

Green Mountain News

The newsletter of the Green Mountain Repeater Association

Winter 2009/2010

John Johnston to Speak at Annual Luncheon

John B. Johnston W3BE, will speak on Some Things About Repeaters That You May Not Know. John spent 27 years with the FCC during the period when our repeater rules were being developed, including serving as the Chief of the Amateur and Citizens Division. He is President of the Quarter Century Wireless Association Chesapeake Chapter No. 20 and served 10-years as President, Vice-President and Director of the national organization. He has written some 165 columns answering questions about the FCC rules for the amateur service for WorldRadio On-line, The QCWA Journal, Spark Gap Times, AutoCall and the QCWA Chapters 20 and 91 Newsletters. He maintains a website of helpful information about amateur radio and useful links to other sites. <http://www.w3BEInformed.org>



Have a Question you'd like to have answered at the annual meeting? John Johnston, W3BE would like to hear from you! Here is your chance to participate in the discussion. Here's what John emailed us in preparation for the annual meeting:

Read THE RULES SAY ... in WorldRadio Online at <http://www.cq-amateur-radio.com/>

Read the rules - Heed the rules. Visit <http://www.w3BEInformed.org> for links to rules and information sites.

E-mail your questions about the amateur service rules to john@johnston.net.

73, John B. Johnston

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Annual Business Meeting and Luncheon

This year's annual Business meeting and Luncheon is gearing up to be as much fun as ever! Our President Paul Freirich has made similar arrangements to last year.

We'll meet at the Knights of Columbus hall in College Park, MD (handicap accessible), at 11:30 on December 5. We hope to see you there!

The KoC hall is just east of I-95; 10142 Cherry Hill Rd, College Park, MD - (301) 220-1029. If you need a *talk in*, we will be listening on the nearest repeater to the KoC, 146.88(-). As always, we do not use PL on our repeater inputs. Just give us a CQ on that frequency if you get lost.

The agenda:

- Lunch!
- President's Opening Remarks and Introductions (Paul Freirich, W3HFA)
- Introduction of Guest Speaker (Paul Freirich, W3HFA)
- Guest Speaker (John Johnston, W3BE)
- Secretary's Reading of the Minutes (C.T. David, K3GXF)
- Treasurer's Report (Roy Ashlin Jr., N3NGA)
- Membership Report (Roy Ashlin Jr., N3NGA)
- Technical Committee Report (Roy Ashlin Jr., N3NGA)
- Elections (Paul Freirich, W3HFA)

- Presentation of Prizes (entire Board)

For only \$19 You can have a decent meal, meet your fellow GMRA members, and possibly win a prize. The cost is half price (\$9.50) for children 12 and under. All funds will be collected at the door. Cash is preferred. We will also have a membership sign-up table. You can join at the meeting and be eligible for the prizes.

The menu will include:

- Boneless Chicken Breast
- Roast Beef
- Rice
- Steamed Mixed Vegetables
- Salad and Dressings
- Garlic and Assorted Breads
- Small Pastries
- Soft Drinks, Iced and Hot Tea, Coffee

Please RSVP if you plan to attend, so we can get an accurate head count for the caterers. This helps us pay the right amount, and helps the caterers know how much food to prepare. Send your RSVP to Paul Freirich at w3hfa@hotmail.com, or call at 301-593-7205. Email is preferred.

We look forward to seeing you there!

Open Election for Board of Directors

The terms of office of C.T. David K3GXF and Chuck Glenn KV3G expire this year (December 31, 2009). C.T. Will be running again, but Chuck will not. Please think about which GMRA member you think would make a good board member, and send us a nomination!

You must be present at the Annual Meeting in order to vote! So please plan on attending.

Send nomination requests, as specified by Article VII of our by-laws prior to the Annual Meeting.

Mail nominations to:

GMRA Secretary
P.O. Box 572
Bladensburg, MD 20710.

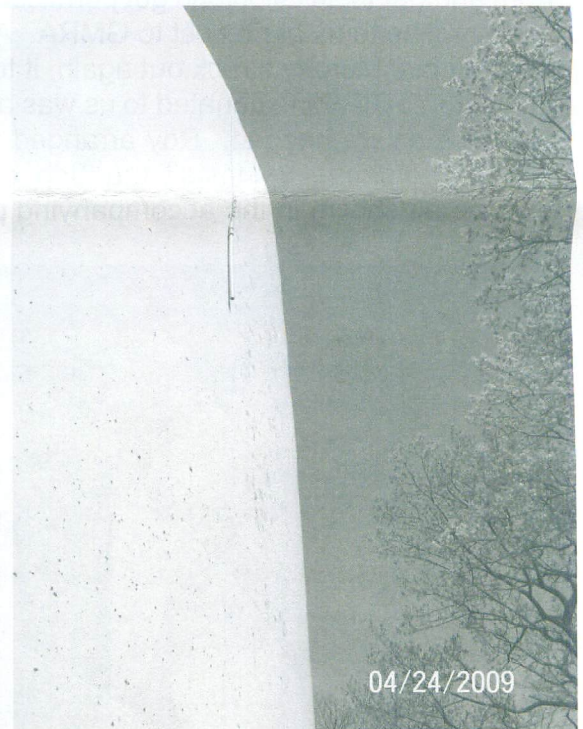
GMRA President's Letter



Another year has flown the coop and it's time for another President's letter. This has been a very eventful year. In late 2008 we received a letter from WSSC telling us that we had to vacate the repeater site at which our 146.61 machine had been located for over 25 years. There was no fault on our part, WSSC simply had scheduled the water tank where .61 was located for demolition. That set off a search for a new home for .61.

146.61 REPEATER MOVES

We are incredibly fortunate to have people in our Association who will go far out of their way to help us in time of need. Let's look at the chronology. First, Roy Ashlin, N3NGA, got in touch with people whom he knows at WSSC and got us permission to move the .61 repeater to another WSSC tank located in Bladensburg, only a mile or so from its former location and I arranged to have the repeater coordinated with T-MARC for its new site. Okay, we had a new location but we still had the problem of where to physically house the equipment (which includes the repeater, the duplexer and six 90 ampere-hour standby batteries) at the site. Fortunately for us GMRA member Tom Provenza, N3LHD, knew that there is a small cinder block building at the site which was apparently unused. He passed this information on to Roy who then queried WSSC about possible use of the building. They couldn't give us permission to use the building because, as it turns out, the building was owned by Bladensburg City Police. Roy next contacted Bladensburg Police and they had not been using the building because they had changed and moved their communications systems years ago.



The building housed an old standby generator which not only was no longer used but no longer ran. To make a long story even longer, Roy got Bladensburg Police to agree to give us unrestricted use of the building with the provision that we had to remove the old generator at no cost or liability to The Police Department. Ever resourceful, Roy then found someone who

GMRA President's Letter (continued)

would remove the old generator and haul it away at no charge.

We now, thanks to Roy and Tom, have a new home for .61 but read on, there's more.

Our mandate from WSSC was that we be off the Cheverly tank by May 1, 2009. In advance of that Roy arranged for the 9db gain antenna to be removed from the Cheverly tank, a temporary replacement antenna to be installed there and the original antenna and new feedline to be installed at Bladensburg so that the system would be all ready when we actually moved the repeater.

Once again we were the beneficiaries of members not afraid to help. Tom Provenza next located a partial reel of Andrew 7/8" hardline which had been left over from another installation and got permission to donate that hardline to us at no cost to GMRA. As incredible as it seems, Murphy struck out again, it turns out that the length of hardline donated to us was about 30 feet MORE than we needed. Roy arranged for Teltronic Towers personnel to install the 9db antenna and feedline as shown in the accompanying pictures and



Andrew 7/8" hardline going up the tank.



Roy and Joe in the new building.

by George, he was exactly right! When we actually moved the repeater on April 28, 2009, our total down time was less than three hours!

Speaking of helpful, GMRA Past President Joe Nunemaker, KD3VR, flew up from Florida just to help out with the installation in the new building.

Thanks to really Herculean effort by Roy, with much help from Tom, Joe, myself and Gary of Teltronic Towers our .61 repeater is all moved, housed and running well. Roy also procured and installed new transient suppressors for the

GMRA President's Letter (continued)

phone lines to take care of a lightning storm surge problem we'd been having effecting the controllers.

THE ANNUAL MEETING AND LUNCHEON IS COMING UP!

The GMRA Annual Business Meeting and Luncheon will be held on Saturday December 5, once again at the Knights of Columbus hall on Cherry Hill Road in College Park. As of this writing the cost has not been finalized nor has the list of door prizes. Watch your email carefully for multiple announcements about the cost, the menu and the door prizes. At last year's Luncheon, GMRA Founding Member Bill Kisse, in a really classy and generous gesture, donated the door prize he had just won, a Yaesu 2 meter mobile transceiver, to Zachary Hensley, a guest at the luncheon and grandson of Fred Erskine, KX3Z. The condition that Bill placed on the gift was that Fred would hold the radio until Zachary got his license. We are all proud, but of course nobody could be prouder than Fred, to tell you that Zachary is now KB3THJ. Well done Zachary and many thanks to Bill Kisse.

Thanks to C.T. David, K3GXF for recruiting our Guest Speaker for this year's Luncheon, John B. Johnston.

SAD TO TELL

It is with great sadness that we announce that long-time GMRA member and good friend Bill Clark, K3MHZ, is a silent key. Bill will be greatly missed, he was a great friend, a terrific oyster gatherer and a generous contributor to GMRA's treasury.

Also, sadly, at this writing, Capers Gambrell, N3TTX is gravely ill. Our thoughts and prayers are with you Cape.



That's pretty small, can't you *get any closer?*



Yep!

Well, mercifully I have run out of words. See my article elsewhere in the Newsletter (and many thanks to Chuck Glenn, KV3G for the enormous effort in "putting it to bed") on the "cheap and dirty", with the emphasis on CHEAP, coaxial dipole. Hope to see you all at the Luncheon on the December 5th.

73

Paul J. Freirich

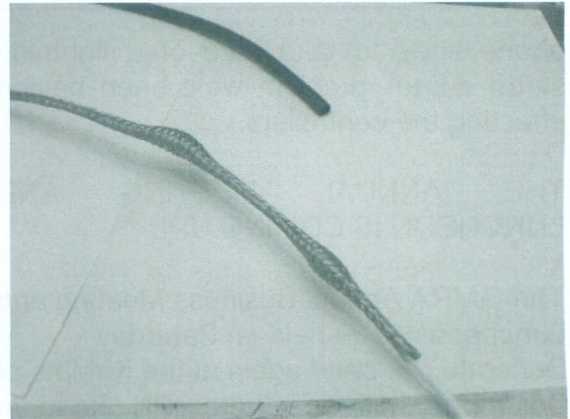
A Really Cheap and Effective Antenna

As my favorite philosopher, Yogi Berra once said, "This is like deja-vu all over again for the second time". Some years ago I wrote an article on this antenna but time has passed and we have lots of new members who may not have seen it so I'll do it all again.

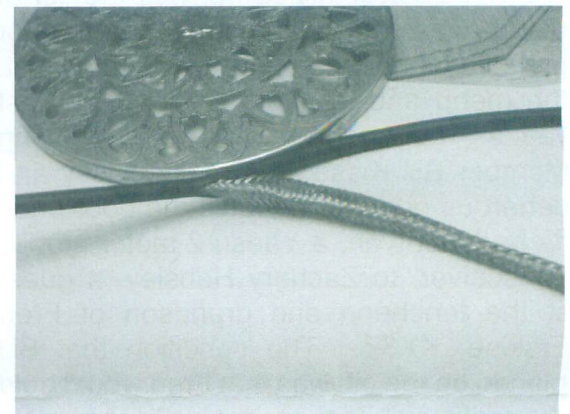
THE COAXIAL DIPOLE

A coaxial dipole is exactly what its name implies; it is a dipole antenna made entirely of coaxial cable. It needs no center insulator or balun, just a length of coaxial cable and a connector. End insulators are nice but not absolutely necessary.

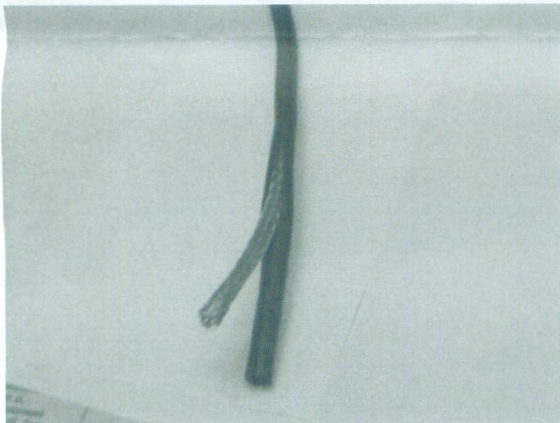
Before going on to describe the construction of the beast a very brief discussion of the dipole antenna might be in order. *Basically a dipole* antenna is a half-wave length of wire (resonant at the desired operating frequency) split exactly in the middle. It can be fed with open-wire line but it is most often fed with regular coaxial cable. Sometimes a Balun is used at the feed point but this is not always necessary and is never used with a coaxial dipole as you'll see soon. So to break it down to its simplest terms, a



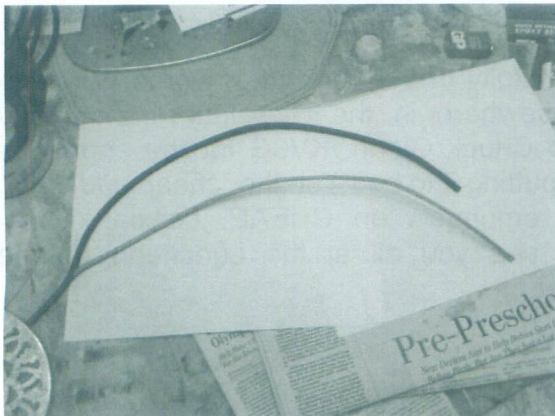
Step 3: bunch up the braid



Step 4: gather slack near the split



Step 1: remove sheathing



Step 2: free the braid

dipole antenna is just two pieces of wire of equal, and resonant, length headed off into space in opposite directions from a feed point right at their juncture. Remember that as we go along.

I'm going to describe making a coaxial dipole for two meters but I have successfully made coaxial dipoles for frequencies down as far as 20 meters. First you need a length of coaxial cable. You can use almost any good quality coax. I tend to use RG-59/U for my projects mainly because before retiring I was in a Security Business in which we did a lot of Closed Circuit Television work and I had many, many partial reels of leftover 59/U in the back room. If you look at the specifications for RG-59/U you will see that its characteristic impedance is 75 ohms. "But wait", I hear you cry, "my rig says its output impedance is 50 ohms. Isn't that a mismatch?"

Well, if you go into the Antenna Manual you will see that the impedance of a half-wave dipole in free space is about 72 ohms so a dipole fed with 50 ohm coax (Typically RG-8/U, RG-8X or RG-58/U) will have a mismatch at the

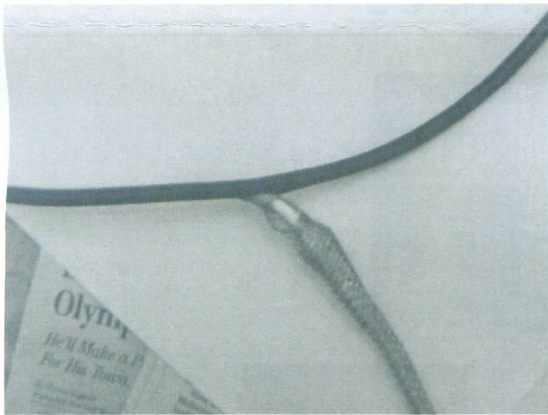
A Really Cheap and Effective Antenna (continued)

feedpoint of the antenna. Feeding that same dipole with 75 ohm cable simply moves the mismatch back to the antenna connector on your transceiver. In any event, the mismatch is slight, I typically see SWRs as low as 1.2:1 at the end of the coax cable and bear in mind that a coaxial dipole is meant to be a temporary, really quick and cheap antenna for vacations and/or emergencies.

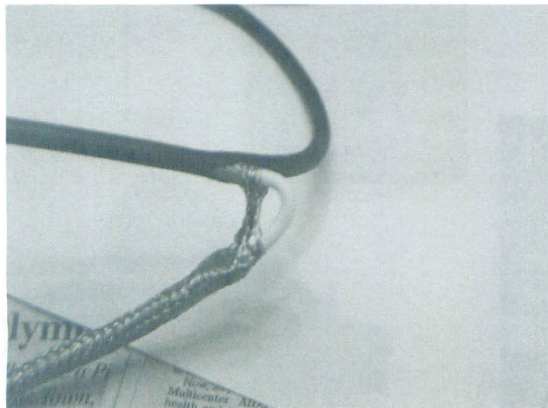
It is important to note at this point that while you can use almost any good quality coax to build this antenna you **CANNOT USE THE FOIL SHIELDED COAXIAL CABLE FREQUENTLY USED IN CABLE TV INSTALLATIONS.** You **MUST** use a good 95% Braid shielded coax.

The formula for a half wave dipole is $L = 468/F$ where L is the length of antenna in feet and F is the operating frequency. Because of the way we'll be making the antenna we only need to be concerned with half that length so the formula we'll use is $L = 234/F$.

Okay, okay, don't panic, I've already done the math for you and for 146mhz the length we want to work with is just



Step 5: use slack to make an opening



Step 6: pull the center insulator through



Step 7: pull it completely through



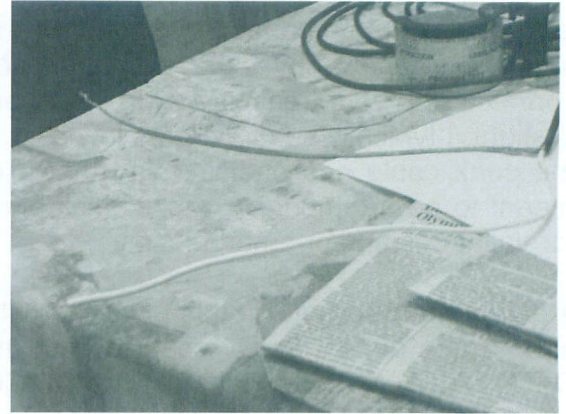
Step 8: cut away insulation

about 19-1/4 inch. By now you should have some length of coax cable with a connector on one end that will mate with your radio and nothing on the other end. If you think about the cross section of coaxial cable it consists of an outer jacket, then a shield made of a woven braid of fine copper wire, an inner insulating layer and then a copper center conductor. Start by laying out about 22 inches of coax on a table that won't be hurt if a knife digs into its surface. If you're working on your wife's good dining room table (I hope you have LOTS of life insurance in that case) lay MANY layers of newspaper under your work. Now taking a sharp knife slowly slit the outer jacket of the coax for about 22 inches being careful NOT to nick the wires of that woven braid shield. Once you've done that, cut the outer jacket that you've slit completely off, leaving the 22 inches of naked braid showing.

Now starting from the free end gently push the braid back like a Chinese finger trap until you have a noticeable bulge in the braid right at the point where the outer jacket stops. Take a small, sharp instrument and spread the braid apart until you make a hole in it large enough to fish the center conductor out through that hole. Hey, wait a minute, if you pull the now

A Really Cheap and Effective Antenna (continued)

empty braid shield and the fished out center conductor in opposite directions you'll have two quarter wave pieces of wire (guess what? Two quarter waves equals a half wave) going in a straight line and fed at the center with coaxial cable. Now all you have to do is trim both pieces to length. The braid shield, now empty, will stretch a bit as you pull on it. Do so to get all that stretch out of it. Trim the braid to about 19-1/4 inches and flatten the end. Put a small hole on the braid at the end using a pencil or small screwdriver blade and then solder that whole area. This will make a convenient hole through which you can pass a string to support that end of the antenna.



Step 9: knot the end of the braid

Strip the insulation off the center conductor so that the insulation is only 19 inches long but DON'T cut off the excess conductor, instead coil it around a pencil and then solder the loop of wire. It should now be about 19-1/4 inches in total length and the soldered loop provides the means of passing a string through to support that end of the antenna. EUREKA, you've done it, you've made a coaxial dipole and you'll be amazed at how well it works.

Again, using that formula $L=234/F$ you can cut a coaxial dipole for any band for which you have the patience to strip the outer jacket. I've made several coax dipoles and they work very well.

-- Paul Freirich, W3HFA

Annual Meeting Prizes

Once again, HRO has cut us a good deal, both because we're making a bulk purchase, and because we are repeat customers.

This year at the meeting we will be giving away:

Seven FT-2800M mobile transceivers, Three VZ-150/83B handheld transceivers, Four pocket-size ARRL Repeater Directories, Two copies of the ARRL Antenna Book (21st Ed.), Two copies of the 2009 ARRL Handbook, and Three Diamond CP22E 2M antennas.

That's about a one in five chance of winning something. Your odds may be even better, since we may find some other items to give away by the time the meeting rolls around.

Remember, as always, you have to be a member and be present to win. Good luck, and we'll see you at the meeting!

-- Chuck Glenn, KV3G



Your GMRA Membership

NI3A	Charles	WR3F	Richard	KB3KIF	Sarah	KB3PQZ	Eneida	N3TTX	Cape
KZ3AB	E. Allen	N3FCA	Holly	W5KIM	John	W3PRB	John	K3UAL	Joe
W3ABC	Hugh	KB3FFU	David	W3KVC	Clarence	KB3PRP	Dorson	K3UBI	Roy
K3ACT	Arthur	N3FPO	Duane	WB3KXL	David	KB3PXL	Stephen	N3UEZ	Mike
N3ADF	Jim	KJ4FUU	Thomas	N3LES	Les	N3QDR	Leonard	N3USZ	Galen
N3ADY	Gerald	K3FZ	Albert	N3LFM	Debbie	N3QEP	Greg	WA3UTY	William
KF4AJZ	Philip	KV3G	Chuck	N3LHD	Thomas	N3QEQ	Brenda	N3UUP	Jesse
WB3AOA	Alice	KE3GD	JP	KB3LLA	Kenneth	W3QF	John	N3UXY	Rita
W3BCW	Brooks	KJ4GDL	Michele	WB5LPN	Randy	KB3QJR	Sarah	WA8UYD	James
W3BE	John	N3GE	Anthony	KB3LVE	Alan	KB3QMP	Adan	KF4VCA	David
N3BEN	Benjamin	W3GFY	John	WG4M	Paul	KB3QOT	Maria	W1VCU	Nelson
K3BEQ	Murray	WA3GJD	William	NB5M	James	K3QX	Ed	N3VKW	Richard
KB3BTB	Patricia	KB3GJP	Henry	N3MBW	Judith	W1RAI	Ray	KC3VO	Robert
N3BTN	Vincent	KA3GOB	Gene	W3MBZ	Tom	W3RBR	Richard	KD3VR	Joseph
KD3BU	Manuel	KB3GSO	Robert	KB3MCV	Peter	K3RD	Donald	W3VY	Mary Ellen
KB3BWR	Stacey	KA3GSV	Myer	K3MHZ	Bill	K3REM	Bob	KR4WE	Michael
W3CAF	Neil	AA3GV	Ernest	N3MNA	Elaine	K3RFI	Mike	N3WEY	John
W3CAT	Ken	WA3GWS	George	W2MPD	Michael	W3RFQ	Ken	W3WFM	Bill
KC2CAX	Kenneth	K3GXF	C.T.	KE6MVA	Thomas	N4RPI	Patrick	W4WHE	William
W3CB	Clifford	WB3GXW	John	WI3N	Jim	KB3RSY	Albert	N3WKK	Clarence
K3CCS	Paul	N3GYE	Lois	K3NCO	Marc	W3RTA	Bob	N3WKP	Edward
N3CK	Nick	N3HBO	Kathy	N3NGA	Roy	WA3RTH	Richard	K3WS	Thomas
K3CKT	Jim	KA3HDO	Frank	KB3NIN	Matthew	KE4RWF	James	N3WSG	Jerry
N3CKX	Reginald	AB3HE	Mat	KA3NJF	Warren	N3RWG	Dorothy	KR3X	Robert
W3CL	Carl	W3HFA	Paul	KB3NJK	Pete	N3RWI	Sue	N3XFL	Pamela
W3CNC	William	N3HFT	Ed	KB3NJP	Thomas	WA3RWP	Walter	N3XKJ	Jim
K3CON	Gerald	N3HG	Gene	N3NKW	Pamela	W3RYQ	Don	NG4Y	Carrol
KA3COT	Charles	KB3HGT	Chris	AA3NN	Kenneth	KB3SEL	Gloria	WN3Y	LaReintz
K3CPK	Ronald	N3HHA	Dolores	N3NPJ	John	AA3SG	Walter	W4YEH	Howard
WB3CQI	Douglas	N3HI	Peter	WA3NSI	Jim	K3SGA	Lois	WA3YLO	Tony
N3CUO	Robert	N3HLY	Kenny	KA3NXW	Barry	K3SGB	John	N3YSA	George
KT3D	Dennis	WA3HSC	David	KB3NZC	Donald	W3SGE	David	W3YTS	Marshall
WV3D	Kevin	KB3IIE	Kenneth	KI3O	Bob	KB3SKB	Erin	KX3Z	Fred
N3DC	William	KB3IJF	Clifford	KB3OBQ	Eugene	KA3SKN	Kurt	K4ZDH	Riley
N7DH	Dennis	K3IMJ	Melvin	KJ4OCC	Bruce	KB3SMS	Jon	AA3ZK	Paul
KM3DR	Robert	K3IWE	Kenneth	KB3OCM	Doris	N3SNU	William	N3ZQU	Gina
WA3DVO	Everett	K4IWF	Joseph	KA3OHF	James	KB3SOR	Jon	W3ZRW	Joel
KB3DX	Jeffrey	KO3J	Warren	W3OJ	John	N3STA	Alan	N3ZVJ	Harvey
W0DXS	Robert	N3JAA	Phyllis	WA3OLQ	George	KB3TAY	Kareem		
W4EE	Jim	WA3JAL	John	W3ONA	Patrick	N3TBZ	Dolores		
WA3EEM	Mike	N3JBX	William	KB3ONR	Curtis	K3TC	Thomas		
KG6EFT	James	KB3JHD	Karen	KB3OQZ	James	KB3TEV	Charlie		
KB3EGL	Keith	KB3JKO	David	KC7OVS	David	KB3TEW	Brian		
K9EIS	Dennis	WB3JOT	Ted	KB3PBZ	Kevin	N3TFS	Edgar		
N3EMP	Gene	WB3JPB	Bruce	N3PGI	Rex	WA2TIU	Terence		
W3EQ	Ken	K3JQ	Frank	N3PKX	Betty	KB3TJS	Robert		
N5EV	Richard	WA3JR	Jean	KB3POU	Bruce	W3TLM	Thomas		
KI4EY	Victor	KB3KHL	James	N3PPH	Robert	WB2TNC	William		
KB3EZQ	Jenny	KA3KID	Lawrence	KB3PQY	Adrian	K3TND	Richard		

Your GMRA Officers and Representatives

Board of Directors (all are also Control Operators)

President	Paul Freirich	W3HFA	w3hfa@hotmail.com
1st Vice President	Everett Bollin	WA3DVO	wa3dvo@msn.com
2nd Vice President	Chuck Glenn	KV3G	kv3g@arrl.net
Secretary	C.T. David	K3GXF	k3gxf@aol.com
Treasurer	Roy Ashlin Jr	N3NGA	n3ngaraajr@verizon.net

Repeater Trustees

146.610 Cheverly	Chuck Glenn	KV3G	kv3g@arrl.net
146.880 Greenbelt	Paul Freirich	W3HFA	w3hfa@hotmail.com

Technical Committee

Director	Roy Ashlin Jr	N3NGA	n3ngaraajr@verizon.net
Member	Chuck Glenn	KV3G	kv3g@arrl.net

Affiliate Representatives

ARES/RACES	Chuck Glenn	KV3G	kv3g@arrl.net
FAR	Chuck Glenn	KV3G	kv3g@arrl.net

Information System Representatives

Membership	Roy Ashlin Jr	N3NGA	n3ngaraajr@verizon.net
E-Mail Bulletins	Paul Freirich	W3HFA	w3hfa@hotmail.com
Activities & Newsletter	Chuck Glenn	KV3G	kv3g@arrl.net
Web Content Manager	Chuck Glenn	KV3G	kv3g@arrl.net

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Please send inquiries to: gmra@live.com

GMRA operates two repeaters in the National Capitol area:

146.610(-) K3GMR in Bladensburg, MD
146.880(-) W3GMR in Greenbelt, MD

Web site: www.gmra-md.org