

The NEWSLETTER

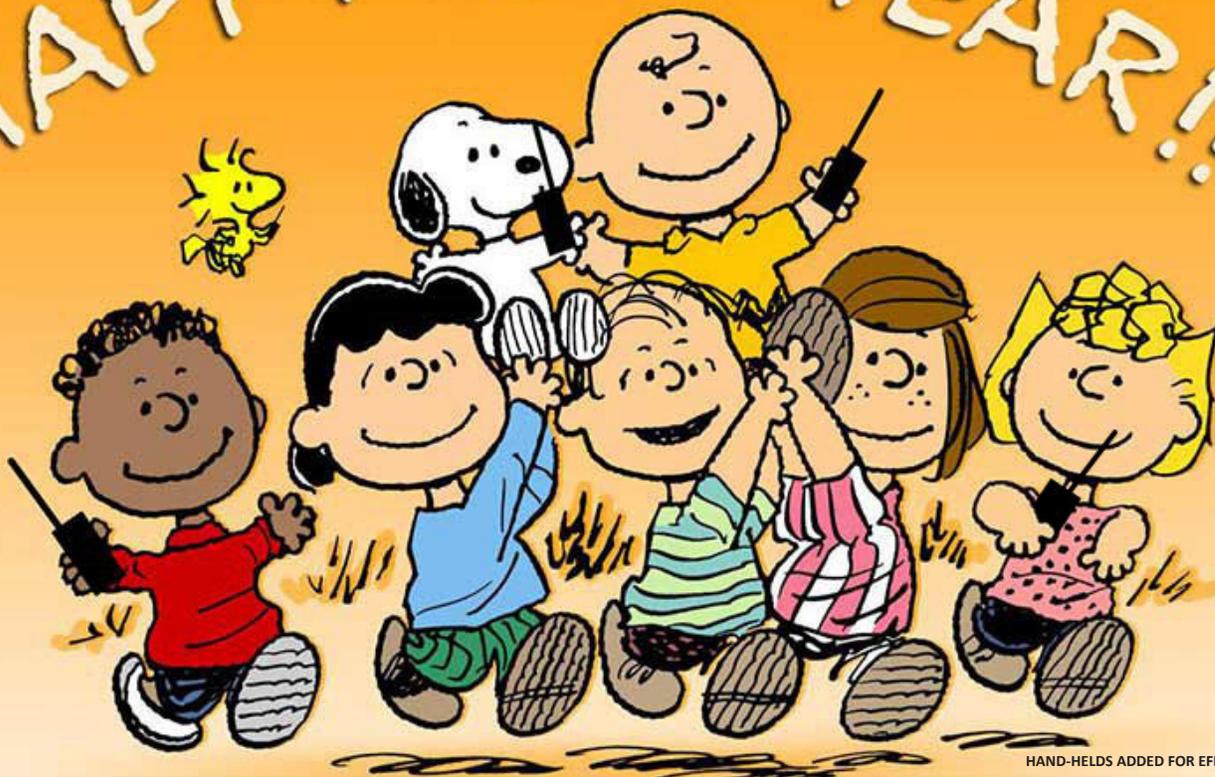
JANUARY 2014 VOLUME 14, No. 1

Mercury Amateur Radio Association - MARA

North America - North East

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HAPPY NEW YEAR!!



HAND-HELDS ADDED FOR EFFECT!

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E-mail your comments, ideas, or submissions to marane@mara.net or to velvq@eastlink.ca

Grandma Mara's RAMBLINGS

There's nothing left to the Christmas turkey but the bones. Walter and I have been eating leftovers since the big family meal on Christmas Day. Even after we shared the remaining bounty with those family members who would take food home, there was still a lot left for us. Can you believe it but some wouldn't take anything, saying they didn't like leftovers! To me, the taste gets better as the leftovers age. To a



point anyway. At some time, stuff dries out or the taste goes a bit off, and you have to toss it out. But before that happens, it's all good stuff.

Because of the numbers at this family gathering

there were several turkeys along with the favorite dressings brought to the Christmas Day table. And because one little family in our larger group is having a hard time financially, I know some of those who indicated that they did not like leftovers were really making sure that the food went to those in greater need.

Walter and I managed to hold to the \$50 limit we had mutually agreed upon for presents. I found AA, AAA, and 9-volt batteries on sale at **COSTCO** one week. He is always searching for some to replace others which are dead or weak. Now he has a goodly stash to draw from. For my gift, he handcrafted a stand out of a piece of a walnut board from an old church organ for my electronic tablet. I'd complained that it was difficult to read when it was flat on the table or kitchen counter. He also threw in a dozen packages of **Twizzlers**, to which, he knows I am somewhat addicted.

Wendy came over to visit one evening during the week between the holidays. She told us because of Grandma's mentoring and example, and the fun she was having building radio related things, she had decided to go into engineering after graduating from high school. She said she had been gathering information on American and Canadian universities with an eye to that future. We talked some about her choice of careers and where it might lead, about the DX each of us had worked in the last few weeks, and about some of the future DXpeditions that



had been announced in the paper and on-line amateur radio publications.

Walter brought out a small HF QRP rig to show Wendy, that he and a bunch of hams scattered around the world have been working on for several months. Some of the group are working on the analog portions, some on the RF parts, some are concentrating on the digital bits, while others are making the individual sections "talk nice to each other". Before the internet, this kind of collaboration would have been possible, but very difficult and time consuming. Now, ideas and diagrams, simulations and measured data can be sent to individuals, or to the group, in an instant.

Walter and I have seen so many technological changes in our lifetime; what will Wendy see in hers? The accomplishments of her generation may be limited only by their imagination! **AR**

ARTICLE REPRINT

Owen, KC7ITA, sent me the link to this article, originally published in the March 2011 Church News. For the full article including pictures go to <http://www.ldschurchnews.com/articles/60548/Communicating-is-a-critical-element-of-preparedness.html>

'Communicating' is a critical element of preparedness

Mormon ham radio operators connect members, wards and stakes

Whether it's a powerful earthquake, a hurricane or tsunami that collapse buildings and highways or even heavy snowfall that delays delivery of food to store shelves, few parts of the world are immune from the effects of an emergency or disaster. In 2005, public health professor Sarah Bass of Temple University noted researchers found "people universally rely on television and radio for information during an emergency. But surprisingly, they say, half of respondents would go to their clergy for information, highlighting the important role that non-traditional communicators play in emergency response."

Obtaining and sharing information for many once

focused on traditional media broadcasters such as radio and television but today communications most likely center around the Internet or portable text-messaging devices. Infrastructure disruptions, often caused by power outages, can leave communities temporarily isolated from the “outside” world and residents seeking information from non-traditional sources.

The Church’s website providentliving.org reinforces prophetic counsel by encouraging members to “prepare a simple emergency plan.” Among the items the site lists for consideration are a three-month supply of food, drinking water, financial reserves, medication and first aid supplies, clothing, important documents and ways to communicate with family following a disaster. Stakes and wards are also reminded that “during an emergency, normal means of communication may become inoperable. Communication needs should be addressed in ward and stake emergency plans.”

As found in the Church’s guidelines for emergency communications, leaders should consider how to communicate the status of missionaries, members, buildings and other necessary information to area leaders. One option is for priesthood leaders to call communications specialists who “often own radio equipment and possess valuable experience.” One such resource can be members who are licensed amateur radio operators and maintain home stations capable of operating during emergency situations.

In the past months areas of the United States have experienced unexpected weather, such as in Georgia where snowfall resulted in temporary impact to area residents. Amateur radio operators, often referred to as “hams,” in five Atlanta area stakes (Atlanta, Cartersville, Marietta East, Powder Springs and Sugar Hill) recently participated in a communications exercise to see how well they could share information in the event of an emergency.

According to Watson Nichols, president of the Marietta Georgia East Stake, “the issue of emergency preparedness can involve many different aspects for individuals or a community at large and emergency communications need to be a vital part of any response plan.”

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President Nichols explained that “cell phone towers can be destroyed in tornados or the network can be overloaded. The remaining call carrying capacity of cell and landline systems can easily be absorbed by the needs of civil authorities — if those modes of communications are even functional. The ability to have a ham radio network available to the stake and ward priesthood leaders will allow for response efforts to be directed where needed.”

Because of the potential for any number of emergency scenarios in Georgia, a number of amateur radio groups in Atlanta conducted a communications exercise earlier this year. As plans developed for the event, members from the five Atlanta-area stakes were invited to participate. One of the goals for the Church participation was not only to communicate with other agencies but also to connect the stakes with the Bishops’ Central Storehouse in Tucker, Ga.

Ham operators from the stakes joined with other hams from the Atlanta area and established “networks” of stations designed to share information. Participants included a 9-year-old licensed operator, Dawn Redd, whose ham callsign is KB3UDD. She was visiting from Pennsylvania and participated along with her grandmother, Susan Redd (K4SUZ), a member of the Atlanta Georgia Stake. In addition to Church member stations, several area amateur radio clubs participated along with the Cherokee County Amateur Radio Emergency Services, a local element of the Amateur Radio Relay League, a non-profit nationwide ham radio organization.

Jim Alderdice (N1ABM), a member of the Marietta Georgia East Stake, estimated that some 12,500 Church members could potentially be served by ham radio operators in the five stakes. Following the exercise, Brother Alderdice reported that coverage extended to 15 counties and that 113 radio contacts were made.

Sugar Hill Georgia Stake President Benjamin W. Wood said “all emergencies are local. A ward, during a severe emergency, will likely need help with effective and reli-

“cell phone towers can be destroyed in tornados or the network can be overloaded. The remaining call carrying capacity of cell and landline systems can easily be absorbed by the needs of civil authorities — if those modes of communications are even functional.”

able communication. Emergency communication is one area of preparation that a single ward cannot do on its own.”

During the exercise, stations in homes were used as well as stations set up by ham operators in Church buildings. In the Powder Springs Georgia Stake, the high council room became a temporary “command center” as radio messages were sent to other stakes and to the Bishops’ Central Storehouse.

Some of the observations following the event included the need to help newly licensed or less-experienced Church operators use various types of radio equipment and to continue training on how to set up stations and transmit messages.

Several ward and stake leaders observed that emergency plans needed to be updated or even prepared to help encourage member preparedness. Several of the hams offered to help host or teach as workshops were proposed both for

Several of the stakes and wards used amateur radio as a main point of contact and then used other radio systems such as small Family Radio System devices to connect families to the network.

Church and community groups. Brother Alderdice noted that these volunteer radio operators also expressed the need to prepare alternate sources of power in case of outages lasting beyond “battery capacity.”

Several of the stakes and wards used amateur radio as a main point of contact and then used other radio systems such as small Family Radio System devices to connect families to the network. These small radios require no license to operate and allow families to relay information, for example, to a nearby ham station. Having an amateur radio license allows operators to use a wide variety of frequencies and higher-powered radios able to cover many miles, including the capability of contacting operators in nearby counties, states or even in other countries.

Most of the ham radio frequencies do not rely on intermediate relay stations, allowing operators to talk direct to each other. By not having a commercially powered relay station, Brother Alderdice explained, ham radio stations are ideally situated where commercial power is unavailable during an emergency. He said many stations are powered by batteries or from small generators and can operate for several days until commercial power is restored.

As mentioned in Professor Bass’ research, religious leaders are often contacted for guidance during emergencies. President Wood said “Stakes ... are positioned

to provide wards with a backup plan, potentially providing a vital service for the welfare of members.”

Following the radio event, President Nichols said, “This is one of those areas where you hope that it is never needed. But I am pleased to know that our stake has individuals that are knowledgeable in the use of ham radio and that we can serve our members but also be a resource of communications to the civilian authorities in an emergency.” AR

TECH AND OTHER STUFF

by VE1VQ



AMMUNITION FOR YOUR COMPRESSED AIR ANTENNA SUPPORT LINE LAUNCHER

Now that you have your “spud gun” constructed, (see the [December 2013 newsletter](#) for the details) you will need something to use as a projectile. Something to get that fishing line over the tree so you can hang an antenna. The idea is to find something cheap (cheap is good, free is best) and easy to build.

If you built yours out of the same sized barrel material as I did, the inside diameter of the pipe is 13/16 inch,



Cheap ¼” drive sockets that slip fit inside the barrel. Cord or twine is looped and knotted and then glued with quick set epoxy. The loop is then tied to the monofilament fishing line on the spinning reel.

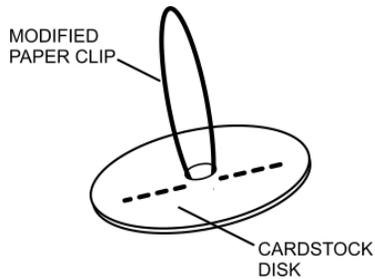
meaning that something 3/4 inch will fit nicely. For that reason, I’ve been carrying a pocket sized piece of barrel material around with me so I can check likely looking things.

I searched the local WalMart and other hardware stores that carried fishing tackle but could not find any weights that would fit, either lead or a more ecologically friendly product. The search was on for alternate items.

I found a bunch of 1/4 inch drive sockets at one of the local dollar stores for

50¢ each, which just slip nicely into the barrel without using wadding. I made the loop out of nylon braided cord, tied a knot at the loose ends, and pulled it through the square hole. The knot partially blocks the hole and

helps to hold the quick set epoxy from slowly running out while it hardens. Once it set, I dripped some more in the bottom to cover the knot. These weigh about 1.25 ounces according to the scale at my local post office. If you need additional weight, you can add more in the extra space and seal it with still more epoxy. You could also make the loop out of a paperclip and use a bit of old Christmas card or cardboard as shown in the drawing to plug the hole. Cut the disk to fit snug inside the socket and smear some epoxy around the edges and the paper clip hole.

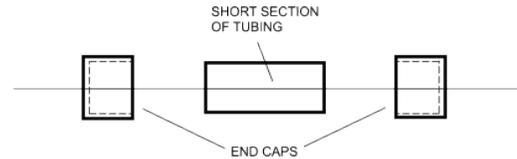


Now, you don't have to use 3/4 inch objects if you don't want to, or can't find them anywhere. For example, batteries of the AA persuasion with a bit of wadding makes for a fine projectile. By this time, if you have small to medium sized children or grand children, any batteries you bought for their Christmas toys should be on their last legs. Don't throw them out; save them for test

or actual shots. If you are squeamish about sending them out into the environment, attach fishing line to them first, so you can retrieve them (and wipe your fingerprints off before you test, just in case they "go astray"). Cut a piece of monofilament about a foot long, double it over, take the two free ends and wind them around the battery, securing the top and bottom with tape. Smear some five-minute epoxy on over the windings. When the glue has set, remove the tape.



Make wadding out of a small piece of paper towel folded over into a square such that it covers the bottom 3/4 of the battery and requires a slight effort to push it all down into the barrel.



If you can find ABS or PVC pipe or caps that will slip fit the barrel, great. So far I'm still looking. If you are fortunate in locating some, use the same method as with the metal sockets with twine and epoxy to seal one end. Add some weight and seal the other.

W4SSY, in his spud gun article in the March 2009 QST¹, used a one inch barrel and found a smaller diameter pipe with end caps that fit inside the bore, which he glued together to make his projectiles. This is certainly a possibility worth exploring. See the drawing above. Although perhaps not as suitable for getting fishing line over tree tops and branches, "bullets" cut from actual potatoes might be fun to "shoot". Something to think about. Cheap too!

¹ QST - March 2009 - The W4SSY Spudgun.. Quite the comprehensive article. Well worth getting a copy and reading it.

EASY TRIM METHOD FOR WIRE ANTENNAS

The [Hints and Kinks](#) column of the October 2013 issue of QST, page 67, described a simple method by W7PV, about easily trimming your new dipole to the correct frequency. The antenna example he used was a twenty meter dipole but the method can be applied to any of the simple wire antennas with a change to the appropriate formula.

ONE

Length = Constant ÷ Frequency
where the Length is in feet, the typical constant for a dipole is 468, and the Frequency is in MHz.

$$\text{Length} = 468 \div 14.200 \text{ MHz}$$

$$\text{Length} = 32.9 \text{ feet}$$

Round it off to 33 feet for convenience.

Add 6 inches to either end of the dipole to allow for adjustments. This makes your total wire length 34 feet. Raise the antenna into its operating position. Connect your antenna analyzer to the end of the coaxial cable

in the shack. Find the resonant frequency (the point closest to 50 +/- 0j). Let's say your measured resonant frequency is not 14.2 MHz but 14.4 MHz instead.

TWO

If the constant in the original formula (above) was 468 then solve for the new constant.

The original formula was $\text{Length} = \text{Constant} \div \text{Frequency}$ and transposing the formula for the constant becomes

$$\text{Constant} = \text{Length} \times \text{Frequency}$$

$$\text{Constant} = 34 \times 14.4 = 489.6$$

THREE

Plug the new constant of 489.6 into Formula 1.

$$\text{Length} = 489.6 \div \text{Frequency}$$

$$\text{Length} = 489.6 \div 14.2 = 34.48 \text{ feet}$$

Now this is where, in the Hints and Kinks article, it kind of goes off the track. The calculations in step three show the new adjusted length for the dipole should be 34 ½ feet, or 17 ¼ feet per side. The article states, "Since you have used 17 feet 6 inches to start with, just trim 3 inches off each side and *voila!*" I re-read the text and could find no mention of "17 feet 6 inches" being used. He had 17 feet x 2. Instead of trimming 3 inches from either side he should have added 3 inches per side to give the proper length of 17 ¼ feet. Now, if you do another run with your analyzer, you should have the happy point of resonance at 14.200 MHz.

Let's try another scenario. Assume the same frequency for our antenna as the one in the previous column but at a different location. The calculated length is the same at 32.9 feet, rounded to 33. We add the same 6 inches per side to make our total length again 34 feet. But now when we measure with our analyzer, the surrounding conditions (better soil conductivity under the antenna, higher or lower water table under the ground, higher or lower antenna height, whatever) make our resonant point at 13.972 MHz. Plugging this into our formula for the new constant gives us $\text{Constant} = 34 \times 13.972 \text{ MHz} = 475.05$. Using the new constant in step 3

You may be wondering if you can do the same thing with an SWR meter, and the answer is yes, you could.

gives us $\text{Length} = 475.05 \times 14.2 = 33.45$ feet. We have an actual wire length per side of $34 \div 2$ or 17 feet. Now we can trim our wire back $34 - 33.45 = 0.55$ feet or 6.6 inches (3.3 inches per side). Measuring with the analyzer once more should see the sweet spot at 14.2 MHz.

You may be wondering if you can do the same thing with an SWR meter, and the answer is yes, you could. However, you might have to transmit out of band to derive the information (as in the previous examples), and that's really not something you should be doing. If you don't have an analyzer, perhaps another ham in the area would be willing to come to your assistance, or your club may have one to lend to members.

Some of you might be thinking (just too shy to come right out and say it), "But you're measuring the impedance (or the SWR) at the end of the coax, not at the antenna!". My response would be that it's the impedance (or SWR) at the end of the coax that matters to your rig, not what's at the dipole terminals. AR



QUOTE OF THE MONTH

“You know your situation. Don’t let others project onto you what they think you should be feeling.”

Michael J. Fox

DI-DAH-DI-DAH ^D_I

If you’ve read any of these January epistles before, you know that I’m not much for New Year resolutions (along with those family mission statements that were so popular a few years ago), mostly thinking they’re a waste of time. However, for those of you who might be wondering, I want you to know that I’m still using my treadmill for its intended purpose - that of exercise and not as a clothes hanger! Unfortunately, I think I’ve cross-compensated somehow because I’ve not lost any weight. On the other hand, my blood pressure is hanging down in the normal range. Of course that may be from the pills my doc tells me I now need to be taking, and not from any physical activity I may be practicing.

When we were younger, my wife had an aunt and uncle in Rhode Island who we always visited for a few days each summer. He was a health food kind of a guy, who kept himself in good shape after retirement by walking every day, and who had a kitchen cupboard full of vitamins and other assorted pills, and some strange sounding and looking stuff he would sprinkle on his breakfast cereal every morning. I have to report that while I don’t have any stuff I shake on my Cheerios, I do have a kitchen cupboard shelf with a good start to a doctor prescribed pill collection. I won’t bore you with the names of these things, mostly because I can neither spell nor pronounce most of them.

Every once in a while, I get to feeling fine and think I can quit taking one or more of those pharmaceuticals.

Every once in a while, I get to feeling fine and think I can quit taking one or more of these pharmaceuticals. It doesn’t take long before the symptoms come back and I realize I’m only being stupid in thinking I can turn back the clock to my healthier years.

While sometimes we have to wonder about all of the legalized drug pushing we see on television, for the most part, these medications bring a comfort to our lives that a generation or two ago would have left our parents and grand parents to suffer, or in many cases even to die. A case in point is my grandfather on my maternal side, who died of diabetes in 1937, leaving my grandmother alone to raise three daughters. Now, it is a disease that is largely well controlled, and in some cases reversible, or at least controlled by diet. Recent discoveries promise that diabetes in some of its forms may soon be curable.

Do they have a pill for memory loss?

So for now, I’ll try to be good and take my pills when I’m supposed to take them. I haven’t had to get one of those containers with sections for the days of the week but I suppose that will come some day.

Do they have a pill for memory loss?

My wife’s aunt and uncle? They were killed some years back when he came to a stop sign at an intersection, then suddenly hit the gas pedal, and drove into the path of an armored bank vehicle. The accident investigation indicated that he had suffered a heart attack or a stroke and had hit the accelerator instead of the brake.

So my question is, do you eat only healthy foods, staying away from the good tasting stuff, and exercise religiously to maintain good health, or do you eat what you enjoy, but in moderation? Not hanging out at the gym all day, every day but getting moderate exercise most days?

Your choice isn’t it? As for me, it’s off to McDonalds for a Big Mac - but only one, and with the small size order of fries! And I’ll park at the far end of the parking lot and walk the extra distance. Now where did I leave my coat - oh, there it is, hanging on the treadmill.

Until next month,

VEINQ