Minnesota Repeater Council, Inc
Repeater Coordination Application Notes

Please be truthful and accurate in filling out the application. Failure to do so may result in a frequency coordination that does not meet your needs. It may also affect your proposed system status or other systems that are currently on the air. In-accurate information may cause your application to be returned for corrections. If you need assistance please contact the MRC for assistance. We would like to spend our time working with you rather than correcting and returning your application.

General Information: Should be basic enough.

Transmitter Geographic Information:

Site Latitude/Longitude should be expressed in the following form: DD MM SS

All measurements are to be in FEET not METERS!

If you use your GPS make sure it is set to read in that format, along with using the WGS84 datum. Your reading will be in the following format N 45° 01' 12.5" W093° 12' 23.5". If you get a reading like 93.12345 or 93° 12.321 then your using a different format. It can be converted, however this takes time. If your not sure please check the ?? box. Make sure that your coordinates are located in Minnesota and not somewhere in the middle of a lake. If your system is located on a tower over 200 feet then you need to supply the ASR #. This should be posted on the tower per FAA regulations. Ground elevation is in feet, Antenna height above ground is how high your antenna is off the ground. HAAT is how high your antenna is Above Average Terrain, this is calculated by using topographic maps, 3D terrain software or asking the MRC for assistance as we have software that can generate this information.

Repeater / Transmitter Information

Proposed frequency if known should be provided. Transmitter power is the actual transmitter power. System losses in dB is your duplexer, isolator, feed line and other losses. Antenna gain is the antenna's actual gain in dB, please check to make sure your not using the dBi rating! If your antenna is measured with a isotropic measurement, then subtract 2.14 from that number. ERP is calculated as Transmitter power (minus) antenna system losses (multiplied by) antenna gain.

Transmitter and Receiver CTCSS is the tone you propose to use for this system. Please see the MN zone plan for standard tones for your region.

Antenna Radiation pattern, fill out with your antenna type and direction.

Repeater / Receiver information, fill out only if your using a split site or 2 antennas at your site.

System Information Estimated range is based on your calculated HAAT, ERP and terrain.
The other features are the standard definitions that are in the ARRL repeater directory.

Coordination Holder Contact information (Trustee)
This must be a real person, not your club name

Sponsor Information This is where your club name and contact information is placed.

Control Operators Please provide contact info for your control operators, in case a need to shut down your system arises in a emergency or is causing interference.

Applicant Information If someone other than the Coordination holder is filling out the application, please provide your contact info in case there are questions.

Repeater Classification This form is used to determine how to classify your system for co-channel protection.

Return your coordination form to:
By regular mail!
Not certified or registerd.

Jerry Dorf, N0FWG
MRC Secretary / Treasurer
601 Sunset Street
Buffalo MN 55313

Voice 763-682-2169
Fax Available upon request
email jerryd@jerryd.net

Minnesota Repeater Council, Inc (MRC)
Repeater Coordination Application

General Information

Coordination action requested: ❑ New ❑ Update **Status:** ❑ On-The-Air ❑ If Not, when will it be_____

Sponsor/Organization Name: _____

Repeater Sponsored by: ❑ Individual ❑ Club/Group/Association **Transmitter Call sign:** _____

Club/Sponsor for repeater directory 10 characters max: _____

Transmitter Geographic Information

Facility Site Name: _____ **MRC Region:** _____

Street Address: _____ **City:** _____

Site Latitude: ___° ___' ___" North **Site Longitude:** ___° ___' ___" West **Obtained by:** ❑ MAP ❑ GPS ❑??
FAA Antenna Structure Registration (ASR) # (If over 200 feet)_____

Ground Elevation: _____ **Antenna Height above Ground:** _____ **Antenna Height Above Average Terrain:** _____

Repeater / Transmitter Information

Proposed Repeater Input Frequency: _____ MHz **Repeater Output Frequency**: _____MHz

Control Frequency: _____ MHz (Must be 222MHz and above)

Transmitter Power Output: _____ Watts **Antenna System losses:** _____ (Feedline, Duplexer, Etc)

Antenna Gain: ____DBd **Effective Radiated Power**: _____ Watts **Transmitter CTCSS** : _____ **Receiver CTCSS:** _____

Antenna Radiation pattern: (select one and fill in associated parameters): ❑ Omindirectional top mounted
❑ **Omnidirectional side mounted** Favored Direction _____ ° Shadowed Direction _____ °
❑ **Directional or Unidirectional** Major Lobe Axis _____° -3 dB Beamwidth: _____ ° Front to back Ratio _____ dB

Antenna Polarization: ❑ Vertical ❑ Horizontal ❑ Circular/Elliptical

Repeater / Receiver Information

Required only if this is a split site repeater or separate transmit and receiver antennas used at site.

Facility Site Name: _____
Street Address: _____ **City:** _____
Site Latitude: ___° ___' ___" North **Site Longitude:** ___° ___' ___" West **Obtained by:** ❑ MAP ❑ GPS ❑??
Ground Elevation: _____ **Antenna Height above Ground:** _____ **Antenna Height Above Average Terrain:** _____
Antenna Radiation pattern: (select one and fill in associated parameters): ❑ Omindirectional top mounted
❑ **Omnidirectional side mounted** Favored Direction _____ ° Shadowed Direction _____ °
❑ **Directional or Unidirectional** Major Lobe Axis _____° -3 dB Beamwidth: _____ ° Front to back Ratio _____ dB
Antenna Polarization: ❑ Vertical ❑ Horizontal ❑ Circular/Elliptical

System Information

Estimated / Expected repeater system range: _____ Miles

Where will the primary USERS of this repeater system be located: _____

Operating Parameters and Special Features: Check all that apply)

❑ Open access ❑ Closed/private ❑ Carrier squelch ❑ CTCSS _____ ❑ CDCSS/DCS/DPL _____
❑ Dual Squech (CTCSS/CDCSS and carrier) ❑ Tone Burst ❑ Autopatch ❑ Long-Tone Zero ❑ Emergency Power
❑ Solar Power ❑ Wind Power ❑ Portable ❑ Weather Net ❑ ARES ❑ RACES ❑ Crossband Repeater
❑ Linked to: _____ By ❑ Radio ❑ Wireline: _____ ❑ Other_____
❑ Wide Area coverage (greater than 60 miles) ❑ Direct access to Law Enforcement How: _____

Coordination Holder Contact Information (Trustee)

Name: _____ **Callsign**: _____

Address: _____ **City:** _____ **State:** _____ **Zip**:_____

Email: _____

Phone: Day: _____ Night: _____ Fax: _____

Sponsor Information

Name: _____ **Callsign**: _____

Address: _____ **City:** _____ **State:** _____ **Zip**:_____

Email: _____

Phone: Day: _____ Night: _____ Fax: _____

Control Operator Information

Control Operator 1: Name: _____ Callsign: _____ Phone: _____

Control Operator 2: Name: _____ Callsign: _____ Phone: _____

Applicant Information

I hearby certify that all the information given is correct:

Signed: _____ Date: _____

If applicant is different than the point of contact above:

Name: _____ **Callsign**: _____
Address: _____ **City:** _____ **State:** _____ **Zip**:_____
Email: _____
Phone: Day: _____ Night: _____ Fax: _____

440 MHz and above, Repeater Classification

This form is used to help the MRC Repeater Frequency Coordinator to classify the proposed repeater system that you are applying for

PLEASE ANSWER ALL QUESTIONS WITH ACCURATE AND FACTUAL INFORMATION!

Location of the proposed repeater station: (example, on top of 30 story building located in downtown Minneapolis)

_____

_____

Estimated coverage area:

- ❑ 30 mile radius or less
- ❑ 60 mile radius or greater Explain coverage area geographically and how you justify wide area coverage.

_____

Planned use of this proposed repeater station

_____

Why is this proposed repeater station different than the other current repeaters operating in your area.

_____

Planned coverage area one (1) year from now: ❑ same as now ❑ greater than 30 miles ❑ greater than 60

What will you do to get this increase in coverage? _____

Using the definitions below, how would you classify your proposed repeater system: ❑ Class A ❑ Class B ❑ SNP

Definitions:

Class A Station:	Wide area coverage station given 120 mile circle of protection. No restrictions on HAAT or ERP within MRC guidelines. Expected and calculated coverage area must be greater than 60 mile radius.
Class B Station	Defined Community station given 60 mile circle of protection. Normally a repeater station with calculated range of 30-40 mile radius circle or less. Use of CTCSS on repeater input is required.
Shared Non Protected	Repeater station that operates on a frequency where no definite protection area is given between repeater stations operating on the same frequency . CTCSS or other protection is MANDATORY!

COORDINATOR USE ONLY

Received on _____ Classified as ❑ A ❑ B ❑ SNP

Coordinated on:_____ By: _____