire alarm), this would have become the focus of communications to and from the field, not just for WICEN but for all the other agencies involved as well. The competitors and their crews soon discovered that WICEN knew far more about what was going on out on track than anyone else and would stop by before heading out. They also discovered that we're pretty handy at fixing race cars too! (The drivers of a very expensive-looking modern Porsche sprinted to the caravan begging for cable ties – their bonnet catch was broken and unless they tied it down, they weren't to go racing. Vin supplied the cable ties and looked out to see the drivers aiming a Philips head screwdriver and a mallet at the top of the bonnet. Ouch!) Deploying the caravan threw up a few things to think about for the future, including having several UHF/VHF rigs and a tool kit.

All in all, our operators did a fantastic job and are to be highly commended. Sending, receiving and ticking off 120 cars at 30-second intervals was an intensive job. That together, we maintained communications over the entire course, while the professional agencies were struggling, was integral to the running of the event. Our professionalism and capability was noted by both the organisers and the Queensland Police Service whose good opinion of the event is crucial to it being allowed to go ahead next year. As far as we know, the Aeromil Suncoast Classic is coming back in 2008. The dates aren't fixed yet and our participation hasn't been formally requested, but both the Clerk of Course and the Suncoast Communications Director are keen to see us again. It will be great to see you all again

RF – The Rallying Force

By Alison Beckmann and Tony Holdup VK4GEP

It wasn't just the whines and growls of high-powered and classic sports cars that filled the audible frequencies on the weekend of July 5 – 8, 38 amateur radio operators from SCARC/WICEN, Brisbane WICEN, Ipswich WICEN and the Brisbane Digital Group and their helpers supported the Aeromil SunCoast Classic Rally by providing a complete back-up communications system.

Silverstone Events, promoter of the well-known Classic Adelaide brought rallying to Noosa and the surrounding hinterlands. After a brief dash up the Noosa Hillclimb each morning the competitors set out for their 182 km of closed road Special Stage racing and vast amounts of touring adding up to approximately 900 km. On the Friday, the course went out from North Arm, over to Brooloo and Kenilworth then up and down the range a few times, out to Kilcoy, down from Mt Mee and up through Landsborough. Saturday saw the cars head north from Cooroy to Gheerulla through Kandanga and Amamoor, out through MacIntosh Creek into Gympie, over to Cedar Pocket and KinKin and down to Cootharaba. Sunday was a quiet day with only six Special Stages starting at Black Mountain, then going out from Cooroy and down to North Arm, Mooloolah, Landsborough and Peachester.

The brief given to us by Silverstone Events was to establish communications between the Start, Finish and SOS points of each stage and to ensure that at least one of those positions could communicate with the Rally Headquarters in the Sheraton Hotel at Noosa. This provided an ideal exercise for the Sunshine Coast WICEN group to test over almost all of our area. The second part of our exercise was message handling providing a human back up to the car transponder system. The start operator radioed the number and colour of the cars starting to the SOS and Finish operators so that they could notify the

The Galileo GPS System (continued)

accuracy. In conjunction with his digital car radio, which gave local traffic reports, he was able to tell the GPS to navigate him around several major traffic jams in cities where he had never been before. With the enhanced quality of service which Galileo will offer and as-yet undreamed of applications, we are living an exciting time. End

Rally officials if a car failed to turn up in a timely fashion. Electronics don't always work and it is as important to know that a car arrived safely and didn't trigger the transponder system, as it is to know that a car has gone flying off the track so far that the other competitors haven't spotted the wreckage.

Planning for the rally got underway in earnest in late May when the organisation of the event was taken on by Tony Holdup VK4GEP (from David Merick, VK4IQ who was unable to continue due to family commitments), assisted by Bill Sebbens VK4XZ and Richard Philp VK4YRP. First up was a survey of the course to determine whether each stage was going to be able to communicate simplex on VHF or UHF and find out which repeaters we would be able to use to reach Noosa. Of course, roads that are challenging for driving enthusiasts also tend to involve challenging terrain for radio! Many meetings, phone calls and emails ensued while the documentation was prepared for the first time and operators were assigned to positions. It was challenging to balance experience, timing and travel when most of our members live close to the coast and most of the course was west of the Bruce Highway.

So how did SCARC WICEN's report card read at the end of the weekend?

We were able to establish simplex for nearly all the stages although there was one case where we had to relay information through one of the SOS points. It was lucky that the stage was downgraded to touring only as the volume of information was going to be too much for a single operator to deal with. It was however, terribly disappointing as much effort was put into establishing the comms that we did have. This highlights the need for the club to have portable repeaters available or for operators with cross band capability to make that known to the organisers. WICEN operators are an adaptable lot and many found themselves helping out the rally officials in a range of capacities and this help was much appreciated, as there were many teething problems with this first-time event. I'm sure each of us learned a little more about our equipment, its strengths and areas for improvement, about being prepared for a day out and perhaps a little more about motorsport.

We were able to reach Noosa using VK4RSL on 146.825, VK4RSC 146.850, and VK4RCM on 147.975. Thank you very much Jason Ryan, VK4MIH, for being so enthusiastic to see us tak-



A Skelta at the starting line

ing over the new Gympie repeater for the day! However, no fixed repeaters covered the stages at Kilcoy. The problem was overcome by installing a cross band link at the home of Bruce Patterson VK4BOO and utilising the UHF repeater back at Noosa. Roy Stephens VK4ARS also monitored the event from his home QTH and had 5MHz capability although we didn't end up using it. His location was well placed to reach many of the operators on their simplex frequencies.

The Rally Headquarters Command Centre was staffed by Richard Philp and Denis Griggs, VK4FDMG among others. Much was learned about organising large numbers of operators and handling messages on up to 3 frequencies at once. As we were located with all of the other officials, radio controllers and emergency service commanders, we were able to assist them with their communications as the commercial radio system and the police radio systems were not able to reach all the stages. Our radio procedures were well respected and the cool head of Richard was welcomed especially when some serious incidents occurred out on course. The Clerk of Course was almost panicking at one particularly dangerous situation and looked over to us, saw we were calm and knew that everything was OK! Other lessons learned from the Sheraton were to think about