



Information for New and Prospective Members

Wireless Institute Of Australia (N.S.W. Division)

Founded 1910

Now trading as:

Amateur Radio N.S.W

ACN 000 012 082

63 Quarry Rd, Dural NSW 2158

P.O. Box 6044, Dural Delivery Centre NSW 2158

Tel: (02) 9651 1490 FAX: (02) 9651 1661

Dear New and/or Prospective Member,

Thank you for your enquiry regarding the wonderful world of Amateur Radio and Membership of Amateur Radio N.S.W.

In this booklet, you will find information about the hobby, the role of Amateur Radio N.S.W. in Australian Amateur Radio, what licences are available, what you need to know to obtain a licence, educational facilities to assist you in obtaining a licence and services available to you when you become a member of ARNSW.

Also available on our website is a Membership Application Form which you simply complete and forward to the office by post with the appropriate fee. If you do not know a member who can sponsor you, please forward the form and sponsorship can be arranged on your behalf through the office.

We look forward to welcoming you as a Member in due course.

Yours sincerely,

Owen Holmwood VK2AEJ

Secretary ARNSW (2006)

History of The Wireless Institute of Australia

The Wireless Institute of Australia was formed in 1910, and is the oldest Radio Society in the world. The WIA has always been a single voice for affairs in the Amateur Radio Service, looking after the interests of radio amateurs.

It consults and negotiates with overseas bodies both Government and Amateur on international radio matters. In Australia it has a close relationship with the Australian Communications and Media Authority (ACMA) concerning the regulation of the Amateur Radio Service.

The Institute was previously made up of seven individual Divisions, one in each of six States plus the Australian Capital Territory. The Northern Territory was under the control of the South Australian Division. Every member of the WIA was a member of one of these Divisions, and each Division looked after radio affairs within its state.

This all changed after July 2004, when most of the Divisions merged into one national WIA. The NSW Division was one of several which chose to continue as a separate, autonomous organisation, while offering every encouragement to the new body. We remain the senior club in NSW, and continue to offer more services to our members than any similar organisation in this state.

The basic aims of ARNSW are :

- to promote and encourage amateur radio activity on all Amateur Bands.
- to protect the interests of radio amateurs.
- to provide a forum for discussion and interchange of ideas
- to promote the development of new techniques through education and experimentation.

Anyone interested in radio communications or allied fields is eligible for membership - it is not necessary to hold an amateur licence. Anyone not holding the appropriate qualifications can apply to become an Associate Member. Full Membership, with full voting rights, can be obtained by anyone with an Amateur Operators Certificate of Proficiency.

For more information about membership contact the ARNSW Office or check out the details on our website at www.arnsw.org.au . To become a member, forward a completed Membership Application, with the appropriate subscription fee, to -

ARNSW P.O. Box 6044, Dural Delivery Centre NSW 2158.

Amateur Radio - More interesting than a video game!

Amateur Radio began in the first decade of the twentieth century - and is still going strong! "Hams", inspired by Marconi, experimented with wireless transmission for at many years before it became regulated and commercially relevant after World War 1.

Amateur radio involves the personal use of radio equipment for local or worldwide communications and experimentation. The word "Amateur" used in this application means "for the love of it". In other words, amateur radio operators cannot receive money for operating their equipment; there are also restrictions on handling "third party traffic".

Amateur Radio is a most interesting, educational and rewarding hobby that is being enjoyed by people from a wide variety of backgrounds. Anyone in Australia from the age of eight upwards can become a radio amateur and talk to the world.

Amateur radio is a diverse hobby with something for everyone, a wonderful leisure activity, the beginnings of many great friendships, a means of gaining personal skills in the fascinating world of electronics and communication techniques - perhaps a stepping stone towards a career in electronics or communications. It is also a means of giving service to the community, through organisations like WICEN, which is associated with the State Emergency Services here in NSW.

Radio amateurs are men, women and teenagers, the able and the disabled, who come from all walks of life. As one progresses through the hobby, a great sense of personal satisfaction and achievement becomes evident coupled with a tremendous amount of fun.

An amateur station can be set up for as little as \$200-\$300, or a much more elaborate one for several thousand dollars. The station can be set up in a study, bedroom, lounge room etc in the house or in an outside building like a garage or shed - you may decide that you would prefer to transmit from your car in a mobile situation. Most amateurs start small and build their station as they progress - how simple or elaborate the station is entirely up to you. The trend these days is for most amateurs to use commercially made transceivers (a combination of a transmitter and a receiver in the one case), although many still build their own equipment or modify equipment obtained from disposal sources.

One of the benefits of the hobby to the nation is that it provides a pool of trained and qualified radio operators who can use their equipment for emergency communications during natural disasters such as bushfires, earthquakes and floods, when they can provide vital communications as part of a WICEN team. One weekend of intense training will allow you to obtain the Foundation Licence, which will get you "on air" with basic, low power equipment. With as little as six months further study for the more advanced grades, you too could begin a lifetime of adventure as a Radio Amateur.

How do you become a Radio Amateur?

You may become a Listener on the amateur bands right now, but to transmit you must have an Amateur Licence (there are three levels) issued by the Australian Communications and Media Authority (ACMA)

To obtain an amateur licence one must demonstrate by examination, or other means, that you have the knowledge required. Nowadays, examinations are held at frequent intervals during the year by ARNSW and many local Radio Clubs.

Extensive changes have recently been introduced to the regulatory environment which governs Amateur Radio in Australia. The previous five licence grades have been reduced to three : Standard, Advanced, and a new Foundation Licence has been introduced at a level underneath the earlier ones. This has been found very successful in the U.K. and other countries; it allows interested people to get "on the air" with limited power (10 watts) after passing practical tests on safety, operating procedure, and interference hazards. This is attracting a new generation of enthusiasts, who are completing training courses in a single weekend to obtain this basic qualification. The diverse ages and backgrounds of these new "amateurs" is injecting new life into the fraternity, and many are already upgrading their licences by further study.

The Foundation Licence allows transmission on a wide range of high frequency (HF - shortwave) and VHF (line-of-sight) amateur bands, but the operator must use commercial equipment and use low power. The new Standard and Advanced licences relate to the old ones as shown in the table below. Note that Morse Code proficiency is no longer required for any grade of licence, and this leads to the rationalisation of five levels into two, plus the new Foundation Licence.

Morse 10wpm	Morse 5wpm	Reg'ns	Novice Theory	Full Theory	Old licence structure	New licences
	✓	✓	✓		Novice	Standard
		✓	✓		Novice Limited	
✓		✓		✓	Unrestricted	Advanced
	✓	✓		✓	Intermediate	
		✓		✓	Limited	

For a properly structured learning programme, with on-line help from qualified mentors, ARNSW recommends the outstanding service being offered at www.radioelectronicschool.com

While morse code proficiency is no longer required in Australia, operators wishing to operate in some other countries may need certified morse proficiency when applying to those regulatory authorities for permission to operate in their jurisdictions. Hence, the morse code tests are still available for those who want them. In Australia, morse code (the "CW" mode) may be used by any licenced Amateur Operator regardless of whether they have done any test. Similarly, operators using radioteletype, PSK31 and other data modes don't have to do a typing test!

Amateur Radio - What is It?

Amateur radio is not a new phenomenon, but it is a hobby and pastime which is little understood by the general public.

Briefly, amateur radio –

1. Develops a national source of electronics expertise.
2. Contributes to, and demonstrates, electronic innovations.
3. Explores radio propagation phenomena.
4. Provides emergency communications resources.

5. Is available to all citizens - young, old and the physically handicapped.
6. Is a disciplined and self-regulated service.

Amateur radio is a self-teaching tool of proven effectiveness. It offers the opportunity for learning electronics and communications technology at home in one's spare time, whilst affording ready access to assistance and counsel from experienced teachers in every area of electronics. Perhaps best of all, amateur radio offers a challenging, enriching, productive and socially constructive activity for young people in our increasingly complex society.

Amateur radio provides almost unlimited opportunities for live experimentation in a wide variety of communication disciplines and has yielded developments and breakthroughs in many specialised areas including, but not limited to, the following:

- a) Propagation research from below 30MHz right up to the microwave region.
- b) Techniques for generating single sideband voice transmissions
- c) Low-cost, high-performance satellite transponders and terminals.
- d) High-efficiency VHF and UHF repeater systems.
- e) Slow-scan long distance television systems.
- f) Directional antenna design and application.
- g) Long-distance communications employing very-low-power devices.
- h) Ultra narrow-band voice and code transmission and reception.
- i) Procedures and techniques for improved spectrum utilisation.
- j) Low-power, extended-range, narrow-band microwave communication.
- k) Computer processing of audio signals into and out of transceivers to achieve remarkable long distance low power two way communication.
- l) Communication via satellites dedicated to the amateur radio service.

A widely recognised aspect of amateur radio activity is the provision of emergency communications services in time of local, national or international disaster. From its beginnings, amateur radio has responded swiftly and effectively to the call for communications assistance when normal channels are lost or overloaded as the result of some calamity. The Wireless Institute Civil Emergency Network (WICEN) is a spin-off organisation from the old WIA. It is accredited with the state SES, and is the primary means by which the amateur fraternity contributes in emergency situations. Amateur radio has, time and again, been the vital link in bringing first word of disasters such as floods, hurricanes, earthquakes, fires, tidal waves, volcanic eruptions and cyclones.

Because radio amateurs tend to be evenly distributed among the population in most countries of the world, they are at, or close to, the scene wherever serious emergencies occur, and thus are usually the source of first news and the most active in providing communications services for early relief efforts.

Radio amateurs take pride in their ability to render this unique public service and work at maintaining a state of readiness through a variety of training exercises that include the operation of efficient and widely publicised networks, and formalised operating competitions. Such exercises lead to improvement of equipment and operating efficiency, and well supported field training employing independent sources of electrical power for their equipment. WICEN is affiliated with ARNSW, and all our members are encouraged to join WICEN to become proficient in emergency operations.

Amateur Licensing Options

For a detailed description of the privileges granted to each of the three licence levels, consult the ACMA (Australian Communications and Media Authority) website.

The Foundation Licence is obtained as a result of assessment processes contained within a FL course, usually conducted over a weekend by ARNSW or a local Radio Club.

With suitable knowledge or study it is possible to go straight into exams for the Standard and Advanced Licence, which are often conducted in the same venue as the FL assessments.

Upgrades from FL to Standard, and from Standard to Advanced, can be done by private study and sitting for exams conducted as above.

All three of the new licence categories now contain a compulsory Practical assessment component to establish some practical skills and assist safe operation of the radio equipment.

Both the Theory and Practical components of Licences must be assessed by an accredited WIA Assessor who is often assisted in the classes by other technical personnel. These people are often members of the club you are attending the assessments at, though not necessarily so.

The Foundation Licence allows restricted operation on the 3.5, 7, 21, 28, 144 and 430 MHz Amateur bands at low powers.

The Standard Licence allows less restricted operation on the bands allocated to the FL, plus restricted operation on 10, 14, 18, 24, 52, 1240, 2400, and 5650 MHz.

The Advanced Licence allows unrestricted operation on all the bands allocated to the Amateur Radio Service in Australia.

Check out the "Exams" section of our website at www.arnsw.org.au for application forms for the various exam types.

MEMBER SERVICES

ARNSW has its own property at 63 Quarry Road, Dural and this is our Transmitting Station, VK2WI, for Sunday bulletins. Dural is also the home for repeaters VK2RWI and beacons VK2RSY.

Listen to the Sunday broadcasts for details of our office hours. For details of the Broadcasts and other matters please contact us at:

ARNSW P.O. Box 6044, Dural Delivery Centre NSW 2158

Telephone: **(02) 9651 1490**

(Please leave a message as our office is not attended on a regular basis)

Fax: (02) 9651 1661

E-mail : office@arnsw.org.au

Website: www.arnsw.org.au

Membership:

Anyone with an Amateur Radio Certificate of Proficiency at any one of the three levels may join ARNSW for a mere \$10 per year as a full member, persons without an Amateur Licence but who are interested in Electronics or Radio can join us as an Associate member. Full details and Application forms can be obtained from the website; general enquiries and notification of change of address or callsign should be sent to the ARNSW Office.

Broadcasts:

ARNSW transmits a program of news and topics of interest to radio amateurs each Sunday throughout the year at **10.00am** and **7.30pm** on the following frequencies (in MHz):

1.845; 3,595; 7.146; 10.125; 14.170; 18.120; 21.170; 24.950; 28.320; 52.120; 52.525; 147,000; 438.525,1273.500.

Call-backs are taken on most frequencies after the broadcast.

In 2007 we commenced a new transmission in the 60m band (VKE580) for linking purposes (no callbacks on this frequency)

All members are welcome to join the teams which maintain the equipment at Dural and who serve as announcers every Sunday.

Experimenters and "Homebrew" group:

Regular meetings are held by our more technically inclined members to discuss radio projects, test home-made equipment and enjoy learning from one another's experience and expertise. See the ARNSW website for details; the meetings are usually held on the first Tuesday of the month or contact the Group on homebrew@arnsw.org.au.

Awards & Competitions:

These are conducted throughout the year as published on our website
www.arnsw.org.au

Educational Programs:

ARNSW conducts Examinations for Amateur Licences. Several Affiliated Clubs throughout NSW conduct classes in their own regions and details may be obtained from the ARNSW office and the website.

Trash & Treasure:

ARNSW conducts component and equipment sales at two-monthly intervals. Sales are held on the last Sunday of January, March, May, July, September and November at 63 Quarry Rd Dural. Members may also bring their own items for sale. There is a small charge for a table. Many items of equipment are put up for tender and listed on our website. Tenders are generally only accepted from members of ARNSW.

Beacons & Repeaters:

ARNSW operates a voice repeater (FM) on 147.000MHz (- 600kHz offset) a Packet BBS on 144.850 MHz(VK2WI), beacons from Dural on 28.262Mhz; 52.420 MHz; 144.420 MHz; 432.420 MHz; 1296.425 MHz; & 2304,420MHz.

ARNSW Company Profile and Aims

ARNSW is a company limited by guarantee. Its affairs are conducted by a board of nine (9) Directors elected each year. None of the Directors and none of the volunteer associates receive payment for the services provided to members.

ARNSW provides its services for the amateur radio fraternity in NSW, plus Lord Howe and Norfolk Islands, The national WIA provides liaison with the Australian Communications and Media Authority (ACMA), the International Amateur Radio Union (IARU), the International Radio Union (IRU), and other Amateur Radio Societies around the world.

Affiliated Clubs:

There are a number of Amateur Radio Clubs throughout NSW which are affiliated with ARNSW, each of which provides services and facilities in their area. Apart from offering the clubs attractive options for public liability insurance, ARNSW also provides a venue for regular conferences of these clubs. Further information on these clubs can be obtained by telephoning the ARNSW on (02) 9651 1490 (message bank), email us at office@arnsw.org.au or check our website on www.arnsw.org.au