



MARS News

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A Letter from the President

Hello Everyone,

Here it is, the end of May and we are well on the way towards Summer. While everyone has a lot going on in their lives, I would like to ask you to please keep MARS in mind by reserving June 28th and 29th to attend our Field Day 2008.

For Field Day 2008, we will be returning to the Wilgrove Park in Mint Hill, NC. We will be starting the setup process on Friday afternoon June 27th and continuing first thing on Saturday morning. Our stations will operate from 2PM Saturday through 2PM Sunday. Sunday afternoon, we will pack it all up and call it a Field Day.

We should all have lots of fun at Field Day. But, keep in mind that it takes some work on all of our parts to make this event happen. I would like to say a big Thank You! to Kevin for stepping up to be Field Day Chairman. While Kevin is very talented and highly motivated, he is not going to pull this event off all by himself. There are many ways you can make a difference. So, please ask Kevin how you can contribute to the effort.



We will provide cold water and soda for our workers, operators and members. I am sure we will have some form of Lunch or snacks on Saturday before we get on the air. Jeff - KA4WYC will be handling that department on Field Day so you should be thinking of a favorite dish or dessert that you might want to bring and share with everyone on Saturday.

Everyone knows that Hams like to eat. But they also like to talk on the radio and that's what we need you to do after you eat - get on the air - and let everyone know that "Big Fat Boy" W4BFB is making contacts.

A hearty Thank You to the MARS Board and to those club members who are working long hard hours on the various club Committees trying to make W4BFB the best it can be.

We have heard from many of our members saying that they wished MARS could do even more fun things as a



Letter from the President (cont.)

club. For example: more public service events, electronic projects, antenna building classes, digital mode operation, contesting, fox hunts, picnics, FCC license classes, etc. This all would indeed be great fun and we should strive to make these things happen. Just keep in mind though that the responsibility of coordinating activities like these often falls on the same core group of club members. When you consider how many members there are in this club, clearly this is a practice that we can and should end.

This is your opportunity to truly make a difference . Think about an activity that you are interested in and volunteer to be one of those who makes it happen. If everyone will do this, we can spread the work such that it is manageable for everyone. Plus, that little bit of work on each of our parts will turn into a lot of fun for all. Those of you who wish to take on this challenge can contact me or any of the board members. I truly believe you will find that the club is a lot more fun when you are helping make things happen.

If you have any comments, questions, or suggestions, about anything you would like to see happening in the Mecklenburg Amateur Radio Society now, or in the future, feel free to contact me President@W4BFB.org or the Board of Directors Board@W4BFB.org .

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

73,

Jodie KI4CXO

***“This is your
opportunity to truly
make a difference”***



Getting the Most Out of Your Antenna

If you are a newcomer to ham radio and would like to tune your antenna system for maximum performance, please read on.

Your radio generates a signal that eventually gets radiated by your antenna. For that signal to be efficiently carried from your transmitter to the antenna, everything along that path must be working properly together.

For things to work well together on a typical station, you need to minimize impedance mismatches. The radio usually has an output impedance close to 50 ohms. Many stations use coaxial cable to carry the signal from their transmitter to the antenna. In typical systems, this coaxial cable should also have an impedance of 50 ohms. When the cable is 50 ohms it will carry the maximum power to the antenna. Ideally that cable should feed an antenna with an impedance of 50 ohms. A significant mismatch anywhere in the antenna system will cause power to be wasted. How much is wasted depends on many things including things such as the quality and length of the cable.

In some ways, you can compare the coax cable to a garden hose. A long length of small diameter garden hose will impede the flow and lower the pressure of water at the end of the hose. A long length of a small coax cable (actually lesser quality coax cable – bigger is not always better) will result in much of your power being wasted in the transmission line. Any mismatch in the antenna system will make the loss even greater.

Higher quality cables will generally result in less power lost. At higher frequencies (especially two meters and above) better coax cable will make a significant difference.

There are other problems that will prevent your signal from efficiently being radiated by your antenna system. For example, shorted, corroded or poorly made up connectors, defective coax, coax compromised by water, defective antenna mounts, and poor grounds.

So, what happens when something is not right in your antenna system? Often it means that your signal rather than being radiated by your antenna ends up being reflected back to your radio and eventually dissipated in the form of heat. This is something you want to minimize as it is not good for your radio.

One of the tools commonly used to determine if your antenna system is carrying your signal efficiently is an SWR meter. SWR stands for 'standing wave ratio'. This SWR meter is a tool that compares the amount of energy sent towards the antenna with the amount being reflected back. If the SWR meter sees very little reflected power in comparison to what is being sent towards the antenna, it usually means your antenna system is in good shape. This comparison results in a ratio being displayed on the meter. 1:1 is a perfect match. Higher ratios (2:1 or 3:1) can mean there is trouble. This meter is generally inserted into your antenna system between the radio and the coax that goes to your antenna.

Please keep in mind though that a low SWR doesn't necessarily mean that your antenna system will radiate effectively. A dummy load shows a perfect SWR, but it won't radiate very well. Also, high loss coax cable will sometimes exhibit a low SWR solely because the transmitted power was reduced to nothing by the time it was reflected back to the meter.



Bird Wattmeter—You can measure forward or reflected power by rotating the round slug (below the meter). Note: It does not actually read SWR. But, you can calculate SWR if you have the forward and reflected power levels.



This is what a conventional SWR meter looks like.

Antenna (Cont.)

The SWR meter is a pretty simple device. It is made up of a pickup loop or line that samples the radio frequency signal passing through the meter. It has diodes that rectify the rf signal into a dc voltage which is then sent to a meter movement. The diodes are wired through a switch so you can reverse them in order to measure the signal in both directions. A Bird Wattmeter uses a rotatable sensor called a slug rather than using a switch.

I have included pictures of a few meters. One conventional SWR meter, one Bird watt meter and one 'cross needle' meter that shows forward, reflected power and SWR all at the same time.

Next month I go into how you use the SWR meter to test or tune your antenna to get the maximum power from your transmitter radiated from your antenna.



This type of meter can show you forward power, reflected power and SWR all on the same display.

73,

Earl (K4KAY)

and

Bill (WA2EDN)

PSK Monitor

With the bands being so quiet, I've been playing with PSK31 lately. After getting my computer interface to work with the TS-570S, I'm hearing (seeing) lots of stations on the waterfall. While working some stations shows that I'm getting out, the real question is who is hearing me?

I found a useful answer to that question in an article in www.QRZ.com. A website monitors who is being heard on PSK and reports it out over the Internet!

The website is: <http://psk.gladstonefamily.net/pskmap.html>.

While operating PSK, you enter your call into the website search box and the website collects reports from all those who are hearing you. Your station is displayed as a point on the map and every station that hears you is also displayed with location, time and frequency. If you are using Ham Radio Deluxe's DM780 PSK software, you can join the fun as a monitor because that is an option in DM780.

This monitoring of your signal is very useful in setting up your computer parameters, as well as transceiver settings.

So have some digital fun and see how you are doing at the same time!

Bill Turner, W4WNT

“You enter your call into the website search box and the website collects reports from all those who are hearing you”

Field Day Opportunities

Hey everyone!

Field Day is June 28 – 29 so clear your calendars! This year's Field Day will be held at Mint Hill's Wilgrove Park, just off-of the Wilgrove-Mint Hill Road. The address is 7750 Jim Harper Lane in Mint Hill. The event begins at 2PM on Saturday, June 28th and wraps up 24 hours later. We will once again operate as a Class A station using generated power. As everyone knows, it takes a lot of people to put on a fun and successful Field Day. The following are positions that need to be filled:

- Set up coordinator to direct the set up and placement of stations and equipment
- Media contact person. Having a member of the media visit the Field Day site not only gets the word out to the community about ham radio but it also earns us 100 bonus points.
- Get On The Air (GOTA) Coach. Supervises the operation of the GOTA station which may operate on any Field Day Band. The GOTA station may be operated by any person licensed since the previous year's Field Day regardless of license class as well as non-licensed persons under the direct supervision of the GOTA coach. Having a GOTA coach earns the club bonus points.
- Takedown assistance
- Most of all, we need OPERATORS! As in the past, we'll have an HF phone an HF digital/CW station and a 6 meter station. To make signup this year even easier, an interactive signup sheet has been posted online. To access the sheet, go to:

<http://spreadsheets.google.com/viewform?key=pM4wuGhMbrXi5fUO1U6aAAQ&email=true>

As we'll be on the air continuously for 24 hours, there will be plenty of opportunities for everyone to participate.

I hope to see everyone out at Mint Hill Park on June 28 and 29 for a fun and successful Field Day!

73,

Kevin, K4YYD

Field Day Chairman

***“Most of all, we need
OPERATORS!”***



April and May Club Meetings



Pete Underhill (N4JAZ)

For the April meeting we had two presentations. Both were regarding attempts to communicate across the Atlantic ocean on the two meter band.

The first presenter was Pete Underhill (N4JAZ). He told us about an attempt made on Field Day in 1996. A modest station was set up at Kitty Hawk. They were using 25 element quads and a 160 Watt amplifier. Stations in Ireland were attempting the contact from the other direction. The mode was CW. While they could not clearly hear the other stations, they did hear something and were convinced it was the signals from the stations in Ireland. The distance to Ireland from the coast of North Carolina is over 3000 miles. A radio club in Ireland has been offering a prize for the first successful contact. They have been waiting for about 40 years so far.

The next presentation was by Dave Pedersen (N7BHC). Dave gave a presentation on future attempts to make a contact across the Atlantic. There are many things that can make this type of contact more likely in one area rather than another. One is the climate. Dave felt that contacts would be much more likely closer to the equator than at latitudes like those of our state or of Ireland. The warmer climate makes things like surface ducts and elevated ducts which facilitate long distance contacts more likely.



Dave Pedersen (N7BHC)

He also felt that areas where there weren't a lot of strong stations were great spots to listen for distant signals. He gave an example where someone on a remote island was just using a standard FM car radio was fairly often able to pick up FM stations from very distant locations without much difficulty.

Dave has been encouraging hams to set up beacons at strategic locations around the world where these long distance contacts are likely to be possible. Having these beacons in place will solve one of the bigger problems with finding these opportunities for long distance contacts on two meters. That problem would be the limited number of hams in the areas with the best potential for success. With a beacon in constant operation, people will hopefully hear a distant beacon signal when the right conditions come along.

Thanks Pete and Dave for two wonderful presentations.

For the May meeting, there will be two video presentations. The first is about a DXpedition to Timor Lorosae 4W/K7BV & 4W/K6FF . This video was created by Dennis Motschenbacher, K7BV, who was at our hamfest representing Yaesu. Dennis does a great job with narration and editing. This will be a wonderful video. There is also a second video on Fernando de Noronha Island PV9F. Of course, there will also be discussion about the upcoming Field Day event. So, please be present.

73,

Richard

K4KRW

Board Minutes

Jodie started the Board Meeting @ 7 PM on May 6th 2008 and welcomed everyone. Present were Jodie, Bill, Jeff, Tom, Andy, Ben, Dave, Kevin, and Perry.

Bill stated the next meeting program is still being worked on, maybe on TV Wx folks. Keep an ear to the Net.

Tom had a Financial report. He also stated his copy of QuickBooks 2005 is not going to be supported any more and asked if he needed to upgrade it. This will be researched. The subject was brought up about the phone bill on our repeaters; so far it has increased 3 times in as many months. This is being taken care of by a member of AT&T. It was noted that we need to have a budget to show to the Membership in May and for the Board to vote at the June Board Meeting and have the Membership vote on at the June Club Meeting. So if you need to have a line item in the Budget, get it to the Board ASAP.

Ben stated Mint Hill Town Hall will have a meeting to approve our application for use of the Park for our Field Day.

Kevin gave a synopsis on our Insurance Policies. One is a General Liability policy and the other is for our Members and Board Members. The ARRL policy may be a dual policy. Kevin will continue to work on this.

Jeff gave a report we have 167 members and the renewal period is November and December.

Contests report – Bill stated there are no contests in the near future.

Tom stated he would send a check to the Church as a donation for us using the meeting room. Jodie brought up a point of an interruption during our meeting. There was a discussion on this subject. It was noted to have someone contact the Church office to see if we can eliminate interruptions to our meetings.

Grants and Resources - Kevin had nothing new. We will keep asking people to sign up at Club Meetings.

Nominations and Elections – Andy has nothing yet. If you think you might like to run for an Office, contact Andy – G4GKK.

Outside Actives - Jeff – gave a report on the MS 150 and his contact with the Blue Ridge Club. We are in need of the use of their Repeater and help from Members in the Greenville area.

Kevin gave a report on Field Day. Bill had a contact for Club Field Day T-shirts. Bill will take care of shirts and Jeff will handle food. A hot dog feast was decided for the food. The Club Membership will be asked to bring a favorite side dish. Dave said they could bring 5 gallon of gas for the generators. Kevin said we would be 2A-NC.

Old Business - Andy gave a report on the RV. He has taken the floor out because of rot and water damage. He has a design of taking out the cabinets out and be replaced with a bench seat for storage. He plans to spend \$33.00 for 3/4" pressure treated plywood. There was a discussion on the cost to repair the RV, and where the funds would come from. There are hopes that it will be ready for Field Day.

New Business – Jodie asked about the Family Picnic. There was a discussion on the cost of the Christmas Party. We really need more help cleaning up afterwards and also the planning. We encourage Club members to jump in and help.

Tom stated our Liability Insurance Company settled the claim from the Hamfest.

Jodie brought up a need to have a Committee for the 60th Anniversary of our Club. She also asked to replace the two coolers. There was a motion to purchase two coolers and Jeff will research this and purchase them.

Jodie asked if there was any other business, and having none a motion was made and seconded, to adjourn at 8:55.

Respectfully submitted by Jeff KA4WYC Secretary Mecklenburg Amateur Radio Society W4BFB



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

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