

From: Hendrix, Jared <[jhendrix@ndlegis.gov](mailto:jhendrix@ndlegis.gov)>  
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To: -Grp-NDLA House Transportation <[ndlahtransp@ndlegis.gov](mailto:ndlahtransp@ndlegis.gov)>  
Subject: Amateur Radio HB 1327 Information

## Amateur Radio License Plates

### What is Amateur Radio?

Many people think amateur Radio means short-wave radio. And to some extent it does. However, Amateur Radio (ham)radio operators also communicate locally, primarily through FM frequencies allocated by the FCC. All amateur radio operators are licensed by the Federal Communications Commission after rigorous testing. Amateur radio operators are often known as “hams“.

### Is Amateur Radio, the same thing as Citizens Band (CB) radio?

No. Citizens band radio is limited to 40 specific channels or frequencies. CB is also limited by the FCC to only 4 Watts of power and only on local AM or FM. Amateur Radio can transmit with as high as 1500 Watts, although we seldom need to use that much power.

### What else is unique about Amateur Radio?

The list is almost endless. Locally, most amateurs communicate through UHF FM and VHF FM frequencies through a “repeater“. A repeater re-transmits the signal instantaneously. It is usually on a tower or high building (or a mountain where they exist), and repeaters allow the radio operator to transmit over many miles. For example, the repeater for the Jamestown radio club can communicate almost to Valley City to the east and to past Steele to the west. The location of the Jamestown repeater is actually in Cleveland, ND.

Most repeaters have backup power. The Fargo amateur radio club, for example, is on top of a dormitory at MSUM and it's hooked up to the university's backup generator. Some repeater facilities have solar panels and batteries. This allows them to communicate, even if there's no electrical power available. Likewise, many individual hams have a personal power supply that's independent of the grid.

Amateur radio operators are forbidden to use the service for any commercial purpose and all radios, repeaters, and other equipment are provided either through donations or through the personal expense of individual hams. Hams cannot receive any payment for their public radio service, per FCC rules.

Can amateur radio operators talk over long distances?

Yes and no. There are three levels of Amateur Radio licensure. The first level, Technician, allows, for the most part, only UHF and VHF communications. Whereas the next two levels, General and Amateur Extra, can communicate over high frequency (short-wave). Depending upon the ionospheric conditions, it is common for amateur operators to talk across the state and across the world. If the conditions are not ideal, digital communications can often cut through the interference and still get messages out.

Emergency Services of Amateur Radio

Amateur radio operators, either individually or as an organized group, have been essential in many disasters, including those in North Dakota. North Dakota has a state organization called ARES, Amateur Radio Emergency Services. It is a volunteer service to assist in an organized manner in times of emergency. A few examples come to mind.

- In 1995 the main telephone trunk line was cut by a criminal in order to rob a local store. Most service in the Red River Valley was inoperable for days and even weeks in some areas. Cell service was in its infancy, but it was also inoperable. Amateur communications assisted in local communications and assisted with public service needs.

- In 1997 the Red River Valley was ravaged by a flood and the cell service crashed for a while. Again, the local hams helped out with communications in Fargo, Grand Fords and elsewhere in the Red River Valley.
- The Souris Valley Amateur Radio Club set up a station at the Red Cross evacuation center, located at the Minot City Auditorium to assist with emergency needs in 2011.
- Sanford, Essentia, Altru and possibly other hospitals in the state have an FM Amateur radio in them for a back up communication system in the event of an emergency. These radios are not provided by the hospitals, but rather by local clubs or individual hams. The local Fargo AREA provides backup service for FM ambulance in the event their systems fail, which happened six or seven years ago. The hams in Fargo were asked to standby in the event FM Ambulance was needed. The hospitals and ambulance services have hams on staff who are licensed to use the radios.
- It is not unusual for local hams to be called upon to track storms and even spot tornados.
- Some hams are part of MARS. MARS stands for Military Auxiliary Radio System, a program that trains civilian amateur radio operators to support the United States Department of Defense. Other hams participate in MARS drills even if not formally part of the MARS program. This is done only on “short-wave” frequencies.

Elsewhere, AREA has mobilized with floods along the Mississippi, the tornado in Joplin, MO in 2011, volcanic eruptions in Hawaii, fires in California, and in all cases they work with local law enforcement and fire authorities as well as provide a means of communications to family and friends during those trying times.

In addition to local FM communications, hams often set up in command centers around the country and around the world to communicate with the outside world when communications with the area is cut off.

## Community Service

Because local Amateur Radio clubs and individuals also assist in various local endeavors. A few examples and there are others around the state.

- Because Amateur Radio can cover a large area we are asked each year to provide communication for the Fargo Marathon. Why not just use cell phone, one may ask? The answer is that there are as many as 20 aid stations with amateur radios manned by licensed hams. When there is a need at one place, every ham hears it at the same time as well as the “control operator” located at the race headquarters. The needs might be as simple as a need for more water, or perhaps an injury, or once a parent got separated from a child. Every ham was aware and on the lookout.
- We have staffed communications for the Rotary Bike Ride in Cass County ND and Clay County MN. Again, we work as a team as we can each hear any needs that come up. A few years ago, a station reported that a cyclist did not pass a certain checkpoint. Word went out by Amateur Radio. Several hams got in their cars and searched roads near the last location. Finally, the lost bike rider was found by a ham, safe and sound, after he simply made a wrong turn and got lost.
- Similar communication takes place at other events around the state.

## Amateur License Plates

Most states recognize the value of Amateur Radio and make special license plates available for hams. These usually have the words “Amateur Radio”, “Ham Radio”, “Emergency Services” or some similar logo on them. Some states also have a symbol of amateur radio, such as a radio tower. However, all of the states that issue such plates have the car owner’s “call sign”. This is assigned by the FCC when a license is granted. A call sign must be used on the air every 10 minutes of transmission by a ham. The call sign identifies a person as an Amateur Radio Operator. In the United States, the call sign always has three to five letters and one number in the middle.

There are a number of reasons for having License Plates with call signs on them and this is recognized by North Dakota by issuing license plates for hams. In an emergency situation, fire and law enforcement can identify a ham operator.

So why the change?

Most hams have radios in all of their cars and trucks. North Dakota law currently provides for only one car per ham having an amateur license plate.

Many states, including neighboring Minnesota, Tennessee, and others recognize this and allow multiple cars owned by a ham to have the same call sign with an appended number for the second, third, etc cars.

Many state civil authorities may not recognize the amateur license plate as it is currently produced by North Dakota. Having the words "Amateur Radio" on the plate makes it very easy for law enforcement, fire, and other civil authorities to recognize a car licensed to a ham and would facilitate entry to restricted areas in the case of an emergency. Having the appended number added to the call sign for additional cars allows for easier emergency access and recognition of whichever vehicle the multiple car owner drives.