



# Happy New Year!

## Next Meeting:

**Tuesday, January 4, 7:00pm On the repeaters  
145.450**

**Program: Program: Grounding and  
Lightning Protection of Towers and  
Radio Equipment.**

As you've noticed, we've taken a step backwards and will not be at Bullock's but are meeting on the repeaters again. However we will have an excellent program.

While most thunderstorms in this area occur during the summer and early fall, I noticed that there are thunderstorms forecast for the coming week. So the program should be very timely and an excellent introduction for our newer members and a good reminder for the old-timers.

Our Repeater Manager, Charlie, NC4CD, who has loads of practical experience in this area will present: "Grounding and Lightning Protection of Towers and Radio Equipment". Some of the topics he will cover are:

- Why and how do you ground your tower, antennas, and station equipment?
- How to construct an effective ground system for your tower and antennas.
- How is ground resistance measured? What are the objectives ?
- How to connect all your equipment to the ground system.
- What to do when a thunderstorm is coming.
- What do we do at a repeater site during a thunderstorm? You can't go disconnect all the antennas!

This meeting should be extremely interesting. I hope you will be able to join us!

## President's Corner

I know many of you made New Year's Resolutions at the last DFMA Christmas Dinner. You may be working on contacts for your DXCC or making plans to borrow someone's crossbow to pull up your new antenna up a taller tree as you read this. I'd like you to consider

adding an additional resolution to your list. You're supposed to have several so you can blame the other resolutions when you fail to lose 20 lbs by next December.

The resolution I'd like you to make is to introduce at least one more person to the hobby this year. You can always give them a \$25 VHF/UHF handheld as a gift and encourage them to listen to the nets. (You're listening to them, aren't you?) You have to have patience. I gave my husband (then boyfriend), KM4MBG, such a radio for his birthday and he didn't touch it for a year. My father-in-law gave his back. It can be discouraging, but if just one person becomes a ham because of you this year, you will be rewarded by having them on the air and knowing that you have really contributed to their lives.

Ultimately, (and you can think of this as another resolution or the same one, depending on which feels more satisfying) it would be great if you could also introduce the new ham (or hams!) to the DFMA so we can welcome them to this community. Just think...if each of us brought one new person into the club, we could double the size of the club! (I'm really showing off my math skills here.) We need new members to serve as officers, generate new ideas, help with future hamfests, and make the meetings and radio conversations more enjoyable. I love catching up with old friends in the club, but I really love meeting new people. Don't you?

## 73 & Happy New Year!

Lenore  
DFMA President



## DFMA Dues are Due for most of you

OK, so much for a rhyming title. For most members, your DFMA dues are due in January because we used to work on a calendar year basis. Since we have been keeping records on a month-by-month basis (and have abandoned the pro-rated initial membership),

some people's membership expires on a different month.

You can pay in various ways. You will find a PDF membership form attached to the email distribution of this newsletter. You can print that and mail it to the address on the top. You can also bring it to our next in-person meeting at Bullock's. (Sorry, not this month). Alternatively, you can always find the form on the DFMA web site: [dfma.org](http://dfma.org) (click on Membership on the left to get to the right page).

Or, on that web page, you can pay via PayPal. If you use PayPal, please update your directory information if there are any changes. Over forty years ago dues were \$12 a year. They are still \$12 a year – now there's a bargain!. Over forty people are already paid up for 2022.

Move quickly because that low rate may not be around forever and space is limited! (Just kidding :-)  
Join the crowd!

## New Entry Level HT GT-5R

Well, new isn't quite the correct word, but the Baofeng GT-5R, which looks almost identical to the UV-5R, is now available and seems to have gotten around the technical defects reported for the earlier Baofeng models. It was reviewed in the latest issue of QST and I've watched a YouTube evaluation that you can find at <https://www.youtube.com/watch?v=1JyM8oNtoaE> if you do not have access to QST. The exciting thing about this radio is that hams starting out do not have to commit a fortune to get their first radio. At last check, Amazon sells it for \$27 with free shipping for Amazon Prime members. You can find it on EBay for even less, also with free shipping. When I was first licensed in 1997, an HT would set you back several hundred dollars. So, is this the answer for everyone? No, it is harder to program than many alternative HTs. I've dealt with many previous Baofeng radios and they don't seem as robust as others. For example, the lettering on the buttons seems to wear much too fast and sometimes they do fail. However, to be fair, every previous HT I've had has also failed, sometimes in the warranty period, sometimes not. So none of the typical ham HTs are as robust as the radios carried by the public service agencies. But, then again, those cost around \$5,000 a pop.

Back to the programming: the free software called CHIRP is the easiest way to program these. It's like entering data in a spread sheet. You do need a programming cable, but you can probably borrow one -- there are plenty around. However, do learn to program it by hand. It may be harder and more tedious to program than more expensive radios, but in an emergency you may not have a computer and CHIRP around. Just so I don't forget how, I program almost all radios manually. (During the last few in-person Field Days, I've taught classes

in hand programming the Baofeng radios - for ARRL education bonus points. I hope to do so again in the future.)

73, Dee, KU4GC

## Welcome to our New Members

No new members this month.

(;-)

Maybe it's time to take up  
Lenore's suggestion.  
(see President's Corner)

DFMA Bob Count  
= 5 =

## Pix for The Link

You've probably noticed that there haven't been many pictures in the last few editions of The Link. And, since most of us have not totally gotten over the picture books from our childhood, that hurts. I usually take pictures at meetings, but at the December Christmas meeting, I guess I was so excited by seeing many old (and some new) faces, I totally forgot to take any pictures.

However, you can help. Please make pictures at meetings and any other DFMA or ham radio events. Also, if you engaged in any projects of your own that might be of interest, send pictures like that as well (and a bit of text to go with it). Please, DO NOT send images that you saw on the internet or other sources that don't belong to you unless you can get written permission for us to publish it. So, please help make The Link more colorful!

Thanks & 73, Dee, KU4GC

## Antennas for Everyone

*(Below is a copy of Max's article on making a "beer can" J-Pole. I expect to have more reprints of Max's articles in future editions of the Link. - Dee, KU4GC, editor)*

**The Infamous "Beer Can" J-Pole for 2 Meters- Max, KO4TV**(From the April 1997 DFMA Link)

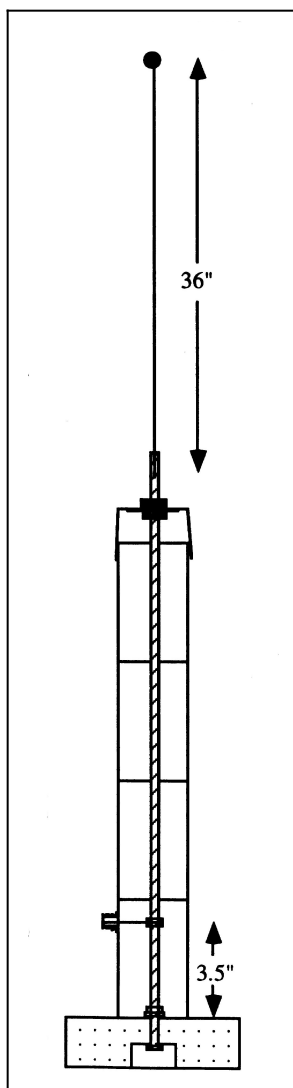
This antenna isn't what it appears to be. Most older hams think it is a coaxial antenna, but it is really our old friend, the J-Pole, dressed up in a little different fashion. The original was built with Campbell Soup cans or beer cans, but since they are both made from aluminum nowadays, it would be much better to use steel (tin) cans if available. My favorite can is a "JUMEX" fruit juice can. These are made in Mexico are heavy tin-plated steel, exactly the right size, and contain papaya, pear, apple, nectarine or tamarind juice. [Internet pictures suggest they are aluminum now too.] They are about 75 cents each at most ethnic food stores or at the Jockey Lot Flea Market near Mebane. The drawings for this antenna are pretty much self-explanatory, and no trouble should be encountered in getting this one up and running. The bottom can should be mounted to the wooden base and the antenna connector hooked up before soldering the remaining cans together to provide easy access to the center connector.

**Materials:** 4 juice cans, 24 inches of 1/4 inch threaded rod, 36 inches of small piano wire (available at any hobby shop for about 25 cents), a block of 2 x 6 or 2 x 7 wood, the plastic lid from an aerosol spray can to fit the top of the juice can, an appropriate antenna fitting, several 1/4" nuts and washers, and a short piece of wire for the internal connection. Small plastic bead for the top of the antenna wire to prevent poking someone in the eye.

**Tools:** drill and bits, soldering iron, pliers or wrench, and whatever you use to cut the cans (hole saw, can opener, tin snips, chisel).

#### Instructions:

- Prepare the mounting base first. Procure a block of wood about 6 or 8 inches square and 1 1/2 inches thick. Drill a 1/4 inch hole in the exact center, and countersink the hole from the bottom large enough to clear a washer and nut.
- Remove the tops of all 4 cans and the bottoms from 3 of the cans, leaving about 1/4 inch rim on the bottoms for soldering to the tops of the adjoining cans. (I cut the bottom holes in mine with a hole saw.) Drill a 1/4 inch hole in the center of the remaining can. This will be the bottom. Measure up 3 1/2 inches



from the bottom of this can and drill a suitable hole for the female antenna fitting that you will be using.

- Solder the top three cans together. It is not necessary to solder them completely around. Three or four solder tacks around the perimeter will be adequate.
- Mount the bottom can to the base as shown, using a 24 inch piece of 1/4 inch threaded rod, nuts and washers. Connect a wire from the coax connector center to the threaded rod, using nuts and washers, or solder directly if you wish.
- Solder the remaining three cans to the base assembly. Fit a plastic cap from an aerosol can to the top, after drilling it for the 1/4 inch rod. Fasten with nuts and washers.
- Drill a hole in the threaded rod just large enough for the piano wire whip, about 1/2 inch deep. Solder the piano wire into this hole. If you want to get fancy, drill and tap the threaded rod for a set-screw, so that the whip will be removable, Nice, but not really necessary!
- **BE SURE** to provide eye protection at the top of the whip. Either a metal or a plastic head. If a suitable head is not available, bend the top of the wire into a small loop and solder it to provide a blunt end. This antenna loves to stick unsuspecting victims in the eye unless you provide protection!
- If you have a taste for fanciness, the base block may be shaped with a router or plane, sanded, shellacked, and a piece of felt mounted on the bottom to protect the tabletop. After assembly, the cans may be painted to match your decor, or left plain to demonstrate your resourcefulness. Do not use metallic based paint on the aerosol cap insulator.
- If an SWR meter or antenna analyzer is available, the whip may be pruned for optimum match. However, it works well exactly as shown.

Next month, we will get into the really big time and build a Cubical Quad for 2 meters, suitable for inside or outside use, rotatable for reaching those really difficult faraway

repeaters.

**73, Max KO4TV**

## Durham FM Association (DFMA)

### DFMA Membership Meeting Minutes -

11/2/2021- notes by KF4PAB

**Location:** Bullock's Barbecue

**Attendance in-person:**

Jack, KM4MBG; Lenore, KF4PAB; Banks, W4OFZ; Paul, N2XZF; Dave, W4SAR; Karen, KD4YJZ; Henry, WB4ROI; Jim, WB4YYY; Sue, KA4AVM; Wally, WA4YJM, Dave, NA4VY, Nicole; Clint; Charlie, NC4CD; Bob, KF4NTC; Renu; Don, KE4UVJ; Sid, W4QWM; Sandy; Bob, W4FK; Book.

#### Attendance on-line:

Sam, KJ4VWG; Mark, KR3AM; JR, N4JQR; Adriano, KV7D; Dan, KR4UB; Mark, AJ2X; Dee, KU4GC; Wilson, W4BOH; Bruce, N1LN; Bob, K4VO; Bill, N8BR; Mike, KK4BPH; Chuck, KW4KZ; Ed, AK4W;

It was requested that everyone resume wearing masks after they finished eating.

#### Officer Reports:

**Treasurer:** Jack was excited about the first time doing actual streaming from the restaurant. This is everyone's first time back and everything has been delayed. 25 people here. Still learning the actual Treasurer ropes. Got access to the bank account online. 100 members have paid for the year, as of our first meeting.

**Repeater Manager:** No officer's report - a presentation instead!

**Secretary:** Position vacant until Board meeting on 11/16/21.

There were no volunteers to take minutes, but Lenore said that was okay, because the recording was available.

**Christmas dinner:** Lenore polled the audience to determine how many people would be interested in attending the Christmas dinner at Bullock's, with the DFMA (as is tradition) paying the tab for all paid up members and their respective guests (1 per member). This would be on December 7th, the normal club meeting time. Almost everyone in attendance indicated that they would not pass up a free meal.

We still do not have a vice president. Lenore asked Dave Belt, NA4VY, if he would like to be vice-president and he said he would think about it. Lenore planned to follow-up via email.

**Door Prizes:** Flashlight and magnetic pick-up tool. Technical difficulties with Lenore's phone prolonged the random number generation process. Sidney, W4QWM, won the magnetic pick-up tool. Karen, KD4YJZ, won the flashlight.

**Presentation:** Charlie, NC4CD, presented on the current state of the DFMA repeater system. Questions

were asked by both the in-person and online attendees.

**Meeting was adjourned.**

## Board Meeting Minutes

Durham FM Association (DFMA)

DFMA 11/16/21 (Not approved - will appear in the next Link)

## Club Meeting Minutes

Durham FM Association (DFMA)

DFMA 12/7/21 (Not yet complete - will appear in the next Link)

## Buy - Sell - Trade

**Rohn 25 tower sections**

I'm posting this for a friend.

"For sale are sixteen 10 foot tower sections that are used and recently removed professionally, without damage, by crane. The Rohn 25 tower was installed around 1988 but is in good shape with only some surface rust on a few sections; most are clean with no rust. One section is an antenna mount. I can send pictures or arrange for an appointment for inspection. Local delivery is possible for no extra charge. Price is currently: make an offer. If needed, I am willing to sell sections individually."

Please contact me by email: ku4gc@amsat.org  
73, Dee, KU4GC

The DFMA has been given some **equipment from an estate**. We don't yet have all the details and prices have not been set. Included are: An **Astron RS 35A** power supply, a **Kenwood G707A[SOLD]**, a **Kenwood TS 570S**, and more. If you are interested in any of these, make an offer. All proceeds go to the DFMA. Please contact **Wilson, W4BOH** by email: infomet@embarqmail.com to make an offer or to get more information.  
73, Dee, KU4GC

Do you have something to sell? Do you have something that you need or something you want to get rid of? There's this spot in The Link set aside just for you. Just email the appropriate info to ku4gc@amsat.org and it will be included with the next issue. Make sure to include contact info.

**Web Site: dfma.org**

**Upcoming Events** (dfma.org for details)

1/04 DFMA Meeting, on the air 145.450 7pm

1/10 OCRA Meeting on the air? 442.150 7pm

1/18 DFMA Board Meeting, video 7pm

2/01 DFMA Meeting, Bullock's BBQ, 6pm

***73 - Dee, KU4GC, Editor***

***Lenore, KF4PAB, Proofreader***

Send copy to [ku4gc@amsat.org](mailto:ku4gc@amsat.org)

*Deadline: one week before the Club Meeting*

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