



January Eating Meeting Thursday 22nd

A reminder: the January 2015 meeting will be on the **FOURTH Thursday**, January 22nd, at the Golden Corral in Brandon. Come on out to the eating meeting at 6:30 p.m. and enjoy the social side of Ham Radio.

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Outside the Ham Bands on UHF

Hobby radio interests and activities go way beyond the Amateur Radio frequencies. This month we will take a look at the Family Radio Service (FRS) and the General Mobile Radio Service (GMRS) frequencies.

The Family Radio Service is an unlicensed UHF FM radio service for the general public. The 14 UHF channels run between 462 and 468 MHz. The hand held radio units are ½ watt output and are limited to the helical whip supplied with the radio. **Figure 1** shows the channel assignments for FRS radios.

CH	FREQUENCY	CH	FREQUENCY
1	462.5625	8	467.5625
2	462.5875	9	467.5875
3	462.6125	10	467.6125
4	462.6375	11	467.6375
5	462.6625	12	467.6625
6	462.6875	13	467.6875
7	462.7125	14	467.7125

Figure 1: FRS Channel Assignments

FRS transmissions show up anywhere there are large public gatherings. I have monitored families keeping in touch via FRS at the Mac Dill Air Fest and on cruise ships. Some restaurants use FRS radios for the table servers to keep in touch with the kitchen and the seating hostess. Some companies use FRS radios to link

warehouse personnel with the office staff. FRS frequencies carry many different kinds of traffic. There have been situation in which Ham clubs used FRS instead of Ham radio to provide communication so they could receive compensation for their work.

FRS channels are in between the repeater and simplex assignments for the GMRS frequencies. **Figure 2** shows the GMRS frequencies.

General Mobile Radio Service (GMRS) Repeater Pairs

Designation/Description	Input	Output
“550”	462.550	467.550
“575”	462.575	467.575
“600”	462.600	467.600
“625” REACT Black Dot	462.625	467.625
“650” React Orange Dot General Freq	462.650	467.650
“700” Orange/Black Dot* REACT	462.700	467.700
‘725’ *	462.725	467.725

* Often used for REACT

Figure 2: GMRS Repeater Frequencies

GMRS transmitters run more power and can use repeaters to extend range. GMRS transmitter users must be licensed, but this is a simple fill-out-the-form process. GMRS allocations also have some simplex frequencies. These are often assigned color codes instead of channel numbers. **Figure 3** gives these frequencies and color codes. Color codes are used among users because channel numbering is not standard among various radio manufacturers. Some models today actually have colored dots and stars on the channel selectors.

Base Frequencies	Colors	Mobile Frequencies	Colors
467.850	Silver Star	464.550	Yellow Dot
467.875	Gold Star	464.500	Brown Dot
467.900	Red Star	467.7625	J Dot
467.925	Blue Star	467.8125	K Dot

Figure 3: GMRS Frequencies with Common Color Codes

As FRS use grew, manufacturers began to market radios that combined FRS and GMRS frequencies. The radio packaging had the license material included. Since this is on UHF, it does not lend itself to the abuses found on 11-meter Citizens Band.

There is yet another radio service that combines VHF and UHF frequencies and is more flexible than FRS: The Multi-use Radio Service (MURS). The MURS is another addition to the Citizens Radio Service. In contrast to the FRS, it allows more power (2 watts), external antennas, and the possibility of repeater operation. Several radio services come under Part 95 of the FCC rules (Citizens Radio Service). Other services in part 95:

- Subpart A General Mobile Radio Service (GMRS)
- Subpart B Family Radio Service (FRS)
- Subpart C Radio Control Radio Service
- Subpart D Citizens Band Radio Service (CB)
- Subpart G Low Power Radio Service (LPRS)
- Subpart H Wireless Medical Telemetry Service
- Subpart I Medical Implants Communication Service

Subpart J Multi-Use Radio Service (MURS)

Figure 4 shows the MURS frequencies (MHz).

MURS VHF	MURS VHF	MURS UHF	MURS UHF
151.6250	151.8950	462.5750	467.8500
151.6550	151.9250	462.6250	467.8750
151.6850	151.9550	462.6750	467.9000
151.7150	154.5150	464.3250	467.9250
151.7750	154.5700	464.5000	467.9250
151.8050	154.6000	464.5500	469.2625
151.8350		464.8250	469.5000
		467.7625	469.5500
		467.8125	

Figure 4: MURS Frequencies

MURS users are wide ranging: schools, businesses, drive through order windows, and some municipal government agencies. Since users can use outside antennas and even repeaters in some situations, MURS presents a lot of communication possibilities for local area communication.

That's it for this month. Have FUN with radio!

Keep in Mind Our Weekly Nets and Bulletins

Monday 8 p.m. The Two Meter Net 147.765 - 147.165 MHz Hosted by Doris Haskell WB9VDT

Tuesday 7 p.m. 6-meter Roundtable 50.200 MHz USB followed at 8 p.m. with the 10 Meter Roundtable 28.365 MHz USB

Send us your articles AND PICTURES! We do much more in the digital format! I would like to have pictures of BARS members and their ham shacks!

**Remember to check out the BARS website:
brandonhamradio.org**