Amateur Radio Training class's.

NSW JOTAJOTI would like to offer to all members of NSW Scouts and Guides 13 years and above the opportunity to obtain a Foundation (or Level 1) Amateur radio Licence. Classes can are run by state team of by radio clubs external to Guides and Scouts for 3 to 6 people at a number of venues, the class will run over 2 days with day one being training and day two assessment's and revision. The licence allows the holder to own and use Amateur radio equipment. The training will result in the applicant obtaining an Australia wide qualification that is even recognised in some other countries. The holder of a foundation licence can use their radios at any time they wish with scouting/guiding or outside it and can assist in the radio activities at a jota. A applicant will be awarded a certificate of proficiency from the Wireless Institute of Australia (WIA) if a pass mark is recorded. The Certificate has no expiry, A licence lasts a year and can be renewed by paying $74 to the ACMA

About: Amateur Radio

What is it?

For those involved it is fun, a way to learn and make new friends, a technical communications hobby or recreational activity that provides a true sense of personal achievement.

While we commonly hear about Facebook, YouTube and Twitter, long before they came along amateur radio was the world's first social media network and it continues to provide that role today.

While many talk on amateur radio, across town or around the world, radio amateurs also communicate in other interesting ways.

There is also a serious side to it with radio amateurs providing emergency communications. When disaster strikes the telephone, mobile phone and internet connection often fail or are overloaded.

This aspect of amateur radio, that gives support to rescue, relief and recovery efforts and saves lives, was seen following earthquakes and tsunamis in recent years including those in China, Indonesia, Italy, Japan, Haiti and Chile.

The New York World Trade Centre terrorist attack on 11 September 2001, Hurricane Katrina 2005 and other major disasters have involved radio amateurs providing their skills and support.

In Australia emergency communications were provided in response to the Black Saturday bushfire disaster 2009.

That followed a tradition which began in the 1920's during tropical cyclones in Queensland, the Black Friday bushfires in Victoria 1939, and includes the New South Wales floods in 1955, Tropical Cyclone Tracy 1974, Ash Wednesday disaster 1983, Newcastle Earthquake 1989 and on numerous other occasions.

Around the world regular training occurs so radio amateurs can be prepared to use their skills when required.

Who are these radio amateurs?

There are 16000+ radio amateurs in Australia and over two million in nearly every country in the world. They come from all walks of life – students, retirees, all kinds of professional people, truck drivers, tradespeople, hospitality staff, entertainers and others engaged in creative occupations.

They are part of the world wide amateur radio community that has people of all ages with a common interest in radio communication, a start-up knowledge of today radio technologies, regulations and operating protocols.

Why a licence?

For more than a century those engaged in amateur radio have needed to demonstrate their knowledge in basic technical matters and the rules of the airwaves or regulations. They obtain an internationally recognised certificate, then a licence and their own personal radio callsign to operate.

Because radio does not stop at international borders it is subject to an international treaty to which Australia is a signatory. An amateur radio licence is like an international passport, except rather than personally travelling to other countries you do so via the airwaves.

The radio amateur makes friends in other countries, has an opportunity to learn more about their culture, and contribute to international goodwill.

What's the attraction of amateur radio?

Some are attracted by the ability to generate a radio signal and communicate across town, around the world, and even with astronauts on the International Space Station. Others bounce signals off the moon or communicate via satellites.

Some like to build their own equipment, accessories and antennas or experiment with leading edge technical developments, connecting a computer with a radio to communicate via a keyboard, or send and receive images and amateur television signals.

For young interested in any kind of technical or science career there is no better personal activity than amateur radio to give them hands-on experience and stimulate their minds.

It has led many to technical careers, including leaders in their fields who have obtained the Nobel Prize and credit their early interest in amateur radio as a contributing factor to their success.

The amateur radio community in the 21st century includes those experimenting with the latest electronics and advanced technologies. These include wireless digital communications, software defined radios (SDR), long-distance digital and image transmissions.

While others enjoy keeping the original communication system, Morse code, on the airwaves and are just as skilled as the earlier wireless telegraphers who began it all in the late 1890s.

The hobby of Amateur Radio has a long and proud tradition. The very first radio amateurs were true pioneers of radio technology. Amateurs 'invented' and refined much of the early radio technology and were the first to transmit music, radio plays, and information to the handful of people who had the new fangled radio receivers.

After World War II the hobby of amateur radio flourished. Radio clubs sprang up in schools all over the world and kids went home each night to build some new contraption, or have a chat with someone over the wireless. These young people became the mainstay of the technical professions and developed much of the modern technology we use today

Amateur Radio Operator Badge (scouts only)

All Scouts Australia members who gain an **Amateur Radio Licence** are able wear a special badge on the uniform. It is a gold diamond with a green central stripe as seen above. Youth and adult members who have an amateur Radio licence may be awarded this badge. The award is recorded as a skill in the member's record.

The Foundation Licence

Sir Henry Jackson - Radio Pioneer

Things You Will Need To Know

The emphasis is on candidates having the knowledge of skills to demonstrate a practical ability to put together an amateur radio station from commercial equipment and operate it without causing interference to other users and have the knowledge to be a competent radio operator.

You will also need to be aware of how amateur radio relates to other users of the radio spectrum, your licence conditions, technical basics of electricity and electronics, transmitters, receivers, feedlines and antennas, propagation, electromagnetic compatibility (EMC), and electromagnetic radiation (EMR).

Radio Bands You Can Use

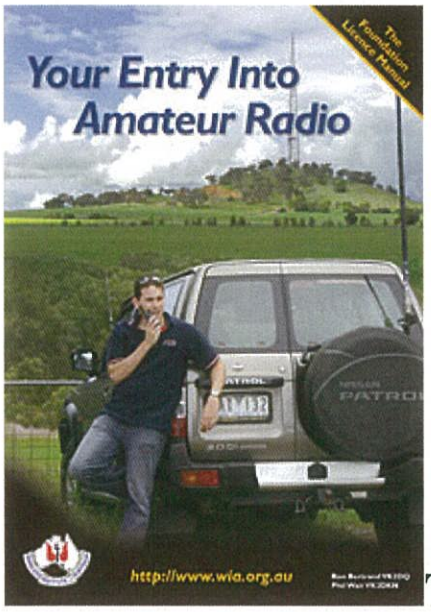
The foundation licence operator can operate in the bands listed below using the modes listed in the right hand column. The foundation licence operator can only use commercially manufactured equipment.

Radio band	Frequency	Permitted Emission Modes
80 Metres	3.500 MHz - 3.700 MHz	Amplitude Modulation (AM) voice Single Side Band (SSB) voice Hand Keyed Morse Code
40 Metres	7.0 00 MHz - 7.300 MHz	
15 Metres	21.000 MHz - 21.450 MHz	
10 Metres	28.000 MHz - 29.700 MHz	Amplitude Modulation (AM) voice Single Side Band (SSB) voice Hand Keyed Morse Code Frequency Modulation (FM) voice
2 Metres	144 MHz - 148 MHz	
70 Centimetres	430 MHz - 450 MHz	

Distances You Can Communicate

Radio band	Distance & Coverage
3.5MHz (80 metres)	Typically up to 150KM during the day and up to 3000KM at night.
7MHz (40 metres)	Typically up to 1000KM during the day and during good conditions world wide at night.
21 MHz (15 metres)	World wide mostly during the day.
28 MHz (10 metres)	World wide during periods of high sunspot activity and up to 3000km in summer.

144MHz (2 metres)	Local coverage and world wide via "IRLP" and EchoLink.
432MHz (70cm)	Local coverage, over 2000 km using something known as tropospheric ducting and world wide via "IRLP" and EchoLink.



The Foundation Manual

The WIA has produced a book called the Foundation Licence Manual. It is a full colour manual consisting of 108 pages of relevant information for those studying, or those who would just like a reference book for Foundation Licence Operators.

The manual contains all the relevant information you will need to know to successfully complete a training course to obtain a foundation licence. It also contains a wealth of information a Foundation Licence operator will need. Items like Band Plans, Electrical Safety information, operating procedures such as the Q code, how to contact your local radio club, the WIA and much more.

A copy of the manual will be provided as part of the class

Assessments

To obtain your amateur radio licence you will need to have successfully completed the required assessments. The foundation licence assessment has two components taking around an hour or so to complete. The first being a 25 question multiple choice assessment paper, the second being a hands on practical assessment. Once you have successfully completed both you will be able to choose an available callsign and apply for your amateur licence. To apply for a Licence you must provide a passport size photo, if the candidate is under 18 years of age a parent or guardian needs to be present at time of assessment.

The practical assessment is required not only for foundation but also for standard and advanced licence grades. However a practical assessment only needs to be completed once, so by successfully completing a practical assessment as part of your foundation licence you

will not be required to repeat it should you decide to upgrade to the standard or advanced licence grades. Even if you are an existing licence amateur who received your licence before the requirement for a practical assessment was introduced and you wish to upgrade your licence, then you too will need to complete a practical assessment if you have not already done so.

Fees And Charges

The WIA charge for a foundation licence assessment is $70.00 or $35.00 if you are under the age of 18
The foundation licence is issued by ACMA and the licence cost is currently $74.00 per year. To request a call sign of your choosing A $20 fee is charged. A Small fee is payed to the assessors club normally $10-$20 along with camping and Catering fees

Item	Cost
Assessment	$70 / $35 under 18
Licence	$74.00
Custom Call sign	$20
Club Fee	$ 10 - $20
Foundation Manual	$25
Camping/catering fees	TBA

If you are interested in a Class contact Traning@nswjotajoti.org