



# MARS NEWS

Mecklenburg Amateur Radio Society



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**T**his month the program will be the Radar Weather Course presented by Vince DiCarlo of the Nat'l WX Service. This may be the most interesting, technically, of the three weather courses offered. Be sure to be there early to get a good seat.



**Next meeting:**  
**May 25 - East Baptist Church - 7:30 pm**  
**More information on last page!**

## President's Letter

**F**ield Day is June 26-27. We need your help not only in operating our three stations but in setting them up. Setup is Friday afternoon, June 25th.



**President**  
**Shawn Goodin**  
**K4RSG**

We have experienced Hams that can show you how to operate both the HF and VHF/UHF equipment.

Dues time is almost upon us again. If you would like to make your payment at the May meeting, please see John White - WB2NHQ - Club Treasurer.

Let's make this Field Day our best ever. Not only by our score but by the enjoyment had by all.

Two of our Public Service events occur in June. They are:

- June 4 MS Challenge Walk**
- June 5 MS Challenge Walk**
- June 6 MS Challenge Walk**

**June 19 MS Dollar Ride #1**

We will be asking for your participation in these very worthwhile events at the May meeting.

Please don't forget our Open House at the Club Room at the Red Cross Building. Dates will be announced at the May Meeting.

If you don't have Ham equipment of your own and would like to operate ours or if you'd just like to chat with other hams in a relaxed atmosphere, please be sure to attend an Open House. You might like to bring a friend with you who might be interested in becoming a Ham. We can let he/she operate also.

The program at the May meeting, by Vince DiCarlo, will be the second weather training course this year. Please thank Vince, after the meeting, for his kindness in offering these courses to our club.

I know we all will be looking forward to the program for June where Tim Slay - N4IB will relate his experiences in tower erection and raising a directional antenna to the top of a tower.

Hope to see everyone on May 25th at Eat Baptist Church.

73 .....

**Shawn**

**Volunteer Net Controllers needed for the Metrolina Emergency 2-mtr net.**  
**Contact Jim Payne,**  
**n4jbp@arrl.net, Net Mgr.**



## VOIP SYSTEMS

One of the purposes of amateur radio is to help advance the state of the radio art. That's right up there at the top of Part 97 of the FCC Rules. We hams are very good at finding new ways to communicate. We pioneered the use of repeaters at high locations to extend the range of the radios we use. We link our repeaters together to extend that range even further. And this evolution continues today.

The development and wide distribution of the Internet has given us many new ways to communicate. One way we hams are exploiting this world-wide network is by using it to link repeaters together in a new concept called "Internet Linking". The two major systems of this type are the Internet Repeater Linking Project (IRLP) and Echolink. These are "voice-over-IP" (VoIP) systems which provide real-time audio connections on demand. While there are other VoIP systems used by hams, such as eQSO, they're not normally used for radio control and so we won't explore them here.

Consider the "conventional" way of linking repeaters: You need a link radio on at least one end; you need an antenna, which is usually directional so you need to aim it; you need to run some feedline from the antenna to the radio, and you need a spare port on the repeater controller. Then you need some programming in the repeater controller so you can connect and disconnect the link. Finally, you need to be within radio range of the other repeater so the link will work.

Internet linking is somewhat different. There is no distance limitation, and additional equipment may not be needed at the repeater site. You need a radio and antenna, a computer, an interface box to tie the radio and computer together, and a broadband Internet connection. The package can be located anywhere in the coverage range of the repeater. The radio can be a small transceiver tuned to the repeater's frequency. This is much easier and faster to set up than a conventional link, and any other repeater with similar equipment and software can use the link.

But lets note the differences between the linking systems. IRLP ([www.irlp.net](http://www.irlp.net)) is strictly repeaters-only.

IRLP software runs on the Linux operating system but the software is not open-source. Interface hardware is only available from the project. IRLP repeaters can connect one-to-one over the network, or they can connect to a "reflector" - a server with a high-bandwidth Internet connection which can tie many repeaters together. IRLP guidelines prohibit CW identifiers and DTMF tones from going over the network, which is a good thing.

Echolink ([www.echolink.org](http://www.echolink.org)) can be installed and used by individual hams on their personal computers. The software runs on Microsoft Windows and radio interface hardware is available from many sources at reasonable prices. Echolink users can connect to other users at their computers, or to repeaters and simplex links, or to "conference" servers which are similar to reflectors. Echolink can be used on a dial-up Internet connection, but repeaters and conferences which handle multiple connections will need a broadband connection or better.

Software packages called "EchoMAC" and "EchoLinux" are available for other computer operating systems as well; you can find them using a search engine like Google or Yahoo!

Echolink and IRLP are not compatible with each other, however some IRLP repeaters run a software package called "Echo-IRLP" which allows their users to connect to either network. There is no such provision for Echolink users to access IRLP, and there probably won't be, as IRLP intends to remain a network for repeaters only.

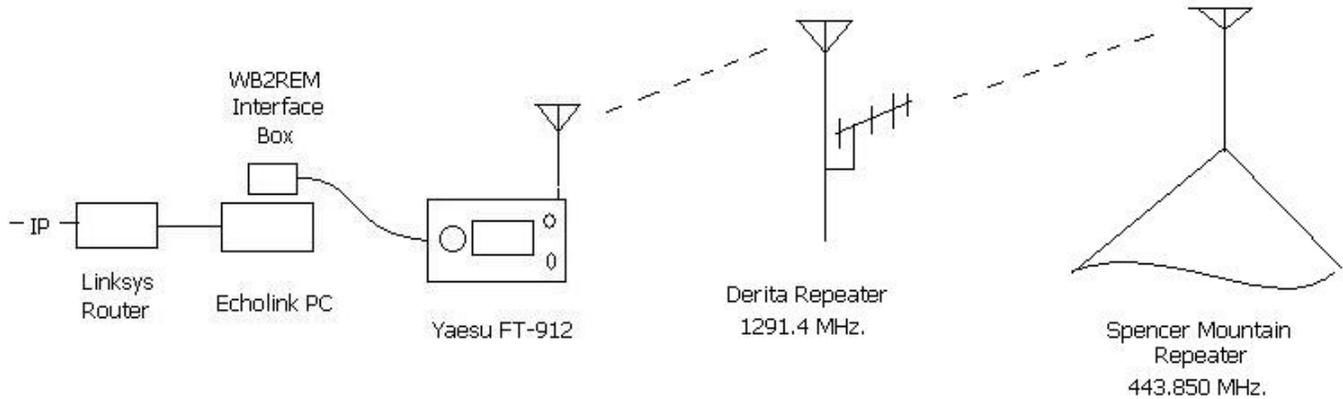
Echolink is a fun new operating mode for hams, whether there is a radio available or not. One should remember to use normal VHF protocol when operating Echolink on a computer; identify, leave pauses between transmissions, etc., since there are repeaters and RF simplex links also using this network.

**73, Ken Johnson - KC4YOZ**

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**See info, photos and graphics of Ken's Echolink repeater system on the next page ..... Editor**

## KC4YOZ - Echolink Repeater - 443.850 mHz



### Block Diagram of the Spencer Mountain Echolink Repeater



**Complete 1291.4 mHz repeater - Ken's Attic**



**The Echolink Computer**



**Control Box**



**Motorola Mitrek Link Radio to  
443.85 mHz Repeater**

Currently the KC4YOZ Spencer Mountain Repeater can be accessed directly only using a 440 mHz radio and not directly from a computer. However, it can be reached using a computer echolink connection to the Linux Conference (node 155622). This conference is supported by Ken and the Sysop is KE4YYJ - Elaine. Please give this repeater a try with your 440 mHz radio. You may find yourself chatting with hams in DX land along with locals. If you can only get there with a computer, connect to node 155622 using Echolink software.

**W4NCU - MARS NEWS Editor**

**See also KC4YOZ's article on VOIP on Page 2**

## Minutes of the Last Board Meeting

### The Board of Directors met at the Red Cross Building, on May 4th

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Attendees: W4WNT, N4MH, KA3VVJ, AD4IE, AF4ZK, WB2NHQ, W4VHF, KG4IOE, N2HV, W4NCU

The current preliminary figures for the Hamfest show a profit of \$6196 compared to \$11,712 (2003) and \$13,947 (2004). The major contributors to the decline were dealer booths, door sales and fleamarket tables.

The income comparison has been done on a cost accounting basis, which splits out the show administration cost into its components.

Thanks to Greg, KG4IOE, who did a great job on the Pre-Registration sales.

The Lick-em/Stick-em party sent out 27000 fliers in January, of which 450 pre-registration sales can be traced. Greg will supply the Access database to Bill Turner to sort out which zip codes were the most productive. We will then decide which zip codes to focus on in 2005, allowing some reduction in cost of fliers.

Alternatives to the four page folded flier are being pursued as follows:

**N2HV:** cost of a one page printed flier and a glossy large postcard flier.

**AD4IE:** postage costs for the postcard and one-page fliers.

**N4MH:** find a source of a zip code map of the south-east US.

**W4WNT:** identify most productive zip codes from the pre-reg database.

Club members: pick up business cards at any computer shows attended in order to add those dealers to our list for 2005.

Jerry Malin handed out a letter from the Dayton Hamvention outlining their problems, mostly involved with outsourcing work and loss of data to contractors. Dayton will be a mostly volunteer effort in 2004.

Audience focus for the fliers will be expanded to include ham dealers, cell phone equipment, digital camera and computer dealers.

2005 is the last year of the Mart contract. It is expected to go up to \$14,000 for the mart. We need to begin scooping out alternative sites in case the Mart is sold and becomes unavailable. The Metrolina Fairgrounds have been checked in the past and are twice as expensive and too small indoors for our use.

Alternative sites: Old K-Mart building at Crown Point, Parking Deck at UNCC (W4YN is looking into this, but probably March not a good time for basically an outdoor Hamfest. There is an old gymnasium building at UNCC. For comparison, the dealer area in the Mart is 40,000 sq. ft. and the Fleamarket is 80,000 sq. ft. The Liberty Hall side of the Mart (where we used to be, is \$18,000)

Forums: The major cost here is A/V equipment rented for two days. We need to look into running one day of forums and purchasing an LCD projector for the club's use. (In comments after the meeting, Tim O'Rourke suggested we look at the value of the forums to the Hamfest. No one has ever done a Dollar/person calculation on the cost of the forums versus how many people actually attend them.) Is it true that the forums draw people to the Hamfest? Half empty forum rooms don't support this argument.

Badge maker: one has already signed up for next year.

Prizes: Do 10 prizes on Sat. 1-5 given away at 2:30PM and you must be present to win. Do 8 prizes on Sun. at 11:00 and you must be present to win. Prizes would include \$100 certificates to be redeemed at the dealers on the day of the Hamfest.

Auction: Bring back the auction of dealer returns and other goodies on Sunday at 11:00 AM. 15% of the money goes to the club. We would need to staff this with our people.

**Bill Turner, W4WNT - Secretary**

## QRP?...Contest?...

You don't usually see these two words in the same sentence, but I decided to give them a try in the recent WPX Sideband contest at the end of March. The conventional wisdom says that QRP may be OK for CW, but that it is not suitable for phone activity. So, I turned the power down to 5 watts on the Kenwood TS-570S and hooked up the antennas. I've got an assortment of wire antennas and a vertical that are hidden in the trees on the property. In previous contests I'd begun to notice that Central and South America could be worked with 100 watts on the G5RV, which is shaped like an Inverted Vee more than a flat-top. Long distance contacts tended to be on the R-7000 vertical. This was even more pronounced using 5 watts. I worked 17 DX countries in 35 contacts over the two-day period. My strategy was search and pounce, listening for very strong stations and giving them 4-6 calls. If they did not hear me, likely further attempts would not improve my chances, so I moved on. I never used a QRP suffix on my call, as it was not to the other station's advantage to work a QRP station in this contest. When QRP counts more, then I would certainly use the suffix. Two very strong stations were in the log, CN2R in Morocco and VP51V in Turks and Caicos Is. Another very strong station that I heard, but did not work (as he was searching and pouncing up the band) was V51AS in Namibia. Even with the sunspots in a very unfavorable mode, these stations were coming in quite well. Another interesting point, also against the conventional wisdom, was that I had 22 contacts on 20m and 11 contacts on 15m. In contests, people without beams and amplifiers often feel 20m is not productive. However, in this contest, 20m was most productive. QRP uses Miles/Watt as a scoring measure. Here, Argentina (at 4942 miles and 5 watts) would be 988 miles/watt. I did not generate a big score in the contest with only about 4.5 hours activity, but maybe this will encourage some new General Class hams to use their 100 watt transceivers (20 times the power used here) to jump into the DX Contesting world.

73, Bill Turner, W4WNT



## Letters to the Editor

Starting next month we will have a **Letters to the Editor** page in MARS News. If you have been wanting to:

- offer an idea.
- comment on something.
- relate an experience.
- tell of a construction project.
- discuss experiments with antennas.
- tell us of a certificate or award you won.
- let us know if you upgraded your license.
- or anything else.

Send your thoughts to <w4ncu@arrl.net> and I will be happy to publish them.

**Tom - W4NCU**

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### BPL Testing

It seems that Duke Power has discontinued BPL testing until sometime this month. They are waiting for new equipment to be delivered that is apparently better than the one they have been testing. If anyone has more info, please send it here for publication.

**w4ncu@arrl.net**

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### Calendar of Coming Events

- June 1** W4BFB Board Meeting at the Red Cross
- June 4** MS Challenge Walk
- June 5** MS Challenge Walk
- June 6** MS Challenge Walk
- June 19** MS Dollar Ride #1
- June 26** Field Day
- June 27** Field Day
- June 29** Monthly Club Meeting at E. Baptist Church

# The MARS Club Room

## at the Red Cross Building

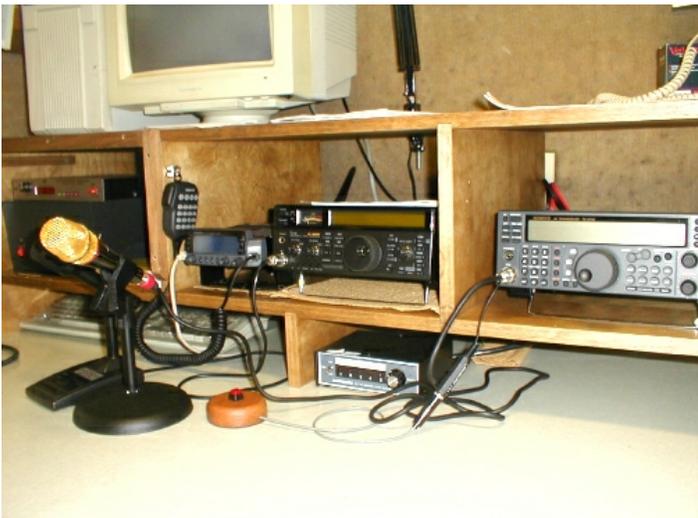
We are very fortunate to have our Club Room at the Red Cross. Any member may use the room and it's many facilities. You need a key to get in. Cost is a \$7 deposit. See John White WB2NHQ at the next club meeting. Learn to use the equipment at one of our Open Houses - See Shawn Goodin K4RSG.



**Front View**



**Right Front View**



**Left Front View**



**Rear View**

**Available for your use are .....**

### HF Equipment

Ten-Tec Paragon Transceiver or Kenwood TS-570 Transceiver either can be used to excite a Ten-Tec Hercules II 550w amplifier. Accessories include microphones & keys for both xceivers, keyer for the Paragon (TS-570 has keyer built in), xceiver switch, antenna switch, Nye Viking Antenna Tuner, Rotator Control. Antenna include Mosely 4-element, 5-band (10, 12, 15, 17, 20 meters) yagi and dipoles for 80 & 40 meters.

### VHF-UHF Equipment

Several 144 mhz and 440 mhz are available along with suitable antennas for FM Repeater usage. A 2-mtr packet bulletin board system is also in the room.

We also share the room with the Qsl Card Bureau (Single Letter Prefix - Call Area 4). See rear photo.

# Field Day 2004

**F**ield Day will soon be here. It starts on Saturday June 26th and ends Sunday June 27th. Again, this year, our site is at Mint Hill Park see map below.

All club members are welcome and are needed. It is the best place to learn how to assemble beam antennas and rotors, sting dipoles, raise towers and much more. Its also an excellent place to jaw with other members about your experiences in Ham Radio.

And of course we need operators. There will be three stations. A ssb phone station, a digital station (see/learn/operate RTTY or PSK-31) and a cw station. Both experienced and inexperienced ops are welcome at all stations.

When you arrive go to the station(s) where you want to operate and place your name on the clipboard to be found there.

If you are a technician you can operate at any of the three stations as long as a control operator is there. If your friend who is thinking about getting a ham license comes along he/.she can also operate with the presence of a control operator.

We need experienced operators also. If CW is your thing, bring your favorite key with you or use the paddles we have.

In addition to operators we need loggers. The logger uses a laptop computer to record all the contacts. If you want to watch an experienced op for a while maybe you could log his contacts then take over after you feel more comfortable about operating.

Please bring a lawn or other chair with you. There will be some food and drinks on hand but you might want to bring your own lunch-dinner-drinks.

**Please join us!**

**Let's make this our best Field Day ever!!!**

**See You There!**



## Directions to Mint Hill Park

To get to **Mint Hill Park**: Go East on Albemarle Road, past the Wal-Mart at the corner of Harrisburg Road and Albemarle. The next stoplight is Wilgrove-Mint Hill Road. Turn right and continue to the stop light at Highway 51. Go straight across 51, about 25 yards to the stop sign at Fairview. Turn left and the park is about a mile on the right. **Follow the yellow/orange line on the map above.**



**Lets Make a Great Score!!!!**

**Mecklenburg Amateur Radio Society, Inc. - Officers and Board of Directors -2004:**

President - Shawn Goodin, K4RSG, Email Address: k4rsg@w4bfb.org

Vice President - Jeff Blythe, KA4WYC, Email address: ka4wyc@w4bfb.org

Secretary - Bill Turner, W4WNT, Email Address: w4wnt@w4bfb.org

Treasurer - John White, WB2NHQ Email Address: wb2nhq@w4bfb.org

Directors - Irvin Hoechner, KF4KFN; Greg Onachila, KG4IOE; Dave Stewart, AF4ZK;

Scott Ellis, KG4UDX; Tom Nicholls, W4NCU

**Meetings** @ East Baptist Church, 6850 Monroe Road (next to East Mecklenburg High School, near Conference Drive) - Last Tuesday of each month at 7:30 P.M.

**Clubroom** - Red Cross Building, 2425 Park Road, RM 023, Charlotte, NC - No telephone.

**Club Repeaters****W4BFB Web Site**

146.34/146.94 w/Autopatch. 144.69/145.29 w/Autopatch.

144.63/145.23, no Autopatch

449.60/444.60 w/Autopatch and P/T 100.0

Autopatches Access \*(don't unkey)+phone number. Disconnect #  
222.80/224.40 w/Autopatch 145.01 Packet Digipeater, W4BFB-1

<http://www.w4bfb.org>

Webmaster: Wayne Setzer - WB4BXW

<wlsetzer@att.net>

**METROLINA 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. Net Manager: Jim Payne, N4JBP, <n4jbp@arrl.net>.

June Meetings - June 29, 2004

May Meetings - May 25, 2004

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