WANSARC NEWS

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The monthly magazine of the club celebrating its 35th year,

Western & Northern Suburbs Amateur Radio Club **Melbourne, Australia**

VK3AWS

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MEETING THIS MONTH **Friday March 4th 2005** **Commencing 19.30 hours**

This month features the Annual General Meeting.
Come along - have a say in the running of your club.
Persons not attending are usually elected for something, so turn up,
lest you find out on the grapevine that you are an office holder!

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WANSARC Annual General Meeting 2005

Club members are reminded that the A.G.M. for the club will be held at NMIT club rooms on Friday 4th March 2005, this month.
Members are urged to attend and have your say in who is elected to the various duties necessary for WANSARC to function effectively and chart its future direction for the next year.

Editors Ravings – Mick VK3CH

Welcome to another month and as you can see my dual booting computer went to plan. I am now able to either boot to Windows or a version of the UNIX operating system known as Linux – Fedora Core 3. I simply got this from a magazine at the newsagent, but you can always download it from the internet from a multitude of sites, try http://fedora.redhat.com/download and download the appropriate 4 images to burn to 4 CD-R's. But for under $10 you may as well buy a book with the disks, if you only have access to a dial up connection as they are 4 CD's of about 650 Mb of data each!
I was under the impression that any form of Linux was for your true computer geek and that I was going to have to relearn a whole heap of instructions and end up with a system that I probably have a hard time just to even use, let alone understand well. But I kid you not – if you can install windows and use it – you can do this. In fact once it was installed, about 40 minutes on a Pentium 4 at 1.7 MHz I was looking at what looked like a version of windows with different type of wallpaper and icons. If you are interested in giving Linux a go have a read of my introduction to it in this issue. I have the 4 CD's here that I made from the 'image' files, if any WANSARC members that have no internet access, that need a copy of all 4 CD's let me know and I can bring a set for you along to the next club meeting and give them to you – all I ask is $2 to cover costs of the disks & cases. Linux is all open source code – that is there are no restrictions on copying or installing the software – nothing illegal here!
Contact me on the weekly net or by email. I can also supply some documentation to get you started. Once loaded there is heaps of help documentation within the operating system itself. It even loads up a copy of Open Office which looks a lot like a suite made by another major player.
Its compatible as well, so you can make a document on one platform such as Windows and have Open Office read it under UNIX or vice versa.
A browser (Mozilla) is included, looking a lot like Netscape Navigator and also several email clients are included – pick the one you prefer.
It's a command line setup, but offers a typical "Windows" type setup if you enter the right commands. Anything you want to know is in the help documentation in the OS itself and on the internet – it's huge.
More information on how to dual boot your PC next months issue.

How are your eyes going…

Some club members have told me 8 point type is a bit hard on the eyes as well as printing out on some printers, so this is 9 point type, but makes a harder job of cramming in all the news!
Let me know if this helps.
Had to leave Laughter is a Medicine for next month…

Some facts about Linux – Red Hat version 7.1

Estimating GNU/Linux's Size (June 2001) a few interesting facts which measures Red Hat Linux 7.1;
It would cost over $1 billion (a Gigabuck) to develop this Linux distribution by conventional proprietary means in the U.S. (in year 2000 U.S. dollars). It includes over 30 million physical source lines of code (SLOC). It would have required about 8,000 person-years of development time, as determined using the widely-used basic COCOMO model. Red Hat Linux 7.1 represents over a 60% increase in size, effort, and traditional development costs over Red Hat Linux 6.2 (which was released about one year earlier).
Many other interesting statistics emerge; here are a few:
The largest components (in order) were the Linux kernel (including device drivers), Mozilla (Netscape's open source web system including a web browser, email client, and HTML editor), the X window system (the infrastructure for the graphical user interface), gcc (a compilation system), gdb (for debugging), basic binary tools, emacs (a text editor and far more), LAPACK (a large Fortran library for numerical linear algebra), the Gimp (a bitmapped graphics editor), and MySQL (a relational database system). Note that some projects (in particular KDE and GNOME) are in aggregate large enough to be one of the largest components, but because they are developed and distributed as a large number of smaller components, their totals don't appear in the list of largest components.
The languages used, sorted by the most lines of code, were C (71% - was 81%), C++ (15% - was 8%), shell (including ksh), Lisp, assembly, Perl, Fortran, Python, tcl, Java, yacc/bison, expect, lex/flex, awk, Objective-C, Ada, C shell, Pascal, and sed.
Linux Website

Telstra launches Push To Talk (PTT) on CDMA

Telstra has launched Push To Talk (PTT) on CDMA - using the resources of the country's largest wireless network to help customers stay connected in more places. Push to Talk allows callers to use their mobile phone like a walkie-talkie. At the push of a button the caller can communicate with individuals or large groups of people at the same time. With PTT, there is no dialing, ringing, or waiting for answers. Communication is in one direction at a time and only when the button is being pressed, particularly useful for quick updates, requests, instructions and coordination among groups.
(Telstra Media)

Asian Earthquake - Scientific Facts

The earthquake that unleashed deadly tidal waves on Asia was so powerful it made the Earth wobble on its axis and permanently altered the regional map, US geophysicists said. he 9.0-magnitude temblor that struck 250 kilometers (155 miles) southeast of Sumatra island Sunday may have moved small islands as much as 20 meters (66 feet), according to one expert. "That earthquake has changed the map," US Geological Survey expert Ken Hudnut told AFP. "Based on seismic modeling, some of the smaller islands off the southwest coast of Sumatra may have moved to the southwest by about 20 meters. That is a lot of slip." The northwestern tip of the Indonesian territory of Sumatra may also have shifted to the southwest by around 36 meters (120 feet), Hudnut said. In addition, the energy released as the two sides of the undersea fault slipped against each other made the Earth wobble on its axis, Hudnut said. Time change due to the change of the axis will be about 3/1000 of a second a year.
"We can detect very slight motions of the Earth and I would expect that the Earth wobbled in its orbit when the earthquake occurred due the massive amount of energy exerted and the sudden shift in mass," Hudnut said.
Another USGS research geophysicist agreed that the Earth would have got a "little jog," and that the islands off Sumatra would have been moved by the quake. However, Stuart Sipkin, of the USGS National Earthquake Information Center in Golden Colorado, said it was more likely that the islands off Sumatra had risen higher out of the sea than they had moved laterally. "In this case, the Indian plate dived below the Burma plate, causing uplift, so most of the motion to the islands would have been vertical, not horizontal."
The tsunamis unleashed by the fourth-biggest earthquake in a century have left at least 23,675 people dead in eight countries across Asia and as far as Somalia in East Africa.
Herald Sun Media

Limits of Current Internet IP Addressing

The current IPv4 address scheme is based on 32-bit numbering and limits the number of available IP addresses to about 4.1 billion. Many companies and organizations (particularly in the United States) were assigned very large blocks of PP addresses in the early stages of the growth of the Internet, which has left a shortage of "open" addresses. Even with careful allocation of Internet-connected host P addresses and the use of Network Address Translation (to provide communication to and from machines behind an Internet-connected computer), the Internet might run out of available addresses.

To solve this problem, a newer scheme named IPv6 (IP version 6) is being implemented. It uses a much larger addressing solution based on 128-bit addresses, with enough room to include much more information about a specific host or device, such as Global Positioning Server (GPS) or serial numbering. Although the specific details about the entire contents of an IPv6 address have yet to be finalized, all Internet-related organizations appear to agree that something must be done to provide more addresses. According to one of the primary developers of the TCP/IP protocol, 'There will be nearly 2.5 billion devices on the Internet by 2006, and by 2010 half the world's population will have access to the Internet."

You can get a good overview of the differences between IPv4 and IPv6, policies regarding P address assignments, and the registration process of obtaining IP addresses by browsing to http://armnet/library/index.html

Migration to IPv6 is slow in coming, however, because the majority of computer operating systems, software, hardware, firmware, and users are still in the IPv4 mindset. Supporting IPv6 will require rewrites to many networking utilities, portions of operating systems currently in use, and firmware in routing and firewall hardware.

IPv4 looks like this 172.168.255.251

IPv6 looks like this 172.168.255.251.123

Linux Website

Broadband Over Power lines (BPL) Watch Archive

Editors Note – while many readers may have seen these articles either from the WIA as member newsletters, the internet or other club magazines that they may get via email, these are presented for our WANSARC club readers who only get mailed copies of the magazine and hence I assume may have no internet access, but still wish to know about this important topic concerning their hobby. These have been collected over the last 3 months, of course things can and do change.

Articles taken from various sources on the status of BPL.

WIA report on BPL adds balance to debate

Broadband over Power Lines (BPL) faces considerable financial and regulatory challenges plus the technical limitations of power lines in being a telecommunications medium, according to the Wireless Institute of Australia (WIA). These are conclusions of the WIA BPL Working Group report on BPL in the Australian context. It is now being examined by the power industry, BPL promoters, regulators, consumer interests, Internet and communications service suppliers. The WIA is taking a strategic approach to BPL and its report is significant in providing balance to the marketing hype and buzz words campaign of BPL promoters. The WIA, the national society representing radio amateurs, said BPL technology radiates radio frequency energy as a "polluting by-product" of its operation.

The pollution is a result of BPL technology trying to overcome "the inherently noisy, lossy power lines" that are not suited for high-speed data communication. The WIA said that some current standards in terms of electromagnetic compatibility need updating. However, it notes a clear conflict between the needs of BPL operators and the requirement to protect radio communications from harmful interference. The WIA previously expressed concern about trials of BPL that radiate intense energy resulting in observed substantial interference on HF frequency bands. It has called on the Australian Communications Authority to take action to prevent this occurring. The WIA said "the level of interference from BPL systems has been shown to be so severe that a drastic relaxation of the standards would be required to accommodate BPL interference." Through ionospheric propagation large scale BPL deployments could radiate signals thousands of kilometres. In a double-edged sword, BPL systems themselves are likely to be exposed to radio interference that could be disruptive for broadband service consumers. The WIA said "This vulnerability will probably result in intermittent and sporadic loss of throughput and will be difficult to identify, locate and prevent recurrence."

The major users of HF radio in Australia are defense, aeronautical, maritime, land mobile, recreational and amateur, and broadcasting. The report explores the financial implications of the technology and suggests that there are significant risks to BPL investors. The WIA said that current BPL technologies cannot deliver true broadband making it less competitive with others vying for the high volume high revenue end of the market. The Institute said it is not opposed to BPL as such, but opposes "conduct that results in substantial interference with radio communications, or substantial disruption or disturbance of radio communications". The report can be read at www.wia.org.au/BPL/WiaBplReviewV1.1-20041214.pdf

WIA expresses concerns about BPL trial

The Wireless Institute of Australia has asked the Australian radio communications regulator to address radio user concerns about trials of Broadband over Powerlines or BPL. In a letter to the Australian Communications Authority, the WIA President Michael Owen VK3KI said the WIA is concerned that the trials may be being conducted regardless of the consequences to radio communications users. The WIA has asked the ACA to assess the risk of the trial to radio communications users, and to terminate it or impose such conditions as necessary to mitigate any risk of substantial interference with radio communications. The ACA is understood to have taken measurements of radio spectrum radiation during the well publicised trial being conducted by Country Energy in Queanbeyan, New South Wales. Several HF radio communications users near the Queanbeyan trial reported experiencing severe interference. The WIA has suggested that all BPL trails should come under the control of the Australian Radio communications Act, and be licensed to transmit radio frequencies. This can be done by requiring BPL trials to be conducted under a radio communications experimental license with appropriate conditions. The issuing of such licenses would be made public in advance. The WIA believes there is a need for the ACA to consult with all radio communications users on the impact BPL technologies. Such consultation would aim to determine appropriate standards that adequately protect the important social and economic values of radio services in Australia.

BPL - AT THE WAR FRONT

The momentum for the introduction of Broadband over Power lines is continuing. Marketing experts are using buzz words and phrases to make it all sound so very attractive, as Jim Linton VK3PC reports.

BPL is being described as "electric internet" that can make every household and business power outlet an "always-on web connection". The hype and marketing lingo also include that BPL "will inject competition into the broadband market place," and "change the way of doing business on the Internet." In targeting small rural cities in the United States, BPL promoters suggest that by deploying BPL now, those municipalities can put themselves well ahead of the big cities on the technology curve.

A major barrier for BPL continues to be the financiers who need to be convinced that BPL is not a dot.com-like speculative venture. The bean counters will determine whether BPL is viable against other broadband technology such as fiber optic cables, ADSL and wireless.

Power companies need to justify expenditures to shareholders and in some cases industry regulators. Any limits, restrictions or controls, or the likelihood of any in the future, imposed to mitigate radio frequency interference from BPL will be a negative in the

financial equation. The WIA has recently and publicly expressed a strong view about radio communications interference experienced through the testing of BPL and called upon the Australian Communications Authority to take appropriate action. We have interesting times ahead as BPL interests continue to lobby hard for approval so they can begin to roll-out the technology in Australia.
Jim Linton VK3PC

THE BPL WAR:
FCC IMPOSES RESTRICTIONS ON AZ BPL PROGRAM

The FCC has imposed a novel restriction on Electric Broadband LLC, which is running a Broadband Over Power line field trial in Cottonwood, Arizona. The company has to maintain contact with a local Amateur Radio club if it wants to keep its B-P-L system in operation. According to the ARRL, the Commission granted Electric Broadband a Part 5 Experimental license with the call letters WD2XMB for the company's BPL pilot on November 19th. The ARRL earlier this year asked the Commission to withdraw its authorisation for the operation. Instead the FCC stipulated that the licensee must establish and maintain a liaison relationship with the Verde Valley Amateur Radio Association. The Commission also required Electric Broadband to respond to interference complaints in a timely manner. System operators indicated earlier this fall that they would notch amateur frequencies, including 60 meters but some interference is still being experienced in the 60 meter band. None the less, Verde Valley Amateur Radio Association BPL Committee Chair Robert Shipton, K8EQC, believes it might be the first time the FCC has ever imposed such a requirement before B-P-L to get the go ahead from the FCC. (ARRL)

BPL NEWS ROUNDUP FROM E.M.D.R.C. February Magazine

On Friday the 21st of January we saw the most important announcement (made by the ACA) with respect to regulation of BPL trials in Australia.
A summary follows:
These guidelines provide information on the ACA's regulatory arrangements under the Telecommunications Act 1997 (TA 97) and Radiocommunications Act 1992 (RA 92) that apply to In-house Broadband over Powerline (In-house BPL) technologies. Failure to comply with these arrangements may constitute an offence under the mentioned Acts.
Broadband over Powerline (BPL) is an emerging technology that uses electrical power lines and cables to convey broadband data. There exist two main families of BPL applications:
1. In-house BPL; and
2. Access BPL.

Access BPL technologies utilize the external electrical distribution network as a means of broadband delivery to premises. Regulatory arrangements for Access BPL are outlined in the Information Sheet: Access BPL Trial Guidelines:
http://internet.aca.gov.au/acainterwr/lib284/bpl_access_guideline_v2_1.pdf
In-house BPL products utilize the interior electrical wiring in buildings to convey broadband data to devices by connection to electrical outlet sockets. This Information Sheet covers In-house BPL technologies only.
In-house BPL products can be obtained from retail outlets and are generally acquired for use in single residence dwellings. Their applications include the networking or sharing of information technology resources. Regulatory matters relevant to the use of these products are contained in Sections 3, 4, 6 and 7 of this Information Sheet.
As a general rule, In-house BPL technology or equipment may connect to a telecommunications service via an accessible socket being the network boundary point provided by a telecommunication carrier. Contact with the
ACA to clarify individual situations may be necessary in respect to the network boundary. Specialized applications have also been developed where In-house BPL products are installed as part of a network throughout large commercial and multi-dwelling buildings to facilitate broadband access within buildings. For this specialized application, all sections of this Information Sheet apply.

3. Telecommunications Labeling Requirements
The Telecommunications Labeling (Customer Equipment & Customer Cabling) Notice 2001 (Labeling Notice) specifies the minimum technical standards for certain customer equipment and requires that the equipment is appropriately labeled with the telecommunications regulatory compliance mark (the 'A-tick') before supply to the Australian market or connection to a telecommunications network.

4. BPL Safety Requirements
All In-house BPL products must meet technical standard AS/NZS 60950 Safety of Information Technology Equipment. This standard is recognized by the ACA under its Labeling Notice and also by Australian State and Territory Electrical Safety Offices as an applicable safety standard under their electrical approval schemes.

5. Telecommunications Cabling Requirements
Through the Telecommunications Cabling Provider Rules 2000 the ACA sets regulatory arrangements for telecommunications customer cabling. Customer cabling must be undertaken by registered or licensed telecommunications cablers.

MATTERS RELEVANT TO THE RADIOCOMMUNICATIONS ACT 1992

6. Electromagnetic Compatibility
The ACA has Electromagnetic Compatibility (EMC) regulatory arrangements to minimize electromagnetic emissions from electrical or electronic products that could cause harmful interference to radiocommunications systems. The arrangements are underpinned by a suite of EMC standards that applies to various products.

7. Interference to Radiocommunications Services
Sections 192, 193, 194 and 197 of the RA 92 contain several offence provisions that deal with interference to radiocommunications.
In-house BPL products convey information by use of radiofrequency signals conducted along electrical wiring. Such systems invariably result in the leakage of electromagnetic energy as electrical wiring has not been engineered to conduct radiofrequency services. This leakage has potential to cause interference to nearby radiocommunications services.
The ACA, through its network of regional offices, has in place a coordinated approach to register and deal with interference complaints to radiocommunications reception.
Certain radio devices with antennas systems located in close proximity to the internal electrical wiring of a building may potentially suffer harmful interference from nearby In-house BPL use.
Corrective measures in the operation of an In-house BPL system or use of a radio device may be necessary to deal with cases of harmful interference. These measures may involve moving the BPL device to a different electrical circuit in the building or connecting the radio device,
If possible, to an outdoor antenna that increases the separation distance from the electrical wiring. If corrective measures fail to resolve cases of harmful interference, consistent with ACA interference management processes, the BPL operator may be required to switch off the system until it can be demonstrated that corrective measures have been effective.

8. ACA Contact Information
Enquiries on the In-house BPL regulatory guidelines should be directed to:

Manager BPL Projects Team Australian Communications Authority
PO Box 13112
Law Courts PO
MELBOURNE VIC 8010

Tel: (03) 9963 6882 or email bpl.issues@aca.gov.au

If you choose to navigate to the announcement via the ACA website go to: ACA Home > Radiocommunications > Frequency Planning > Broadband over Powerlines Communications

CONCLUSION OF A REPORT MADE BY THE WIA INTO BPL ISSUES

8.1 Characteristics of BPL
BPL is only one of many technologies for delivery of high speed data communications for Internet access. BPL subscribers operate in a limited shared bandwidth environment that with current technologies is insufficient for large scale take-up of broadband applications such as Pay TV and Video On Demand. BPL systems deliver high-speed data services over the existing power lines by conduction of radio frequency energy. The nature of the power lines makes them unsuitable media for conduction of radio frequency energy and as a result, there is radiation of electromagnetic energy.

8.2 Interference to radiocommunications
It is clear from overseas reports that BPL implementations have the potential to radiate radio frequency energy at frequencies, and of such intensity as to be highly likely to interfere with radiocommunications in and near the BPL implementation. The intensity of radiated radio frequency energy from BPL systems is much higher than background noise levels that set the practical limit to use of radiocommunications. BPL systems can reasonably be expected to cause substantial interference to radiocommunications and to be substantially disruptive of radiocommunications. Overseas trials and experience provides strong verification of the intensity of radio frequency radiation from BPL systems and the interference to and disruption of radiocommunications.
Further, ionospheric propagation may result in interference from large-scale BPL implementations at distances of thousands of kilometers from the BPL implementations. The Australian Radiocommunications Act 1992 (Cth) does prohibit conduct that causes interference to radiocommunications services. Operators of BPL systems must comply with that act. (Certain ACA class licences may deny protection from interference to services operating under the class license.) Australia does not currently have standards for operation of BPL equipment using frequencies higher than 525KHz. The HF radio spectrum is a unique natural resource that it provides a mechanism for long distance communications systems using simple equipment and without the need for satellite or cable infrastructure. It provides unique utility and service that is a great social benefit now and of strategic importance to the community.

8.3 Risks
BPL systems have significant risks for investors, consumers and the community in general. WIA review of PLC/BPL December 2004 shows investor risks are normal commercial risks, but history shows that investors in Internet business frequently substantially fail to achieve the profits predicted in their business plans, and often fail altogether. Electricity suppliers may take unwise risks with the comfort of assured revenues from their electricity supply business to offset losses in an unsuccessful Internet business.
Commitment to BPL systems ahead of international standards for electromagnetic compatibility and regulatory acceptance may leave BPL operators with infrastructure that they cannot continue to use without expensive modification, and may even be not economically viable in their deployment. Existing regulatory standards do not adequately address electromagnetic compatibility of current BPL technologies, and need urgently to be updated.
BPL operators need to be cognizant of the risk of restriction of their operation either by enforcement of the interference prohibition of the Radiocommunications Act 1992 (Cth) or by changes in standards and the regulatory environment.

8.4 WIA position
The Wireless Institute of Australia (WIA) represents the interests of licensed radio amateurs in Australia. The WIA recognizes the benefits that accrue from effective competition in provision of Internet access services. The benefits include everything from value to consumers through to flow on effects to industry and the less tangible benefits of a "smarter" society with better access to information resources. The WIA is not opposed to BPL per se, but it is opposed to conduct that results in substantial interference with radiocommunications; or substantial disruption or disturbance of radiocommunications. The WIA believes that there is a need for the ACA to consult with all radiocommunications users on the impact of deployment of BPL technologies and to determine appropriate standards that adequately protect the important social and economic values of radiocommunications services in Australia. Until such standards are formulated and accepted, the ACA should continue to give effect to the protection given to radiocommunications users by the Radiocommunications Act 1992 (Cth). Indeed, the ACA should put prospective BPL operators on notice that to establish and operate a BPL system is likely to put those knowingly concerned in breach of S197 of the Act and subject to action at law. Fortunately, BPL is not the only way ahead. The WIA is confident that advances in speed and reach of DSL technologies, growing competitive use of Telstra's CAN, wireless technologies and more economical satellite services will meet Australian's growing need for Internet access.

BPL ACCESS TRIALS

The ACA recognizes that formal consultative processes take some time and there is need to provide guidance on the requirements and issues associated with BPL technologies. The interim guidelines apply to all Access BPL systems that have the potential to operate between the following frequencies: 525 kHz to 80 MHz. Trial certificates allow companies to trial new networks and services for a period of six months without the need to hold a carrier license or have a nominated carrier declaration. The trial period may be extended, on application to the ACA, by a further six months.
Interference Management
Use of the electricity supply network to convey BPL signals will result in the leakage of radiofrequency emissions. This leakage has potential to cause interference to radiocommunications services. The ACA is examining the extent and implications of interference that Access BPL deployments may cause to radiocommunications. Trials of Access BPL systems conducted by electricity utilities will provide information to guide the ACA in developing regulatory approaches to minimize the possibility of interference. Access BPL operators have an obligation to undertake appropriate measures in trialing Access BPL technology to ensure they do not breach the legal provisions mentioned above. Particular attention must be given to radiocommunications established for safety-of-life services, police forces or for the safe operation of a vessel.
(g) Harmful Interference Avoidance
In situations where harmful interference 6 occurs (or is likely to occur) to radiocommunications services as result of trials, BPL operators should undertake immediate action to mitigate the interference by effecting adjustments to the BPL system. Adjustments could include frequency notching, reduced power level injections for BPL equipment, or reconfiguration of the network. In worst case situations, the Access BPL equipment may be required to be turned off.
(h) Unresolved Harmful Interference
Where cases of harmful interference are unresolved through paragraph (g) above, BPL operators should advise the nearest ACA Regional Office of the situation (refer to Appendix B). The ACA would seek the cooperation of the BPL operator and the licensee to resolve the matter.
These sections of the Act provide substantial penalties:
Section 192: Interference likely to prejudice safe operation of vessels, aircraft or space objects
Section 193: Interference in relation to certain radiocommunications Section 194: Interference likely to endanger safety or cause loss or Damage
Section 197: Causing interference etc.

Taken from EMDRC February Newsletter, reprinted with permission.

An interview given by Robert KRB on Tech Talk Radio 3WBCT

The complete version can be found here
http://www.techtalkradio.com.au/ShowHistory.asp

A summary of Robert's main points follows.
Robert introduced himself as a director of the WIA- representing some 3800 members. BPL utilizes power lines to carry broadband data from the ISP and testing is underway in Newcastle via Energy Aust. to an internet cafe, an apartment building and to another building next door, with bandwidth shared. He found the service to be much faster than ADSL. Modulating the signal across power lines causes them to act as radiators in the range 1.7-80 MHz. Affects maritime, ham, CB, military and medical as well as some 23742 ACA approved license holders. Among these are Telstra, Embassies, Fire Brigade, Airline, Bus companies, Flying Doctor, Coastguard, and Shire Councils etc. The attitude of the ACA is that spectrum regulation must offer service to license holders, and are most concerned re harmful interferences. The WIA has outlined its concerns, and the ACA has responded by publishing trial regulations. The WIA says there is potential for all to suffer and has sent representatives to sites where they have found HF is all but wiped out.
Trials are happening in Newcastle, Queanbeyan and Tasmania.
Cluster housing makes it worse. The ACA has issued a discussion paper which states regs for trials to be complied with viz. location, contact numbers, identify license holders who may suffer. Any person who has an appliance which uses spectrum may suffer- walkie phones, baby monitors, garage doors, animal trackers etc.
Alternatives? Unwired. Wireless hi speed bandwidth network 3gHz ~5klm. Technology is evolving- e.g. Intel's Wi-MAX. Telstra's optical fibre to the home.
Overseas, one ISP has written off BPL. Others are suffering interference. Other sites- www.aca.gov.au, www.wia.org.au, www.arrl.org , www.whirlpool.net.au and search for online forums.
Taken from EMDRC February Newsletter, reprinted with permission.

BPL Legal Wrangles Continue in Austrian City

NEWINGTON, CT, Feb 3, 2005--Local telecommunication authorities in Austria have sent a "first-step" legal notice to Linz Strom GmbH (Linz Power), calling on the utility to "take necessary technical measures" to operate its "Speed-Web" broadband over power line system so it doesn't cause interference to other telecommunication equipment. Joseph Ibinger, who heads the Upper Austria-Salzburg field office for the Federal Ministry for Commerce, Innovation and Technology, told Linz Power in late December that interference mentioned in complaints is definitely coming from the utility's BPL system. From the time the BPL installation was a pilot project, radio amateurs have been among the most vocal in expressing their displeasure with the BPL system, which they blame for causing excessive interference on HF bands throughout the City of Linz.
The Austrian Amateur Transmitter Federation (Österreichischer Versuchssenderverband--ÖVSV), Austria's International Amateur Radio Union member-society, praised the action, which the utility is very likely to appeal.
"The Austrian Amateur Radio Society applauds this decision of local authorities and notes that radio users have repeatedly indicated the problem of unwanted radiation from unshielded mains wiring," said ÖVSV President Michael Zwingl, OE3MZC. "The recent decision will be an example for authorities in other European countries facing similar problems in BPL trials."
In October 2003, Linz Power received a similar letter from local telecommunications authorities asking the utility to "remove the illegal interference" on the HF bands generated by the utility's BPL then-pilot project. As a result, Zwingl says, the utility took legal action against ÖVSV.
Assuming an appeal by Linz Power, the BMVIT must move Ibinger's initial response--essentially the equivalent of a warning notice or citation--up to the next level, and it could take up to six months to resolve the matter. Zwingl says if the federal authorities affirm the local decision, they could prohibit operation of the BPL system. As it now stands, the utility was given a month to resolve the interference.
Zwingl said ÖVSV has been unable to obtain a copy of the actual decision and was only able to obtain details of the document in January by working through a "peoples' lawyer," essentially a legal ombudsman who runs interference between the Austrian federal government and citizens.
According to legal ombudsman Peter Kostelka's report to Zwingl, the telecommunication authorities cited Linz Power's use of unshielded wiring to transport data signals, resulting in constant emissions that interfere with short wave bands as "an undesirable byproduct" of the system.
The Linz Power BPL system boasts upward of 4000 "satisfied customers" out of the 40,000 in its service area. It offers its basic service for €24 a month; a faster version goes for €42 a month, both less installation charges. Speed-Web uses Main.net BPL technology.
Zwingl said the recent official decree followed "some years of complaints and investigations" into the Linz Power BPL project. "We put pressure on officials to not just take measurements but also to react by all legal means," he said. "It took us some time, but we never agreed with the opinion of some authorities who have made a judgment between the importance of ham radio and BPL." Zwingl maintains that Austria's telecommunication rules conform with International Telecommunication Union (ITU) regulations and "protect radio services and spectrum regardless of subjective importance."
Linz Power Executive Josef Heizinger reportedly reacted calmly to the field office decision. "We are absolutely in the right, legally, and will continue the BPL development according to plan," he's quoted in the media.
In another interview, Heizinger declared that "simultaneous problem-free operation of BPL and Amateur Radio equipment is possible," and he blamed a small group of dissident radio amateurs for trying to discredit "this innovative and economical technology."
Linz Strom blames the few radio interference problems its system has caused on "defective equipment," and says it's resolved those cases promptly.
ÖVSV continues to insist that in its current form BPL--also known in German-speaking countries as "Internet from the Electrical Outlet"--is not compatible with HF reception. In late 2003, ÖVSV representatives and Linz amateurs got together with power company representatives in an effort to resolve BPL's incompatibility with HF radio operation. At the time, the utility indicated a willingness to look into setting up protective zones around each amateur's location, as well as notching amateur frequencies, using system filters and employing 5 GHz wireless local area networks.
Taken from ARRL Website

Broadband over Power lines - analytical review

The BPL industry is being buoyed by marketing hype claiming benefits that are theoretical and unproven. BPL industry media releases promote major benefits for consumers and power companies, but contain no substantive mention of technological or regulatory concerns, and newspapers and magazines are reflecting these optimistic projections. That is one of the finding of a research review on BPL by the Australian internet research, analysis and strategies consultancy, Caslon Analytics Pty Ltd.
BPL appears likely to be "the technology of the next generation ... and always going to be". This demonstrated by the basket of potential uses for BPL including home automation, surveillance and electronic gaming. "It's thus unsurprising that some observers have characterized BPL as a marketing phenomenon rather than a technology that will gain global acceptance by domestic and business users in the near future" the review said. Critics have argued that it faces substantial consumer and regulatory resistance, is over-sold and under-supported, or is a solution looking for a problem. It says that in practice, the theoretical claims for BPL to provide every home with a fast internet connection have not been tested on a large scale in a commercial environment.

The review observes that the claims and marketing hype seems to be readily accepted and published by the non-technical media sector. BPL industry media releases promote major benefits for consumers and utilities contain no substantive mention of technological or regulatory concerns, plus optimistic projections are appearing in newspapers and magazines. A lack of balance is occurring with little or no reporting of criticism of BPL or the failures of the industry when commercial backers withdraw from projects. BPL has been hyped as revolutionary, freedom from telecommunication providers or as a low-cost way of getting broadband into places with inadequate telephone or cabling infrastructure. The consultants report notes that BPL is attracting some industry and government attention, including in a few cases tangible funding, but has essentially not moved beyond the pilot stage. Major telecommunication and consumer product manufacturers have been reluctant to make a commitment to production of Powerline gear. In the marketplace, so says Caslon Analytics, BPL appears to be less competitive than other broadband mediums. It is unlikely that there will be substantial consumer demand for BPL in the absence of perceived major advantages. BPL is often seen as "out there" or a curiosity, rather than a commercially credible product that is likely to gain the traction of WiFi and wimax. The technology has definite limitations - according to some critics including a vulnerability to lightning strikes or other power surges. Power substations provide an unfriendly environment with substantial electromagnetic noise. From a technical perspective, radio frequency signals over power grids used by BPL are affected by interference from non-communication devices that are on the same network, such as domestic blenders, sanders and milling equipment. The review reports that some studies suggest BPL radiation can travel via the ionosphere affecting reception of civilian shortwave transmissions, long distance emergency communications, and communication of interest to national security agencies. In commenting on this it expresses the view that it is likely that some technology enhancements such as better and closer repeaters for broadband over power lines will reduce interference problems but, at least for the moment, those fixes appear distinctly uneconomic. The review says that BPL in New Zealand has followed the same trajectory as overseas, with initial hoopla, small-scale trials and little follow-up. The trial in Auckland by United Networks and Vector ceased after it "failed to produce commercial results", with Vector commenting that we haven't been able to get anything commercially viable ... We can't get enough distance and the equipment is a bit expensive." The review can be read at
http://www.caslon.com.au/powerlinenote.htm

From WIA website

WiFi creates potential collateral damage

High speed wireless Internet connection in Florida are reported to be creating false targets for air force radar used in connection with high-tech smart bombs and other defensive weapons. It seems that there's a conflict between WiFi and the radar on the 5.6 to 5.8 GHz frequency range. The interference is currently infrequent however there are concerns with the WiFi systems are being installed in apartments and hotels.
From WIA website

The Roll Call this year 2005 BBQ;

Forgot to list all those that attended the BBQ at Mount Cooper. All VK3 of course many with family;

CH MICK, PI MARK, EL BOB, FY CHRIS, NK PAM, NE GRAEAME, KEL RAY, DWF BILL, SM ALLEN, XLC ALEX, BKN JACK, ZTK TONY, YOD GORDON, BZT TONY, UB JOCK.

Many others called in via the airwaves that were unable to be there.

Do thunderstorms create sporadic E propagation in VHF?

Some say yes and others say now. Now, an international team of radio amateurs has studied this subject in detail by analyzing scientific results and QSO data compiled during the 2004 sporadic E season. In a detailed paper, DL1DBC, PE1NWL, DK5YA, EA6VQ, DL8HCZ and DF5AI discuss a possible model of thunderstorm-triggered sporadic E propagation on very high frequencies. The paper will appear in the spring issue of the Dubus magazine. More about it and the topic is on line at
www.df5ai.net
From WIA website

CELL PHONE TOWERS AID IN WEATHER PREDICTING

A group of colleges led by the University of Massachusetts at Amherst is developing a revolutionary new weather-forecasting system. Using radar installations coupled with a new technology called grid computing, it will be able to give more precise and timely alerts. The new system known as the Collaborative Adaptive Sensing of the Atmosphere -- or C-A-S-A -- will rely on a multitude of low-power radar transceivers mounted on cellular-communications towers. The transceivers will feed data into a computer network powerful enough to interpret weather patterns that are too complex for today's systems. Currently, the N-W-S relies on five satellites and 141 Doppler radar stations to track the weather and provide continuous wind, humidity, and precipitation data for predictions. With C-A-S-A, a network of hundreds of localized radar systems will be able to track events close to the ground, greatly increasing the opportunities to catch disturbances with enough lead time to warn people of imminent severe weather.
From WIA website

SSTV Gateway Now Available in Hobart

Hobart now has an internet slow scan TV gateway repeater run by Ken, VK7DY and Danny VK7HDM providing the feed. To access this slow scan Gateway all you need is a computer, slow scan program a heap of good pictures and radio. The slow scan TV Internet Gateway Repeater is on 146.950MHz. To send pictures out over the gateway you need 1750hz tone turned on in your SSTV program. Much like the HF SSTV repeaters. The equipment needed is a radio tuned to simplex 146.950 a computer with a soundcard and a simple interface between the soundcard and the radio (see AR Magazine March 2000) and a SSTV program and there are plenty of freeware ones! For example MMSSTV, SSTV-PAL-MULTI and MixW.
(Danny, VK7HDM VIA vk7wia news)
From WIA website

Editors Chair

Popular Linux Distributions – How to pick what's right for you

Mandrake
The main goal of the Mandrake project is to make Linux easier to use and thus bring Linux to the masses. This has seen Mandrake become the most frequently-used distribution (at the time of writing). Mandrake is updated often, giving users the latest software as soon as each package is stable.

Fedora – ***Editors Suggestion for new users*** *Refer to "Editors Ravings" on page 2 for more information.*
The Fedora project is assisted by Red Hat in order to develop and maintain a mainstream Linux operating system for general purpose use. Updates are available every three months, giving users reasonably new versions of most packages. This OS is also used as a long-term stability testing ground for Red Hat's server product, Red Hat Enterprise Linux.

Debian
The distribution for power users, Debian has a reputation for being a little less user-friendly, but incredibly stable. Part of the reason for this is the thorough testing process all packages must go through before becoming a part of the distribution — stability is often favored over having the latest version of each package available.

Knoppix
Knoppix is a version of Linux that doesn't need to be installed on a hard disk in order to run, it boots directly from CD. It's ideal for demonstration or rescue purposes, and allows for up to 2GB of (compressed) software to be installed on the CD.SUSESUSE, now owned by Novell, has a very large development team dedicated to the project. As a result, this distribution is good if you must have the latest of everything. In particular, SUSE was one of the first distributions to offer x64 support.

Slackware
Focusing on both ease of use and stability, Slackware was one of the first Linux distributions to achieve wide acceptance. It's refreshed every few months.

Gentoo
Aimed more towards developer and network professional users, Gentoo mixes elements of BSD-style operating systems with Linux. The "Portage" package management application is based on the tradition of BSD ports. Speed and efficiency are the paramounts of this distribution.

FreeBSD
A free version of University of California's BSD Unix, *FreeBSD* isn't technically a Linux distribution. However, the philosophy of the GNU movement is preserved, giving students, researchers and professionals an environment that closely matches BSD at no cost.

RHEL
Red Hat's Enterprise Linux (RHEL) is an enterprise-level Linux operating system. While not freely distributed, the license fee goes towards Red Hat's support plans. Providing such avenues for support is unique in the Linux market, and helps shift the onus from the user to Red Hat if there are problems with the OS itself.

Xandros
Formerly Corel-Linux, Xandros is more of a desktop operating system that emphasizes compatibility with Windows systems. In addition to the free unsupported downloads, a number of supported versions are available after paying a fee.

From my experience, some of the things about Linux I noticed and liked;

- Automatically detected everything that was attached to the system – sound card, monitor, printer, SCSI cards & drives all without using any driver disks; if was attached and powered on → it was setup with no user intervention.
- Automatic partitioning on install, also dual booted with windows without any damage to the windows system.
- Less than 40 minutes to install, on a Pentium 4 1.7 MHz, with general default choices – 7 GB if you select ALL.
- Automatically (on users selection) installs among other things, all the utilities you could imagine and a complete "Office" type system that is fully cross compatible with the windows Office suite, with international languages if you want it, but a lot more disk space needed of course. A general install uses about 3 to 4 Gigabytes.
- Auto updates of the software facility via the internet, if you choose to configure it.
- A proper "bullet proof" firewall both inward & outbound traffic that really works!
- A choice of command line or "windows" type GUI interface.
- More than 100+ programs fully tested and available to run on the operating system, but many have very cryptic names.
- Can select from a huge selection of language inputs
- You can assign file and folder ownership and permissions – both workstation or networked
- Great support for legacy (older) systems and devices
- An extremely detailed help centre with literally thousands of pages of documentation available to read or print as a reference that is concise and to the point – no salesman speak, just facts – even more out on the internet.
- Full networking that is compatible with anything – being Linux, Windows or nearly anything else, using TCP-IP.
- And its all (royalty) free!!

Males and Females

HOW TO SPEAK ABOUT WOMEN AND BE POLITICALLY CORRECT:

She is not a BABE or a CHICK - She is a BREASTED CITIZEN.
She is not BLONDE - She is a DETOUR OFF THE INFORMATION SUPERHIGHWAY.
She has not BEEN AROUND - She is A PREVIOUSLY ENJOYED COMPANION.
She is not an AIRHEAD - She is REALITY IMPAIRED.
She does not get DRUNK or TIPSY - She gets CHEMICALLY INCONVENIENCED.
She does not have BREAST IMPLANTS - She is MEDICALLY ENHANCED.
She does not NAG YOU - She becomes VERBALLY REPETITIVE.
She does not have PREMIER LEAGUE HOOTERS - She is PECTORALLY SUPERIOR.

HOW TO SPEAK ABOUT MEN AND BE POLITICALLY CORRECT:

He does not have a BEER GUT - He has developed a LIQUID STORAGE FACILITY
He is not a BAD DANCER - He is OVERLY CAUCASIAN.
He does not GET LOST - He INVESTIGATES ALTERNATIVE DESTINATIONS.
He is not BALDING - He is in FOLLICLE REGRESSION.
He is not a CRADLE SNATCHER - He is GENERATIONALLY DIFFERENTIAL.
He does not get FALLING-DOWN DRUNK - He becomes ACCIDENTALLY HORIZONTAL.
He does not act like a TOTAL ASS - He develops RECTAL CRANIAL INVERSION.
He is not a MALE CHAUVINIST PIG - He has SWINE EMPATHY.
He is not afraid of COMMITMENT - He is MONOGAMOUSLY CHALLENGED.

NEW ICOM RADIO IC-7000

From Chris VK3FY, who found this on the internet **IC-7000**

It is under this designation that the successor to the IC-706MKIIG has been announced. We should know some more soon, since it will be available in the second quarter of 2005, according to information supplied by ICOM France. The sketch, derived from CAD, shows a rather unusual attractiveness; if anything, it is somewhat revolutionary! Here we see for the first time the color screen as adapted to a multi-band transceiver with detachable control head.
Here are the main characteristics as announced:
The rig will be equipped with IF-DSP, which will control Twin PBT and Noise Reduction (NR) features, an inheritance from more sophisticated models (IC-756ProIII, IC-7400 etc.) The IC-7000 will not require or accept optional filters.
Approx. 35W UHF power output.
A 5 cm TFT color screen.
Very high frequency stability (0.5 ppm).
508 memory channels.
Multi-function scanning.
Built-in voice recorder and clock.
Completely updated control-panel design, approaching that of "base" stations.
Free-rotating or detented tuning control.
Case 20 mm shorter than IC-706.
Generously-sized, backlit keys.
10-key hand microphone supplied.
Detachable control head.
The other characteristics are those of the IC-706MKIIG

WESTERN AND NORTHERN SUBURBS RADIO CLUB (WANSARC) Incorporated - Registered No. A7611S
VK3AWS
ANNUAL GENERAL MEETING MINUTES – March 5, 2004

1. **Meeting opened by:** President Grant VK3HFS, at time 1945 hours. Attendance of members and associates as per attendance book (VK3UB, XLC, CH, NE, EL, DWH, UY, DIJ, BZT, EKF, YOD, PI, JED, HFS)

2. **Apologies:** Pam VK3NK, Chris VK3FY, Bert VK3BH

3. **Previous minutes**: That the minutes of the March 7, 2003 meeting be confirmed.
MOVED Graeme VK3NE SECONDED Mick VK3CH CARRIED.

4. **Business Arising:** Nil

5. **Correspondence:** Nil

6. **Treasurer's Report:** Tabled by Gordon VK3YOD (as attached). Total club funds $3159.39.
MOVED Dan VK3DWH SECONDED Bob VK3EL that the report be received. CARRIED.

7. **Accounts for payment:** Nil

8. **General Business:** 8.1 Grant VK3HFS thanked all members and their families for their support to the Club during 2003. It had been a very good year with activity levels by members at club meetings and on air increasing. Grant declared all club positions vacant, and Graeme VK3NE volunteered to conduct elections for club positions in 2004 – 2005.

Position	*Nominated*	*Nominator*	*Seconded*	*Outcome*
President	Grant VK3HFS	Mark VK3PI	Gordon VK3YOD	**ELECTED**
Secretary	Mark VK3PI	Gordon VK3YOD	Dan VK3DWH	**ELECTED**
Treasurer	Gordon VK3YOD	Mark VK3PI	Grant VK3HFS	**ELECTED**
Committee	Tony VK3JED	Jock VK3UB	Dan VK3DWH	**ELECTED**
Committee	Bob VK3EL	Tony VK3BZT	Gordon VK3YOD	**ELECTED**
Committee	Dan VK3DWH	Grant VK3HFS	Mick VK3CH	**ELECTED**
Net Controller	Mick VK3CH	Bob VK3EL	Dan VK3DWH	**ELECTED**
Magazine Producer	Mark VK3PI	Gordon VK3YOD	Dan VK3DWH	**ELECTED**
Public Officer	Graeme VK3NE	Mark VK3PI	Jock VK3UB	**ELECTED**

Graeme handed over the meeting to the newly elected President Grant VK3HFS.

8.2 The issue of annual club fees was raised, generating a great deal of discussion. It was resolved that the club fees for 2004 – 2005 would remain at:
Full member $20.00
Pensioner/Student $10.00

It was further resolved that given the club currently does not have a major project to expend funds, that if this situation continues and the club funds through natural expenditure falls below $2000, that the club shall re-consider the level of fees required to be paid by members. Moved Jock VK3UB Seconded Tony VK3BZT CARRIED

8.3 Graeme VK3NE reiterated that all club correspondence, including the monthly magazine, must display our Incorporations Registered number. Mark VK3PI thanked Graeme for this reminder and would check to ensure all letterheads and magazines adhered to this requirement.

8.4 Graeme advised the meeting that the Annual Statement was due for lodgement to the Incorporations people, together with a $35 cheque. Graeme advised that the Common Seal of the Club was no longer required to be used in lodging papers, however the Treasurer's statement as presented to the Annual General meeting, together with the Annual General meeting minutes were required to be lodged. The current registered address for the club was incorrect and required changing. Moved Mark VK3PI seconded Jock VK3UB that the registered club address for public notices be changed to: 12 Rowan Street Wangaratta. CARRIED.

9. **Meeting closed:** 2011 hours
10. **Next meeting to be held on**: Friday March 4, 2005.

Mark J Stephenson VK3PI

Secretary

WANSARC

WANSARC VK3AWS
NOMINATION FORM – ANNUAL GENERAL ELECTION 2005

POSITION _____

NAME _____ (Name) _____ (Call sign)

PROPOSER _____ (Name) _____ (Call sign)

_____ (Signature)

SECONDER _____ (Name) _____ (Call sign)

_____ (Signature)

I accept the nomination, _____ (Signature)

WANSARC VK3AWS
NOMINATION FORM – ANNUAL GENERAL ELECTION 2005

POSITION _____

NAME _____ (Name) _____ (Call sign)

PROPOSER _____ (Name) _____ (Call sign)

_____ (Signature)

SECONDER _____ (Name) _____ (Call sign)

_____ (Signature)

I accept the nomination, _____ (Signature)

WANSARC VK3AWS

PRESIDENT: Position Currently Vacant
Telephone:
SECRETARY: Mark Stephenson VK3PI
Telephone: 0400 44 32 18
Email: wansarc@wia.org.au
All correspondence to be addressed to the SECRETARY:
PO Box 336
RESERVOIR 3073

WANSARC CLUB PROFILE

History

The Western and Northern Suburbs Amateur Radio Club (WANSARC) was first formed in 1969 and since then has served the needs and interests of amateur radio operators, short wave listeners and those interested in hobby radio and electronics. The club is not gender specific, having both female and male members. Members come from all walks of life with a mix of experience, young and mature, novice and technical. The most important aspect of the club is the willingness of all members to share their knowledge for the benefit of others. Members mainly reside in the west and north of Melbourne; however membership is encouraged from all interested.

Meetings

Building K, Northern Metropolitan Institute of Technology (NMIT), St. Georges Road, Preston
(Western side between Bell Street and Cramer Street) Melway 18 E12

PARKING at NMIT- Members please note that parking adjacent to the club room building K is illegal and NMIT staff WILL book any cars which are parked in that area.
ALL members must park cars in the main car park to the WEST of building K.

Meetings held on the 1st Friday of each month (excluding January) commencing at 7.30pm local time.
Talk in on 146.450MHz FM—call club station VK3AWS.

Benefits

Free technology and related presentations, sponsored construction activities, discounted (and sometimes free) equipment, network of like minded radio and electronics enthusiasts, excellent club facilities and environment.

Club Nets

146.450MHz FM each Tuesday evening commencing 7.30pm local time.
Linked to Echolink for intrastate, interstate and international stations participation.

More Information

Website: www.wansarc.org.au **Committee**: Bob VK3EL, Gordon VK3YOD, Mark VK3PI, Dan VK3DWH

Email: wansarc@wia.org.au **Magazine Editor / Contributions:** vk3ch@alphalink.com.au

Secretary: Mark Stephenson VK3PI vk3pi@optusnet.com.au

Postal: WANSARC PO Box 336 RESERVOIR 3073

A proud tradition of supporting hobby radio and electronics enthusiasts since 1969

All editors comments are the comments of Mick, VK3CH and may not always represent the opinions of other club members of WANSARC. In any case anything stated is to promote interest and active discussion on club activities and the promotion of Amateur Radio in general. Contributions to WANSARC are always welcome from any part of the world. Send text as ASCII, PDF, or Word, RTF, plain or HTML email, pictures in JPG format. You can either post material to the Post Office Box address at the top of this page, or email your submission to the editor direct at vk3ch@alphalink.com.au
Email attachments not to exceed 4 Mb in file size. Attachments of (or thought to be) executable code will not be opened.
Other persons or radio clubs may edit or copy out such as they like from the magazine but a reference to WANSARC would be appreciated.
While we strive to be accurate, no responsibility will be taken for errors, omissions, or other perceived deficiencies, in respect of information contained in technical or other articles.
Any dates given for upcoming events should always be checked with a reliable source – coming up on the weekly Tuesday evening NET on 146.450 MHz starting at 07:30 pm AEST is recommended to discuss and confirm information.