



MARS News

Inside this issue:

Getting the Most Out of Your Antenna	3
Field Day 2008	6
VE Test Session - Aug 9th	7
Charlotte Hamfest is Moving!	8
June and July Meetings	9
Board Minutes	10
Josh Fisher (W4WJF) Receives Scholarship Awards	11

A Letter from the President

Hey everyone,

Gosh, it's July and over half the year is gone already.

We have been pretty busy here at MARS, and I want to start out by saying 'Thanks' to everyone who came out to help us with Field Day.

We always have so much fun at Field Day and so much great food.

We have lots of snacks to eat throughout the night, **except for Elena's chocolate chip cookies.** Jeff - KA4WYC always seems to have all of them eaten before anyone else knows they are there. Jeff just loves Elena's cookies, but so does everyone else. Those cookies are sooo delicious. Please, please, Elena! Keep up the good work making your cookies everyone loves so much. Thanks!



But, one of the most important things about Field Day, to me, was seeing some of our young people who either already have their ham licenses or who are working on them come out and get on the radio to make contacts. I remember when I had my first field day. It was so exciting making contacts all over the world. Even today, almost 5 years later, I still get excited about Ham radio. And as everyone knows, I just love to talk and give hugs. If you missed Field Day, you missed a whole lot of fun.

If you didn't get to come out to our meeting in June, you missed our big announcement:

MARS is moving the 2009 Charlotte Hamfest to the Cabarrus Arena and Events Center in Concord N.C. in March 2009.

We are really excited about this move. There are lots of advantages and possibilities in this for MARS. The Hamfest Committee has been working very hard on this for many months now. We have a Hamfest committee meeting every month to make decisions on how we can make our Hamfest the very best Hamfest we can possibly have.

Our Hamfest committee meetings are always announced to the membership in advance. WE will be having our next Hamfest meeting August 12th. An email will be sent out to all members letting you know the location and time where we will meet. We urgently need as many members as possible to volunteer to get involved. We need people to head up committees or to be workers on committees. It doesn't take a lot of time to come to the meetings (the average meeting is only an hour and a half). Who knows, you may have a new suggestion for something that you would like to see at our Hamfest that makes a very big difference.

Remember: this is the ONLY major fund raising event of the year for MARS. The Hamfest, alone, al-

Letter from the President (cont.)

allows us to support all of the Public Service Events we do each year. Plus it supports the upkeep of the W4BFB repeater network. It allows our support of Discovery Place and the NC4DP station. And, it allows us to make the donations we make to the organizations that provide the space where we hold our meetings and conduct our testing sessions as well as our annual parties.

You have to help MARS to make this all happen. Paying your annual dues just does not pay for all we do. We really hope you will come out and join us in making this the best, and most successful, Charlotte Hamfest we have ever had.

“We will celebrate the 60th anniversary of our club in 2009”

FYI - We will celebrate the 60th anniversary of our club in 2009! We would like to come up with something very special to do in celebration of this 60th anniversary at the Hamfest. So, if you have any suggestions please contact me at President@w4bfb.org.

It is important, not only to me but everyone in our club, to see you get involved with the events of our club. I feel like we are one big family and we need to support each other. So, I hope to see you come out and help MARS.

Finally, one other thing I would like remind you of is: I recently sent out an email about our club and W4CQ club cooperating together to help needy children from the Battered Women’s Shelter and the North Wilkesboro Children’s Home by supplying Book Bags filled with school supplies. The bags need to be brought to our next club meeting July 29th. We recently found out that we need a total of 76 school bags between both clubs to be able to help the Shelter and the Children’s home. The children need our help so please be generous and bring a book bag filled with supplies to the club meeting this month.

At our club meeting this month, we will be having a another great program! We are happy to have Brad Panovich. http://www.wcnc.com/about/bios/brad_panovich.html He is a great speaker and meteorologist at WCNC-36. He is bringing the WCNC Storm Chaser Mobile Unit. Please come out and support him and our club.

And with that, I want to say a heartfelt THANKS to each of you for your help and support.

73,

Jodie - KI4CXO



Getting the Most Out of Your Antenna

(Continued from the May Issue)

Let me begin by saying be careful around power lines. I received an email from KA4WYC about a couple of hams who were electrocuted while putting up a fiberglass antenna. They touched or got close to a 7,200 volt power line. You cannot survive that.

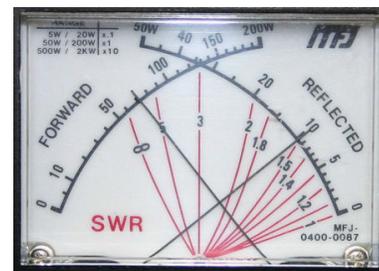
Now, let's move on to antenna tuning. In the last issue we talked about SWR meters. For this article, I am using a crosshair SWR meter. This is, for most folks, the easiest type to use. You can get all relevant information in one glance and without having to change any switch positions. You will notice two scales, one marked forward and the other marked reflected. On mine, the forward power scale is 0 to 200 watts and the reflected scale is 0 to 50 watts. You will also see red lines going from the bottom center of the meter out to different areas of the meter. Each line indicates a different value of SWR starting at the lower right side of the meter with a value of 1 and increasing as they go counter clockwise. The SWR can be read from this red scale by looking for where the two needles cross when you transmit. We want an SWR close to 1 to 1. When the SWR gets in the range of 2 to 1 we are getting significantly out of tune.

Your SWR meter should be connected by a short coax cable from the antenna connector on your transmitter to the input (or transmitter) connector on the meter. Your antenna coax should connect to the output (or antenna) connector on the SWR meter. When you test a new antenna (or new to you), start out with a low power setting (maybe 10 watts). Use AM, FM or CW modes when testing so you will transmit a steady signal. Make sure you do not violate your frequency or mode privileges when testing. Make sure you ID but do not speak into your mike while collecting your readings. When you key your transmitter you should see the forward power read your chosen output power and the reflected power should be very low if the antenna is tuned. If the antenna is not resonant at the transmit frequency you will see a higher reflected power reading.

Let's look at my first picture (on the right). The forward power is reading about 71 watts and the reflected power is showing 9.9 watts. You will notice that where the needles intersect it indicates an SWR of about 2.3 to 1. The transmitter is putting out approximately 80 watts with 9.9 watts reflected back to the transmitter and dissipated in the finals as heat. That is a bad thing and could cause a final transistor in your transmitter to fail.

So, how do I affect the SWR? Well, you do so by tuning your antenna. But, before you tune your antenna, make sure you understand how to tune it. Most antennas come with a manual and the manual will usually tell you how to adjust it. Especially when you get into multiband antennas, adjusting an antenna can be very tricky. And in situations where you have to actually cut an antenna to tune it, you may get yourself into a situation you cannot recover from without buying new parts. If you are not sure what you are doing, ask one of the many helpful hams in our club for recommendations.

As hams often start out with 2 meter equipment, we are going to talk about tuning a simple quarter wave 2 meter mobile antenna. For antennas like this, you will adjust the tuning by adjusting the length of the whip. Let's just assume you are going to tune your mobile antenna to 146.00 MHz. When the length of the antenna is properly adjusted, the SWR will be lowest (hopefully close to 1 to 1) on 146.00 MHz. If you check 145.00 MHz and 147.00 MHz the SWR should be

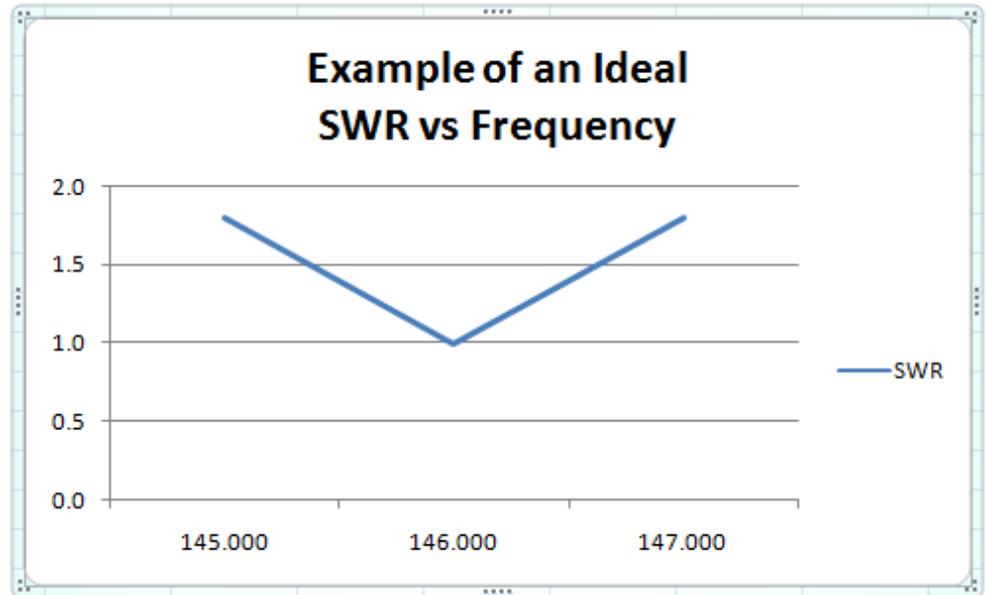


Crossed Needle SWR Meter:

The left hand scale reads forward power (about 70 watts in this picture). The right hand scale reads reflected power (about 10 watts). Where both needles cross the red lines tells you your SWR (about 2.3 to 1).

Antenna (Cont.)

higher on both. So, if you plotted the SWR on a graph, it ideally should look something like the image below.



A typical 1/4 wave mobile antenna. Notice the set screw that holds the whip in place (picture not to scale).

If the SWR is 1.6 or lower, I would consider not tuning the antenna at all.

So, let's get started. If using a magnetic mount, place it in the center of the trunk lid or the top of the car. Have the SWR meter where you can see it. Set your transmit frequency as close to 146.00 MHz as you can. Do not tune on a repeater frequency (input or output) and do not tune over an ongoing conversation. Transmit briefly at 146.00 MHz and make a note of the SWR. Make sure you ID. If the SWR is 1.6 or lower I would consider not tuning the antenna at all.

Assume you have an SWR reading like 3 to 1 (which is not good). Transmit on or close to 145.00 MHz and note the reading. Then transmit on or close to 147.00 MHz and note the reading again. If the SWR was lower on 145.00 MHz then your whip is too long. This is usually the case with a new antenna. The manufacturer made it too long so you had the option to shorten it. If it is too short, you could be in a situation where there is not too much you can do. Conversely, if the reading is lower on 147.00 MHz, the antenna is too short.

If your SWR is OK (say 1.6 to 1 or lower) on 146.00 MHz but you still want to see if you can lower it, you may want to change your upper and lower test frequencies to be closer than 1 MHz to the center frequency. So, for example, you might want to use 145.50 MHz and 146.50 MHz.

When adjusting your antenna, you want to try adjusting the length first by using the set screw that holds the whip in place. If the antenna is too long, don't start cutting your whip until you have made the antenna as short as possible using the set screw. To adjust the length, just loosen the set screw (most require a small metric Allen wrench and most antennas come with a suitable wrench). Move the whip in the direction you desire (longer or shorter) and then tighten the set screw.

If you have made the whip as short as possible using the set screw and you still need it shorter, you will have to actually cut the whip to shorten it any further. Don't cut more than a quarter inch

Antenna (Cont.)

off at a time unless you really know what you are doing. Cut from the base of the whip. You don't want to cut off the ball that is usually on the top.

Tip: If you are leery about cutting up your new antenna, sometimes a coat hanger wire will fit where the whip goes. Only try this if the whip is a straight steel whip (no coil in the middle of the whip). Make it the same size as your whip and adjust the length of the coat hanger wire until it is tuned. You now know how long your whip will need to be.

After each adjustment of the antenna's length, recheck your SWR. If the SWR is not where you want it, check the SWR at all three frequencies as you did the first time. Again, adjust the antenna's length in the direction indicated by the readings (lower on 145.00 MHz means it is too long, lower on 147.00 MHz means it is too short). Repeat this process of adjusting and testing until your lowest reading (ideally 1 to 1) is at 146.00 MHz and 145.00 MHz and 147.00 MHz read a higher and equal SWR. Not all antennas tune to a 1 to 1 SWR. Your goal should be to have the SWR below 2 to 1 in the frequency range you intend to use.

There are other problems that can cause a high SWR such as a shorted PL-259 connector, a bad coax, etc. So if changing the length of the whip does not change the SWR you need to look for other causes.

I hope this helps. A commercial antenna should be very close to tune and not need much adjustment. Make sure you follow their instructions.

One last thing. If you have a conventional SWR meter, here is how you use it. Connect a short coax cable between your transmitter output and the input/transmitter connector of the SWR meter. Connect your antenna coax to the output/antenna connector of your meter. If the meter has a switch to choose between monitoring output power and checking SWR make sure you have it set to check the SWR.

You now have to calibrate the meter to match your transmitter's output power. You need to recalibrate any time you change the transmitter (ex: power or frequency) or the antenna (ex: after making a tuning adjustment). The meter should have a switch labeled FWD (Forward)/REF (Reflected) or CAL (Calibrate)/SWR. Set it to forward or calibrate. It should also have a knob for calibrating the meter. Key your transmitter (remember to identify) and turn the calibration knob until the needle on the SWR meter is aligned with the calibrate mark on the scale. Un-key your transmitter.

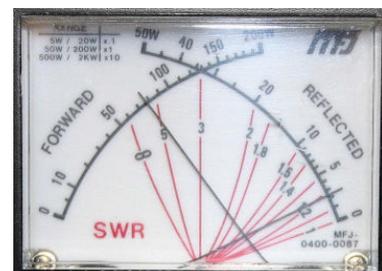
Now flip the FWD/REF or Calibrate/SWR switch to REF or SWR and then key your transmitter. While you are transmitting, read the SWR from the SWR scale on the meter.

The third and final installment of this series will be on dipole antennas.

73,

Earl Fortner - K4KAY

There are other problems that can cause a high SWR ...



1.4 to 1 - Not too bad!



A conventional SWR/Power meter. For this meter, Item 1 is the calibrate/SWR switch. Item 2 is the calibration knob and item 3 is the calibrate mark on the SWR meter scale.

Field Day

For Field Day 2008 we returned to Wilgrove Park located on Jim Harper Rd. in Mint Hill. The size of the park provided plenty of room to spread out the HF phone, GOTA and CW/digital stations. Operators began making contacts at 2:00PM Saturday and continued non-stop until 2:00PM Sunday. All stations operated on emergency power provided by two gasoline generators.

John (WB2NHQ), Kevin (K4YYD) and Jeff (KA4WYC) took turns as GOTA coaches while a total of 5 HAMS and non-HAMS operated this station making a total of 104 HF and 6 meter contacts under the NC4DP call sign. 10 year old Ben Trauner (KJ4EIR) was hard at work until around 11:00PM Saturday night making contacts. And speaking of GOTA contacts, HAM-to-be Jodie Brewer, daughter of Jerry Brewer (N4MIU), made 70 contacts on 6 meters in the span of 60 minutes mid day Sunday. They don't call 6 meters the "magic band" for nothing!



The hard (but fun) part. Setting up the towers and antennas. What a handsome group.

Once again we used the Jupiter as our HF phone station and it performed flawlessly. A total of 355 phone contacts were made during the 24 hours of operation. The majority of these contacts were made on 20 meters.

Ben (WB2RHM) anchored the CW/Digital station and, with the assistance of several other HAMS, made a total of 152 CW contacts on 40 and 80 meters and 100 PSK31 contacts on 15, 20 and 40 meters.

In addition to several Mint Hill residents, our site was visited by the American Red Cross and the ECRV as well as DEC Area 13 representative, Bob DeWitt (K4RLD). Bob was impressed with our setup and vowed to visit us earlier next year in order to enjoy the gourmet food.



Checking out the Red Cross Emergency Communications Response Vehicle (ECRV)

As everyone knows, you can't have Field Day (or any HAM event for that matter) without food. This year's event was no exception. Thanks to Jeff (KA4WYC) who donned his chef's hat and grilled to perfection hot dogs for Saturday's lunch for approximately 50 people. Special thanks to everyone who brought side items and desserts. We had plenty of leftovers which served as late night/early morning snacks for the overnight operators.

By the time 2:00PM rolled around Sunday, we had made a total of 711 contacts and racked up a total of 1,718 points.

Jodie (Harmonic of N4MIU) made 70 contacts on 6 meters in 60 minutes.

Field Day (Cont.)

As everyone knows, a successful Field Day can't get off the ground without people to help with set up and take down, station and equipment placement and most of all, operators. The call went out for assistance in these areas and many responded. Thanks to everyone who participated! We'd also like to thank the Charlotte Mecklenburg Emergency Management Office for the use of their portable tower trailer. This tower was put to use on the CW/digital station.

Clear your calendars for June 2009. Next year's Field Day will be here before we know it!

73,

Kevin Keyes - K4YYD

VE Test Session—August 9th

The Mecklenburg ARRL VE Team will be conducting an Exam Session for all classes of FCC Amateur Radio License on Saturday, August 9th beginning at 9AM at the East Baptist church. The address of the church is:

3850 Monroe Road

Charlotte, NC

(East Baptist Church is located next to East Mecklenburg HS, near the intersection of Monroe Rd and Conference Drive).

Applicants are requested to arrive by 8:30AM, to complete the registration process before testing begins. They should bring a photo ID (drivers license OK), the original and a copy of any current amateur license, the original and copies of any current CSCEs, plus the ARRL VEC 2008 testing fee of \$14.00.

Reminder - if you pass a test element, you can continue taking the next higher element FOR FREE (e.g. you could go from Technician to General to Amateur Extra in one session, for only one \$14.00 fee). If you fail to pass an element, you can re-test the failed element, taking a different exam, for an additional \$14.00 test fee (Limit: one retest at each failed element per test session). If you pass the re-test, you can take the test for the next level for free, as long as you pass.

Walk-ins are welcome, but we would appreciate it if you register by sending an email to N4MH or calling 704-948-7373 if you need additional information.

Note: Beginning with this testing session, the Mecklenburg ARRL VE Team will use the 'new' element 4 question pool.

The next Mecklenburg ARRL VE Team Testing session will be scheduled for October 2008.

73,

Ben - WB2RHM

*The Mecklenburg ARRL
VE Team will use the
'new' element 4 question
pool.*



Charlotte Hamfest is Moving!



Exciting Announcement for the whole membership!!!!

At the last club meeting our president made an announcement that the New Charlotte Hamfest for 2009 would be held at the Cabarrus Arena, 4751 NC Rte. 49, Concord, NC.

The Hamfest will be held totally indoors, with plenty of room for the flea market area, dealer area, forum room and VE testing area. The parking will be FREE and there are facilities onsite for overnight RV camping. Contact the Cabarrus Arena for details. The arena also has its own on site concessions for food and drink.

The Hamfest Committee has been hard at work to make this one of our best Hamfests ever. MARS will also be celebrating our 60th anniversary during the Hamfest and throughout 2009.

Pricing has been set as follows: Tickets: \$7.00 pre-reg, \$10.00 at the door. Flea market tables will be \$20.00, electricity will be \$40.00. Standard booth will be \$170.00, priority booth \$215.00. In case you missed it before: FREE PARKING!

The Hamfest committee will be calling on the membership during the coming months to participate in preparing for Hamfest by heading up the various committees that make Hamfest happen. For example: flea market set up committee, forums committee, safety committee, prize committee etc.

If you have any ideas or questions, please contact the highly dedicated members serving on the Hamfest committee. We will also have information on the website at <http://www.w4bfb.org/hamfest>.

Don't forget to mark your calendars for Friday, March 13th 2009 (set up) Sat. March 14th and Sun. March 15th for the New Charlotte Hamfest.

73,

Andy Hawkins - K4GKK

The Hamfest will be held totally indoors. The parking will be FREE!

June and July Meetings

For the June meeting, there were no featured presenters. The meeting was composed of business items and updates by members on topics of interest for the club.

Mary (N4MH) spoke on the MS Bike tour coming up in September. There will be three routes on Saturday and two on Sunday. The routes are from Rock Hill to Greenville, SC. For more information or to sign up, go to www.ridemaps.com.

Tom (KA3VVJ) presented this year's budget. Since revenue from the Hamfest was down this year, some priorities had to be set on where we devote the funds we have. After some discussion the budget was approved by the membership.

John (WB2NHQ) talked about ARES and in particular the FEMA courses we should all be completing. The courses are IS-100, IS-200, IS-700, IS-800B. Please contact John when you complete a class.

John also talked about the Catawba Nuclear Evacuation Drill. If you can assist, please give John a call. On the day of the drill, the 146.94(-) repeater will be used.

Lastly, John gave a report on the closing of Discovery Place for upgrades. There will be a two-fold plan to renovate Discovery Place.

Earl (K4KAY) spoke of needing helpers with the bicycle time trials on July 9th. There is also an event on July 3th. Contact Earl or Bill (WA2EDN) if you would like to volunteer for an event. Earl's email is [efortner \(at\) vnet.net](mailto:efortner@vnet.net).

Kevin (K4YYD) spoke about Field Day.

For the July meeting, Brad Panovich from WCNC will give a presentation. Brad is a meteorologist for the station. He will be bringing the WCNC Storm Chaser Mobile Unit. This should be a very interesting and enjoyable presentation. We look forward to seeing everyone there.

73,

Jeff - KA4WYC

***Brad Panovich will be
bringing the WCNC
Storm Chaser Mobile
Unit***

Board Meeting Minutes



Jodie started the meeting at 7:00. Present were Jodie, Bill, Jeff, Tom, Ben, Kevin, Andy, Perry, and Dave.

Jodie thanked everyone for their help on Field Day. We had about 50 or so throughout the FD operation.

Bill said the July program will be Brad Panovich with NBC6 and he will bring the Storm Spotter van.

Tom gave out a 'Profit / Loss' statement. He explained a balance sheet. Tom gave a report on our phone bill and the DSL is still being charged. We are still in a stand by mode.

Jeff stated we could have 171 members at the next club meeting.

Ben gave a report on packet and a report from Earl and the Repeater Committee. There was a request for the packet stations and how to gain access to the sites.

Kevin gave a report on Field Day. We seemed to have had a good time. Except for when the storm ran us off the air!

Kevin stated there weren't any changes on Food Lion Share the Wealth program.

Andy gave a report the Club RV. It worked quite well for Field Day. He also gave a report on spare equipment at our storage site. He took the RV home after FD to continue the repairs.

Jodie asked about where to have the fall picnic. St. Andrews church was a possible choice. We will look into several places. (Editor's Note: If you have any sites, let Jodie know. Know any good parks or sites?)

Andy was told to start early for the Elections at the end of the year. He will make a list of candidates from a list of approved Members from the Secretary.

Jeff gave a report on the Cycling time trials at Lowe's Motor Speedway. There will be an event on July 9th.

Perry asked about having a test ride to check out the repeaters we will use for the MS-150 on July 26th.

Ben gave a report that the web reflector is working.

Old business – Jeff asked to set a time line for the installation of the new electronic lock. We will send out a note that it will be changed by the end of the month, prior to the Club Meeting. There will be a note on the door of cell phone numbers in case you get there and are a Club Member, and don't have the number.

Next Jeff asked what we could do to help Richard and the Newsletter. There was a discussion on setting a time line to have material ready after the Club Meeting and Board Meeting.

New business – we will have Bill to go to the Mail Room each week to check for mail.

Bill made a motion to adjourn and seconded, Jodie adjourned at 8:00.

Submitted by

Jeff - KA4WYC

Secretary Mecklenburg Amateur Radio Society - W4BFB

Josh Fisher—W4WJF Receives Scholarship Awards

Josh Fisher is an honor student at North Carolina State University in Raleigh, NC majoring in Computer Engineering and Electrical Engineering with a 3.97 GPA. Josh is a W4BFB member and is the son of MARS board member Bill Fisher (W4GRW).

Josh received a \$1000 Quarter Century Wireless Association (QCWA) Silent Key Memorial Scholarship. QCWA has over 7000 members and has awarded scholarships for 31 years. The primary purpose of the QCWA is “to promote friendship and cooperation among Amateur Radio (Wireless) operators who were licensed as such at least a quarter of a century ago.” Another stated purpose is “to promote interest in Amateur Radio Communications and the advancement of the electronic art, making use of the reservoir of knowledge and experience represented within the membership of QCWA for the benefit of all Radio Amateurs and the furtherance of the Public welfare through Amateur Radio Communications; to provide a scholarship fund for worthy students who are radio amateurs.” The association’s web site address is <http://www.qcwa.org>.

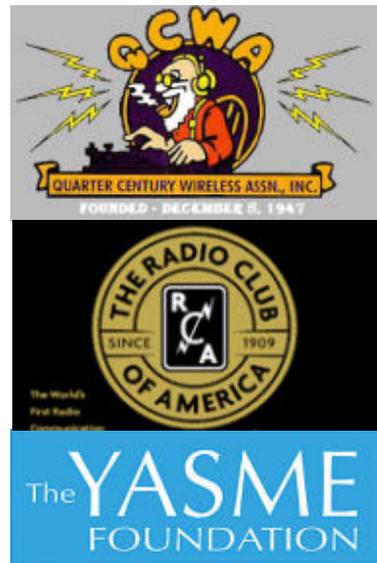
Josh also received and a \$1000 Radio Club of America Scholarship. The Radio Club of America was founded in the early days of radio (around 1907). The purpose of the club is “to operate exclusively for charitable, educational and scientific purposes ... and more specifically to study and contribute to the development of radio communication programs and provide a scholarship fund for needy and worthy students for the study of radio communication.” Their web site address is <http://www.radioclubofamerica.org>.

Earlier this spring Josh also received a \$2000 YASME Foundation Scholarship from the ARRL. The YASME Foundation is a not-for-profit corporation organized to conduct scientific and educational projects related to Amateur Radio, including DXing (long distance communication) and the introduction and promotion of Amateur Radio in underdeveloped countries. YASME comes from the name of Danny Weil’s boat. Danny Weil was one of the pioneers in the realm of DXpeditions. YASME is Japanese for “Good Luck”. The YASME web site address is <http://www.yasme.org>. ARRL publishes a book about YASME and Danny Weil.

This summer Josh is studying abroad at the University of Valencia in Valencia, Spain. Congratulations Josh on your scholarship awards!

73,

Richard - K4KRW



Mecklenburg Amateur Radio Society— <http://www.w4bfb.org>

Club Meetings The Mecklenburg Amateur Radio Society meets on the last Tuesday of each month at 7:30 PM

We meet at:

East Baptist Church
6850 Monroe Rd
Charlotte, NC 28212

(Next to East Mecklenburg High School, near Conference Drive)

Club-room Red Cross Building
2425 Park Rd, Room 023
Charlotte, NC 28203
(704) 334-3900

Club Repeaters 146.34/146.94 (w/autopatch)
144.63/145.23 (no autopatch)
144.69/145.29 (no autopatch)
222.80/224.40 (no autopatch)
449.600/444.600 (no autopatch) PL 100.00

Mecklenburg 2m Emergency Net
9:00 PM local time, daily on 146.34/146.94 featuring the ARRL
Audio News feed on Sunday night.
Alternate frequencies announced

Club Officers and Board of Directors

President

Jodie Rowland, KI4CXO, ki4cxo@w4bfb.org

Vice President

Bill Fisher, W4GRW, w4grw@w4bfb.org

Secretary

Jeff Blythe, KA4WYC, ka4wyc@w4bfb.org

Treasurer

Tom Hunt, KA3VVJ, ka3vvj@w4bfb.org

Directors

Ben Antanaitis, WB2RHM, wb2rhm@w4bfb.org

Perry Garris, KF4UVL, kf4uvl@w4bfb.org

Andy Hawkins, K4GKK, k4gkk@w4bfb.org

David Holbrook, KC4YPB, kc4ypb@w4bfb.org

Kevin Keyes, K4YYD, k4yyd@w4bfb.org



**Mecklenburg Amateur
Radio Society, Inc**

Richard Y. Dodd, K4KRW, Editor
7000 Heatherford Dr.
Charlotte, NC 28226

E-mail: k4krw@w4bfb.org