



Repeater Coordination Proposal Instructions

Revised: August 31, 2015

Who should use this form? Individuals or entities (such as a club) seeking a new frequency coordination for a repeater station. WAR, Inc. recognizes two fundamental motivations for establishment of an amateur radio repeater station:

1. As a service to other amateurs living or traveling in a defined service area.
2. As an exercise in individual achievement on the part of the station operators.

This form is also used to modify an already existing coordination. This may include an administrative update such as a change in email address, phone number, mailing address, etc. Please note that a significant change to the repeater system constitutes a new coordination. Significant changes include: Moving the station location, a change of Holder of Coordination, change of selective access (tone/code), changing the antenna type, height and/or ERP power, or emission designator. If you are unsure if the changes you are making to your system are significant or not, please email the Frequency Coordinator: coordinator@wi-repeaters.org for assistance.

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- 1a) New Coordination:** Select this check box if this is a new repeater coordination or a new coordination based on a significant change to an already existing repeater system.
- 1b) Modify existing Coordination:** Select this check box if you are making administrative updates to an existing coordination.
- 2) Organization:** The name of the organization or individual sponsoring this repeater.
- 3) Club/Sponsor:** The club or sponsor name for repeater listing. 10 characters maximum.
- 4) Transmitter Callsign:** The callsign of this repeater.
- 5) Web Page URL for directory:** The Uniform Resource Locator (URL) for the club or sponsor's web page.
- 6) Repeater Output Frequency:** The Output frequency of this repeater. If this is a request for a new coordination, leave blank. If this is a modification to an already coordinated repeater, enter the output frequency.
- 7) Repeater Input Frequency:** The Input frequency of this repeater. If this is a request for a new coordination, leave blank. If this is a modification to an already coordinated repeater, enter the input frequency.
- 8) Band:** The band for this repeater. Use the drop down list to select the desired band or band of an already existing coordination.
- | | |
|----------------------|------------------|
| 2 Meter | 70 cm / 440 MHz |
| 10 Meter | 33 cm / 900 MHz |
| 6 Meter | 23 cm / 1200 MHz |
| 1.25 Meter / 220 MHz | |
- 9) Emission Designator:** The primary and secondary emission designator for this repeater. If your desired coordination only has one emission modality, select the primary only. If your repeater is capable of two modalities, select both the primary and secondary. ie: The Yaesu System Fusion repeaters may be used in FM primarily, 20K0F3E and Fusion secondarily, 9K36F7W.

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Emission Designator Tables - Drop Down Listing

| PRIMARY |
|---|
| 20K0F3E - 5 kHz deviation FM voice |
| 16K0F3E - 4 kHz deviation FM voice |
| 11K2F3E - 2.5 kHz deviation FM voice |
| 8K10F1E - P25 P1 C4FM voice |
| 9K80D7W - P25 fixed end 2-slot TDMA |
| 7K60FXE - DMR 2-slot TDMA voice |
| 6K00F7W - ICOM D-Star |
| 8K30F1E - NXDN 12.5 kHz voice |
| 4K00F1E - NXDN 6.25 kHz voice |
| 9K36F7W - Yaesu Fusion |
| NTSC video |
| Have a different Emission type? Enter here. |

| SECONDARY |
|---|
| NONE |
| 20K0F3E - 5 kHz deviation FM voice |
| 16K0F3E - 4 kHz deviation FM voice |
| 11K2F3E - 2.5 kHz deviation FM voice |
| 8K10F1E - P25 P1 C4FM voice |
| 9K80D7W - P25 fixed end 2-slot TDMA |
| 7K60FXE - DMR 2-slot TDMA voice |
| 6K00F7W - ICOM D-Star |
| 8K30F1E - NXDN 12.5 kHz voice |
| 4K00F1E - NXDN 6.25 kHz voice |
| 9K36F7W - Yaesu Fusion |
| Have a different Emission type? Enter here. |

10) TX Tone/Code Type: The primary and secondary TX tone or code type.

11) RX Tone/Code Type: The primary and secondary RX tone or code type.

TX Tone/Code Types (Selective Access)

| | |
|---|-----------------------------------|
| CTCSS - Tone Squelch | DMR - Color Code |
| CDCSS - Digital Coded Squelch | NXDN - RAN Repeater Access Number |
| CALLSIGN - Callsign encoded in datastream | FUSION - DSQ Digital Squelch Code |
| P25 - NAC Network Access Code | VIDEO - NTSC, MPEG, etc. |

12) TX Tone/Code: The primary and secondary TX tone or code.

13) RX Tone/Code: The primary and secondary RX tone or code.

Selective Access Plan - Wisconsin - April 20, 2015

Wisconsin has been divided into 6 tone regions. This chart lists recommend selective access codes adopted by WAR, Inc. For more information, please consult www.wi-repaters.org web.

| Region | CTCSS (1) | CTCSS (2) | CDCSS (1) | P25 (1) | P25 (2) | DMR | NXDN/ Yaesu (1) | NXDN/ Yaesu (2) |
|---------------|-----------|-----------|-----------|---------|---------|------|--------------------|--------------------|
| North West | 110.9 | 91.5 | 351 | \$455 | \$393 | CC 4 | 30 | 24 |
| North Central | 114.8 | 88.5 | 664 | \$47C | \$375 | CC 5 | 31 | 23 |
| South West | 131.8 | 71.9 | 261 | \$526 | \$2CF | CC 7 | 35 | 17 |
| South Central | 123.0 | 82.5 | 632 | \$4CE | \$339 | CC 8 | 33 | 21 |
| North East | 146.2 | 85.4 | 265 | \$5B6 | \$356 | CC 6 | 38 | 22 |
| South East | 127.3 | 79.7 | 431 | \$4F9 | \$31D | CC 9 | 34 | 20 |

Note: (1) indicates preferred selective access for area. (2) indicates a backup or alternate selective access.

Selective Access is a condition of coordination. All existing coordinations which currently do not utilize Selective Access will be assigned a tone/code as a condition of continued coordination. In cases where non-regional tones/codes are selected, they must not conflict with published plans.

North West: Douglas, Bayfield, Ashland, Iron, Burnett, Washburn, Sawyer, Price, Polk, Barron, Rusk, St. Croix, Dunn, Chippewa, Pierce, Pepin, Eau Claire.

North Central: Vilas, Forest, Florence, Onieda, Lincoln, Langlade, Taylor, Marathon, Shawno, Menominee, Clark, Wood, Portage, Waupaca.

South West: Buffalo, Trempealeau, Jackson, La Crosse, Monroe, Vernon, Richland, Crawford, Grant.

South Central: Juneau, Adams, Waushara, Marquette, Green Lake, Sauk, Columbia, Dodge, Iowa, Dane, Jefferson, Lafayette, Green, Rock, Walworth.

North East: Marinette, Oconto, Door, Kewaunee, Outagamie, Brown, Manitowoc, Winnebago, Calumet, Fond du Lac, Sheboygan.

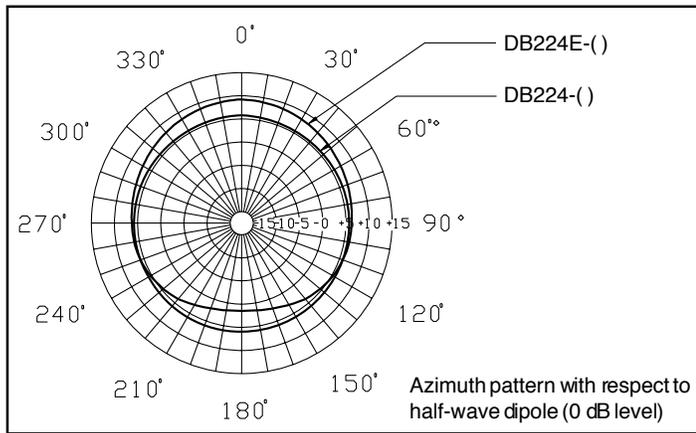
South East: Washington, Ozaukee, Waukesha, Milwaukee, Racine, Kenosha.

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- 14) **Repeater City:** This is the city that the repeater will be published as being located in.
- 15) **Repeater Facility or Site Name:** Name of repeater facility or site.
- 16) **Repeater Address:** The address of the repeater's site and/or the tower's FCC ASR#.
- 17) **Repeater County:** The county the repeater is located in.
- 18) **Latitude:** Enter the location's latitude. Whole numbers only in degrees, minutes and seconds. No decimals.
- 19) **Longitude:** Enter the location's longitude. Whole numbers only in degrees, minutes and seconds. No decimals.
- 20) **How determined:** How was the latitude and longitude determined? Select GPS, Map or Other and fill in the blank. For instance, you may have used an on-line data source. List it here. Note: If you use your tower's FCC ASR# and the location data found in that report, be sure the data is recorded as NAD83. Older location data may use NAD27. There are on-line calculators which will help you convert from NAD27 to NAD83.
- 21) **Base Ground Elevation:** At ground level, the height Above Mean Sea Level at the repeater's transmitter site.
- 22) **Antenna Height Above Ground:** How high is the transmitter's antenna above ground level?
(Note: WAR, Inc. will calculate the Height Above Average Terrain (HAAT) based on this number and the latitude and longitude. Do not submit any additional data or calculations. The Frequency Coordinator utilizes a sophisticated modeling program which will more accurately determine the antennas HAAT.)
- 23) **Transmitter Power Output:** The transmitter power output.
- 24) **Maximum Antenna gain at Horizon:** Enter the antenna gain in dBd. Remember, dBd = dBi - 2.14.
- 25) **Antenna System Losses:** System losses in dB due to feedlines, duplexers, patch cables, connectors, etc.
- 26) **Effective Radiated Power:** The form does the calculations for you. No need to enter a number here.
(Note: WAR, Inc. will calculate ERP based on the data submitted. Do not submit any additional data or calculations.)
- 27) **Antenna make and model:** Antenna make and model information.
- 28) **Antenna polarization:** Antenna polarization. Select vertical, horizontal or circular/elliptical.

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29) Antenna Radiation Pattern: Select one type and fill in the associated parameters. Examples:



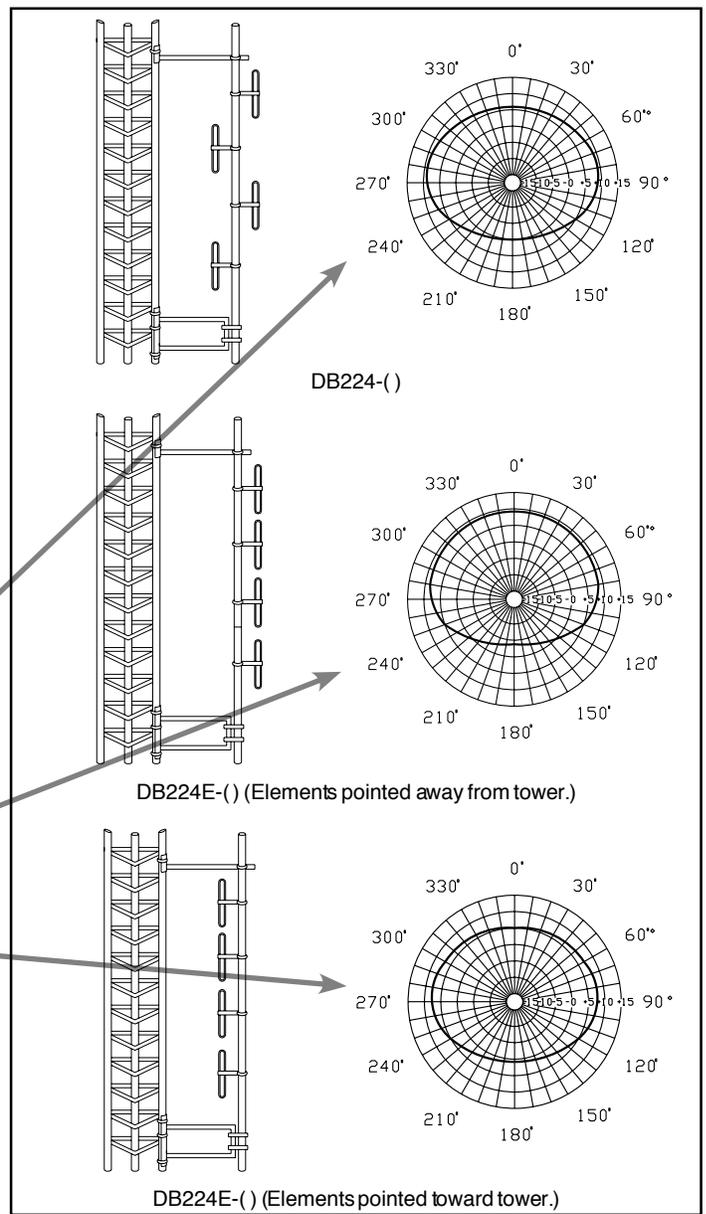
Omnidirectional - top mounted: The example above shows an Andrew® DB-224E VHF antenna top mounted to the tower with all four loops mounted in each of the 4 quadrants.

Omnidirectional - side mounted: The example shows the radiation pattern when all four loops are mounted in each of the 4 quadrants, and is side mounted.

Cardiod/Uni-directional: The example shows the radiation pattern when all four loops are mounted in a single plane and all pointed away from the tower.

Elliptical/Bi-directional: The example shows the radiation pattern when all four loops are mounted in a single plane and all pointed toward the tower.

Best Practices: Be sure to consult with your antenna manufacturer for radiation pattern data. List the antenna make and model (27), indicate the antenna polarization (28), and select the radiation pattern type (29). 0° indicates North, 90° indicates East, 180° indicates South, and 270° indicates West.



30) Repeater Operating Parameters and Special Features: Check those that apply.

- | | | |
|-------------------|---------------------|-----------------------------|
| a) Open | f) Autopatch | k) Link/Cross-Band Repeater |
| b) Closed/Private | g) Closed Autopatch | l) Wide area coverage |
| c) Dual Squelch | h) Long-Tone Zero | m) Wind Power |
| d) Weather Net | i) Solar Power | n) ARES/RACES |
| e) Tone Burst | j) Emergency Power | |

31) Direct access to Law Enforcement: How? Describe how this repeater has direct access to Law Enforcement.

32) Other Published Information: Provide any additional information you may wish to have published. Examples include: Echolink, IRLP, WIRES, Asterisk, AllStar, etc.

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Holder of Coordination: The individual or entity responsible for the operation of the repeater.

33a) Holder of Coordination: Enter the contact name for the holder of coordination.

33b) Callsign: Enter the holder of coordination's callsign.

33c) Address: Enter the holder of coordination's address.

33d) City, State, ZIP: Enter the holder of coordination's city, state and ZIP.

33e) e-mail address: Enter the holder of coordination's e-mail address.

33f) Phone: Enter the holder of coordination's phone numbers.

Sponsor: The name and contact information for the club sponsoring the repeater.

34a) Sponsor: Enter the contact name for the sponsor.

34b) Callsign: Enter the sponsor's callsign.

34c) Address: Enter the sponsor's address.

34d) City, State, ZIP: Enter the sponsor's city, state and ZIP.

34e) e-mail address: Enter the sponsor's e-mail address.

34f) Phone: Enter the sponsor's phone numbers.

Primary Contact: The name and contact information for the person or club whom WAR, Inc. will correspond with.

35a) Primary Contact: Enter the contact name for the primary contact.

35b) Callsign: Enter the primary contact's callsign.

35c) Address: Enter the primary contact's address.

35d) City, State, ZIP: Enter the primary contact's city, state and ZIP.

35e) e-mail address: Enter the primary contact's e-mail address.

35f) Phone: Enter the primary contact's phone numbers.

36) Signed: Enter your signature or that of the person responsible for the coordination.

37) Date: Enter the date the form was filled out.

Print the form and mail it to the address provided. If you have further information regarding your coordination, submit it along with the printed form.

Membership: If you'd like to become a member of WAR, Inc., see our website: www.wi-repeaters.org for further information.