Listening to Ham Radio stations-X

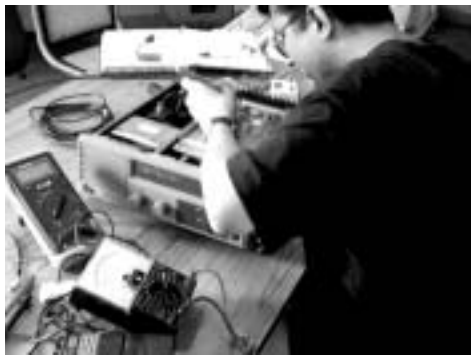
How to obtain a ham radio license?

In this issue we are providing some information related to obtaining a ham radio licence. In fact there is a general misconception that a person can call herself/himself a ham radio operator if she/he becomes a member of a ham radio club. There are of course ham radio clubs and amateur radio societies, which help newcomers by providing guidance to become a ham radio operator.

A ham radio operator is a person who wants to be self reliant in two-way wireless communication around the world using her/his own radio transmitter/receiver. She/he must be interested in self-studying various aspects of radio communication (about radio transmitters/receivers, antenna systems, radio wave propagation etc.). Her/his aim is to enjoy radio communication as a hobby for which she/he would like to set up her/his own wireless station (entirely with personal effort). She/he would like to make friendship with other hobbyists by talking to them through radio. The hobby wireless system would not be used as a replacement of the existing communication facilities (e.g. land line telephone, mobile telephone etc.). The main objective of this hobby wireless communication system is to self-learn in the field of wireless technology and to develop skills in the art of radio communication.

She/he has to appear for a licencing examination conducted by the communication authority. The purpose of the examination is to ensure that the person desiring to become a ham radio operator knows the internationally prescribed basic radio techniques and competent to set up a two-way radio communication system without causing any harm/interference to herself/himself and others.

After obtaining a licence one can build her/his own wireless station. This includes building of radio transmitters, receivers, antenna systems and power supplies etc.. However, it would require knowledge, perseverance, and above all a great desire to be self reliant in the practical aspects of electronic circuit building. Some of the experiment oriented ham radio operators consider that this is the very essence of ham radio. In fact, ham radio as a hobby would not have originated had there been no radio experimenters! There are also of course many ham radio operators who are not experiment oriented, yet they would like to appreciate others work. They purchase ready made wireless equipment or kits meant for ham radio operation and enjoy the hobby in various ways. There is but no privilege of being either experiment oriented or a ready-made equipment operator. Everybody enjoys their hobby in their own way. There are hundreds of activities to get involve and enjoy ham radio as hobby. It is needless to say again that ham radio helps in unleashing the technical creativity in an ordinary human being. If ham radio club stations are established in schools by the teachers who are also ham radio licencees, they can inspire and train their students to get ham radio licences. This may prove to be beneficial for the society in making skilled electronics technicians. Japan has the highest number of ham radio operators (to the tune of more than 1.5 million).



The Licencing examination in India is conducted by the Wireless Planning and Co-ordination (WPC) wing of the Ministry of Communications & Information Technology, New Delhi at 22 Wireless Monitoring Stations located throughout the country. You should apply to the 'Officer-in-Charge' (OC)/ Engineer Inspection of the Wireless Monitoring Station nearest to your hometown. The examination consists of a 100 marks question paper (50 marks related to basic radio/electronics theory as per the prescribed syllabus and 50 marks related to Amateur Radio Rules & Regulations) which is of one, two or three hours duration as per the "grade" of license you intend to appear. There are 4 grades (Advanced Grade, Grade-I, Grade-II & Grade-II 'Restricted'). You can apply for more than one grades at a time, provided, separate application forms along with the prescribed examination fees, for each grade in the form of Demand Draft issued from a "State Bank of India" branch drawn in favour of the "Pay & Accounts Officer (Headquarters), Department of Telecommunications, New Delhi-110 001, payable at SBI New Delhi Service Branch (Code No. 7687) are sent to the "Officer-in-Charge" of the Wireless Monitoring Station where you would be appearing for the ASOC examination.

The Examination Fees for different grades of licensing examination are- Advanced Grade: Rs.25/-; Grade I: Rs.20/-; Grade II: Rs.10/- and Grade II (Restricted): Rs.10/-. The particulars of the "Venue" and "Date" etc. of the examination would be communicated by the Officer-in-Charge of the concerned Wireless Monitoring Station on receipt of completed application form (available at Wireless Monitoring Stations) along with the requisite examination fees and other necessary documents.

One of the most frequently used 'important' modes of communication in ham radio is "Morse Code". There is a practical test on Morse Code sending and receiving (except for Restricted Grade License where this test is not required). This is a 10 minutes duration test to examine the candidate's proficiency in sending and receiving Morse Code. Minimum specified speed to pass the examination is 5 Word Per Minute (5 WPM: 125 letters/characters sent in 5 minutes). To learn Morse code, a Morse Code Practice Oscillator can be assembled along with a Morse Key and a Morse Code learning Cassette can be found useful. In the next issue also we shall again continue with a little more details about the licensing examination.

(For details about the ham radio licensing examination you may obtain a guidebook brought out by Vigyan Prasar. The guidebook ***'A Guide to Ham Radio'*** can be obtained by sending Bank Draft of Rs. 75/- in favour of **"Vigyan Prasar"**.)

❑ **Sandeep Baruah, call-sign: VU2MUE**

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which then checks its database to confirm that the SID of the phone you are using is valid. Your home system verifies your phone to the local MSC, which then tracks your phone as you move through its cells.

There are three common technologies used by cell phone networks for transmitting information:

1. Frequency Division Multiple Access (FDMA)
2. Time Division Multiple Access (TDMA)
3. Code Division Multiple Access (CDMA) .

Although these technologies sound very intimidating, you can get a good sense of how they work just by breaking down the title of each one.

The first word tells you what the access method is and the second word, division, lets you know that it splits calls based on that access method.

1. FDMA puts each call on a separate frequency.
2. TDMA assigns each call a certain portion of time on a designated frequency.
3. CDMA gives a unique code to each call and spreads it over the available frequencies.

At present ,there are hundreds of functional GSM networks in an equally large number of countries, and the acronym stands for Global System for Mobile telecommunications. GSM cellular technology is now possible to locate a person using a cellular phone down to a range of a few meters, anywhere on the globe.

We will discuss about the technologies in our next issue in detail along with the parts of a cell phone.

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