



The Minuteman Repeater Association

The Minuteman

Volume 39, Number 1

September 2009



Andy Morrison, N1BHI, SK



Please go to page 3

Membership Meeting

Wednesday, 16 September, 2009
@ 7:00 PM

Westborough Public Library

Directions on Page 7

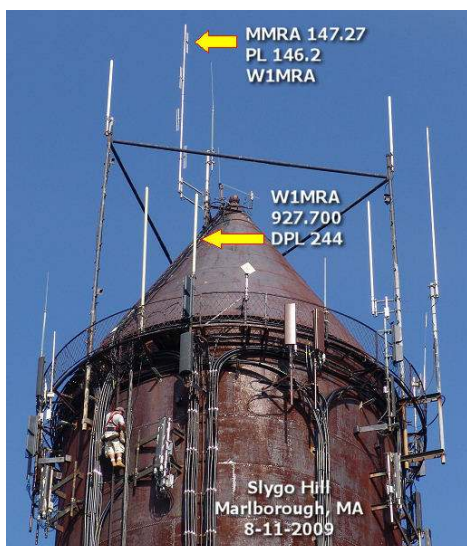
Talk in — 147.27

Tentative Topic:

New Repeaters

The MMRA has a new 10M repeater and two new 900 MHz. repeaters. 147.27 also has a new antenna and feed line. Information on Page 2. More photos on page 4. Details at:

<http://www.mmra.org/repeaters/BOS/>
<http://www.mmra.org/repeaters/MRE/>
<http://www.mmra.org/repeaters/MRW/>



What's NEW at MMRA

An overview of this past summer's projects

Dues Are Due

See Pages 8, 9

Table of Contents

Next Meeting	1, 9
Andy Morrison, N1BHI, SK	1, 3
New Repeaters	1, 4
MMRA Information	2, 8, 9
May Members Meeting	4
Foxhunt!	4
June Board Meeting	5
President's Corner	6
Treasurer's Report	7
Events & Fleas	10

About the Minuteman Repeater Association

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

The MMRA meets (usually) 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.

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

Each Tuesday evening at 8PM the MMRA links most of the repeaters for an open net. The topic is "Technical Information and Other Stuff". 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 contact@mmra.org. The MMRA maintains a web site at: <http://www.mmra.org/>

An email distribution list for club members named "MMRA" is at: www.yahoogroups.com/

No part of this newsletter can be copied or posted elsewhere without prior approval from the club. Your cooperation in this matter is appreciated.

MMRA QRM Policy

MMRA members and all other operators are strongly encouraged to report repeater activity that does not abide by Part 97 rules or accepted amateur radio practice to the board of directors at contact@mmra.org or via other means.

The most effective (and probably the only effective) way to deal with an individual causing QRM is to NOT engage that individual on the air. Please include the time and date of any incident. Measures are being taken to make audio recordings of repeater activity.

Repeater and Frequency Information

Up-to-date information about both MMRA repeaters and affiliate repeaters can be found at

<http://www.mmra.org/repeaters/map.html>

New Repeater

Location	MHz	PL	Call	Linking	
				To Hub 1	To Hub 2
MMRA Voice Repeaters					
Marlborough	29.680	131.8	W1MRA	PTL	—
Marlborough	53.810	71.9	W1BRI	PTL	—
Marlborough	145.160	—	W1MRA	D-Star	
Belmont	145.430	67.0	WA1RTT	—	—
Mendon	146.610	146.2	AE1C	FTL	PTL
Quincy	146.670	146.2	W1BRI	PTL	PTL
Burlington	146.715	146.2	N1NVL	PTL	PTL
Weston	146.790	146.2	N1BE	PTL	FTL Hub2 10-4
Brookline	146.820	146.2	K5TEC	FTL	PTL
Marlborough	147.270	146.2	W1MRA	PTL	PTL
Hopkinton	223.940	103.5	K1KWP	FTL	—
Quincy	224.400	103.5	N1KUG	FTL	PTL
Weston	224.700	103.5	N1NOM	PTL	PTL
Marlborough	224.880	103.5	W1MRA	PTL	FTL
Weston	442.700	88.5	W1MRA	Network Hub 2 (PTL to Hub 1)	
Burlington	446.775	88.5	W1DYJ	FTL	PTL
Southborough	449.575	88.5	W1BRI	PTL	—
Marlborough	449.925	88.5	W1MRA	Network Hub 1	
Marlborough	927.700	D244	W1MRA	—	—
Boston	927.775	D244	K1RJZ	PTL	—
MMRA “Other” Systems					
Marlborough	144.390	none	W1MRA	APRS Digipeater	
???	145.630	146.2	W1MRA	Fox Box	
Internet	Echolink node 94940				
	IRLP node 4133				

Notes: FTL = Full Time Linked (or default state)
PTL = Part Time Linked (on schedule or demand)
Note — a repeater can be linked to only one Hub at a time.

PL: PL is required to prevent interference. The code **750** will temporarily disable the MMRA PL on the 2M repeaters.

Autopatch: Only the Hub 1 has a telephone line. Link to Hub 1 if necessary, then bring up the autopatch using the 449.925 autopatch codes.

Control codes are sent to members upon receipt of dues.

A tribute to Andrew Morrison, N1BHI **Bryan Cerqua W1BRI**

It is deep sorrow I feel about Andy's passing away. Andy was a dominant figure in the MMRA. He held the position of president and newsletter editor for many years and was responsible for the acquisition of all the present GE MASTR II two meter repeaters.

I've known Andy since the early 90s when I got my amateur radio license and became interested in repeaters. Andy and Walter (N1HBR) were the leaders in the MMRA

back then when repeater linking was in its infancy. I remember when Andy and a convoy of SUVs headed to Stoughton to pick up four large repeater base stations that somehow ended up in my garage. Andy asked me if it



would be OK to leave the repeaters in my garage for just a few days since it was raining that day. I didn't know Andy that well back then and this how I got my start in repeater building.

Another fun time was when Andy, Keith (KB1OEI) of Lands towing and I made a road trip in Keith's truck to pick up yet another repeater in New Hampshire. We had to climb this incredibly steep dirt road to the top of some mountain; I was in the back seat trying not to bite my finger nails off. Another trip with Andy was made to Gloucester to pick up two more GE base stations; this is where I got my first look at a cellular radio site.

But most of all I enjoyed the times hanging out at Lands garage shooting the breeze about all kinds of things.

Andy was a very knowledgeable guy and could talk about anything from radios to auto mechanics. Andy had his own special chair at Land's where he took command of



the fax machine and sometimes filled in as dispatcher when things got busy. The memories of the many Friday afternoon lunches we had at Lands with Wayne, (N1XXI), Keith, Andy and I bring tears to my eyes, Andy always got the steak tips.

Andy was also an expert at foxhunting. He would always seem to find the fox first; this could have something

to do with the fancy mapping software Andy's dad, Frank, (KB1FZ) wrote that compensated for multi-path reflections.

Andy would often visit my QTH where we would work on bench fixing some radio or tuning up a repeater, then off to the local sub shop where Andy would buy the biggest container of chili they had.

I remember the time Eddy (N1NOM), Andy and I made went together to Boat US in Waltham where we purchased our first GPS units, Garmin 45s.

Like typical ham geeks we stopped on the way home, next to this large open field, where all three of us walked off this large square to compare the accuracy between the units.



I also remember Andy's ham mobile, an old beat up blue Ford Bronco with antennas all over it that you could hear coming from quarter mile away.

If you've had the privilege like I've had to sit in the front seat of Andy's Bronco, you'll know I'm being polite when I say he had his own unique mounting style.



Some of the most exciting times talking on a repeater was when Andy was passing through my town on 495 late at night. I'd keep him company while he made his way back to Marlborough. Actually I wanted to keep him on the air as long as possible to see how far he could work my repeater in Milford.

The MMRA repeater network would not be what it is today if it were not for guys like Andy with his many years of professional radio experience and his key contacts in the radio business. I feel very fortunate to have known Andy and will miss his quick witted personality and the many QSOs we've had on the MMRA repeaters over the last 15 years. To help us all remember Andy I've included a few photos of him in action working on some of the MMRA repeaters.

73, Bryan

MMRA Foxhunt ~ 18 July

There was a good turnout for the July 18th fox hunt hosted by the MMRA and QRA. This may be evidence of pent up demand. For more information, go to <http://www.mmra.org/foxhunts/index.html>.



Membership Meeting Report

20 May 2009

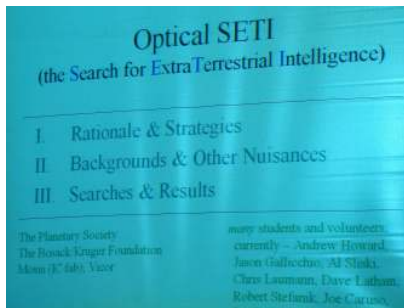
Astronomy Night (and General Elections)

The Clay Center Observatory

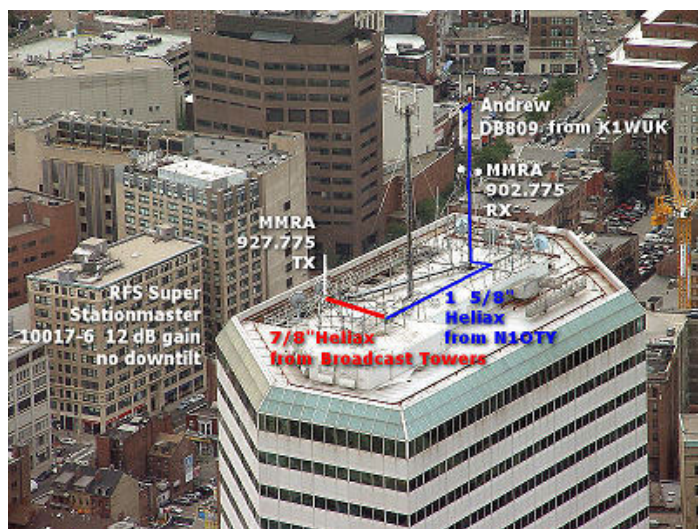
Alan Sliski — Chief Technology Officer

Orbital Therapy LLC

Alan gave a brief history of SETI and the recent development of OSETI, the optical search for extraterrestrial intelligence at Harvard's Oak Ridge Observatory. There was a brief demonstration of a plasma loudspeaker. WILD! You should have been there!!!



New 927.775 Repeater



MMRA June Board of Directors Meeting

Bob Evans — N1BE — Clerk

The MMRA board met at 19:30 EDT on June 17h at Kennedy's Pub, Maple St. (Rt. 85) in Marlborough. Present were W3EVE, KC1US, K1KWP, K1IW, K1RJZ, W1MPN, W1BRI and N1BE.

Kevin, K1KWP spoke first presenting a treasury and membership report. Since the MMRA fiscal year closed at the beginning of June, we had full details of the last fiscal year. There were graphs illustrating historical variation in income, memberships, utility costs, newsletter and other expenses over the last 5 fiscal years. We have about \$1100 in dues already collected for this years memberships. The MMRA has already spent \$700 this year with additional expected expenses of over \$2500. We closed last year with 188 members in good standing. This is 9% more members than at the end of the previous year.

Bob, K1IW led a discussion of repeater projects and status of the MMRA system:

- The board unanimously accepted the donation of a 900MHz repeater in Boston from GEMOTO with K1RJZ as trustee. This affirmed discussion and vote by board members via email in May.
- The board unanimously passed a motion to spend \$400 to purchase a 900MHz repeater from N1DAS for use in Marlborough. This affirmed discussion and vote by board members via email earlier in June.
- K1IW brought a proposal for procedures to be followed for conducting special board meetings via email. A few re-wordings were suggested. Bob will e-mail out a final version that will be subject to approval via e-mail vote.
- The board approved affiliation with KA1RCI for the primary purpose of linking to a 9PM Traffic Net in Mondays, Wednesdays, and Fridays. Linking will be initiated at KA1RCI, but we will be able to take the link down. We encourage but do not require linking during the TIAOS net on Tuesdays.
- We plan to have a Foxhunt on Saturday July 18. (Find the ham in a car.) K1KWP is coordinating this and we will invite the Reading and Framingham clubs.
- A MMRA social event or BBQ was discussed. One suggestion is to use one of the Mass DCR reservations since there is no admission charge. This probably will not take place until after Labor Day.
- 146.82 is being reworked at the QTH of W1BRI. The board approved spending \$200 for a switching power supply. This will be small enough to allow the entire repeater to be enclosed within its cabinet. Bryan will evaluate whether further repairs are needed.
- Bryan repaired the 449.925 HUB1 repeater. It is back online after replacing a fuse and was heard well into New Hampshire.
- We discussed the site work proposed at MRW but it did not seem that the Marlborough's tower work could happen any time soon. We have been requested not to re-

place the MRW shelter until this project can go forward. However, we thought it best to get the shelter moved close by and prepared so it can be ready for use.

- Without the city doing tower work in the foreseeable future there are now two reasons for the MMRA to make that investment: we need to get a 900MHz antenna on the tower for acceptable performance and we need to replace the feedline and/or antenna on 147.27. Bryan offered to negotiate with a crew now doing a PCS installation at MRW to see if they could do the work MMRA needs for no more than the \$500 the board can approve. Failing that, the board will call a general membership meeting in July to approve an estimated \$1500 to hire a tower crew.
- We discussed options for controlling and linking the 900MHz repeater at MRW. The consensus was to use an SCOM 7K controller and 900MHz RF links to the Boston repeater. K1RJZ offered to donate an MCS2000 radio for the link and the board accepted this offer. Thus the MRW 900MHz would link to other 900MHz repeaters surrounding Boston, but it would not link to the MMRA hubs.
- We need to obtain one additional 7K controller to have one for MRW 900MHz. Roger, WA1NVC, offered to sell one to the MMRA for \$200. The board approved a counter offer of the RLC Club controller, now part of the 10-M receive side (originally donated to MMRA by Roger.) Failing that, the board approved selling the RLC Club and spending \$200 to purchase the 7K from WA1NVC. (A spare MMRA SCOM 5K is planned for controlling the 10M receive site.)
- We briefly discussed but took no action on a proposal to upgrade the controllers of the two MMRA hubs to SCOM 7330 at some future date.
- Weston site cleanup is scheduled for the afternoon of July 14th. K1IW will have a trailer capable of hauling 1500 pounds. Four or 5 people are needed to move unwanted items from the repeater room to the trailer.

The board approved spending \$350 for feedline and Galvanized U-Bolts to install both sites, Weston RX and MRE TX, of the 10-M repeater. An install date needs to be scheduled.

We learned the tenant 2-M D-Star repeater will likely to move from the current MRE site. This will allow us to use the MMRA DB224 antenna for 147.27 as originally intended.

Bruce, KC1US briefly discussed problems with noise, particularly in spring and fall at Belmont 145.43.

We also discussed some public service events for September and October. KC1US got suggestions on which repeaters to use for an event in Southboro. He will be soliciting operators for help with this event.

The meeting adjourned at 10PM.

President's Corner

Bob DeMattia — K1IW

This has probably been the busiest summer for MMRA I can remember. Three new repeaters are now on the air: 29.68 and 927.700 in Marlborough, and 927.775 in Boston. Furthermore, the 147.27 antenna system was replaced and this repeater is back to full power.

With all this activity, we've spent quite a bit of money this summer. However, I believe these expenses are wise investments, and several of them should have been done a long time ago. Most of the Sligo work is funded by special donations which were provided for this purpose. We also have quite a bit of equipment which will be sold on eBay in the coming months to help "restock" the treasury. I've been pretty busy with the repeater projects and haven't got the auction items organized yet. I also wanted to hold off on the auction activity until the fall when more people will be back from the summer vacations. Before the items are placed on eBay, club members will be given an opportunity to purchase them from the club. Members will be notified by email and the list of items will be posted on the club website. Stay Tuned!

Sligo Water Tower Work

The Sligo water tower was completed on August 11th. The '27 Stationmaster has been replaced with a DB224 dipole array, and the DB809 donated by Bob, K1WUK was installed on the tank perimeter, a few feet to the north of the '925 antenna.

Unfortunately, the cause of the problems was the long coax run. We ended up using the coax that was supposed to be used for '900 to replace the '27 coax. This left us without a coax for the new 900 antenna. We made several attempts at finding a another run. The one that was been sitting on the roof of the MRE shelter was too short, and was also an odd-ball type for which we could not get connectors. Another run at Keith KB1OEI's place of business was also too short.

This was a "double" problem: Not only would we have to buy coax, but we would have to hire SS Tower to come back another day if we wanted to complete the 900 MHz installation.

After everything that could be done was done and Kevin K1KWP, Bryan W1BRI, and I were having dinner, I received a call from SS Tower. Steve had a run of coax at his shop which we could purchase at our TESSCO price and SS Tower would return the next day to complete the installation at no additional charge. This was a savings of \$800 - the cost of hiring SS Tower for another half-day. We made an executive decision to accept the offer.

The total cost of the SS Tower Sligo work came to \$2463, this exceeds the authorized amount by a little under \$700. However, had we not elected to do this, the cost would have been far higher to finish the work later.

Hopkinton Refurbish & Lightning Protection

The Hopkinton 223.94 repeater stopped working in mid-July. Investigation revealed that the intermediate power amp

had failed. W1BRI has ordered the replacement transistor and the IPA should be fixed soon. While the repeater was down for this repair, I took the opportunity to refurbish the equipment. The SCOM 5K controller was upgraded to the last firmware, a fan control circuit was added, the damaged power cord was replaced, and the scratched and scuffed cabinet was repainted. About \$30 in supplies were required for this.

The IPA failure occurred around the same time as a severe electrical storm. Although the type of failure seems to indicate a mere coincidence, it is also true that the Hopkinton site had no lightning protection whatsoever. It is the opinion of W1BRI as well as yours truly that we needed to purchase proper lightning protection for this site. Cost of this is approximately \$150.

The incident at Hopkinton threw some light on the Sligo situation. This site also has no lightning protection (except for an improperly grounded Polyphaser on the '27 antenna). Again, we believe that there should be proper lightning protection for all top-mounted antennas at the site. This requires the purchase of four Polyphasers, two ground blocks, and some cabling. Cost of this is approximately \$300.

Technical Projects Coming Up

Southborough seems to be acting up; we are unable to keep it linked during the net as it causes interference. Part of this may be the controller. Both the Sligo and Hopkinton sites utilizes 5K controllers, which are not meant to accommodate link radios. As I mentioned at the June board meeting, I'd like to see us upgrade the 5K controllers to 7Ks. This can be done by replacing the 7K controllers used on the HUBs with 7330's and moving those 7K's to SBO and HOP. The 7330's are about \$500 each. I will propose this to the general membership in September. The two 5Ks, plus two additional spares I have in my garage can all be sold to offset the cost of the 7330's.

Quincy 224.400 has been shut down for two months down due to interference issues. Volunteers are needed to track down the root cause of this interference so we can restore the repeater to operation. This interference may be related to the "Buzz Buzz" interference heard on the collocated 146.67 repeater.

Twitter/MMRA

Twitter is a "short messaging service" that allows people to send short (140 character) messages to text-capable portable devices (such as most cell phones). The messages can also be viewed at the Twitter website. MMRA is now using Twitter to communicate information about system updates - i.e. repeaters be on-air or off-air, and for other club events. View our Twitter message stream directly at the club website <http://www.mmra.org>. To learn more about how to follow us directly from your text-phone, see <http://twitter.com/mmraham>.

Treasurers Annual Report

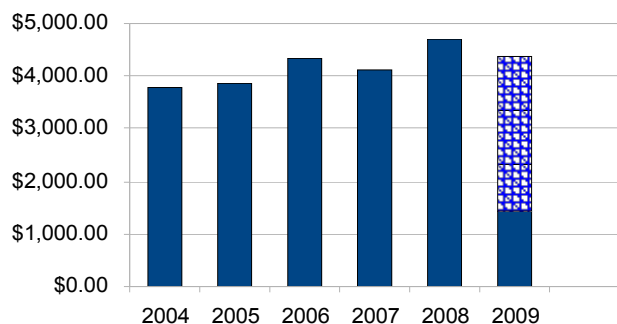
Kevin Paetzold — K1KWP

The fixed cost structure of the MMRA has not changed in any significant way in several years. Fixed costs include things like insurance, rent, power, telephone, ISP, and PO box. See a treasurer report from any September newsletter for the last several years for fixed cost details. Newsletter costs have been reduced from about \$750 in 2004 to less than \$500 last year.

As you should have seen in the "President's Corner" elsewhere in this issue, over \$2400 was paid to the tower company as part of putting up the new antennas at MRW. The extra coax which was needed as part of this project (because the .27 coax was determined to be bad) would have cost over \$1200 with the MMRA's discount. The second day of the climbers would have cost \$800 by itself. By authorizing the work that took place on the second day the club saved somewhere between \$800 and \$1200. Targeted donations and pledges (including large donations from N1HBR, K5TEC, and KB1EB) totaling \$2625 were applied to this project.

This membership year (2009-2010) is a non Boxborough year (even though this ARRL convention will take place in summer 2010). MMRA dues suffer by about 10% in non Boxborough years and this has been taken in account in any projections. The "Total Dues" graph shows the dues received by the MMRA for the last 5 years and this years actual (so far) and projected dues.

Total Dues for Membership Year

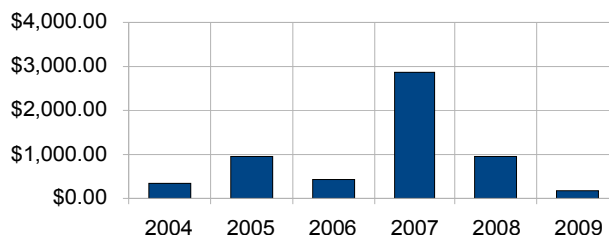


The "donations" graph shows donations for the last 5-6 years including the large spike in 2007-2008 year when most of the donations for the MRW project were received. The MMRA has some significant income from misc. sources which has varied between \$1500 and \$450 in any given year.

Assuming no misc. income for this year, no additional

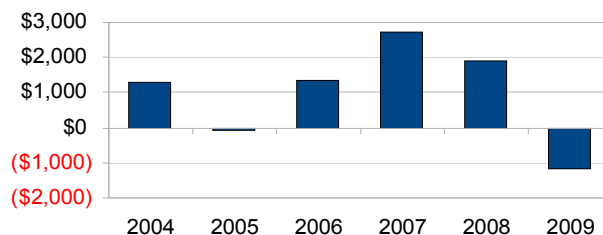
donations, and that the expected amount of members will renew/join we will probably spend about \$1200 more than our income. That is less than 10% of the current cash reserves. In actuality there will be significant additional misc. income and probably some additional donations.

Donations by Membership Year



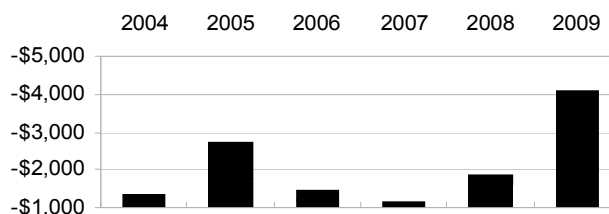
The "Expected End of Membership Balance Delta" chart shows the actual year to year change (or projected change) in the MMRA CASH reserves.

**Expected End of Membership year
Balance Delta**



The "Improvements and Maintenance" chart shows what I consider to be the investment into the repeater network made by the club in the last six years. Notice that this graph starts at a low of \$1000(not zero) and that 2009-2010 will be a record year at over \$4000.

**Improvements and Maintenance for
Membership year**



The Amateur's Code

The Radio Amateur is:

CONSIDERATE...never knowingly operates in such a way as to lessen the pleasure of others.

LOYAL...offers loyalty, encouragement and support to other amateurs, local clubs, and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally.

PROGRESSIVE...with knowledge abreast of science, a well-built and efficient station and operation above reproach.

FRIENDLY...slow and patient operating when requested; friendly advice and counsel to the beginner; kindly assistance, cooperation and consideration for the interests of others. These are the hallmarks of the amateur spirit.

BALANCED...radio is an avocation, never interfering with duties owed to family, job, school or community.

PATRIOTIC...station and skill always ready for service to country and community.

Paul M. Segal, W9EEA, 1928

Dues Are Due Sept. 1st

\$25 / Individual

\$35 / Family

Pay on line with PayPal:

- 1- Go to the MMRA home page at www.mmra.org
- 2- Click on Member's Login at bottom left
- 3- Login in with your call and password
- 4- If you are not paid up, you will see "It's Membership Renewal Time! Please verify your information below is correct and [click here](#) to renew now. Click there, and pay!

...or pay by check — see page 9

MMRA Leaders

Officers

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

Board of Directors

Director »2010	Clark Conti	N1NVK
Director »2010	Mike Neilsen	W1MPN
Director »2011	Steve Schwarm	W3EVE
Director »2011	Roger Coulson	WA1NVC

Repeater Trustees, Appointed

Belmont 145.430	Larry Arone	WA1RTT
Boston 927.775	Rick Zack	K1RJZ
Brookline 146.820	Bob Phinney	K5TEC
Burlington 146.715	Chris Conti	N2NVL
Burlington 446.775	Larry Banks	W1DYJ
Hopkinton 223.940	Kevin Paetzold	K1KWP
Marlboro 53.810, Quincy 146.670, Southboro 449.575	Bryan Cerqua	W1BRI
Marlboro 144.390, 145.160, 147.270, 224.880, 449.925, Weston 442.700 — all as W1MRA	Bill Northup	N1QPR
Mendon 146.610	Jim Podsiadlo	AE1C
Quincy 224.400	Bill Dunn	N1KUG
Weston 146.790	Bob Evans	N1BE
Weston 224.700	Eddie Mulhern	N1NOM

Appointed, non-Voting

Newsletter Editor	Larry Banks	W1DYJ
Emergency Coord.	Kevin Paetzold	K1KWP
Public Service Coord.	Bruce Pigott	KC1US
VEC Liaison	Bill Wade	K1IJ
Net Manager	Larry Banks	W1DYJ
Web Page Editor	Bob DeMattia	K1IW

Upcoming MMRA Meetings

All meetings start at 7:30 unless otherwise noted.

Date	Location	Feature
Wed, Sep 16 7PM	Westborough	Membership Meeting
Wed, Oct 21		Board Meeting
Wed, Nov 18		Membership Meeting
Wed, Dec 16		Board Meeting
Wed, Jan 20		Membership Meeting
* Wed, Feb 10		Board Meeting
Wed, Mar 17		Membership Meeting
* Wed, Apr 14		Board Meeting
Wed, May 19		Annual Meeting

* Not the 3rd Wednesday or not the normal time of 7:30PM

Westborough Public Library 55 West Main Street 508-366-3050

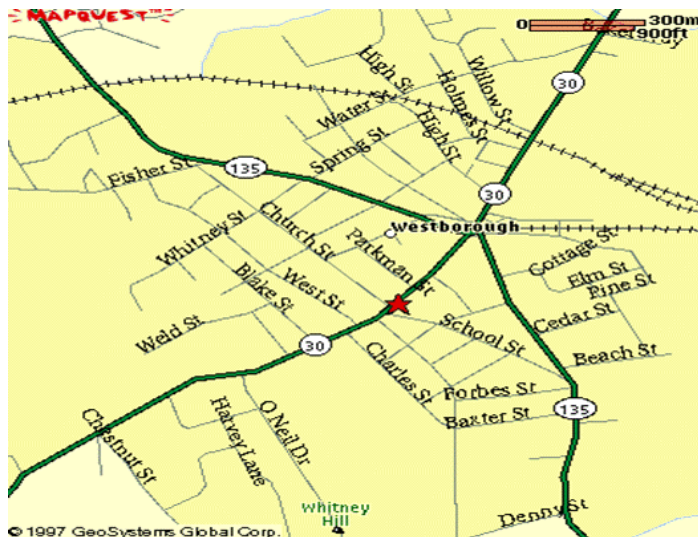
DIRECTIONS: The Westborough Public Library is located two blocks west of the rotary on Route 30 (West Main Street), between Parkman Street and Church Street.

From Route 135 in Westborough:

Follow Route 135 to the rotary in the center of Westborough. At the rotary (the intersection of Routes 135 and 30), take route 30 West (West Main Street.) The library is two blocks ahead on the right, just after the police station, on the corner of West Main and Parkman Streets.

From the Massachusetts Turnpike:

Exit at Route 495 North/Westborough. From Route 495 take Route 9 West. Follow Route 9 approximately 1.5 miles to Route 30 West. Follow Route 30 (about 2 miles) straight through the rotary in the center of Westborough. The library is two blocks ahead on the right, just after the police station, on the corner of West Main and Parkman Streets.



For more information:

<http://www.westboroughlib.org/geninfo.html>

Don't Forget!

**Every Tuesday @ 8 PM
Technical, Informational
and Other Stuff Net**

The MMRA's repeaters are linked Tuesday nights for the TIAOS Net. Join us! This is a good way to keep up with what is happening in the MMRA and ask your ham related questions.

We need another net control!

If you would like to try your hand at Net Control contact me at W1DYJ@mmra.org – we have a script you can use to start with. This is good practice for a number of ham related operations, from emergency preparedness to contesting.

Current Net Control Operators:

Week 1	WA1JIM	Jimmy Devaire
Week 2	???	OPEN
Week 3	W1DYJ	Larry Banks
Week 4	K1KWP	Kevin Paetzold
Week 5	W1DYJ	Larry Banks

Dues Are Due Sept. 1st

\$25 / Individual

\$35 / Family

Make out your check to:

Minuteman Repeater Association

...and send your check to:

MMRA

P. O. Box 669

Stow, MA 01775-0669

Be sure to add your call(s) to the check

...or pay on line — see page 8

MMRA VE Sessions

3rd Saturday of each Month

9 AM at the

Marlboro Public Library

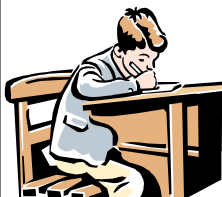
Contact: Bill Wade, K1IJ

781-891-9079

Evenings 6 to 10 PM,

Weekends 8 AM to 10 PM.

Accredited by the ARRL VEC



Membership Meeting ~ Wednesday, 16 September, 2009 @ 7:00 PM
Westborough Public Library
More information: Pages 1 and 7
Talk in — 147.27

Calendar of Ham Radio Events

Public Service Events

See this web site for contact information
<http://purl.org/hamradio/publicservice/nediv>

Sep 20	Dartmouth MA	Buzzards Bay Triathlon
Sep 26	Berkshires MA	MS Bike & Hike
Sep 27	Westminster MA	250th Anniversary Parade
Oct 11	Boston MA	BAA Half Marathon

New England Area Ham - Electronic Flea Markets

See this web site for contact information
<http://mit.edu/w1gsl/Public/ne-fleas>

19 Sep	Forestdale RI	
19 Sep	Alton NH	MASONS @Lodge
19 Sept	Alexander ME	StCVARC
20 Sep	Cambridge MA	FLEA at MIT
11 Oct	Wallingford CT	Nutmeg Conv
16,17 Oct	Deerfield NH	NearFest
17 Oct	Manchester NH	NEAntqRC
18 Oct	Cambridge MA	FLEA at MIT
24,25 Oct	Wakefield MA	Photographica
31 Oct	Waterford CT	TCARC Auction
2 Nov	Feeding Hills MA	HCRA Auction
7 Nov	Londonderry NH	IRS @Lions

THE MINUTEMAN REPEATER ASSOCIATION

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WE'RE ON THE WEB
[HTTP://WWW.MMRA.ORG/](http://www.mmra.org/)
