



# N.E.W.S. LETTER

The Publication of the North East Weak Signal Group



May 2011

Volume 20

Issue 3

President: K1WHS, Dave Olean  
Vice President: WZ1V, Ron Klimas

Current Officers  
NEWSLetter Editor: W1FKF, Don Twombly

Secretary: W1GHZ, Paul Wade  
Treasurer: WA1MBA, Tom Williams

## **Next Meeting May 14, 2011**

**1 PM Storrs Library, Longmeadow, MA**

**KX9X will be giving a**

**Talk on League happenings**

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### **Don't Forget**

**The North East Weak Signal Group  
2 Meter VHF and Above Net  
Every Thursday at 8:30 PM Local 144.250  
W1COT, WZ1V or K1PXE Net Control**

MEMBERSHIP in the N.E.W.S Group is \$15 per year. Apply to Tom Williams, WA1MBA. Email [tomw\(at\)wa1mba.org](mailto:tomw(at)wa1mba.org) You may download an application from our web page

<http://www.newsvhf.com/>

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## The President's Corner

This month's meeting promises to be a good one. As we get into the summer VHF season, what better way to get all stoked up with the June Contest than to have Sean Kutzko KX9X in person to deliver a great talk on the in's and out's of contesting as it relates to the ARRL. He wants to field any and all questions relating to his area of expertise. Rather than a shiny and polished Power Point presentation, Sean wants to talk informally about the Contesting Branch, discuss many contest issues and answer questions that we may have. It promises to be a relaxed affair with plenty of good information available for the asking! So don't miss the next meeting. As many of you have noticed, Sean has been in there working hard in the VHF Sprints and has plenty of knowledge of both HF and VHF UHF contesting. His talk promises to be a good one and is not to be missed.

Up here in the North woods, spring has been long in coming. I hear the same complaints from out west as well. They are griping in Wyoming and Colorado too. May seems to be finally warming up and the band conditions will not be too far behind. Six meters has even had a few rip snorting Es sessions already. Sean's talk will undoubtedly spur you on to even more activity for sure. I might have a few photos of my solar ham station on the hill. Next year, I plan to heat it full time over the winter so that I can operate year round. It will be quite an undertaking, and the solar system is the first step.

So bring your friends and saddle up the horse for the NEWS meeting on Saturday, May 14<sup>th</sup> at the Storrs Library at 1 PM. All are welcome at the Chinese Buffet at 11:30 or so for lunch. Sean has promised to be there too. I don't know if he is an expert on egg rolls, but we can ask him and find out!

Dave K1WHS

## From our Treasurer

The treasury remains strong - and a few more old members have returned to the fold, so membership is in good shape too. Work takes me to Florida again the end of April - I'm just not getting enough time to do any ham radio these days. Big push at work for the remainder of the year may put a damper on hill-topping, but I will try my best to get on for some of the summer/fall season contests.

Anyway, looking forward to some fun meetings, including the July picnic and Microwave Update and preparations for that. Typically the Microwave Update committee keeps their finances separate from the club's, and the club can then provide any specific support that the members deem appropriate. If you were here for the last one (has it really been a decade?) you know it is a bundle of fun, hosting folks from around the country and world, and catching up on so much technology, activity, and each others' lives.

See you at the May meeting.

Tom WA1MBA

## From our Secretary

Minutes of NEWS meeting 19 March 2011

### Directors meeting 1225

NEWS Meeting, Storrs Library, Longmeadow, MA

President K1WHS called meeting to order 1305

No Treasurers Report

### OLD BUSINESS:

Microwave Activity Day May 7 - plans announced

Microwave Update Update

- Volunteers

- possible Haystack Observatory tour - WW1M investigating

### NEW BUSINESS:

none

### ANNOUNCEMENTS:

N2LIV doing well [Since then, Bruce is back in hospital]

WZ1V OK after a fall

N1JEZ gave an update on the Funcube Dongle

This is a USB-powered SDR receiver that works with

Windows, MAC, and Linux. [www.funcubedongle.com](http://www.funcubedongle.com)

Mike uses it with WRPlus and HSDR as a panadaptor for FT-817

**DUCT TAPE AUCTION:** several treasures went to new homes

### PROGRAM:

N1JEZ described several of his projects:

- 1296 preamp

- 5760 TWT

- 1296 Power Amplifier, VE1ALQ design

Paul W1GHZ

## THE GREENING OF "DAVE'S STATION".

I have been making a solar photovoltaic system for use at my remote shack. As most of you all know, I have to generate my own electricity so that I can get on the air to work DX. That system has been evolving over the years. I started with an old 4-cylinder gas generator with a 10KW capacity. It drank about a gallon an hour, and with gas at around \$1.00 per gallon, it worked out pretty well. After many years of use, high maintenance, and increasing gasoline prices, I switched to a diesel power plant. The over riding reason to switch is that we started some serious multi operator contest efforts and 10 KW was not enough to run 1500 watts on the lower four bands. The old gasser would run three, but that fourth station would do it in. I got a "Mr. Fixit" Special 30 KW diesel military generator. It worked very well but drank 1.7 gallons per hour. It died a horrible death in 2007. The latest power system has been a 20 KW diesel of modern manufacture. It drinks about a gallon per hour under full load and maybe 0.6 gallons if I am operating as a single operator with only one band running. Maintenance is very simple with diesels but still the cost of operation has been creeping up over the years. With diesel fuel now at over \$4.00 per gallon, I hate to have the big diesel running in anticipation of a band opening. I use a small 3300-watt gasoline genset for monitoring the band, but even that is expensive lately. What to do? I started investigating solar power!

I rigged up a simple solar system with some ham fest type solar panels. Actually I got a whole system from a ham and it included two 34-watt polycrystalline panels and a 4-amp charge controller. This was all on a budget. Batteries are very expensive and my solution was to get some used ones at surplus prices. Installing a solar system is simple but it is also difficult in that there are so many possible choices and so many different specific products for a myriad applications. Where do you start?

Rather than give a how to presentation, I wanted to present a few important things I have gleaned out of several months of casual research. Northern New England is not the best place for a photovoltaic system. In the winter, we may get an average of 2.5 hours of sunlight per day. In the summer that soars to a bit over 4 hours of sunlight. Not a lot of sunlight. I wanted a year round solar system. The result is a rather large solar array and a proper charge controller for it. Solar panels come in all varieties. Efficiencies are very important if you have limited space for the panels. There are three general types, mono crystalline, poly crystalline, and amorphous or ribbon silicon. The last ones are of low efficiency and cost much less. The mono crystalline types are the most efficient but are produced from a single round grown silicon crystal. I chose the polycrystalline type, and eventually decided on a 430-watt panel to make the most of the limited sunlight in Maine. Cost is now \$2 per watt if you shop carefully. I think the efficiencies are about 12-15% typically, although some panels are up getting close to 20%! Things will only improve in the next few years. Production of silicon cells is ramping up and we should see prices plummet as techniques improve with thinner wafers and increased economy of scale. Panel prices should be nearing \$1 per watt in maybe two years. My advice though is do not wait!!

The choice of a battery charger is important. I needed all the energy I could get and spent a fair amount of time surveying the field. There are all sorts of chargers. The better ones use a technique of pulse width modulation to intelligently charge batteries. The better ones also can be tailored to set charge points to the characteristics of the battery in use. The different battery technologies require different charging techniques. My advice is to not skimp on the charge controller. We get so little sunlight, that any money spent for a good controller will pay off in the long run. It is hard to delve into specifications when shopping on the Internet. I considered and purchased a special type of charge controller commonly called an MPPT type. MPPT stands for Maximum Power Point Tracking. Basically the charger has a microprocessor that programs the charger to accommodate the solar panel in use. I was not aware that solar panels put out most power when they are cold. In the dead of winter when it is 5 degrees at noon, the panels will be most happy! I did some IR thermal readings of my panels in April and saw temps of around 100 degrees Fahrenheit! They will get really hot in July! As a result voltage will be lower and power delivered will be less than on a January sunny day. The MPPT charger will adjust for that and program a DC-to-DC converter in the charger to soak up the maximum power from the panel. In the winter months that increase will amount to 25-30 percent more power from the same panels. Also note that batteries need more voltage when cold. Their charging characteristics change from winter to summer as well. This is where the MPPT charger will shine. I chose a Blue Sky Energy Solar Boost 2000E 25-amp 12-volt charge controller for my system. It is expensive, but will pay for itself in the winter. It even has a thermocouple sensor that mounts on the battery and adjusts as the battery temperature varies. I decided to make two separate solar systems using the two different types of solar panels. The MPPT charger wants to see no mixing of panel types as each solar panel has a different power curve and mixing panels will confuse the issue of getting maximum power out!

So I ended up with two systems. The MPPT controller runs two (soon to be four) 140 AH glass mat sealed cells at 12 volts. That system runs the basic radios, 12 volt LED lighting and a 115 volt inverter. The older 2 X 34 watt panels and simpler PWM 4 amp controller will charge a single 50AH battery so that the two systems together can power the occasional 24 VDC coaxial relays needed in my VHF station. I have been working and listening on 28 MHz and 50 MHz already with my K3. I also have my 144 station wired in but do not have the 24 volts yet to operate on 144 MHz. I can listen now. It sure is great to be able to sit there in the shack and play on the bands at the 100-watt level with no generator running. I have a feeling I will be more active lurking around while waiting for those great conditions that we all strain to catch! In the past that was out of the question for me. I could not afford the fuel to run a big diesel power plant in anticipation of the slight chance that the band would open up.

I have tried a simple square wave 115-volt inverter to run my rotators. I have been greeted by rfi and am looking at higher performance pure sine wave inverters. The cheapie inverters seem to power Tailtwisters all right, but I do not like the idea of square waves running anything! So far I have yet to make the decision on which is best, but, again, there are all sorts of choices, and the hype and pricing choices is hard to wade through. I'll have more to the story in another month or two, but I am zeroing in on a pure sine wave inverter in the 600-watt range. That should run all the rotators plus a few 115-volt devices that are essential. I am thinking of logging software on laptops that need more than 12 volts, or the occasional power tool etc. I doubt that I will get an inverter for my 24 KW high voltage supply! I wonder how many amps that would be at 12 volts?

Dave K1WHS

## **144.205 MHz Morning Group Meets Daily 8AM EDT**

**Stan KA1ZE/3 FN01xt**

Gentlemen, you are receiving this because you have either checked in to the net or are someone who I feel may be interested in our activity. A very brief history about the group; Back in September 2010, Ken W2UAD and I were discussing the lack of activity on 2 meters. I was planning on spending time in Florida and I wanted to fill my time with some Ham Radio activity. He thought if we got on the air on a regular schedule that we might be able to shake the trees and generate regular activity. Boy was he right, hihi. We have maintained our 8AM operation and to date we have had 122 different stations from 45 Grid Squares check in. I have made 914 QSOs to date (not bad for a band lacking activity). I control the station through the internet and have probably missed fewer than 5 days from the beginning. Those days regulars W2UAD, Richard N2SPI, and Dan K1BXC have kept the group going.

### **Purpose of the Group**

We want to see more activity by making as many contacts as we can. We are also studying daily propagation by making contacts over redundant paths. Every station checking in to the group will be asked to try and make a contact with every other station if desired. This is a great way to test new antennas and equipment. All of this activity takes place on 144.205.

### **ON4KST 144/432 IARU R2 Chat Page**

I monitor both 144.205 and the ON4KST chat page daily until around 10 AM. If you are not hearing activity on 205 please advise me on the chat page and I will swing the antenna your way. Using the chat page is a big help in aiming our flashlights.. In most cases someone on frequency will be in a favorable position to help set up the sked. You can join the chat page using this link

<http://www.on4kst.com/chat/start.php>

### **Accomplishments**

2-26-2011 W8BYA EN70 works N2SPI/M FN22 for a new Grid 793km N2SPI used a 3 element yagi

3-20-2011 W8BYA EN70 works N2SPI/M FN24 for a new Grid 832km N2SPI used a 3 element yagi

3-26-2011 W8MIL EN74 works WA4GPM FN11 770km This contact has been completed several times

4-10-2011 W9RM EN52 works KA1ZE/3 FN01 870km

All of the above contacts were made using tropospheric scatter. We have not experienced any E's, Inversions or made any Meteor Scatter contacts.

### **Challenge**

The new game we are playing is to add up the total distance worked in any one day. More to follow on this but today NG4C FM16 NC worked K1MAP FN32 714km, K1BXC FN31 698km, N2SPI FN22

668km, K1PXE FN31 602km and KA1ZE/3 618km for a total distance of 3300km (2050 miles). Not too shabby for flat band conditions.. Why not turn the radio on some morning and try for 5000km??



## For Sale ——— Wants

### Cardo Systems BTA II Bluetooth Adapter

2 for \$10.00

With wall charger

Make your Transceiver Wireless

Plug Bluetooth Dongle into Transceiver, use with your cell phone Bluetooth headset .. VOX on TX without adding additional circuit, just add mating connectors..

Don W1FKF [donw1fkf-news@yahoo.com](mailto:donw1fkf-news@yahoo.com)



I am presently selling a nice IF Radio or all round good rig.

Original owner Icom Pro radio in excellent condition. Original box (with all the original packing), manual, microphone and power cord. Rig has special 'Transverter' mode and the famous multi color bandscope (that has a hold function) that is very useful. All for \$1100. PayPal can be accepted or good old cash. Feel free to ask questions. Other good stuff available as well.

Reply to: [wa1hhn@aol.com](mailto:wa1hhn@aol.com) or [wa1hhn@yahoo.com](mailto:wa1hhn@yahoo.com)



I am looking for an inexpensive 6m amplifiers (such as the solid state Harris Platinum I old TV Channel 2 amplifier modules) to ship to a couple of overseas 6m operators interested in getting on 6m EME. I will take care of the overseas shipping. Please let me know of any leads! MNI TNX and VY 73, Lance

--

Lance Collister, W7GJ (ex: WA3GPL, WA1JXN, WA1JXN/C6A, ZF2OC/ZF8, E51SIX, 3D2LR)

P.O. Box 73

Frenchtown, MT 59834 USA

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TEL: (406) 626-5728 URL: <http://www.bigskyspaces.com/w7gj>

LIVE MESSENGER CHAT: [w7gj@hotmail.com](mailto:w7gj@hotmail.com) SKYPE:

lancew7gj

2m DXCC #11, 6m DXCC #815

## 2011 North East Weak Signal Group VHF CALENDAR:

May 14, 1PM - 4PM - [N.E.W.S. Group Meeting](#)

May 20-22 - [Dayton Hamfest](#)

June 4 - [Rochester NY RARA Hamfest](#)

June 11-13, 1800Z-0300Z - [ARRL June VHF QSO Party](#)

July 9, 11AM - 4PM - [N.E.W.S. Group Picnic](#)

July 16-17, 1800Z - 2100Z - [CQ Worldwide VHF Contest](#)

August 6-7, 1800Z - 1800Z - ARRL UHF Contest

August 13, 0300Z - Perseids meteor shower

August 20-21, 6AM - 11:59:59PM - ARRL 10-GHz & up Cumulative Contest

September 10-12, 1800Z-0300Z - [ARRL September VHF QSO Party](#)

September 17-18, 6AM - 11:59:59PM - ARRL 10-GHz & up Cumulative Contest

September ??, 1900-2300 Local - [144 MHz Fall Sprint](#)

September ?? - [Mt. Airy \(PackRats\) VHF Conference](#)

September ??, 1900-2300 Local - [222 MHz Fall Sprint](#)

October 2 - [Mt. Airy \(PackRats\) Hamarama](#)

October ?, 1900-2300 Local - [432 MHz Fall Sprint](#)

October ??-?? - [New England Amateur Radio Festival - Deerfield, NH](#)

October ??, 0600-1200 Local - [Microwave Fall Sprint](#)

October 13-16 - [Microwave Update hosted by NEWS Group](#)

October ??, 2300-0300 UTC - [50 MHz Fall Sprint](#)

November 19, 1PM - 4PM - [N.E.W.S. Group Meeting](#)

November 17, ?????Z - Leonids meteor shower

December 14, ?????Z - Geminids meteor shower

Microwave Update will be in Enfield, CT this year, October 13-16. See [www.microwaveupdate.org](http://www.microwaveupdate.org) for details, more information will be added soon.

Please consider giving a talk or paper for the Proceedings - contact [w1ghz@arri.net](mailto:w1ghz@arri.net) for more information. Enfield is in central New England near the border of Massachusetts and Connecticut, close to the Hartford airport and convenient to both Boston and New York City. October is foliage season in New England, so plan some extra time to see the spectacular colors.

Also this year, the Eastern VHF/UHF Conference will be co-located with the Microwave Update on Saturday, Oct 15. Papers from this conference will also be included in a joint Proceedings. So if your activity this year has been VHF or UHF, please consider a talk or paper.

contact [w1ghz@arri.net](mailto:w1ghz@arri.net) for more information. We all learn by sharing - please contribute.

## Joint Conference Announcement

<p style="text-align: center;"><b>Microwave Update 2011</b> Sponsored by North East Weak Signal Group <a href="http://www.n.e.w.s.org">N.E.W.S.</a></p>	<p style="text-align: center;"><b>37th Eastern VHF/UHF Conference</b> Sponsored by North East Weak Signal Group and the Eastern VHF/UHF Society</p>
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**October 13 – 16, 2011  
Holiday Inn, Enfield, Connecticut \***

	Microwave Update	37th Eastern VHF/UHF Conference
Thursday 13 Oct	TBD Tour Tour of ARRL Headquarters	Friday: No Activities
Thursday Evening	Hospitality Session hosted by DEMI	
Friday 14 Oct	<b>Microwave</b> Registration, Speakers, Auctions Technical Sessions	
Friday Evening	7 PM — Swap session for registered attendees only plus invited surplus dealers	Hospitality Session hosted by N.E.W.S./ Pack Rats.
Saturday 15 Oct	<b>Microwave</b> Speakers, Auctions Technical Sessions	<b>VHF/UHF</b> Registration Technical Sessions, Band Sessions & Noise Figure Lab
Saturday Evening	<b>BANQUET</b> Awards & Prize Drawing (First 10 prizes to Banquet ticket holders)	
Sunday 16 Oct	8 AM (no early birds) FLEA MARKET — in parking lot Open to all ANTENNA MEASURING Microwave Update Close Out	

### CONFERENCE UPDATE PLEASE READ

Bruce N2LIV has been hospitalized the past 3 months.

At his request, I contacted the new Holiday Inn Enfield hotel (formerly Crowne Plaza) to aid in completing the planning for our event: We've been able to negotiate a great deal with the hotel this year and are pleased to pass the savings on to you.

Microwave Update early registration package deal \$79 (\$89 at the door) includes Thursday/Friday night Hospitality rooms, Friday/Saturday/Sunday registration, Proceedings (written and CD): also includes Friday Luncheon deli buffet (make your own sandwich, salad + hot soup) in private ballroom, Plus Saturday night Banquet in private ballroom with choice of dinner selections: Chicken Marsala, Baked Scrod, or Roast Pork Loin. Additional dinners for guests are available at \$35 each. This also includes Sunday morning outdoor flea market (both buyers and sellers) and antenna measurements.

We are also offering a Saturday/Sunday only venue which consists of the second half of Microwave Update with concurrent VHF/UHF Conference presentations (our traditional Eastern VHF/UHF Conference agenda). Early Pre-Registration for this venue is \$30 (\$35 at the door), and includes:

Friday night Hospitality Room, Saturday/Sunday registration, Proceedings (written and CD). Saturday night banquet is optional for an additional \$35, with choice of Chicken Marsala, Baked Scrod, or Roast Pork Loin. This also includes Sunday morning outdoor flea market (both buyers and sellers), and antenna measurements.

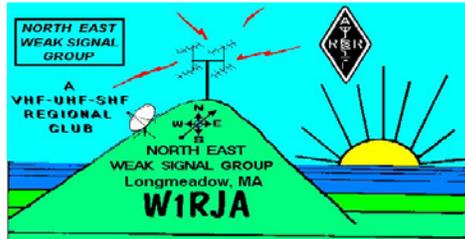
We have a block of Guest rooms (doubles) reserved at the Holiday Inn Enfield for \$99/night by mentioning Microwave Update, call them directly for reservations: 860-741-2211. This price is only valid through 09-23-2011 or until sold out.

Paul W1GHZ has been requesting papers for our Proceedings, please contact Paul directly if you have articles for publication.

We're very fortunate this year to have dedicated volunteers from both the NEWS Group and the PackRats helping out, but we can sure use a extra hand working the registration tables during the event. Please contact myself or Steve W1SMS if you're interested in volunteering.

Visit our webpage often for the latest updates and registration: <http://www.microwaveupdate.org/>

Respectfully, Ron Klimas WZ1V, for Bruce Wood N2LIV [wz1v@arrl.net](mailto:wz1v@arrl.net)



**N.E.W.S. Group**

**Membership Application**

Name: \_\_\_\_\_ Call sign: \_\_\_\_\_ Grid: \_\_\_\_\_

Street: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone (home) \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Optional (work) \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Email \_\_\_\_\_

ARRL member?  Y  N Electronic Newsletter Delivery?  Y  N

Operational Bands (circle) 50 MHz 144 MHz 222 MHz 432 MHz 903 MHz

1.2 GHz 2.3 GHz 3.4 GHz 5.6 GHz 10 GHz 24 GHz 47 GHz

76 GHz Light Other (list)

The North East Weak Signal [N.E.W.S.]Group is being established to form a camaraderie among fellow VHF-UHF-SHF enthusiasts, and support a convenient means to exchange technical information. We currently have 6 meetings per year, held at a centrally located facility, and provide a "NEWSLETTER" that is distributed 2 weeks prior to each meeting. Any contributions to this publication are appreciated and can be sent to: Don Twombly, W 1FKF 23 Maura Dr. Woburn, MA 01801 Email: donw1fkf-news (at) yahoo (dot) com. Dues are \$15/year. Remember, this group is formed by VHF'ers for VHF'ers.

Mail to:

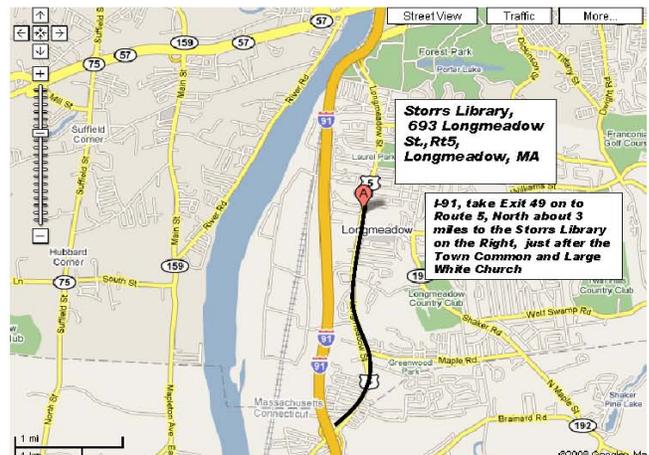
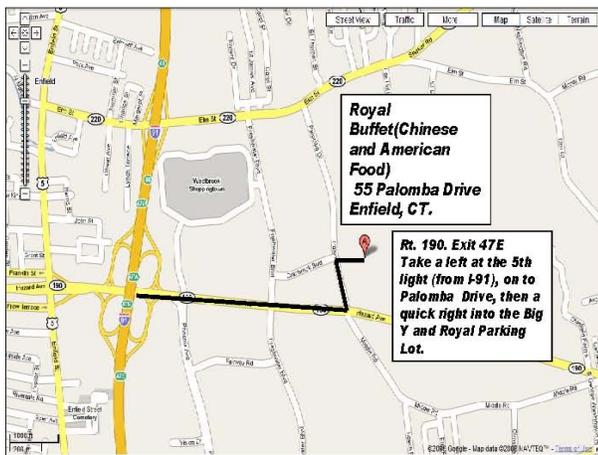
**North East Weak Signal Group**

**c/o WA1MBA Tom Williams PO Box 28**

**Shutesbury, MA 01072**

Email: [tomw \(at\) wa1mba \(dot\) org](mailto:tomw@wa1mba.org)

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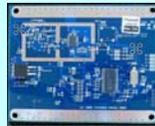
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***Next Meeting May 14, 2011***

**1 PM Storrs Library, Longmeadow, MA**

***KX9X will be giving a Talk  
on League happenings***

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## **North East Weak Signal Group**

c/o WA1MBA Tom Williams PO Box 28 Shutesbury, MA 01072



Check your membership  
expiration date on your mailing label!