

Newcomers and Elmers Net 6/30/13

Going Mobile

--Going mobile means using your radio in a car, truck, bike, or even backpacking

-- doesn't have to be elaborate; HT in the car or carried in your pocket is mobile

-- For our purposes we will assume going mobile means hooking up a radio to an external antenna for better range

-- HTs have limited range with the standard antenna, but when hooked up to a mobile antenna that is a $\frac{1}{2}$ wavelength or better, these little radios can cover a lot of ground

-- one piece of advice: when hooking up an HT to an external antenna, use something called a "pigtail" – a short coax with a connector on each end to fit the radio and the antenna; releases strain on the HT mount

-- you can simply use a magnetic mount antenna on the car or a clip-on trunk mount, and run the coax in through the window

-- or you can make it a little more permanent by routing the coax into the car around a door frame or other suitable means

-- just make sure the coax is not pinched in such a way that it will eventually break or short out

-- if you are in to bike riding or back packing, there are antennas designed to clip onto your bike frame or to a backpack – do a little research on the web and you'll find all kinds of information

-- if using a handheld you may want to get a speaker mike which you can clip on close to you, like what police wear for convenience listening/talking

-- for more power you can find used amplifiers which take 5 watts input power and put out 20-30 watts which can plug into a cigarette lighter socket

Mobile Radios

-- mobile radios are the next step up, and can be just for 2 meters or dual-band 2m/440; you can also get HF radios with coverage all the way through

2m and 440, but these are rather expensive and usually have higher power requirements

-- typical 2 m mobile radios put out 50 watts and require 11 amps

Safety

-- mobile radios should be wired to your car battery directly if possible—cigarette lighter sockets in cars usually do not have good enough wiring for this kind of power—some newer cars offer more power options than in the old days, but hard wiring is really the best option

-- mobile radios should also have in-line fuses for both positive and ground wires – don't depend on just a fuse in the hot wire

-- also wires running to the battery should be at least the minimum required by the radio manufacturer to avoid getting hot and melting/shorting. No fires allowed!

-- Get help with installation if you don't feel comfortable, either other hams or some place which specializes in installing radios, etc.

-- also make sure the radio itself is in a place where the controls are easy to reach and where you will not have to take your eyes off the road

-- some radios come with detachable heads which allow you to mount the head close by while keeping the body of the radio under a seat or other convenient place

-- also modern 2m rigs usually have microphones which have a lot of controls on them so that you can control the radio for the most part from the mike – learn how to use these features well before going mobile!

-- you may also want to add a speaker located in a convenient place to hear more clearly

-- if bike riding or hiking you may want to consider a headset combination which allows TX and RX into the headphone to keep your hands free

Opportunities

-- Besides having a radio in the car (which can make trips a lot more enjoyable, especially when caught in traffic!), being mobile opens up a lot of opportunities

-- go hilltopping! Find some good hills in your area and see what you can do! You are not limited to just using repeaters-you can also work FM simplex, and if you have an all-mode radio you can work SSB

-- if backpacking or biking, stay in touch with friends or in range of repeaters for safety issues

-- work satellites as a mobile station; find a good site from which to operate, especially away from buildings and electrical line noise

-- also you may want to add APRS (Automatic Packet Reporting System) to your radio so as to allow folks to track your progress (or find you if something goes wrong)

-- mobile capabilities allow you work more types of public service events

-- going mobile also allows you to use your radio like a scanner if it has extended range RX for things like police, aircraft, marine, and other bands wherever you are; if the ham bands are quiet, there are other things to listen to

Issues

-- Fading: you are moving and so is your signal.

-- VHF/UHF is line of sight signals, so obstructions, reflections, and drop-outs can happen at any time

-- Interference: alarm systems, electrical systems/transformers/power lines and businesses can all cause interference, as can car electronics

-- if stationary try a different spot to minimize interference, or if moving it may clear up rather quickly (except car electrical system interference-this may require filters for the power cable and/or ferrite beads on the antenna line

-- picket-fencing may occur which is rapid fading of a signal; usually heard by someone receiving you if you are mobile at high speeds

-- elevation matters; the higher you are generally the better your signal will be; in a valley or in the city your signals will not go as far

Resources

<http://www.k0bg.com/> (great site for all things mobile)