



ARES Training Synopsis: #32-11 2 Meter Beam 8 Dec 2011

This training is provided to give refresher training to ARES members during the weekly ARES Net activation. Subjects covered are taken from FEMA based emergency management training sources, local established emergency plans, and technical information applicable to amateur radio operations. Specific procedures discussed in this training session are directly applicable to North Central Montana ARES members. For non NCM-ARES members, contact your Emergency Coordinator to determine applicability.

Training Subjects for this net:

1. Handheld/Portable Beam for 2 Meter work
2. Scenario Discussion:

As many of us have discovered during ARES field activities, we are not always going to be in a perfect situation that allows full and unrestricted line of sight contact to our local repeaters. In many cases, it is terrain or structures that block or limit the signal from reaching the repeater input frequency. Many times we just have to find a better physical location to transmit from to improve communications. During emergency situations, you may not have the luxury of moving. Last year, we developed the Roll Up 2M J pole as a tool to improve the ability of a portable radio to reach a repeater or other mobile unit. Our next project will be to build a portable 2M hand held beam. While the Roll Up J Pole is basically a 2M dipole with a little more gain than a rubber duck antenna, a portable beam offers the opportunity to achieve a significant increase in signal performance, possibly 3-5 dB more than just a simple rubber duck antenna.

One of the major goals of the ARES Training program is to develop the technical skills and knowledge of Amateur Radio Operators. For this project, we are going to sponsor a contest with rewards for those who take on the challenge and build a 2M hand beam. Here are the rules:

1. ARES Members have from 8 Dec 2011 until 7 Apr 2012 to build and test their design.
2. Beams must be scratch built by the ARES member. Commercial kits or completed beams are not allowed. Members may partner together if desired.
3. The design must be capable of connecting to a hand held 2M VHF/FM radio.
4. The design must be portable, usable with one hand, and should fold or disassemble for easy storage.
5. The design should comply with good amateur practices concerning safety, electrical, and SWR.
6. Designs may also exceed the minimal hand held requirement and include adaptations for mobile and fixed base use. (This is an optional consideration)
7. The use of existing 2M beams designs found on the Internet or antenna design books are allowed. Original designs are encouraged.
8. Designs will be rated on practicality, functional performance against a field strength meter using a reference radio, and best performance for the money (save your receipts/best bang for the buck).
9. On Saturday 7 April 2012, ARES member are invited to present your design to a team of independent judges who will put your design to the test and rate it according to the rules described above. Prizes will be awarded for the Top 3 entries.

Discussion Question: What ARES situations would a 2M hand beam be useful for?