Amateur Radio Overview…

Amateur radio still thrives in spite of the Internet but is always welcoming new members to its ranks. The Fundy Amateur Radio Club, centred around Digby, but having members from Annapolis to Yarmouth Counties, is much more than some "nerdy guys" talking to each other on local VHF "repeaters" or other amateurs around the globe.

Unlike the limits of the Internet, - yes limits! – amateur radio is also such far-out communications pursuits such as:-

Moonbounce… Communicating by bouncing their radio signals off the moon! Challenging to be sure, but is done every day/night that the moon is visible above the horizon.

Meteor Scatter… Bouncing signals off the ionized trail of the thousands of meteors, large and small, burning up in the earth's atmosphere every day and night.

Microwave mountaintopping… Using ultra high frequency signals in the microwave range to send line-of-sight signals from one mountain to another. The world record, by the way, and depending on the frequency used, is over 700 Kms!

Auroral scatter… Yep; just what it sounds like. Bouncing radio signals off the occasional auroral "curtains" in the far northern and southern hemispheres.

Amateur satellite… There are several "low earth orbit" satellites dedicated to amateur use, and using special computer programs to track their location from minute to minute, amateurs talk to each other to the far side of the globe as they whiz overhead.

Sporadic E, Transequatorial propagation, and Tropo Ducting… Various modes where VHF signals are "bent" and propagated by weather phenomenon. This is an active field of science research as not all of the factors are clearly understood.

DXing… "DX" means distance in amateur radio lingo. The joy of many amateurs worldwide is to try to make contacts with as many exotic locations around the globe as possible. There are over 300 DX "countries" some of which are no more than rocks or islands in the ocean. DX expeditions are often launched where a dozen or so amateurs pool their resources and set up temporary stations at such locations to let other amateurs try to contact them. Want exotic? Look up such DX sites as the St. Peter and St. Paul Rocks.

Digital modes… Not all amateur radio contacts are made using voice or Morse Code… Ever since the launching of the pioneering Voyager and Mariner satellites, dozens of "digital" communications modes have been developed to pass information under the most adverse atmospheric conditions. Some of these will allow amateurs to communicate even if the audible signal sounds like just so much static or "white noise". This is where computers do play a role as they use advanced algorithms to

decipher the particular logic of the faint signals. Definitely a mode to explore if you are a computer "geek".

Mountain-Topping… Since amateur radio stations are also set up to operate from cars, trucks, RVs, boats and even airplanes, some amateurs take pleasure in rigging up a four-wheel drive vehicle and heading to the top of the nearest mountain to operate. The mountain top of course gives a better radiation to their signal and just as in DXing, the exotic location makes them a popular target to talk to.

Ballooning Repeaters… Local VHF and UHF repeaters are the bread and butter for local communications of radio amateurs. The Fundy Amateur Radio Club, for instance, has a 2 metre repeater on the North Range southwest of Digby. But sometimes the urge to extend the normal range of operations gets some amateur radio club members to attach a small repeater to a weather balloon and launch it into the sky. As the balloon rises the repeater covers a larger and larger area of potential contacts. It is fascinating to listen in on such experiments and see how far the contacts can be made before the balloon breaks in the upper atmosphere. Amateurs who operate from their personal airplanes also enjoy this phenomenon.

Amateur TV… Television signals may be humdrum to most people who expect hundreds of commercial channels to me made available via cable or satellite. But there are radio amateurs who continue to experiment with building their own television stations and talking/viewing to one another on specific segments of some of the various frequency "bands" allocated for amateur radio use.

Foxhunting… This is a popular name for the pursuit of "radio direction finding" of a hidden transmitter. Small power transmitters, usually on the VHF bands, are "hidden" and give off an intermittent signal identifying their location. The "hunters" use direction sensitive antennas and drive around the countryside trying to be the first to locate the hidden location of the "fox". (Which of course involves a lot of cleverness and ingenuity on the part of the person hiding the transmitter) While this is all good fun, the exercise has a very serious side to it as it is the same skill set required to find lost children, hunters, boaters, or even downed aircraft. So amateur radio clubs staging "foxhunts" often invite local search and rescue organizations and the police to also take part and hone their "find the hidden transmitter" skills.

Weather Monitoring… The Dartmouth office of Environment Canada gets dozens of daily local weather reports from radio amateurs across Nova Scotia. Operated at the amateur's own expense and time allocation, this is a valuable public service since there are so many "micro-climates" across the province making local weather forecasting in Nova Scotia a real challenge.

Emergency Communications… Ever since the advent of amateur radio, prior to WWI, once of the most recognized roles of radio amateurs

worldwide has been to provide emergency communications in times of manmade and natural disasters… This is one of the noble aspects of the world or amateur radio and is recognized worldwide for being so. There have been literally thousands of occasions over the years when radio amateurs have come to the aid of their fellow man by communicating to the outside world when all other means have failed. This is a fact accomplished by "being on the air" when all other communications modes have failed. All amateurs are encouraged to have a means of operating "off the grid" when the normal hydro grids or cellphone services are down. This means having either back-up battery power, or solar power, wind power, or, generally, emergency generators at their disposal. The proof is in the pudding as the old saying goes… Every time there is a natural or manmade disaster the amateur radio operators of the world are on the air talking to one another and relaying health and welfare messages. In recent years many people have found out the hard way that their cellphones are "kaput" when a disaster strikes. (Either power has been knocked out, the back-up generators for cell towers have run dry, or the towers themselves have been knocked down.) Most North Americans can remember Hurricane Andrew from Aug. 16 to the 28th in 1992. It produced winds of up to 282 Kmh (!) Andrew first of all knocked out all the telecommunications services for many Carribean Islands and several of them had to rely on local amateurs to relay embassy information to their home countries. Then it hit Florida and Dade Country was devastated. There were parts of Florida that had no telephone service for two weeks! But the radio amateurs stayed on the air round the clock and performed an outstanding service relaying health and welfare messages across North America and round the globe.

That's amateur radio… So, it's not only "nerdy guys" talking to one another, but a fascinating and scientific hobby that one should encourage the next generation to sign up for… And did I mention that many amateurs still build their own equipment and antennas? That's another story…

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On behalf of the
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