Welcome to Amateur Radio Museum, Knowledge and Awareness Center

AMATEUR RADIO COMMUNICATION
For
SOCIETAL DEVELOPMENT

The world amateur radio day is observed on 18th April every year by amateur radio clubs / institutions / hams all over the world. Each year a unique theme is chosen to conduct, propagate and popularize the activity to the general public. Theme for year 2010 is "Amateur Radio: Combining communication experience with modern digital techniques." Coinciding the theme this year, the NIAR is implementing a major project titled Amateur Radio Advanced Digital Communications Network in the country. The details are given overleaf.

THE AMATEUR RADIO MUSUEM

National Institute of Amateur Radio (NIAR) Amateur Radio Museum is open to public w.e.f 18th April 2010.

The Museum is devoted to collecting, preserving and exhibiting the history of the Amateur Wireless Technology from the roots of inventions / experiments and today's scenario.

The museum includes an impressive display of wide range of HF/VHF/UHF amateur radio wireless communication equipment and accessories from popular manufacturers like YAESU, ICOM, KENWOOD etc., of over the years and antenna systems of StepIR, Hi-gain, Create, Force-12 etc. The accessories included power supplies, antenna tuners, antenna rotators, towers. Several homebrew devices and accessories including HF transceivers, antennas, baluns, Direction finding devices which is used for hunting hidden transmitter in the game of 'Fox Hunt'. Etc is also on display.

NIAR is a Non-Profit, Non-Government Voluntary Organization emphasizing to encourage peoples' Participation in Communication and Information Technology through Amateur Radio and Disaster Management. The Institute has a remarkable reputation of serving the public during calamities like cyclones, earthquakes, emergency situations through our expertise and the teams of Hams. We offer a comprehensive range of services for Amateur Radio training, technical support, disaster management services, and research on radio communication. NIAR has received several awards and appreciation for its activities from several government and other agencies in India and abroad.

Educational institutions / NGO's / Disaster Management organizations may contact Ms. S. Yamini, VU2YAM, Admin. Officer, NIAR for a special awareness program / workshop on Amateur Radio Communication technologies which include Voice, Digital, Internet related communications on any working day during 10 AM-5 PM.

Amateur Radio

Amateur radio is a community of people that use radio transmitters and receivers to communicate with other Amateur radio operators. The things that amateur radio operators do with their radios are as diverse as the people themselves. Amateur radio operators are often called ham radio operators or simply "hams." Amateur (HAM) Radio is both a Hobby activity and Service. It is an activity of Self Learning, Inter-Communication & Technical Investigation carried on the duly authorized persons (i.e. Amateur Radio Operators) for a personal aim and without pecuniary interest. There are over 30 lakh people all over the world who pursue this activity in their free time, in India we have around 15000 amateur radio operators.

Amateur Radio Operators have to qualify in an examination conducted by Ministry of Communications, Government of India and obtain license for operating / possessing a Radio Station. Hams use their radio stations to conduct two-way communication and exchange cultural, personal, technical information with other amateurs not only within India but all over the world using either through Voice, Morse Code, Digital (Video & Data) or through Satellites modes of operation.

Amateur Radio Advanced Digital Communications Network supported by Department of Information Technology, MCIT, Govt. of India

We take the pleasure in informing that the National Institute of Amateur Radio (NIAR), Hyderabad is implementing a pilot project on Radio Messaging System (RMS), that mixes Internet technologies and appropriate amateur radio technology that bridges any distance to deliver advantages of reliable, secure transparent system for last mile connectivity. The project envisages building a nation wide auxiliary amateur radio based advanced digital communication network based on amateur radio digital communication to provide radio e-mail messaging system. Project duration Feb 2010 – Feb 2012. Awareness Programs / seminars / demonstrations will be organized in various centres like educational institutions etc.,

Amateur Radio Advanced Digital Communication Network integrates internet technology and appropriate amateur radio technologies to deliver advantages that is not possible with each alone. The system provides email capabilities with attachments, position reporting, graphic and text weather bulletins, and robust emergency communications between internet users and the amateur radio communities.

The system also has capabilities attractive for emergency communications where local or regional internet and wireline services are disrupted, overloaded, or down. It is especially useful where accuracy is essential, where information quantity makes voice communications inefficient, and where accurate records of the information sent and received are important. This system is also critical email emergency communications with the government and civil agencies they serve.

The network system containing Radio Message Server is tied together with the common servers at the hub. Traffic goes in and out between the Internet email recipient, and between radio users through the Radio Message Server gateways. In any single message, multiple radio-to-radio addresses may be mixed with radio-to-internet e-mail addresses, allowing complete flexibility.

It provides radio users and Internet users seamless, transparent email with attachments of reasonable size without any additional stress or learning curve. This allows any mobile or portable operation to connect with the Internet e-mail system from literally anywhere in the world.

It is proposed to have a network of Radio Message Servers placed at strategic locations so as to cover major geographical area of the country on high frequency (HF) bands. The basic requirements are HF radio with optional scanning and antenna switching as given below::

- HF – Pactor TNC (Radio Modem)
- VHF/UHF – 1200/9600 baud packet radio TNC (Radio Modem)
- Internet – Telnet connection (any internet connection)

The client system will have a familiar mail interface to connect anytime, anywhere.

HF - Pactor

Pactor 1, Pactor 2 and Pactor 3

VHF/UHF – Packet Radio

1200/9600 baud AX.25 packet

Messages transmitted via these digital modes are guaranteed to be received without error. It proved so reliable that it was quickly adopted within the amateur community. The digital modes ensure that text processed by the TNC was guaranteed to be transferred without error between the two communicating stations.

Educational institutions like Schools, Colleges may contact Ms. S. Yamini, VU2YAM, Admin. Officer, NIAR for organizing a special awareness program on any working day during 10AM-5PM. Awareness program includes Film show / presentations/ Demonstration / lectures.