



Beginner's Classroom

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This column attempts to explain some aspect of our hobby each month. The subjects may be technical or they may concern such things as DX practices and traditions. Suggestions for topics are always welcome.

BEGINNER'S CLASSROOM FOR AUGUST 2009

Different Aspects of our Listening Hobby: Part 3

During the past two Classrooms, we've had a look at various ways radio is used in both hobby and professional natures. Marine and weather radio were discussed in June, along with the 160-meter amateur band and of the services of CANWARN in July. This month we'll conclude this series on different aspects of our listening hobby with a look at aviation radio (known by many as the aircraft band) and the use of FRS (Family Radio Service) and GMRS (General Mobile Radio Service).

Aircraft Communications

Regular commercial and private aircraft communication is heard on a scanner or radio receiver with the "AIR" band. There are 720 channels that span from 118 – 136 MHz, just above the commercial FM spectrum. The area from 108 – 118 MHz is used for aircraft beacons, and 121.5 MHz is reserved as the aircraft emergency frequency, also known as the International Air Distress frequency. Below are a list of websites that can be accessed for listening in on aircraft and ATC (Air Traffic Control).

www.flightradio.com: This website is organized and run by Michael Dell. He has gathered information on frequencies used in centres throughout the United States, and has a page that lists where you can listen to various ATCs.

www.dxinfocentre.com: Again I would like to promote William Hepburn's fantastic site. He has a large section devoted to Automated Terminal Information Services and Weather Observation Systems for aircraft. These frequencies are for the provinces and territories within Canada. For example, there is an ATIS in Toronto on 120.825 MHz, and one in Ottawa on 121.15 MHz.

www.hamuniverse.com/aerofreq.html: I should say here that not all aircraft operate in the 108 – 136 MHz range. There are still some international aircraft that operate in the HF range, between the allocated SW broadcast bands. The "Ham Universe" site, operated by Don Butler, gives Trans-Oceanic Radio frequencies used by international aircraft flights.

The Military also use the VHF range for some of their aircraft communications. The main spectrum of frequencies are in pockets from 225 – 400 MHz, with the aircraft emergency frequency being on 243 MHz, the second harmonic of the one used for commercial/private emergencies. By the way, cell phones

from commercial aircrafts in flight use 849 – 851 MHz.

Family Radio Service / General Mobile Radio Service

The Family Radio Service, or FRS, is used in many countries throughout the world. In Canada and the United States, FRS is similar to Citizen Band (CB) radio, but without the interference (both QRM and QRN) that can be had on the 27 MHz region. The main reason for FRS is for family and friends to be able to communicate with one another at a maximum distance of about 1.5 – 1.75 km.

Although there are more channels than mentioned below, there are basically 14 channels/frequencies used by the FRS. Channels 1 – 7 begin at 462.5625 MHz, with each channel increasing in frequency by 0.025 MHz. These first 7 channels are for dual use by both FRS and GMRS, and these radios may communicate with one another. FRS also uses channels 8 – 14, beginning at 467.5625 MHz, again increasing by 0.025 MHz.

General Mobile Radio Service, or GMRS, was instituted with family safety in mind. This system allows an adult to communicate over a short distance with family members, mainly children, to keep in contact with these members. Whereas FRS users do not require a license, in the United States GMRS users are granted a 5-year renewable license. In Canada, there is no license for GMRS, but the range is shorter (in the US it is expected that a GMRS unit would have a range of about 20 km). Whereas base stations are permitted in the US for GMRS, in Canada one is only permitted a hand-held GMRS unit.

It seems to me that FRS and GMRS may outlive their usefulness due to the

fact that many people today carry a cell phone, including children as young as 10 years old. The nice part about preferring the FRS/GMRS to a cell phone is that after the initial outlay of cash for the units, the airwaves are free to use, as opposed to most cell phone contracts.

I hope this information on aircraft communications may give some people the impetus to listen on the "AIR" band to see what can be heard. And if nothing else, maybe the paragraphs on FRS/GMRS units will recall to mind the days of CB radio, walkie-talkies and the like for some hobbyists. I actually started my radio-listening hobby when my mother attached a TV antenna to my little base-station walkie-talkie. It changed the frequency on the radio, allowing me to hear Radio Netherlands, Radio Canada International, and Radio Moscow... and the rest is history.

May the rest of your summer be fantastic! Until September,

73, keep smiling and keep listening,

J O E