

# The Propagator



CLUB CALL VK2AMW  
VOLUME 02/06 ISSUED FEBRUARY, 2006  
NOW PRINTED MONTHLY  
WORTH MORE THAN PETROL

MEETINGS HELD SECOND TUESDAY OF EACH MONTH (EXCEPT JANUARY).  
S.E.S BUILDING MONTAGUE STREET, NTH WOLLONGONG. STARTING AT 7:30PM.  
THE PROPAGATOR IS THE OFFICIAL NEWSLETTER OF  
ILLAWARRA AMATEUR RADIO SOCIETY INC.  
PO BOX 1838 WOLLONGONG 2500.  
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## EDITORIAL

Another year has started, 2006, Happy New Year! I hope this one slows down, but if the first month is anything to go by, its going to be fully booked and fly by so quickly, I am going to need my diary as a booking agent!

A reminder that notices of the posting of the Propagator to the website, [www.iars.org.au](http://www.iars.org.au) are no longer sent to each member. I will try to have it on the webpage by the 1<sup>st</sup> of every month, except January.

It will be a busy year for our Club, with Field Days, raffles, meetings, chats and get togethers. Your Committee is working hard to make it informative, enjoyable but more importantly, fun, for every member. Please acknowledge the effort put into planning events and activities, they are for the benefit of the Club and to further your interest.

Don't forget, the first meeting for 2006 is the 14<sup>th</sup> of February. It is also Valentines Day, so unless your dog house is air conditioned, may I suggest flowers, breakfast in bed or some other treat for your partner, something you have probably not done in years, hint John, so the clash wont seem so bad!

Maeva Bennett  
VK2HUG  
Editor.

### THE ILLAWARRA AMATEUR RADIO SOCIETY INC EXECUTIVE AND COMMITTEE FOR 2006

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**Canteen.** Peter Reid VK2HPR.

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**First Club Broadcast for 2006 – Tuesday, 7<sup>th</sup> February at 7.30 pm with Goeff and Jack**

**First Club Meeting for 2006 – Tuesday 14<sup>th</sup> February at 7.30 pm**  
Guest Speaker – Rob McKnight – Ham Radio in the Pacific Ocean  
Start of Mothers Day for Fathers Raffle – see later in this edition for details.  
Name badge collection for badges ordered at the December Meeting



**2005-2006 IARS Committee**  
Front Row from the left  
John Lawer VK2KEJ  
Jack De Cesco VK2XGD  
Peter Reid VK2HPR  
Geoff Howell VK2HIC  
Back Row from the left  
John Bennett VK2AAL  
Maeva Bennett VK2HUG  
Frank Diggle SWL  
Boris Rewak VK2JJJ  
Tony Stone VK2TS  
Rob McKnight VK2MT

## *The Illawarra Amateur Radio Repeater System.*



Small wonder why the reception at Madden's Plains is sooo good!

### *Quick Glimpse of IARS Maddens Plains Repeater*

- Established 1996?
- Site and mast owned by Transgrid
- Height of Tower 70 meters or 200ft
- IARS Equipment on site
  - 2 meter repeater with extra amplifier
  - UHF repeater
  - 6 meter repeater
  - 2 controllers and broadcast receivers
  - 2 power supplies

As well as these antennas

1. 2 only Dual band UHF and VHF, both on receive and transmit
2. 2 only 6 meter antennas
3. Broadcast receiving antenna and Gosford Link antenna

### *Internet Research:*

There is a very good read on Yaggi Aerial Design from the US Department of Commerce – National Bureau of Standards, on <http://tf.nist.gov/timefreq/general/pdf/451.pdf>. It can be downloaded (quite slow to open on the web) in PDF format, it's over 1 mg to download, as the paper is over 30 pages. If you are interested in Yaggi's, it's worth the effort.....Ed.

## The Extraordinary History of Amateur Radio Satellites



**JAPAN'S FUJI SATELLITE**

Here's a startling fact — more than 70 Amateur Radio satellites have been launched over four decades. The number is astonishing because these sophisticated and groundbreaking spacecraft are little known outside the ham radio fraternity.

In fact, private groups of Amateur Radio operators around the globe have built and sent dozens and dozens of Amateur Radio communications and science satellites to orbit since the first, OSCAR-1, was launched on December 12, 1961.

The major group involved in space activity is the Radio Amateur Satellite Corporation (AMSAT) headquartered at Washington, D.C. Its membership is composed of volunteer spacecraft designers, builders and operators across America and around the world.

**In the beginning.** Following the Soviet Union's launch of the first-ever space satellite, Sputnik 1, on October 4, 1957, there was a great deal of interest in the United States in rushing an American satellite to orbit.

At the time, the Jet Propulsion Laboratory (JPL) of the California Institute of Technology, at Pasadena, was a research lab for the U.S. Army. A month after the Sputnik launch, the Army asked JPL to develop a satellite with a science package and communications system. The result was a tiny, 20-lb. spacecraft named Explorer 1.

JPL and the Army Ballistic Missile Agency, at Huntsville, Alabama, blasted the satellite to space on one of the Army's Redstone rockets from the missile test center at Cape Canaveral, Florida, on January 31, 1958. That historic flight of the first U.S. satellite to orbit the Earth launched the nation into the Cold War space race and led to the establishment of the civilian space agency NASA. Today, JPL is a space research center for NASA.

**Hams get involved.** Amateur radio operators around the world – excited by the beep-beep-beep radio signal they overheard coming down from Sputnik – willingly accepted an invitation to tune in Explorer's radio signals. One of the thousands of ham stations searching for signals from space was operated by JPL ham radio operators at the nearby Los Angeles County Sheriff's substation in Temple City, California. More about [Explorer](#) [Explorer](#)

Some radio amateurs had a bright idea. Hams know all about radio communication. If the government can build a communications satellite, why can't we?

**The first amateur radio satellite.** A California group of Amateur Radio operators, calling itself *Project OSCAR*, built the first Amateur Radio satellite in 1961. Since then, the majority of hamsats have been called *OSCAR*.

Project OSCAR built the first four hamsats. Then AMSAT was founded in 1969. AMSAT's first flight was OSCAR-5 built by Australian students.

All of the high-tech OSCARs have been financed through donations of time, hardware and cash from hams in the United States, Germany, Canada, Great Britain, Australia, Russia, France, Italy, Japan, Brazil, Argentina, Belgium, South Korea, Finland, Israel, Mexico, South Africa, Saudi Arabia, and other nations.

**OSCAR.** AMSAT satellites are called **OSCAR**, for Orbital Satellite Carrying Amateur Radio. The number of OSCARs reached a total of 50 satellites in 2002.

Numbers in the OSCAR series are assigned by AMSAT after a satellite has been launched successfully and operated on Amateur Radio frequencies.

For example, two OSCARs launched to space in December 2002 were a German hamsat designated AATiS OSCAR-49 (AO-49) — AATiS is a German group promoting Amateur Radio in schools — and a Saudi Arabian hamsat labeled Saudi OSCAR-50 (SO-50).

**Radiosputnik.** In addition to the OSCARs, over the years USSR and Russian hams have built and operated 20 separately numbered amateur satellites called **Radiosputnik**, or RS for short. Three USSR hamsats were called *Iskra*, which is Russian for "spark."

British Amateur Radio satellites, built at the University of Surrey, have been known as **UoSAT**. Japanese hamsats have been called **Fuji**, which is Japanese for "wisteria."

In addition, a handful of Amateur Radio related satellites also have been launched over the years by other groups around the world. The Amateur Radio OSCAR communication and science satellites are not the same as the U.S. Navy series of Oscar navigation satellites. Amateur Radio satellites are referred to informally as hamsats.

**Flourishing.** The number of Amateur Radio satellites has been mushrooming:

- Only four were orbited in all of the 1960s.
- Six went to space in the 1970s.
- Seventeen amateur radio and amateur-related satellites were launched in the 1980s.
- Two dozen amateur radio and amateur-related satellites were launched in the 1990s.
- More than a dozen have been launched since the turn of the century.

Record launch years were 2000 with nine hamsats launched, followed by 1981 and 1990 with eight hamsats each. Close behind were 1993 and 1998 with five each, and 1991 with four hamsats and eight amateur-related satellites launched. Most hamsats remain in orbit today and many still are in use.

**No such thing as a free launch?** Over the decades, hamsats often received free rides to space as ballast on U.S., Russian, European and Japanese government rockets that happened to be carrying other commercial or government satellites to orbit. However, with available space over-booked these days, paid tickets usually are required.

**Satellite orbits.** The major Amateur Radio satellite designs have been labelled Phase-1, Phase-2, and Phase-3:

- Most hamsats have been **Phase-1** and **Phase-2**. They fly in north-south polar orbits or low east-west equatorial orbits from 200-1,000 miles altitude. By comparison, that's about where a space shuttle usually flies or a bit higher. Such a low-flying hamsat circles the globe, coming within range of a ham station on the ground every hour or so. It stays overhead only 15 to 30 minutes. Polar-orbit satellites come within range of a ground station about the same time every day. These are Low Earth Orbit (LEO) satellites. The original Phase-1 satellites had severely limited electrical power and could last only a few weeks. Phase-2 hamsats work longer and communicate over distances up to 4,000 miles.
- Entering the 1980s, AMSAT envisioned larger amateur satellites in long elliptical orbits that would keep them in view of ground stations for hours at a time. These **Phase-3** hamsats would be more complex and use higher radio frequencies. Phase-3 satellites could provide communication over longer distances because of their higher altitudes. These high-fliers would range out 20,000-30,000 miles from Earth, then loop back around the planet, dropping to within 1,500-2,500 miles of the surface every ten to twelve hours. Such long elliptical tracks are known as *Molniya* orbits after a class of Russian communications satellites which followed similar paths through space.
- If there ever were to be a **Phase-4** hamsat, it would be an OSCAR in a stationary orbit some 22,300 miles above Earth. It would appear to stay over the same area of the globe. However, there won't be any of those for a while.

**Sky-high repeaters.** For the most part, hamsats are communications repeaters in the sky. Their transponders relay voice, Morse code and digital-computer signals. Most amateur satellites today carry gear for digital computer-to-computer communication and store-and-forward message bulletin-board systems (bbs). Sometimes they are science spacecraft with transmitters for radio propagation tests, ionospheric research, radioteletype and meteor sounding; receivers for radio-astronomy, radiolocation and other original science research; and television cameras for photos of Earth and space.

Hamsats are open for use by all appropriately-licensed Amateur Radio operators around the world. The satellites serve the public, as well, by training satellite trackers, relaying medical data, teaching school science groups and providing emergency communications for disaster relief.

**Beacons.** Early amateur satellites carried only one-way radio beacons which sent down telemetry information about conditions of satellite equipment and the space environment to anybody interested in receiving the data. Hamsats of the 21st century still have such beacon transmitters, alongside their high-tech two-way communications transponders.

A hamsat monitors the condition and output of its solar cells and battery. Its telemetry beacon reports the amount of current being generated by the solar cells, the voltage available from the battery, the temperature of the battery, transmitter power, temperatures of other parts of the satellite, and lots of other useful information. Such telemetry data is easily read by amateurs.

**Ragchewing.** Along with building their spacecraft, hamsat users enjoy an old-fashioned "rag chew" (conversation) via OSCAR. Contests and achievement awards add spice to their time on the air.

Citations awarded to hamsat users can include "Worked All States" for contacting a station in each of the United States via satellite, "Satellite DXCC" for contacting hams in 100 countries via satellite, and a series of technical achievement awards.

Radio amateurs love to track down hidden transmitters in so-called "fox hunts." In a SatFox Test, amateurs at home simulate a hidden transmitter hunt using a hamsat to find a hidden "fox."

A "ZRO Technical Achievement Award" is earned by a hamsat user for superior station performance in a sensitivity test of receiving weak satellite signals.

Weekly Amateur Radio meetings are held on the air. The meetings form a network of operators on the ground and are known as "nets." Participants help each other and spread the latest news of the amateur space program.

#### History of Amateur Radio Satellite Launches

Date	Name	Origin	Innovation
1961 Dec 12	OSCAR 1	Project OSCAR	Transmitted Hi HI and temperature.
1962 Jun 2	OSCAR 2	Project OSCAR	Similar to OSCAR 1.
1965 Mar 9	OSCAR 3	Project OSCAR	First solar powered, first to relay signals.
1965 Dec 21	OSCAR 4	Project OSCAR	First U.S.-Soviet amateur link.
1970 Jan 23	Australis-OSCAR 5	Melbourne Univ.	Australia, launched from USA. First remote-controlled amateur sat.
1972 Oct 15	AMSAT-OSCAR 6	AMSAT	Sat-to-sat comm via AO7, medical relays.
1974 Nov 15	AMSAT-OSCAR 7	AMSAT	Stored & forwarded messages.
1978 Mar 5	AMSAT-OSCAR 8	AMSAT	Message store & forward.
1978 Oct 26	Radiosputnik 1	USSR	First Russian amateur satellite, launched with RS 2.
1978 Oct 26	Radiosputnik 2	USSR	Russian amateur satellite, launched with RS 1.

1980 May 23	AMSAT Phase 3A	AMSAT	Ariane rocket launch failed.
1981 Oct 6	UoSAT-OSCAR 9	Univ. of Surry, U.K.	First on-board housekeeping computer.
1981 Dec 17	Radiosputnik 3	USSR	Launched with RS 4-8.
1981 Dec 17	Radiosputnik 4	USSR	Launched as part of the RS 3-8 flotilla.
1981 Dec 17	Radiosputnik 5	USSR	Robot communicator for Morse code contact with amateurs on grnd.
1981 Dec 17	Radiosputnik 6	USSR	Launched as part of the RS 3-8 flotilla.
1981 Dec 17	Radiosputnik 7	USSR	Robot communicator for Morse code contact with amateurs on grnd.
1981 Dec 17	Radiosputnik 8	USSR	Launched as part of the RS 3-8 flotilla.
1982 Jul 9	ISKRA 2	USSR	Hand launched by cosmonauts tossing out of Salyut 7 space station.
1982 Nov 18	ISKRA 3	USSR	Hand launched by cosmonauts tossing out of Salyut 7 space station.
1983 Jun 16	AMSAT-OSCAR 10	AMSAT	High altitude elliptical Molniya orbit.
1984 Mar 1	UoSAT-OSCAR 11	Univ. of Surry, U.K.	Camera, speech synthesizer, dust detector, Geiger counter.
1986, Aug 12	Fuji-OSCAR 12	JARL	First Japanese amateur satellite.
1987 Jun 23	Radiosputnik 10	USSR	Piggyback, along with RS 11, on Soviet navigation satellite.
1987 Jun 23	Radiosputnik 11	USSR	Piggyback, along with RS 10, on Soviet navigation satellite.
1988 Jun 15	AMSAT-OSCAR 13	AMSAT	High altitude elliptical Molniya orbit.
1990 Jan 22	UoSAT-OSCAR 14	Univ. of Surry, U.K.	One of 6 microsattellites launched together. Cosmic particle detector.
1990 Jan 22	UoSAT-OSCAR 15	Univ. of Surry, U.K.	One of the 6 microsattellites. Failed in orbit.
1990 Jan 22	AMSAT-OSCAR 16	AMSAT	One of the 6 microsats. Digital comms & message store-forward.
1990 Jan 22	DOVE-OSCAR 17	AMSAT-Brazil	One of the 6 microsats. Peacetalker read messages to grnd listeners.
1990 Jan 22	WEBERSAT-OSCAR 18	Weber Univ. students	One of the 6 microsattellites. CCD camera.
1990 Jan 22	LUSAT-OSCAR 19	AMSAT-Argentina	One of the 6 microsattellites. Digital message BBS.
1990 Feb 7	Fuji-OSCAR 20	JARL	Second Japanese amateur satellite.
1991 Jan 29	Radiosputnik 14	AMSAT-U & AMSAT-DL	a.k.a. AMSAT-OSCAR 21. Russian-German prjct. Message reader.
1991 Feb 5	Radiosputnik 12	Russia	Piggyback, along with RS 13, on Russian navigation satellite.
1991 Feb 5	Radiosputnik 13	Russia	Piggyback, along with RS 12, on Russian navigation satellite.
1991 Jul 17	UoSAT-OSCAR 22	Univ. of Surry, U.K.	Camera and digial messaging system.
1992 Aug 10	KITSAT-OSCAR 23	South Korea	Camera and digial messaging system, similar to UO 22.
1993 May 13	Arsene-OSCAR 24	France	First French amateur satellite.
1993 Sep 26	KITSAT-OSCAR 25	South Korea	Camera, science instruments. Launched with IO 26, AO 27, PO 28.
1993 Sep 26	Italy-OSCAR 26	Italy-AMSAT	Launched with KO 25, AO 27, PO 28. Similar to AO 16, LO 19.
1993 Sep 26	AMRAD-OSCAR 27	AMRAD	Launched with KO 25, IO 26, PO 28.
1993 Sep 26	PoSAT-OSCAR 28	Portugal	Launch with 3 others. Camera, star sensor, GPS, cosmic ray test.
1994 Dec 16	Radiosputnik 15	Russia	Similar to RS 3-8.
1995 Mar 28	UNAMSAT 1	Natl. Univ. of Mexico	Russian launcher failed.
1995 Mar 28	TechSat 1a	Israel	Russian launcher failed.
1996 Aug 17	Fuji-OSCAR 29	JARL	Third Japanese amateur satellite. Digitalker message reader.
1996 Sep 5	Mexico-OSCAR 30	Natl. Univ. of Mexico	Twin of UNAMSAT 1. Meteor sounder.
1997 Nov 4	Radiosputnik 17	Russia	Hand launch from Mir stn on 40th anniversary of Sputnik 1.
1998 Jul 10	ThaiMicrosat-OSCAR 31	Thailand	TMSAT 1 launched by Russia. Camera, GPS, digital comms.
1998 Jul 10	Gerswin-OSCAR 32	Israel	TechSat 1b launched by Russia.
1998 Oct 24	SEDSat-OSCAR 33	Univ. of Huntsville Ala.	Camera, remote sensing.
1998 Oct 30	PANSAT-OSCAR 34	Naval Postgrad School	Digital message system and communications.
1998 Nov 10	Radiosputnik 18	Russia	Hand launch from Mir stn. Sputnik 41. Prior RS 17 was Sputnik 40.
199 Feb 23	SUNSAT-OSCAR 35	South Africa	Univ. of Stellenbosch. Communications and experiments.
1999 Apr 21	UoSAT-OSCAR 36	Univ. of Surry, U.K.	Message store and forward system.
2000 Jan 27	ArizonaState-OSCAR 37	Arizona State Univ.	ASUsat1. Launched with OPAL, StenSAT, T&L, WO 39.
2000 Jan 27	OPAL-OSCAR 38	Stanford Univ.	Orbiting Picosat Automatic Launcher.
2000 Jan 27	StenSAT	Stensat Group USA	CubeSat, a 12 cu. in.c, 8.s oz. picosatellite.
2000 Jan 27	Thelma and Louise	Santa Clara Univ.	a.k.a. Thunder and Lightning, ParaSat, a picosat.
2000 Jan 27	Weber-OSCAR 39	Weber Univ.	a.k.a. JAWSAT Joint Air Force Weber Sat.
2000 Sep 26	SaudiSat-OSCAR 41	King Abdulaziz SRI	Launched by Russia on converted ICBM along with SO 42, MO 46.
2000 Sep 26	SaudiSat-OSCAR 42	King Abdulaziz SRI	Launched with SO 41, MO 46.
2000 Sep 26	Malaysian-OSCAR 46	Malaysia	a.k.a. TiungSAT 1.
2000 Nov 16	AMSAT-OSCAR 40	AMSAT	Largest, most complex, most powerful to date. Ten years to build.
2001 Sep 30	Starshine-OSCAR 43	Project Starshine USA	37 in. ball covered with 1,500 mirrors polished by 40,000 students.
2001 Sep 30	Nav-OSCAR 44	U.S. Naval Academy	a.k.a. PCSat. Launched with SO 43 NO 45 & PICOsat from Alaska.
2001 Sep 30	Nav-OSCAR 45	Washington Univ.	Sapphire. Wash.Univ.St.Louis & Stanford. Infrared, camera, voice.
2002 Mar 20	Radiosputnik 21	Russia-Australia	Russian-Australian educational project launched from space stn.
2002 May 3	BreizhSAT-OSCAR 47	AMSAT-France	a.k.a. IDEFIX CU1. Picosatellite, read messages.
2002 May 3	BreizhSAT-OSCAR 48	AMSAT-France	a.k.a. IDEFIX CU2. Picosatellite, read messages.
2002 Dec 20	AATIS-OSCAR 49	AMSAT-Germany	a.k.a. SAFIR-M. Cooperative educational project with schools.
2002 Dec 20	SaudiSat-OSCAR 50	King Abdulaziz SRI	Launched by Russia on converted ICBM along with AO 49.
2003 Jun 30	DTUsat	Tech. Univ. of Denmark	One of 6 CubeSAT nanosatellites launched by Russia.
2003 Jun 30	AAU CubeSat	Univ. Aalborg, Denmark	One of the 6 CubeSAT nanosatellites. Camera.
2003 Jun 30	CanX 1	Univ. of Toronto, Canada	One of the 6 CubeSATS. Horizon tracker, star sensor, GPS.
2003 Jun 30	Quakesat	Stanford Univ.	One of the 6 CubeSATS. Listened for earthquake radio signals.
2003 Jun 30	CUTE 1	Tokyo Inst. Tech., Japan	One of the 6 CubeSAT nanosatellites.
2003 Jun 30	XI-IV	Univ. of Tokyo, Japan	One of the 6 CubeSAT nanosatellites. Camera photograped Earth.

2004 Jun 29	AMSAT-OSCAR 51	AMSAT	a.k.a. Echo. Launched from Russia. Voice and data communications.
2005 May 5	VuSat-OSCAR 52	AMSAT-India	a.k.a. HamSat. First amateur radio satellite from India.
<b>Other Amateur Radio Space Communications Systems</b>			
1983-1999	SAREX	USA	Shuttle Amateur Radio Experiment.
2000-present	ARISS	USA	Amateur Radio aboard the International Space Station.

## The Path to Valhalla.

An opera worthy of the bard is about to be played out. It has all the ingredients of a tragedy and yet it is romance of the highest order. It's plot spans the seven seas and the five continents and it moves like a Valkyrie. The voices, sometimes thunderous begin as a whisper. The music is the music of the spheres.

The curtain rises. The scene...Antarctica. Just one lone player enters silently but swiftly from stage right.

The antarctic winter is in full fury but the player, a tiny oscar satellite is oblivious to the icy winds and perpetual darkness 800 km below. Its circuits are ready but the receiver is silent. It is about to come out of eclipse and into the sunlight once more. It encounters 14 such sunrises each day. The scene changes and now the coastlines of Australia and New Zealand come into view over the edge of the earth. The lone player is soon to be alone no more.

Almost simultaneously in amateur radio shacks in Hobart and Dunedin two computers take control of the stations. The receivers and transmitters switch automatically to doppler corrected frequencies. Antenna rotators swing long crossed Yagi beams to point at the invisible player and intercept the faint signals now just audible from UoSat-Oscar-22.

In a moment or two, signal strength meters begin to climb, lights dance on terminal node controllers and 9600 baud data streams up the computer screens. The game is afoot....the play's the thing!

This is the magical world of the digital amateur radio satellites. There is pure poetry here for the initiated but be warned....the path to Valhalla can be stormy as any tragedy.

Now back to earth briefly. The above scenario makes the rather naive assumption that everything works according to plan. Indeed, once it is all set up and working the entire system is virtually bullet proof and many such stations operate continuously unattended. Much of the packet radio BBS mail is carried through a world wide network of automated amateur radio digital satellite stations.

However....Just in case you think it all looks too easy I would urge you to consider the words of Dr Earl Hackett in one of his "Body Programs" on our ABC radio some years ago. "The three main branches of science are easy to distinguish, if it smells bad...that's chemistry, if it's green or it wriggles...that's biology and if it doesn't work...THAT'S PHYSICS!".

Fortunately in this world of frightening complexity, of innumerable and seemingly insuperable variables, heroes of Wagnerian proportions are at work. At Surrey University, and the various Amsat group headquarters in half a dozen countries, in Cosmodromes in Russia and in other educational institutions and universities around the world these heroes have placed in our hands a number of amateur radio satellites that are very reliable in operation. I chose the word 'heroes' carefully. Their efforts are indeed heroic. The phase 1, 2 and 3 satellites and more recently the three main digital birds UO-22, KO-23 and KO-25 have provided us with stable operating platforms with which to experiment. We the users need to have only modest equipment and reasonable technical knowledge to enjoy the fruits of their labours and extend our amateur radio activities into the space age.

But....the path to Valhalla lies strewn with the wreckage of many failed attempts. The designers and builders of our amateur radio satellites have "given it their best shot". Their score is on the board. Anything short of this on the user's part is bound to produce less than satisfactory results. Nowhere is this more true than in the case of the digital satellites.

### System Requirements.

#### Location.

You should think carefully about this before getting all excited about any satellite work. You need to be able to see the sky. The more sky you can see the better. **THE SATELLITES ARE UP IN THE SKY!** If you can't see the sky, forget about working the satellites. Pardon me for labouring this point but I hope you can see the importance of it. One can work DX from the bottom of a valley on 20 and 40 metres. It's not so easy with satellites. The electrical noise environment should also be considered. Satellite signals are weak. It's not like working in "kilowatt alley".

#### Antennas.

Unless you live in a remote noise free area and you are highly skilled and experienced in making all-sky, omni-directional antennas and high gain, extra low noise state of the art preamplifiers, you will need to have a steerable az/el system. This usually means an az/el rotator, insulated cross boom and high gain switchable circular polarised Yagis for 145 MHz and 435 MHz. You will still need the low noise preamplifiers mounted up the mast as close as possible to the antenna feed points. Since the current digital birds use mode J you will be transmitting on 145 MHz and receiving on 435 MHz full duplex, ie. simultaneously. Therefore you will need some form of filter in the receive line to attenuate the 3rd harmonic of the uplink signal. Preferably this will be mounted at the antenna terminals, certainly before the pre-amp. In my case I made a cavity resonator from copper tubing. Without this you will lose all the benefits of full duplex operation, when you transmit your receiver will be hopelessly desensitised. No satellite antenna system would be complete without the best feedline you can afford. An affordable minimum would be 9913 for the main down leads and good quality, **BRAND NEW** 213 for the flexible bits around the rotators. Fit **BRAND NEW** connectors to all feedlines. One of the most common sources of disappointment is failing to appreciate the importance of this point.

#### Automatic Antenna Tracking.

Unless you have four arms or a pet octopus you will need to use some form of auto-track system. They fall into two main types. There are free standing "track-box" devices and they work well. I have one for my 2.4 GHz dish. The other most common type is the Kansas City Tracker. This is a computer card that you put inside your computer. It has an option to automatically tune your uplink and downlink

frequencies to compensate for doppler shift variations. The track-boxes also have this option. Again the result is one less octopus in the radio shack. What's that you say? "I haven't got a computer". Get one or forget about the satellites. You can only sponge on your friends for so long.

### Radios.

The choice here is yours and the sky's the limit. I use a pair of older Icom rigs, the IC-271/471 combination. Pardon me for shouting but **NEARLY ALL THE AVAILABLE COMMERCIAL RADIOS WILL NEED MODIFICATION BEFORE THEY WILL WORK WITH THE 9600 BAUD SATELLITES.** Many newer rigs claim to be 9600 baud capable and a few of them will cope quite well with data from the local packet network but at the time of writing the ICOM 821-H is the only rig I know of which will work the digital satellites "out of the box". Even the bright, shiny ones that claim to be "satellite ready" will not do it when you read the fine print. No need to worry though as the mods are slight and can be done with confidence. They are well documented. It's also nice if your radios will switch 12 volts up the co-ax for the pre-amps. (Be careful where you put your cavity filter).

### Modem.

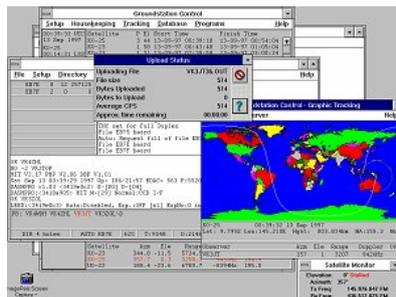
You have some choice here. You can build from a kit or buy ready made from a number of sources. The most popular choice seems to be a TNC-2 type terminal node controller with an attached G3RUH 9600 baud modem card. The three main digital birds UO-22, KO-23 and KO-25 will respond to this system. Other satellites like Fuji use PSK modulation and need a modem which will cope with PSK. The adjustment of the modem may require some test gear to get the transmitter deviation to be exactly +/-3 kHz. The modem talks to the computer through its serial port and to the radios via the mods referred to earlier.

### Computer.

This is determined somewhat by the software you intend using but let's assume you are going to give it your best shot and run something more than the most basic DOS software. Whilst programs like PB/PG are still in use the digital birds are so capable that to do them justice one should be using one of the fancier Windows based programs available these days. Your computer should be capable of running Windows without restriction. It should have a large hard disk, 200 Megabytes or more, plenty of RAM and a good VGA monitor. I use Windows 3.11 but looking to the future it will soon become necessary to convert to Windows 95 in order to keep up with the inevitable software upgrades. The computer must have a serial port capable of supporting at least 19200 baud operation.

### Software.

Here's where we lean heavily on the heroes again. Last year the satellite community was alive with talk of a new program called WiSP. It was written by Chris Jackson ZL2TPO. Chris now holds the call G7UPN and works at the University of Surrey as UoSat Command Station Manager. It would not be exaggerating to say that WiSP has revolutionised the digital amateur satellite scene. So much so that I won't bother mentioning any other software. If you're serious about the digital birds, get into WiSP.



It consists of a number of modules which are interactive. The two main modules are GSC, the Ground Station Control and MSPE, the Microsat Protocol Engine. Together with the other modules in the suite they are capable of integrating the station into a fully automatic working unit.

### Getting it all together. VALHALLA!

I know of stations that are far more comprehensively equipped than the above, but I don't know of any that are successful that do not conform roughly to the above outline. You can add HF. You can add PSK. You can work straight packet, eg. MIR. You can tool up for the phase 3 birds like AO- 10/13 and P3D. If you want to do well at any of these you need to specialise. I don't know any satellite operator who "works all the oscars". Assembling a station to cope adequately with the digital satellites is a bit daunting when you begin. The setting up of antennas, auto-track, auto-tune, modems, modifying radios, configuring your

computer and setting up the WiSP software will test ones perspicacity to the limit but when it's all up and running the results are spectacular and immensely satisfying.

When the satellite goes out over your horizon and the curtain rings down on another pass; as you pore back over the directories, remember the players. Remember the heroes. They are out there somewhere. They have to be. We, the audience couldn't conduct the play on our own!

73, Bill Magnusson, Milawa, Australia  
vk3jt@amsat.org  
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**NEWTEK ELECTRONICS**  
Phone and Fax 4227 1620  
**RESELLER FOR**  
Altronics Arista Jaycar Avico  
Stockists of: Alarm Accessories, UHF Antennae,  
Tools, Computer Accessories, Test Equipment,  
Cables, Plugs, RF Sprays and Components for the  
Professional and the Amateur  
Call in and see Jack at 345 Keira St., Wollongong

*\* See at his store  
or phone Jack  
for February's  
Member Specials*

***Certificate of Participation Presentation at the December Meeting.***

Congratulations to all those members who received Certificates of Participation in Amateur Radio. It was a very interesting to put together the years our members have held their licences. John Wells, bottom right photo, has had his licence for 54 years, I am sure he has seen lots of changes to AR in that time.

All members who had held an Amateur Licence for over 5 years were recognized with a Certificate for their shack wall or desk. Hopefully, the presentation of these certificates will take place each December. There will be a change to the awarding of certificates from this year, 2006. A certificate will only be issued for each 5 years, so make sure you fill in the box with the number of years you have held a licence on your membership renewal form. If you have not notified the Club of the years you have held your licence, or are unfinancial, a Certificate will not be issued. If you qualified for a Certificate but were not at the December Meeting, please contact the Secretary for delivery.

The Illawarra Amateur Radio Society would like to recognise the following members, and congratulate and thank them for making Amateur Radio in the Illawarra, a reality for the future development of the hobby.

VK2AUB	John	WELLS	54
VK2ARZ	Max	RILEY	53
VK2ALV	Laurie	JORDAN	47
VK2AYE	Graham	Mc PHEE	47
VK2AAL	John	BENNETT	43
VK2ARA	Ted	THRIFT	43
VK2EZD	David	DOWNIE	42
VK2BHO	John	HODKINSON	38
VK2ZUH	John	LUKEY	38
VK2FE	Paul	FERGUSON	36
VK2ZZY	Philip	GREAVES	33
VK2ZFY	Tony	KENT	30
VK2TS	Tony	STONE	27
VK2DYV	William	CHADBURN	26
VK2VWT	John	PRATLEY	26
VK2JMR	Mike	RAMSAY	25
VK2PGB	Allan	CLARKSON	23
VK2VAH	Adolf	STEFFGEN	23
VK2KPJ	Patrick	KENNEDY	20
VK2KEJ	John	LAWER	19
VK2MT	Rob	McKNIGHT	19
VK2IJJ	Boris	REWAK	19
VK2TNK	Rob	SKELCHER	19
VK2XIC	Rob	HEYER	18
VK2ZDM	John	MATTHEWS	18
VK2XQX	Simon	FERRIE	15
VK2TPH	Phil	HOWCHIN	15
VK2CRM	Bob	MAUGHAN	15
VK2KVJ	Cyril	EDWARDS	12
VK2AH	Brian	FARRAR	12
VK2ARY	Ramon N	YOUNG	12
VK2TEQ	G J	McCULKIN	11
VK2WRJ	Bob	WALKER	11
VK2HJP	John	PERKS	10
VK2XGD	Jack	DE CESCO	8
VK2TTH	Ted	HAWKINS	8
VK2LJC	Richard L	CANNAN	5
VK2ZOO	Ken	DOBELL	5
VK2HIC	Geoff	HOWELL	5
VK2HPR	Peter	REID	5
VK2XIC	Rob	HEYER	18
VK2ZDM	John	MATTHEWS	18
VK2XQX	Simon	FERRIE	15
VK2TPH	Phil	HOWCHIN	15
VK2CRM	Bob	MAUGHAN	15
VK2KVJ	Cyril	EDWARDS	12
VK2AH	Brian	FARRAR	12
VK2ARY	Ramon N	YOUNG	12
VK2TEQ	G J	McCULKIN	11
VK2WRJ	Bob	WALKER	11
VK2HJP	John	PERKS	10
VK2HIC	Geoff	HOWELL	9
VK2XGD	Jack	DECESCO	8
VK2TTH	Ted	HAWKINS	8
VK2LJC	Richard L	CANNAN	5
VK2ZOO	Ken	DOBELL	5
VK2HPR	Peter	REID	5



Photographer: Geoff Howell VK2HIC

**CCARC 2006 Field Day  
Ladies Craft Day  
19 February 2006**

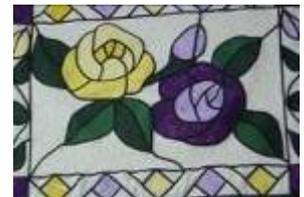


*Programme for the 3rd Floor of the Racecourse Building.*

**Demonstrations & How to**

**Morning Session**

- 10.00 Stained Glass Handbags - construction and materials
- 10.30 Calico Doll Making- faces, jointing, and dressing
- 11.00 Beading Jewellery and garment embellishment- for fashion and bling
- 11.30 Patchwork and Quilting for Beginners- fabrics, patterns, assembly
- 12.00 Teddy Bear Making- eyes, joints and noses
- 12.30 Dressmaking, tips and tricks- how to get that "bought" look in half the time and effort



**Afternoon Session**

- 1.00 Dressmaking, tips and tricks- how to get that "bought" look in half the time and effort
- 1.30 Dressmaking, tips and tricks - how to get that "bought" look in half the time and effort
- 2.00 Bead Jewellery and garment embellishment - for fashion and bling
- 2.30 Patchwork and Quilting for Beginners - fabrics, patterns, assembly



Each demonstrator, has extensive experience in their fields, in most cases, they are experts in more than one, come and join the demonstrations to learn, enjoy and add your hints and tips to make your hobby, more enjoyable and satisfying. Remember, we are all never too old to learn and to share your skills encourages learn and to share your skills encourages others to start.

There will also be static displays of the Crafts our Crafty Ladies do, please contribute your latest creation to the display, so others can see your talents and skills.

There will also be Craft retailers at the Field Day, to sell the latest tools, fabrics, beads, and ideas.

Maeva Bennett  
Vk2HUG  
VK2aal@comcen.com. a u  
0242 976065

\* All Items in photographs are the work of our demonstrators  
Thanks to Dot Payne. Sue Barrett and June's Fabrics and Crafts

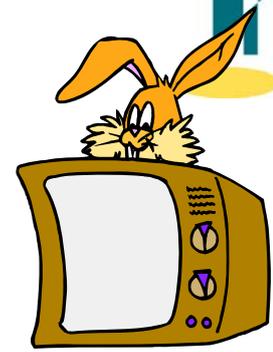


***The Mother's Day Raffle For Fathers!***



Mum and the girls get a big TV for their favourite programs and DVD's

And Dad and the boys get a big TV for the football and the car races!



***Ticket Sales Starting 14<sup>th</sup> February***

***Drawn Tuesday, May 9<sup>th</sup> Meeting***

***Just in time for Mothers Day!***

***\$2.00 each or 3 for \$5.00***

Our major fund raiser this year will be "The Mother's Day Raffle For Fathers!" Total Concepts Projects, see the December issue for details of TCP, has donated a 30inch LCD Television and Sony DVD player to the IARS to raffle.

Thanks must go to Steve VK2TSB and Tracey Benko for organising the printing of the raffle tickets. The Club has ordered 100 books of 20 tickets, we hope to raise \$34.00 per book of tickets, but we can have more printed if required. Your chances of winning are 1 in 2000 – good odds!

Please see the fundraising committee, Geoff VK2HIC, Jack VK2VGD, or Peter Reid VK2HPR for a book of tickets or books, to sell to family, friends and workmates. Every ticket sold goes to our hobby to keep it running in 2006, as it is not a cheap hobby to maintain with repeater licencing, maintenance etc.

All books must be returned to the Club by the May meeting for the draw.

***Who says we are too old to learn!***

Brian Farrar, VK2AH, at the December Meeting, reading the new Foundation Licence Handbook.

"This is really good" said Brian, when roused from his reading.

Thanks Brian for the article on Noah...Ed



***Joke to make men's eyes water.***

A little old lady is walking down the street, dragging two plastic garbage bags with her, one in each hand. There's a hole in one of the bags, and every once in a while a \$20 bill is flying out of it onto the pavement.

Noticing this, a policeman stops her. "Ma'am, there are \$20 bills falling out of that bag... "

"Darn!" says the little old lady, "I'd better go back and see if I can still find some. Thanks for the warning!"

"Well, now, not so fast," says the cop. "How did you get all that money? Did you steal it?"

"Oh, no," says the little old lady. "You see, my backyard backs up to the parking lot of the football stadium. Each time there's a game, a lot of fans come and pee in the bushes, right into my flower beds! So, I go and stand behind the bushes with a big hedge clipper, and each time someone sticks his little thingie through the bushes, I say: \$20 or off it comes!"

"Hey, not a bad idea!" laughs the cop. "OK, good luck! By the way, what's in the other bag?"

"Well," says the little old lady, "not all of them pay up...."

## WHAT IF NOAH HAD LIVED IN THE 21<sup>ST</sup> CENTURY AUSTRALIA INSTEAD OF THE MIDDLE EAST? HOW WOULD HE HAVE COPEd WITH HIS BOAT BUILDING TASK?

And the Lord Spake unto Noah, saying,

*"In a year from now, I am going to make it rain; and the Earth and all its creatures shall be covered with water, until all are destroyed."*

*"Noah, I want you to save all the righteous people, and two of every living kind that walketh the Earth."*

*"I command you to build a vessel, an Ark, to save these my gracious creatures. Here are the plans."*

There was a sudden flash of lightening, and the plans were laid at Noah's feet. He agreed to build the Ark.

*"Remember," said the Lord, "You must complete the Ark and bring on board all the righteous people and the animals within one year."*

Exactly one year later, huge storm clouds began to cover the Earth. Winds blew and the seas were in a tumult. And GOD appeared unto Noah again, and found him weeping in his front yard.

*"Noah!,"* came the booming voice. *"Where is the Ark?"*

*"Oh Lord,"* cried Noah, *"Please forgive me. I did my best, but there where a few problems."*

*"What problems?"* answered the Lord.

*"First, I had to get Development Application from the local city council, and then a certificate for the construction. Your plans did not comply with current building codes, so I had to get an engineer to re-draw them all. Then I got into a tangle with the Occupational Health & Safety people over the installation of a fire sprinkler system and the provisions of flotation devices."*

*"Then some of my neighbours objected, claiming I was violating the local zoning ordinances by building the Ark in my front yard. So I had to lodge a rezoning application with the council and now this is in the Land and Environment Court."*

*"Then I had problems getting enough wood to build the Ark, because the Dept of Land Management and Conservation are currently on a drive to save the Koala's and the Kookaburras. I finally convinced the Dept the boat I am building will actually save the Koala's and the kookaburras. They let me have the wood, but no Koala's or Kookaburras."*

*"No sooner had the wood been delivered then the carpenters all formed a union and went out on strike. I had to negotiate a settlement with the dept of Industrial Relations before anyone would even pick up a hammer."*

*"Now I have 16 carpenters all building the Ark, but no Koala's or Kookaburra. Then, when I started rounding up other animals, the RSPCA sued me, and objected to me taking only two of each kind of animal on board. Just when I got rid of that suit, the EPA notified me that I could not proceed without an environmental impact statement on your flood. They didn't take very kindly to my suggestion that they have no jurisdiction over Creator of the Universe."*

*"Then the Dept of Land and Water Conservation wanted detailed map of the proposed new flood plain. I sent the complete set of UBD'S and Gregory's and that shut them up."*

*"Right now I am trying to resolve a complaint filed by the Equal Opportunities Commission. There beef is that I am discriminating by not allowing the godless and the unbelieving on board."*

*"The Australian Tax Office has seized all my assets, claiming that I'm only building the Ark to flee the country in order to avoid paying taxes. I also have to wait for registration of my ABN, so I can reclaim all the GST I've already paid."*

*"I just got a notice from the Waterways Authority that I owe them some kind of user tax, and that I failed to register the Ark as a recreational water craft. I also need a boat driver's licence, and the Authority is still debating as to what type of craft it is, since it has no sails and no motor."*

*"I'm getting continual visits from Greenpeace, the RSPCA, Work Cover, the Sheriff's Office and a dozen of other agencies. Finally, the Australian Council of Civil Liberties got the courts to issue an injunction, against further construction of the Ark, saying that since the earth is going to be flooded, this is religious event, and therefore unconstitutional. Really, I don't think I could finish the Ark for another 5 to 6 years, at this rate,"* wailed Noah.

Suddenly the sky began to clear, and a rainbow appeared, and the seas were calm.

Noah looked up at the sky, hopefully. *"You mean you're not going to destroy the Earth, Lord?"* he said.

*"No,"* Said the Lord, sadly. *"I don't have to. Your beaurocracy has already beaten me to it. I am going to send you a drought instead."*

So now we know why we haven't had much rain lately!"

Taken from Voice of the Seniors.

## Coming Events



**Wyong Field Day**  
**Sunday, 19<sup>th</sup> February, 2006**  
Wyong Racecourse  
Entry \$10.00  
Don't forget the Crafty Ladies

### **Port Macquarie Field Days**

#### **QUEEN'S BIRTHDAY WEEKEND 10 & 11th JUNE 2006**

HOSTED BY THE OXLEY REGION A.R.C.Inc.

HELD AT SEA SCOUT HALL, BULLER STREET, PORT MACQUARIE

DISPOSALS FOX HUNTS DEMONSTRATIONS HOME BREW DISPLAYS

CONTACT CLUB SEC. PO BOX 712 PORT MACQUARIE 2444

Or Bill Sinclair On (02) 65839302

### **A new Amateur Radio Magazine is to be published in the UK.**

#### **“Radio and Communications MONITORING MONTHLY”**

A new radio listener magazine is being published in the UK by Nice One Publishing Ltd. With the full title of “Radio and Communications MONITORING MONTHLY, and the ISSN 1749 - 7809. The magazine covers all aspects of listening including world-wide broadcast and utilities, military, satellites, DXTV, amateur, data-modes and propagation, with many contributors well known for their enthusiasm and expertise.

MONITORING MONTHLY is edited by Kevin Nice, G3UNR, who has long experience in the listener magazine field, and whose aim is to produce the world's leading radio listener magazine.

Published every four weeks, the first (February 2006) issue is available now and will be in the UK shops on Tuesday January 24th. The annual subscription rate into Australia (until 13th Feb) is GBP 54.00 (about \$A127.80...Ed) for 13 issues.

To subscribe contact :-

Monitoring Monthly  
B1 Arena Business Centre  
9 Nimrod Way  
Wimborne  
BH21 7SH  
United Kingdom  
or  
leslie.mulligan@monitoringmonthly.co.uk  
or ring us on  
+ 44 1202 862692

Payments by sterling check payable to Nice one Publishing Ltd please, or credit card.

Our intention is to produce an on-line delivered subscription later this year. Meanwhile, keep in touch through our E-mail Forum [http://groups.yahoo.com/group/monitoring\\_monthly](http://groups.yahoo.com/group/monitoring_monthly) or visit our website [www.monitoringmonthly.co.uk](http://www.monitoringmonthly.co.uk) and please distribute this e-mail to your members, and beyond! If you have any queries don't hesitate to contact me.

Thank you, and 73

Clive Hardy G4SLU  
Monitoring Monthly M0NMO  
[clive.hardy@monitoringmonthly.co.uk](mailto:clive.hardy@monitoringmonthly.co.uk)

\* a sample of the February issue can be found on their webpage....Ed



## From the Secretary's Desk

In 2005 the Club has gone from strength to strength. It is really encouraging to see the number of members who attend each monthly meeting increasing.

The Meeting is the heart of the Club and its activities. At the meeting you can do lots of things:

- Find out what is happening in the Club
- Have your say in what is happening in the Club
- Find out new information from other members and guest speakers
- Catch up with other hams
- Get out of the house for a while
- A place where everyone has the same interest and hobby
- Discuss the latest equipment and developments
- Help another ham with their home brew
- Brag about your current home brew project
- Brag about your contacts on the radio
- A general chin wag with a mate and a cuppa

Attending Meetings shows your interest in radio and makes the Meeting all that more interesting to others because your input is important. Remember, your opinion is important, one good idea is memorable and advances our hobby. Your dissent is also important, you direct the Committee to operate and manage the Club for you – if the Committee does not know what you think, things cannot change, and change is usually for the betterment of the hobby and the Club.

Our major fundraiser, The Mother's Day raffle for Father's", starts at the February meeting and will run for 3 months. First prize, a 30" LCD TV is really worth winning, it worth approximately \$3000.00. Can you imagine watching it, you would be able to see every detail of the football season in vivid colour, even the bruises forming that lovely purple colour. Who would need to find their glasses! Win it for mum, theoretically, but really it's for you! Second prize of a Sony DVD player is also not to be sneezed at. Both were kindly donated by Total Concept Projects of Silverwater. Either would be a very nice addition to your shack!

Please put your hand up to take a book of tickets, 20 per book, to sell to your family and friends, they would be very happy to win a \$3000.00 prize for \$2.00. The Fund Raising Committee is also going to sell tickets at local shopping centres to raise money for the Club. Every cent raised goes to keep our Club financial, on the air with the largest network of repeaters in the country. Fundraising also keeps the Membership Fees low and affordable for all. All books, either fully or partially sold, must be returned to the Club by the May meeting for the draw to take place on the 9<sup>th</sup> May General Meeting, just in time to give at Mother's Day.

See you at the 14<sup>th</sup> February Meeting, don't forget its Valentine's Day, and show your partner that they really are appreciated.....hint, hint John! May be, I should make it a "clanger".

Regards to all  
Maeva Bennett  
Secretary

### ***A Good Funny***

Sitting together on a train, traveling through the Swiss Alps, were a Kiwi guy, an Australian bloke, a little old Greek lady, and a young blonde Swiss girl who was well proportioned up top.

The Train goes into a dark tunnel and a few seconds later there is the sound of a loud slap. When the train emerges from the tunnel, the Kiwi has a bright red hand print on his cheek. No one speaks.

The old lady thinks: The Kiwi guy must have groped the blonde in the dark, and she slapped his cheek.

The blonde Swiss girl thinks: That Kiwi guy must have tried to grope me in the dark, but missed and fondled the old lady and she slapped his cheek.

The Kiwi thinks: The Australian bloke must have groped the blonde in the dark. She tried to slap him but missed and got me instead.

The Australian thinks: I can't wait for another tunnel, just so I can smack the Kiwi again.



**Presidents Report for November 2005.**

Happy New Year to all our valued members, I know this year will be bigger and better than ever.

The XYL has been away in South Africa, so it's been egg bread and baked beans for me☺ I worked thru Christmas and am looking forward to my trip to ZS land (South Africa) but the XYL has vetoed any ideas of taking amateur radio equipment along in April☺ Damn it, that dampens going to the field day to buy a portable radio?

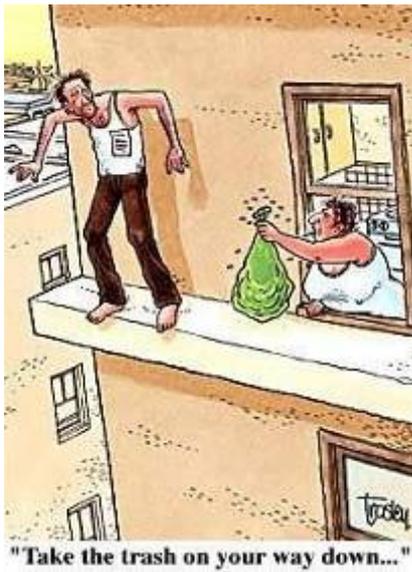
This year will be an important year for amateur radio with a lot of interest in the foundation license. I feel the club needs to assist these future licensees in some way... stay tuned to this space.

I look forward to our club broadcast team Geoff VK2HIC and Jack VK2XGD, they have said they will be better than ever and I am sure they will come up with some new fresh ideas.

I hope to see you all at the first club meeting on the 14<sup>th</sup> of February, it would be nice to see you all and hear what you have been up to over the festive/new years season.

Well that's it for now from me.

Cheers  
Tony Stone  
VK2TS  
IARS President



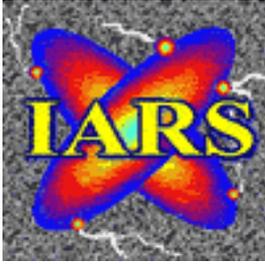
**HOW TO AVOID TRAFFIC JAMS**

**ALZHEIMERS' EYE TEST**

Count every "F" in the following text:

**FINISHED FILES ARE THE RESULT OF YEARS OF SCIENTIFIC STUDY COMBINED WITH THE EXPERIENCE OF YEARS...**

See Page 17 for the answer.



# ILLAWARRA AMATEUR RADIO SOCIETY (INC)

## Minutes of 13<sup>th</sup> December, 2005 Club Meeting

**Attendance:** As per Attendance Book

**Apologies:** VK2XIC  
VK2ARA  
VK2ZDM  
VK2ZWQ  
VK2TTH

**Visitors:** Rosemary Diggle  
Kevin Thorman

Meeting opened by President Tony at 7.40 pm

Simon and Paul Ferguson announced they had items to give away to members

Minutes Read from November Meeting Acceptance moved by Paul Ferguson VK2FE and seconded by Max Riley VK2ARZ

Business Arising Nil

Repeater Report: VK2RMP probably hit by lightning, VHF poor, receive and transmit  
Madden's Plains aerial featured in opening sequence of new series "Headland"  
Rob McKnight – top aerial replaced  
147.300 Echo Link – Knights Hill from Kiama, path problems, night OK but day flutters  
Max VK2ARZ – 6850 playing up  
IRLP working  
Saddle Back not linked into Coast – seems to be in receiver  
147.300 poor at Brian Farrar's VK2AH at Bulli  
Mount Boyne DT tone for IRLP knocks out transmitter

Correspondence WICEN application forms  
Mid South Coast regarding future of Mt Boyne

Rob McKnight to undertake Foundation Licence training when available. Possibility of donating Foundation Licence books to local high schools and TAFE's Local Newspaper to be involved – to be taken up in Committee meeting

Christmas Raffle Drawn by Rosemary Diggle – Winner Bob Walker, VK2WRJ who was at the Meeting.

Meeting Closed at 8.20 pm by President Tony, wishing all present best wishes for the Festive Season and to remind members of safety especially when driving over the Christmas period.

Presentation of Certificates of Participation in Amateur Radio presented by Tony Stone, to those present.

At the Conclusion of the presentation, a Christmas supper was enjoyed by the members and much discussion amongst the members.

How good is your visual vocabulary? –

Answers are on the last page.



## February, 2006

<u>Sunday</u>	<u>Monday</u>	<u>Tuesday</u>	<u>Wednesday</u>	<u>Thursday</u>	<u>Friday</u>	<u>Saturday</u>
			1	2	3	4
5	6	7	8	9	10	11
12	13	14 Meeting <i>Valentines Day</i>	15	16	17	18
19 <i>Wyong Field Day</i>	20	21	22 IARS Committee Meeting	23	24	25
26	27	28				

**About the Airwaves.**

- 1 If you have any items you would like broadcast on Tuesday nights, please contact Geoff Howell VK2HIC either by phone on 42725134 or by email at vk2hic@nsw.chariot.net.au, or Jack Decesco VK2XGD 4227 1620 or at jack@newtec.com.au. If it interests you it will interest others, it's for the enjoyment of our members and other listeners.

The first Club Broadcast for 2006 will be Tuesday, 7<sup>th</sup> February at 7.30 pm.

I know many listen to the broadcast, please participate in the call-backs – Geoff and Jack put a lot of hard work into doing this each week, let them know their effort is appreciated.

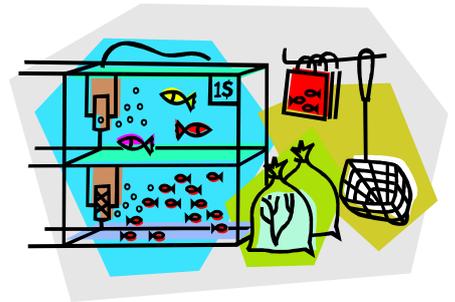
- 2 Over the past few months, many members have changed their email addresses, as emails sent by the secretary have comeback undeliverable. If you have changed your email address, could you please let the secretary know, so that our Member Registry is up to date.
- 3 Many thanks to Jack Desesco at Newtek, for his monthly specials for our members.
- 4 If you have any knowledge of competitions that involve amateur radio could you let the editor know for inclusion in the Club Calendar.

**Buy, Swap or Sell**

Ted Hawkins VK2TTH has 2 fish tanks for sale.

- 1 1500x600x600 complete with goldfish, pebbles, rocks, filters etc complete with fish, pebbles, rocks, filters etc
- 2 600x300x250 complete with goldfish, pebbles, rocks, filters etc

Both in fair to good condition, \$270.00 ono. Contact Ted on 4257 2036



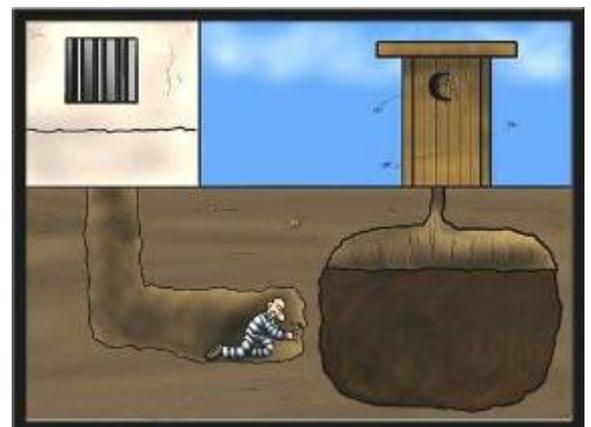
**Answers to Visual Vocabulary** (Page 16)

- |               |                    |                |                |
|---------------|--------------------|----------------|----------------|
| 1 Light beer  | 2 Assaulted Peanut | 2 Mammoth jugs | 4 Egg plant    |
| 5 Ipod        | 6 Dr Pepper        | 7 Pool Table   | 8 Baseball bat |
| 9 Card Shark  | 10 Hole milk       | 11 Dandy lion  | 12 Night Mare  |
| 13 Tap dancer | 14 King of Pops    |                |                |

How did you go?

**Answer to ALZHEIMERS' EYE TEST** Page 14

3 ?  
 WRONG, THERE ARE 6 -- no joke. READ IT AGAIN !  
 Really, go Back and Try to find the 6 F's before you scroll down.  
 The reasoning:  
 The brain cannot process "OF".  
 Incredible or what? Go back and look again!!  
 Anyone who counts all 6 "F's" on the first go is a genius.  
 Three is normal, four is quite rare.



***And finally, for those that think they are having a bad day.....***