

## The Essence of Ham Radio - II

In the last issue we explained that amateur radio or ham radio communication system is a voluntary two-way radio network maintained by people interested in wireless communication technology. We can use our landline telephone, mobile telephone or the Internet to fulfill our day-to-day activity. In the government run network also it is basically the radio communication systems which are involved. Then why do we need another radio communication service called 'Amateur Radio Service'? Is it a parallel communication network? Or can it be called the second line of communication? The answers to these questions may be very intriguing.

### Ham Radio as a hobby

Though government rules mention amateur radio as a 'service', it is not a service in the truest sense. It is a pastime activity of people with varied interests and profession but still nurturing a common passion to communicate with the unknown using a radio station of their own.

### A hobby for the 'civic' minded

Ham radio is recognized as a very effective communication tool in the event of natural or manmade disasters. There are some ham radio operators who would like to offer their voluntary service to the public during the times of emergencies when the normal modes of communications break down due to natural/manmade disasters. The 'civic minded' hams carry their portable wireless devices to the disaster effected areas and establish critical communication links. This type of emergency radio operation however requires great degree of coordination amongst the operators. During emergencies Ham radio operators can set up their radio stations in locations like the offices of relief agencies, hospitals, relief camps, affected areas etc., where the instant free flow of messages related to relief (e.g. medicine, life saving drugs and other relief materials) is of utmost importance. Due to the break down of existing communication infrastructure or telephone links becoming overcrowded with messages ham radio has an important role to play. For 'civic' minded people it offers an opportunity to serve the public in distress.

No doubt the use of 'Amateur Radio Service' to fulfill the day-to-day general communication requirement of the public is prohibited. Yet there is no reason to believe that an amateur radio hobbyist would not feel happy to use his amateur radio station for passing on messages for his friends. But there might also be some ham radio operators who would like to earn money by passing such messages! **But this would literally imply the death of a great hobby!** There is no place of commercial interest in a hobby and hence ham radio cannot be used for 'third party' communication during normal circumstances. Also government would be deprived of their revenue if all the ham radio operators started

passing on such messages without paying the govt.! This prohibition can be considered as a blessing in disguise, as only people genuinely interested in the hobby aspires to get a ham radio licence because at the root of the word "amateur" is the Latin word "to love". Radio amateurs love radio.

### A hobby for education

Ham radio is considered as a hobby with immense educational potential. For the self-learners in the field of wireless and electronics technology, it offers opportunities to learn the principles of operation of radio transmitters and receivers, the electronics behind their functioning and many other related fields of science. For example the use of computers in radio communication, use of radio in astronomy (radio astronomy), the physics of radio wave propagation, satellite communication technology etc. are some of prominent subjects of interests to the ham radio hobbyist.

### A 'legal' hobby radio operator!

Being a citizen of a world ruled by the rules, it is illegal to possess or build radio transmitters without a valid 'amateur radio licence'. So, being a law abiding citizen, you need to get a 'licence' which allows you to build your own radio transmitters/receivers for worldwide communication and learn electronics & communications technology at home in your spare time. Ham radio thus helps developing a vital supply of electronics expertise in a technically advancing society.

The enthusiasm of amateur radio hobbyists often leads to employment in the field of technology or communications. For many, amateur radio provided an opportunity to develop practical skills that influenced their career. For example, the 1993 Nobel laureate in Physics, Dr. H. Taylor, Jr. of New Jersey, USA is an avid ham radio operator (Call-sign: K1JT). As a high school student in the mid-1950s, he was conducting experiments in very high frequency ionospheric propagation. In 1958 at the age of 17 years he wrote a paper describing the results of his research that was published in the leading amateur radio periodical. He went on to become a professor of physics and in 1974. While conducting radio astronomy research, he discovered ultra-dense stars called binary pulsars.

Amateur radio can benefit those who want to make a career in the fields like:

Electronics engineering, Physics, Radio Astronomy  
Mariners, Pilots, Astronauts

In the next issue, we shall discuss about the 'hobby happy ham radio operators'. But if you wish to know anything specific, write to us.

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