The Minuteman Repeater Association

The Minuteman

Volume 34, Number 1 September 2004

President's Corner by Bob DeMattia, K1IW

As fall approaches, we begin another year for MMRA. Actually, the MMRA year began on May 1st, and many of us have been busy over the summer with club activities. On June 12th, we held a work party at the Slygo site in Marlborough. MMRA members replaced the North facing 53.81 receive antenna which had been damaged last winter during an ice storm. The Slygo shelter was spruced up, including some badly needed weed control, re-leveling of the shelter, and some general housecleaning. Work didn't stop on June 12th however. The Quincy '67 and '40 repeaters were completely rebuilt by Bryan, W1BRI. After a month and one-half "summer vacation", the repeaters were returned to service in August. We also made progress with the controller rebuild project. Now, in addition to Weston, the Marlborough East, Quincy, Hopkinton, and Shrewsbury sites have been updated with new code. For details about this, read Bryan Cerqua's article in this issue. Many thanks go to Andy, N1BHI, who secured the new equipment for the '67 repeater at no cost to the club.

MMRA was also active at the ARRL New England Convention in Boxborough on August 14th and 15th. We hosted the talk-in from its hospitality booth inside the hotel. We also held a raffle for a brand new Yaesu tri-band HT (which was won by Steve, W3EVE), and a silent auction to sell off some surplus equipment from the MMRA site in Weston.

As I look forward to the next year for the club, I hope to see some increased participation from all of our members. As many of you may know, meeting attendance has waned over the past few decades. I remember the first MMRA meeting I attended in 1981. It was in the auditorium of the Campion Center in Weston. There were over one hundred members in that auditorium! Over the last few years, I've seen meetings with as many as forty and as few as one dozen members present. In the next year, I will be working to bring you some very interesting topics at our meetings that you will not want to miss. We will start off in September with a visit to the transmitter site of WGBH in Needham. Details of this tour are elsewhere in the newsletter. This is your chance to see some really high power transmitters first hand.

If you unable to make it to our meetings, maybe you can find other ways to participate in making MMRA an interesting and thriving club. One easy way is to become more active on one of our many repeaters. In my professional work, I've had an opportunity to travel to many different cities in the U.S. and Canada. One thing that is really discouraging is this: I'm visiting a place with dozens of repeaters. I give a call on several of them and receive no replies. Let's work together to make sure that doesn't happen here. If you hear someone, familiar or unfamiliar, giving a call on one of our repeaters, give them a call back and say hello! You'd be surprised how appreciated this can be. This also creates momentum on the repeaters — if they are active, more people are apt to start listening and even talking. A lot of work goes into keeping these repeaters on the air. This work is all the more worthwhile when the repeaters provide QSOs rather than a system for sending automated IDs every ten minutes!

There are other ways to participate as well. We have a very fine newsletter assembled and edited by Bob, N1BE. But, he cannot do it alone! What is most important is content. Our best newsletters are the ones that contain articles by many of our members. Just pop an email to n1be@mmra.org and he will let you know how to get involved. If electronic media is more your style, we also need people to provide content for our website http://www.mmra.org/. The website is probably the second-most visible image of our club (after our repeaters of course!). It contains areas that cover all of our activities, including foxhunts, volunteer examinations, and more! (And by the way, you can get involved with these activities directly as well!).

When I sit down to write the "President's Corner" message for our May issue, I hope I will be saying "This has been one of the best years ever for MMRA". With your help, this can be a reality.

Inside this issue:

About the Minuteman Repeater Association

The Minuteman Repeater Association (MMRA) is dedicated to Amateur Radio and public service. The MMRA has built a large system of repeaters in Eastern Massachusetts.

The Minuteman newsletter is mailed one week before each meeting. Members are encouraged to submit articles. Articles may be sent to the editor via email to n1be@arrl.net. The deadline for articles is the last Friday of the month preceding the meeting.

The MMRA meets on the 3rd Wednesday of September, November, January, March, and May. Meeting time, locations and talk-in frequency vary. These are announced in the newsletter and on weekly nets. Meetings are open to all interested parties.

Each Tuesday evening at 8PM the MMRA links most of the repeaters for an open net. The topic is "Technical Information and Other Stuff". Feel free to join us.

Membership in the MMRA is open to all radio amateurs. Annual dues are $25 per individual or $35 per family. See our website for details.

Email to the club leadership should be sent to mmra@mmra.org. The MMRA web site is: http://www.mmra.org/

An email distribution list for club members named "MMRA" has been established on: http://www.yahoogroups.com/

MMRA requests that no part of this newsletter be copied or posted elsewhere without prior approval from the club. Your cooperation in this matter is greatly appreciated.

Repeater and Frequency Information

Location	MHz	PL	Call	Note
Marlboro	53.810	71.9	W1BRI	PTL
Belmont	145.430	67.0	WA1RTT	Affiliated, PTL
Marlboro	146.610	146.2	N1BHI	FTL
Quincy	146.670	146.2	W1BRI	PTL
Stoneham	146.715	146.2	N1NVL	PTL
Weston	146.820	146.2	N1BE	PTL
Brookline	146.985	88.5	W1FCC	Affiliated, PTL
Marlboro	147.270	146.2	W1MRA	PTL (to 10 Meters)
Hopkinton	223.940	103.5	N1BHI	FTL
Quincy	224.400	103.5	N1KUG	FTL
Weston	224.700	103.5	N1NOM	FTL
Stoneham	446.725	88.5	N1NVK	NA
Milford	446.825	100.0	WA1QGU	Affiliated, PTL
Brookline	447.875	136.5	K1IW	Affiliated, PTL
Shrewsbury	449.575	88.5	W1BRI	FTL
Marlboro	449.925	88.5	W1MRA	Network Hub
Marlboro	144.390	none	N1QPR-2	APRS Digipeater
???	145.630	146.2	W1MRA	Fox Box
Internet	Echolink node 94940 connects to the Network Hub			

Notes: FTL = Full Time Linked to the Hub.
PTL = Part Time Linked (on demand).
NA = linking is Not Available.

PL: PL is now required on 2 meters to prevent interference. The code **750** will temporarily disable the PL requirement.

Using the Autopatch: Only the hub has a telephone line.
(1) Link to the hub if necessary.
(2) Then bring up the patch using the 449.925 autopatch codes.

Control codes are sent to members upon receipt of dues.

MMRA Leaders

President	Bob DeMattia	K1IW
Vice President	Steve Telsey	N1BDA
Secretary	John McGovern	W1JMC
Treasurer	Kevin Paetzold	K1KWP
Clerk	Bob Evans	N1BE
Technical Officer	Bryan Cerqua	W1BRI
Director	Larry Banks	W1DYJ
Director	Tom Muise	W1CDA
Director	Steve Schwarm	W3EVE
Director	Bill Thorpe	WA1NLR
Emergency Coordinator	Bill Northup	N1QPR
Public Service Coordinator	Kevin Paetzold	K1KWP
Newsletter Editor	Bob Evans	N1BE
VEC Liaison	Bill Wade	K1IJ
Web Page Editor	Bob DeMattia	K1IW

New Link Codes: Easier Than Ever — by Bob DeMattia, K1IW

With the introduction of new firmware on all MMRA controllers, linking repeaters is easier than ever. Members will get detailed directions with their membership certificate (when they renew).

The brief story: Enter the USER LINK CODE and drop your PTT. The repeater will say "ENTER LINK CODE". Now transmit again and enter the LAST THREE DIGITS of the repeater your want to link/unlink, followed by a "0" to unlink or a "1" to link. For example, to link 146.670, enter 6701. To unlink 146.715, enter 7150. It's that simple.

You will receive the USER LINK CODE with your membership package.

Repeater Report — by Bryan Cerqua, W1BRI

A lot is going on with the MMRA repeater network. First and foremost, I'd like to acknowledge Andy Morrison, N1BHI, for providing three like-new GE MASTR II base stations. Over the last decade, Andy has gotten the club eight GE stations. If not for this commercial quality equipment, I'd have given up building and maintaining repeaters a long time ago.

One of these stations has a wonderful two stage isolator panel to prevent any transmitter inter-modulation problems and protect the station if there is an antenna fault. This repeater will replace the 147.27 repeater. Thanks again to Andy, for getting us a SCOM 7K controller for use with this new repeater.

A problem was that the repeater cabinet was taller than the height of the Slygo shelter. Keith Wheeler of Lands towing in Marlboro removed five inches from one of our spare cabinets, re-welded and painted it for us; it looks fantastic! Andy had gotten Lands towing a MASTR II station that I put on the air for them (on a non-amateur frequency).

All of the new 147.27 repeater was relocated to the shorter cabinet. Everything just fits including the 7K controller. I'm working with Telewave to get new inserts for converting the duplexers that came with the station from pass only to pass-reject. The new 147.27 repeater should go online soon.

(Continued on page 4)

MMRA Board Minutes — by Bob Evans, N1BE

The MMRA board met for a business meeting in June at the Southborough House of Pizza. The discussion covered:

- The completed June 12th work party.
- Boxboro staffing, talk-in personnel and display ideas. The board approved printing of 500 copies of a brochure for approx $110 to be used as a Boxboro handout. Board members supplied updates to the "MMRA Info" in the brochure and newsletter.
- Speakers for membership meetings in next year. Consensus was to avoid meeting in a restaurant or where there is a fee unless we have no better alternative. N1BE to ask if it is possible to visit the power plant in Hudson MA for Nov. or Jan. meetings.
- K1IW displayed a 7K controller with the latest macros.
- Repeater changes underway:
  - Shrewsbury, Quincy & Brookline 440 were down for maintenance and upgrades.
  - Stoneham to be updated to use a single 7K controller.
  - The board agreed to deployment of a new mode that would allow linking on an alternate frequency without using the hub (e.g. linking Weston directly to Stoneham).
  - We approved a small expenditure for channel elements for 449.925
  - W1BRI & K1IW indicated their desire to finish the conversions to the new controllers before member renewals are due on Sept 1, so everyone would get the new user codes.
- K1IW turned the secretary's database over to W1JMC. Bob also gave John a tutorial on how to perform the necessary tasks.

After the in person meeting, but prior to Boxboro, the board voted by email to:

- Auction off surplus MMRA equipment.
- Buy a tri-band HT to be raffled off at Boxboro.

Boxboro Results

At the ARRL convention, 34 memberships were submitted totalling $890 in dues. Of these, there were eight new MMRA members: K1ZKA, K5TEC, K1RAT, KB1LOY, K1VEA, W1IQ, N1JKL and N1LDM.

The HT raffle brought in $214 which is a few dollars less than the cost of the HT.

Some of the MMRA surplus equipment was sold at Boxboro. Additional items are being sold on eBay.

MMRA Elections

At the MMRA annual meeting on May 19 new officers were elected. The slate elected is as it was printed in the May newsletter. The resulting office holders in shown on page 2 of this newsletter.

At the same meeting, bylaw modifications that were posted in the May newsletter were voted on and all were approved.

Repeater Report (cont.)

(Continued from page 3)

This summer Bob, K1IW has been busy converting all the SCOM controllers over to the new methodology using one controller to support three radios. Bob created a very nice software compiler to manage all the SCOM code for all the repeater sites. This was a huge job and we owe Bob a lot. So far the following repeaters are using this new code: 53.81, 146.61, 146.67, 146.82, 224.40 and 224.70. Marlboro East, Weston and Quincy are each using one 7K controller to share the 449.925 link radio for the two on-site repeaters. We plan to upgrade the Stoneham site the same way.

Another station Andy got us is already on the air in Quincy. I'll save the details for an upcoming repeater report since it won't all fit in this newsletter. This repeater is now working on 146.67 along with the improved 224.40 repeater. A feature we added was a second channel on Quincy's link radio; this will allow us to link the Quincy repeaters to either 449.925 or 446.725. A sub-network can be created by linking Stoneham to Quincy using the 446.725 repeater. This will allow us to cover most of the eastern part of the state with only three repeaters. Once we add a 88.5Hz PL to 446.725 output this will be ready for a trial.

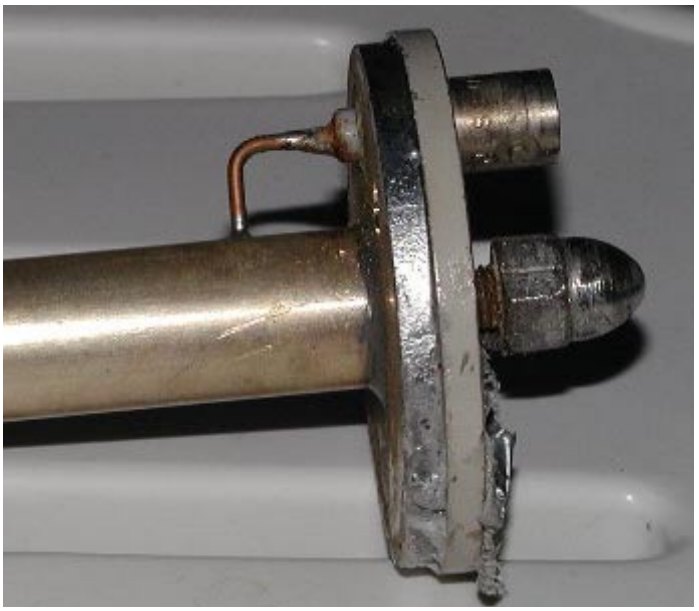
Rebuilding of the Shrewsbury 449.575 repeater: Bob, K1IW wanted to update the SCOM 5K controller with new code. We moved the repeater from the penthouse at Maxtor to my lab at work to have more room and it's much cooler. While the code was being loaded I looked at the duplexer on the network analyzer and made some adjustments since removing extra filtering to block interference of a 900MHz paging transmitter that is no longer at the site. After updating the code the repeater was placed back on the air. When Bob and I tested it on the way home, we quickly realized that we could not hear it well at all.

The next day I went to the site to find out why it was not playing well. It was about 110 degrees up in the penthouse. A power meter on the duplexer output showed it was only putting out about 1W. I tried to fix it in place but quickly got fed up with the high heat and pulled the duplexer and PA home for further analysis. At home I found the input match to the TX side of the duplexer to be off causing the PA to fold back.

I went up to the penthouse the following day to remove the remainder of the repeater. This repeater was mounted in a very small cabinet. It looked nice and compact but it was a bear to work on, just too small to get my hands into the damn thing. I had a 40 inch high cabinet in my garage and decided the time was right to re-rack the whole thing.

Then my company had a huge layoff and my contact for access to the penthouse was one of the first ones to go. While rebuilding the repeater I decided it would be good to let a week pass by until things at work settled down. I was fortunate to become friends with the security guards and they allowed me back up without having to go through any new hoops.

As most users know the Shrewsbury repeater can be linked to 449.925 or Milford 446.825. When linked to 446.825 and someone was weak into 444.575, the link radio transmitter on 441.825 would cause the main repeater to pump with de-sense. This has been a problem from day one. I spent many Saturdays on the roof trying different locations for the link radio antenna. It's now on the lower roof with about 200 feet of 9913 just to get it far away from the main repeater antenna. Even with large separation the problem is still there occasionally. I needed to find a better solution.



Notch filter before and after modification

Previously, I got some UHF notch cavities at a flea market. Each cavity provides about 25 dB of rejection but the insertion

(Continued on page 5)

Minuteman Repeater Association
Quick Membership Renewal

Please use reverse side for new memberships.

(**Renew online** — Use the Member's Login on www.mmra.org)

Name: _____

Callsign: _____

Email: _____

Dues paid (please check one):

☐ Individual Membership (Dues: $25 per year)

☐ Family Membership (Dues: $35 per year)

Do you want to receive the newsletter via email? If so, you'll receive more content earlier.

☐ Check box for Electronic Newsletter: You must supply an email address.

Any other info changed since your last application was filed?

☐ If yes, please check here and please fill in new info on the reverse side.

Please submit completed application forms with your dues
at the MMRA meeting
or mail to:

MMRA
P.O. Box 669
Stow MA 01775-0669

Form Revised: 2003-11-01

Minuteman Repeater Association, Inc.
P.O. Box 669
Stow MA 01775-0669

A Non-Profit Communications Organization Serving the Public in Time of Emergency.

— Membership Form —

☐ **New or** ☐ **Renewal**

☐ **Individual Membership (Dues: $25 per year) or** ☐ **Family Membership (Dues: $35 per year) or** ☐ **Novice Membership (1st year Dues: $10)**

I hereby apply for membership in the MINUTEMAN REPEATER ASSOCIATION, INC. I agree to abide by the rules and regulations of the Association as stated in the bylaws., and understand that acceptance of this application entitles me to all rights and privileges of membership as provided under the bylaws.

☐ **Check box for Electronic Newsletter: Receive more content earlier. Must supply email address.**

Name: _____ **Callsign:** _____ **Class of License:** _____

Address: _____ **Home Phone:** _____

Town, State, Zip: _____ **Work Phone:** _____

Email Address: _____

Occupation: _____ **Employer:** _____

Member of the ARRL? _____ **Other Clubs?** _____

Bands and Modes you operate. Please check all that apply:

	Fixed	Mobile	Portable	FM	DTMF	CW	RTTY	PSK31	APRS	Packet	SSB
HF											
VHF											
UHF											
Satellite											

I can and am willing to assist/serve the Association and/or help maintain the Repeaters in the following ways:

- ☐ **Antennas**
- ☐ **Association Officer**
- ☐ **Board of Directors**
- ☐ **Education**
- ☐ **Emergency Communications**
- ☐ **Equipment Construction**
- ☐ **Equipment Transportation**
- ☐ **Grant Writing**
- ☐ **Legal Aid**
- ☐ **Medical Aid**
- ☐ **Meeting Setup**
- ☐ **Net Control**
- ☐ **Newsletter**
- ☐ **Public Service**
- ☐ **Publicity**
- ☐ **Radio Shelters**
- ☐ **Refreshments**
- ☐ **Repeater Control Operator**
- ☐ **Repeater Technical Committee**
- ☐ **Social Events**
- ☐ **Speaking at a meeting**
- ☐ **Special Projects**
- ☐ **Technical Library**
- ☐ **Web Site**

Other—Please specify:

_____

_____

_____

_____

_____

Other family members:

Name: _____ **Callsign:** _____ **Class of License:** _____

Name: _____ **Callsign:** _____ **Class of License:** _____

Name: _____ **Callsign:** _____ **Class of License:** _____

Name: _____ **Callsign:** _____ **Class of License:** _____

Form Revised: 2002-02-24

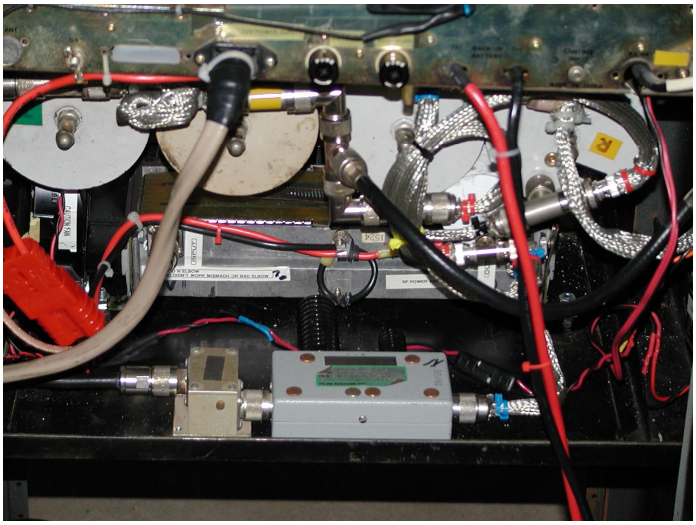
Repeater Report (cont.)

(Continued from page 4)

loss on the high side of the notch was poor. The insertion loss on the low side of the notch was much better. I needed to flip the curve so that the better insertion loss was on the high side of the notch frequency. I had previously opened up one of the cavities and decided to use this as my experimental prototype. I noticed that the BNC connection had a small right angle bend of wire connecting the center of the BNC to the ground on the piston shaft.

After a few hours on the network analyzer I came up with a solution to flip the curve by adding a trimmer capacitor in series with the wire to ground. I used a blow torch to open up the other two cavities and made the modifications. I drilled a small hole in the top of the cavity to access the trimmer.

Two of these cavities were connected in cascade for a 50 db notch on 441.825 with only 0.74 db of loss on 444.575. The notch filters were added to the RX side of the duplexer between the radio and the RX port on the duplexer. I added extra shielding to all coax runs on the 444.575 receiver side of the repeater to keep out any unwanted RF.



Rear of repeater showing coax, isolator, and harmonic filter

Since the Maxtor site has other UHF transmitters nearby, a two stage isolator and harmonic filter was added to prevent unwanted mixing in the transmitter output stage.

Some other small changes were done to make the link radio transmit only when there was receive activity on the main repeater input. It was originally wired so that it stayed key based on the main repeater PTT. Now it works much cleaner when linked into the HUB repeater.

The repeater and power supply are now mounted in one rack with plenty of extra room making it much easier to service. Wheels were added to rack making it easy to move out of the way when someone needs to access another repeater that is mounted on the wall behind ours.

Repeater in the new rack, installed at Maxtor

The repeater no longer has de-sense from the link transmitter. We noticed some new interference getting into 444.575 but it appears to be something else nearby and not the repeater itself. The interference is not always present; we are still looking for its source. The repeater is working better these days and it is very handy for monitoring the network while at work.

Future MMRA repeater upgrades:

146.715: Upgrade 7K controller to the new code.

446.725: Add 88.5Hz CTCSS encode and decode. Add wiring to share controller and link radio with 146.715. Measure supply current for UHF PA and see if the current MASTR II supply can handle it. Currently 446.725 is only running about 10W.

147.270: New high power MASTR II station should be online hopefully soon once duplexers are ready.

449.925: Add crystals on MASTR II link radio. Replace station with 75W solid state Motorola MICOR repeater. Re-rack into a smaller open frame rack. Use the duplexer obtained by trade of the older Quincy low boy station. The duplexer is tuned and waiting. Hopefully the HUB repeater will work much better with all this new hardware.

Public Service Volunteer Opportunities in the New England Division

Listing public events at which Amateur Radio communications is providing a public service and for which additional volunteers from the Amateur Community are needed and welcome. Please contact the person listed to identify how you may serve and what equipment you may need to bring.

The most up-to-date copy of this list is maintained as http://purl.org/hamradio/publicservice/nediv

Every event listed is looking for communications volunteers.

Date	Location	Event	Contact	Tel/Email
Sep 10	Hyannis MA to Brewster	MS Challenge Walk	John N1PYN	508-588-3250 n1pyn@arrl.net
Sep 11	Brewster MA to Eastham	MS Challenge Walk	John N1PYN	508-588-3250 n1pyn@arrl.net
Sep 12	Brewster MA to Dennis	MS Challenge Walk	John N1PYN	508-588-3250 n1pyn@arrl.net
Sep 17	Plymouth MA to Sandwich MA	ALA Autumn Escape Bicycle Tour	Bruce KC1US	781-275-3740 kc1us04@amateur-radio.net
Sep 18	Madison CT to Modus CT	MS Tour 150	Scott AA1WM	203-676-1016 sbicycles@comcast.net
Sep 18	Sandwich MA to Brewster MA	ALA Autumn Escape Bicycle Tour	Bruce KC1US	781-275-3740 kc1us04@amateur-radio.net
Sep 19	Modus CT to Madison CT	MS Tour 150	Scott AA1WM	203-676-1016 sbicycles@comcast.net
Sep 19	Brewster MA to Provincetown MA	ALA Autumn Escape Bicycle Tour	Bruce KC1US	781-275-3740 kc1us04@amateur-radio.net
Sep 19	Hopkinton MA to Boston	Jimmy Fund Walk	Steve W3EVE	508-384-7697 w3eve@arrl.net
Oct 9	Pepperell MA	Fall Classic Soccer	John KB1HDO	978-772-5406 kb1dho@verizon.net
Oct 10	Pepperell MA	Fall Classic Soccer	John KB1HDO	978-772-5406 kb1dho@verizon.net
Oct 11	Pepperell MA	Fall Classic Soccer	John KB1HDO	978-772-5406 kb1dho@verizon.net
Oct 22	Cambridge MA	Head of the Charles Regatta	Jeff N1FWV	978-536-2842 N1FWV@comcast.net
Oct 23	Cambridge MA	Head of the Charles Regatta	Jeff N1FWV	978-536-2842 N1FWV@comcast.net
Oct 24	Cambridge MA	Head of the Charles Regatta	Jeff N1FWV	978-536-2842 N1FWV@comcast.net

This list is published periodically as demand warrants by Stan, KD1LE, and Ralph, KD1SM. Our usual distribution is via packet to NEBBS, via Internet mail to the arrl-nediv-list and ema-arrl distribution lists, and on the World Wide Web (see URL above). If other mailing list owners wish us to distribute via their lists we will be happy to oblige. Permission is herewith granted to republish this list in its entirety provided credit is given to the authors and the URL below is included. Send comments, corrections, and updates to: (via packet) KD1SM@K1UGM.#EMA.MA.USA, (via Internet) KD1SM@ARRL.NET.

We make an attempt to confirm entries with the coordinator unless the information is from another published source. We very much appreciate the assistance we have been receiving from our 'scouts'; everyone is welcome to send us postings.

Refer to http://purl.org/hamradio/publicservice/nediv for the most recent version of the PSLIST. AR

World Science Fiction Convention

The World Science Fiction convention is in Boston this year on Sept 2 - 6. There is a presentation on ham radio at 11:00 Friday, September 3; to include the historical connection to science fiction, the future of ham radio and information on ham resources and clubs in the Eastern MA area, including the MMRA repeater network.

This group will be led by MMRA member and Metro Boston PIO Bill McIninch, KA1MOM, with support from Walt, KB1IBG, Bill, N1VUX, and several other Boston area ham attendees.

146.565 MHz simplex is suggested for local communications among attendees.

Seeking representatives to September CEMARC Meeting

This article from N1DHW, EMA ACC, announces the September 18th meeting of the Council of Eastern Massachusetts Amateur Radio Clubs aboard the USS Salem. All Amateur Radio clubs in EMA are encouraged to send representatives to this meeting. The MMRA does not have a CEMARC representative. Please consider volunteering to attend this meeting and send an email to mmra@mmra.org to let us know if you plan to go. — Ed.

Well summer is almost over, kids will be going to school, lawn mowers put away and shovels put near the back door. Sound depressing? It is. But the good news is that we'll end the summer with a CEMARC meeting on board the USS Salem in Quincy.

The September 18th CEMARC meeting will be hosted by the USS Salem Radio Club. The club has volunteered to host the meeting, provide lunch, and give all a tour of the ship's radio rooms.

I'm sure that there will be plenty to discuss and review since we last met. It's been a very busy summer for all ham radio in Eastern Mass. and the country. Of course we can expect Pi to bring us up to date on this summer's USS Salem Scouting activities, but in addition, here's an opportunity for all clubs in attendance to boast of their own accomplishments / activities over the long summer. You might also bring along a list to share of planned club activities and/or speaker's your club has scheduled for this season.

So, please join us at your CEMARC meeting on September 18, 2004 starting at 0900 hrs., lunch at noon, a radio room tour, and some time for enjoying old friendships after.

For those arriving early, the SATERN group has volunteered to have coffee/tea/hot chocolate available on the pier to help start the day off, and will provide talk-in on the Boston 145.230 MHz/ PL 88.5 Hz repeater.

Remember, CEMARC meetings are open to all club members.

Detailed driving directions are available on the USS Salem Web Site:

http://www.uss-salem.org/visitor_information.htm

If you have an item you'd like placed on the meeting agenda, please forward it to me at: Frank Murphy N1DHW n1dhw@arrl.org

Last Meeting — W1WSN

At the May meeting, Steve Rudin, W1WSN, regaled us with tales of the formative days of the MMRA. One club activity was to provide public service communications during the July 4th, 1976 bicentennial celebration.

Steve sent us these photos of an early MMRA member badge and of passes used during the public service event. Thanks, Steve!

June work party photos — by N2IOF and N1NAU

A big **THANK YOU** to
all who helped!

NESMC Seeks Coordinators — by Bob DeMattia, K1IW

The New England Spectrum Management Council is seeking applicants to fill the 222MHz and 440MHz frequency coordinator positions. The ideal candidates will have a strong familiarity with the existing systems that are on the air, as well as technical knowledge about VHF and UHF propagation characteristics, such as how they are affected by antenna height, transmitter power, topography and other man-made obstructions. Technical knowledge specific to repeater operation is also necessary, such as the effect of coax attenuation, antenna characteristics, and intermodulation issues.

Since these positions involve direct interaction, both verbal and written, with amateurs across New England, excellent communications skills are also a necessity. A familiarity with PC-based applications such as Microsoft Word, Excel, and email is very helpful. To perform well, a certain amount of dedication is required. NESMC is seeking applicants that are willing to devote enough time each month to respond quickly and efficiently to applications and inquiries from the amateur public. Furthermore, NESMC holds quarterly board meetings and one annual meeting each year at which attendance by the coordinator is expected. Since NESMC officers and coordinators are located across Maine, New Hampshire, Massachusetts, and Rhode Island, the meeting locations rotate to make travel easier for different members each time.

If you are interested in applying for either of these positions, please forward a cover letter and resume to:

apply@nesmc.org.

Or you may mail your material to Bob DeMattia, NESMC, PO Box 198, Berlin, MA 01503.

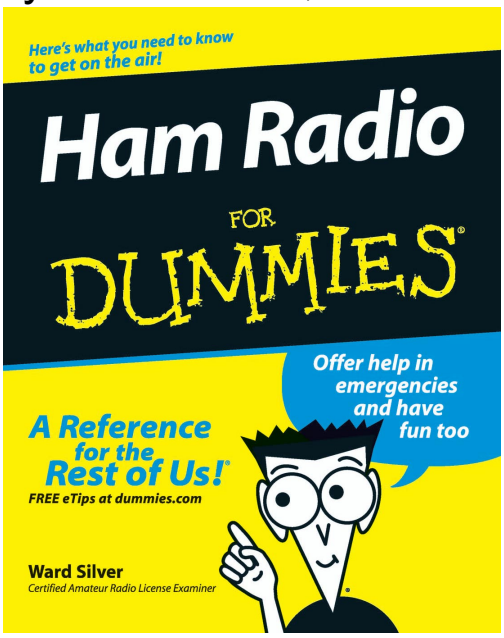
More information about NESMC is available on the web site, http://www.nesmc.org/

Ham Radio for Dummies — by Ward Silver, N0AX

You may be aware that my new book, "Ham Radio for Dummies" has been released by Wiley Press. It has been receiving good reviews, such as the one by Rick Tavan, N6XI on page 62 of the July QST. Other reviews are forthcoming in CQ and WorldRadio later this summer.

I wrote the book for new hams as a "Desktop Elmer" and for people interested in becoming hams. Even so, experienced hams will also find new items to pique their interest. There is a sample chapter online at http://www.dummies.com/WileyCDA/DummiesTitle/productCd-0764559877.html as well as a substantial "bonus content" package on the technical details of operating and a large list of web references. All can be downloaded without charge.

The book is available both on-line and in bookstores at prices from $15 to $22. Thanks for your interest!



Your Ham Radio-related announcement can appear here. Just send an email to N1BE@MMRA.ORG in time to meet the publication deadline. Allow two weeks after the deadline for publication and distribution to MMRA members.

Wood Call Signs

Craig Celia has a small business of making wooden call signs for ham radio operators and wooden names. He has made quite a few ham radio call signs and has some posted on a web site. His website has the details:

http://www.woodnames.net/

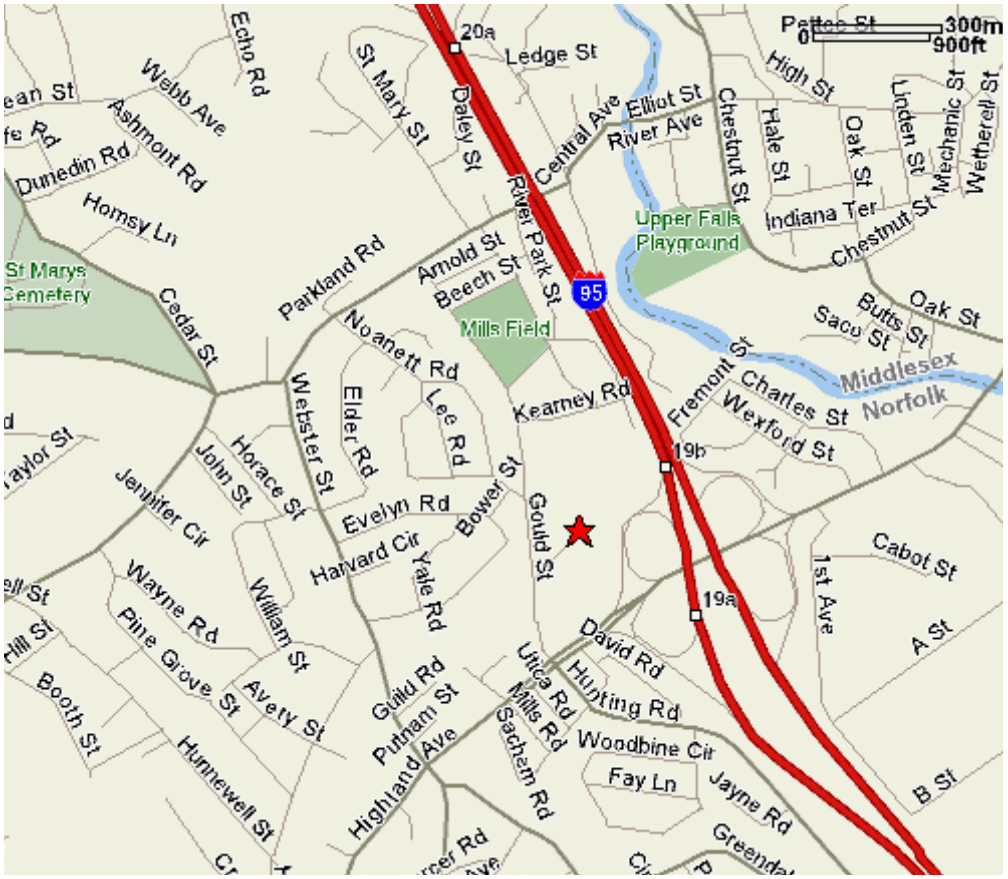
Stoneham Site

Larry Banks, W1DYJ, brought the following to our attention. As reported in the May 13 Boston Globe, the plans for construction at the Stoneham repeater site have been revised to build 600 apartments and 350,000 sq.ft. of office space.

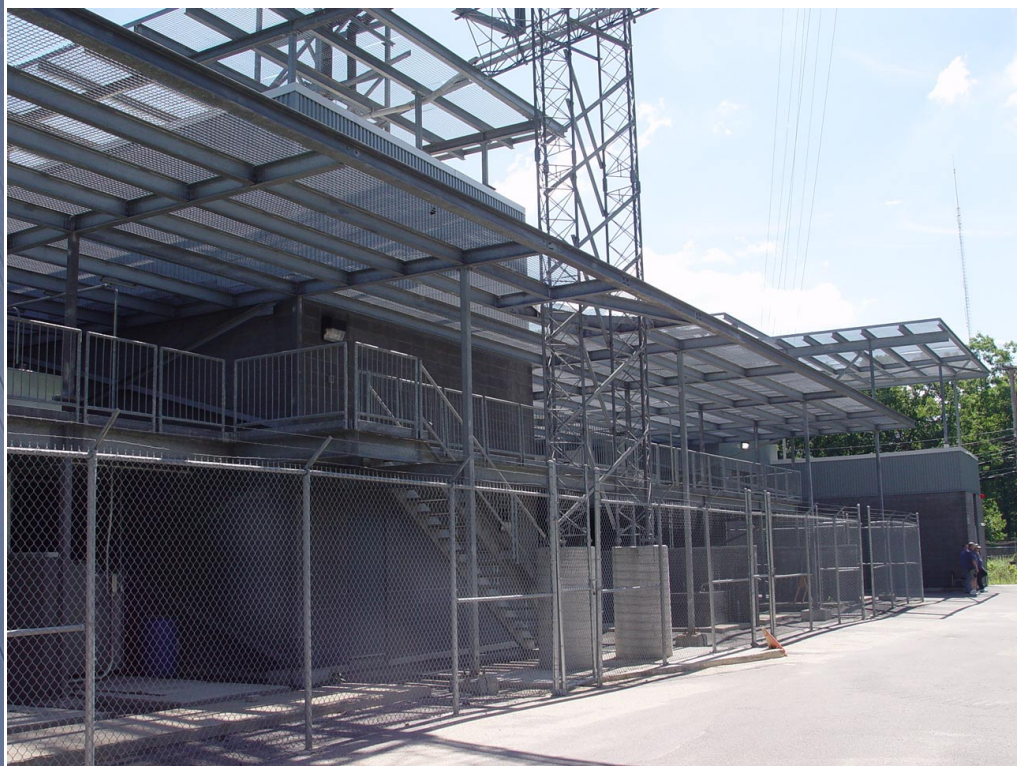
There is controversy among officials about this plan so it is not a done deal. Potential impact on the MMRA is unknown.

Directions to the MMRA Meeting

- Take exit 19B off I-95/Route 128 (Highland Ave West)
- Just past Muzi Ford, take a right at the light.
- Watch for the large WCVB “5” sign and turn right into their parking lot.
- We will meet in the WCVB parking lot.



Photos of the transmitter site by K1RJZ



Next Meeting — Saturday October 2, 2004
W1HW: Tour of WGBH TV Transmitters

Thanks to Dave St.Onge, W1HW, other WGBH personnel, and Rick Zack, K1RJZ, MMRA starts off the 2004-2005 meeting calendar with a tour of the WGBH transmitter in Needham.

Directions and map are on the previous page and on www.mmra.org. This site is home to WGBH-TV (ch. 2), WGBX-TX (ch. 44) and their HDTV companions, transmitting on channels 19 and 43 respectively. These are BIG transmitters. The channel 2 transmitter has an ERP of 72,000 Watts! The channel 44 transmitter has an ERP of 1,100,000 Watts! You will also get to see the 1200 foot transmission tower up close!

We will assemble at 9:30AM in the nearby WCVB-TV parking lot and car pool to WGBH. Talk-in will be on the Quincy '67 and Weston '82 repeaters (linked through the hub).

Calendar of Ham Radio Events

Sep 12:	SMARA Flea, S.Dartmouth MA
Sep 19:	Flea at MIT, Cambridge MA
Oct 1-2:	Hosstraders, Hopkinton NH
Oct 2:	**MMRA meeting @ WGBH-TV**
Oct 17:	Flea at MIT, Cambridge MA
Oct 20:	**MMRA board meeting**
Oct 29:	**MMRA Newsletter Deadline**
Nov 5:	HCRA Auction, Feeding Hills MA
Nov 17:	**MMRA meeting**
Dec 15:	**MMRA board meeting**
Dec 31:	**MMRA Newsletter Deadline**
Jan 19:	**MMRA meeting**

(Flea market info from W1GSL list. http://mit.edu/w1gsl/Public/ne-fleas)

MMRA VE Sessions

3rd Saturday of each Month
9 AM at the Marlboro Public Library
Contact: Bill Wade, K1IJ
781-891-9079 Evenings 6 to 10 PM,
Weekends 8 AM to 10 PM.
Accredited by the ARRL VEC

THE MINUTEMAN REPEATER ASSOCIATION

MMRA
P.O. Box 669
Stow, MA. 01775-0669

Email: mmra@mmra.org

WE'RE ON THE WEB!
HTTP://WWW.MMRA.ORG/