

Chapter 1

NATURE OF AMATEUR RADIO.

ACMA Foundation Syllabus 1.1 to 1.3 and 2.1 -2.2

Contents

NATURE OF AMATEUR RADIO.	1
Why HAM Radio?	2
Defining Amateur Radio	2
Purpose	2
Licences	3
Regulations	3
Frequency Allocation	3

The hobby of Amateur Radio, also called Ham Radio, has a long and proud tradition that is worth knowing.

Amateur radio began with experimenters dabbling in the scientific oddity of wireless and interest in the hobby grew after WWII.

The people involved in early amateur radio became the mainstay for technical professions and developed much of the technology we use today.

A lot has changed in Amateur Radio, but now the hobby is more accessible than ever before.

Why HAM Radio?

In 1908 the first amateur wireless station was operated by three amateurs of the Harvard Radio Club in America. They were ALBERT S. HYMAN, BOB ALMY and POOGIE MURRAY. At first, they called their station "HYMAN-ALMY-MURRAY". Tapping out such a long name in code soon became tiresome and called for a revision. They changed the name to HAM around 1911

That's how it all started. You can find the whole story in the American Congressional Record. Nation-wide publicity associated station "HAM" with amateur radio operators. From that day to this, and probably until the end of time on the radio; an amateur is a "HAM".

Defining Amateur Radio

The question arises is amateur radio a hobby, sport or service? This question was answered below by the Editor of the Amateur Radio magazine in AR Vol 92 No 4 2024.

"If there was little satisfaction to be gained pursuing an interest in radio technology, few people would continue it. If a "hobby" is defined as "an activity done . . . in one's leisure time for pleasure", then clearly, amateur radio is a hobby. The same goes for building and flying model aero planes. Hence, we can say that the Amateur Service encompasses a hobby pursuit. A dictionary definition of 'sport' says "an activity involving physical exertion and skill in which an individual or team competes against another or others for entertainment." Do amateur radio activities, in any way, fall within this definition? You bet! The word 'entertainment' causes a pause, but then, the dictionary says: ". . . something affording pleasure, diversion, or amusement". There it is. I write this shortly after the 2024 Winter VHF-UHF Field Day has ended and the Oceania DX Contest looms. Read that definition of sport, again. Every weekend, month, and year, throughout the world, there is some amateur radio contest under way. Think ARDF, DXCC, the Harry Angel contest, the Oceania DX Contest, and so on. All of it is amateur radio sport. et us shout it to the world! Amateur radio is a service, a hobby, and a sport – and not accept anything less, from anyone."

I like the term "service"? Especially when you include the Wireless Institute Civil Emergency Network (WICEN) into the mix.

Purpose

The purpose of amateur is four-fold.

1. Self-training in radiocommunications. This means learning and experimenting with radiocommunications. Some examples of this are around today e.g. FT8, Earth Moon Earth (EME) communications, satellites and antenna development.
2. Intercommunication. Find interesting ways to communicate with other amateur operators around the world.

3. Technical investigations of radiocommunications. Experimenting and paying with communications.
4. Transmitting news and information related to the operation of amateur stations, as a means of facilitating intercommunication. Listen to the Wireless Institute of Australia (WIA) news on Sundays.

Licences

There are five licences available to amateur operators.

The three operator licences are listed below, and these licences fall under the Class Licence Regulations.

- Foundation licence is limited to 10 watts power and has six frequency ranges of operation.
- Standard is limited to between 30 and 100 watts, depending on the mode of operation, and has 12 frequency ranges of operation.
- Advanced is limited to between 120 and 400 watts, depending on the mode of operation, and has 30 frequency ranges of operation.

The remaining two licences fall under the Apparatus Licence Regulation.

- Repeater
- Beacon

Regulations

The [Radiocommunications \(Amateur Stations\) Class Licence 2023 \(ACL\)](#) details the regulations on the operation of an amateur radio station for the three operational licences.

The [Radiocommunications Licence Conditions \(Apparatus Licence\) Determination 2015 \(ALD\)](#) details the regulations on the operation of an amateur radio repeater and beacon stations.

Frequency Allocation

The radio frequency spectrum is limited and must be shared amongst many users worldwide. Some frequency allocations are shared with other users.

The ACL details the frequency, mode and power level for Foundation operators in the ACL Schedule 2 Table A.

The document outlining the frequencies allocated to amateur operators is detailed in the Australian Amateur Band Plans. This document also details the mode of operation across the allocated frequencies. See the document [HERE](#).

Amateur frequencies by licence can be seen [HERE](#).

Have fun and stay safe.