



The Minuteman Repeater Association
*A non-profit organization providing communications infrastructure and volunteers for
community and emergency events.*



The Minuteman

Volume 44, Number 2

November 2014

Membership Meeting ~ Saturday, Nov 15 ~ 12 Noon

WTAG Transmitter Tour

400 Shrewsbury St, Holden, MA

WTAG AM 580 is a Worcester area broadcast station celebrating its 80th anniversary this year. Its transmitter site in Holden is not your average building. In addition its standard AM and its HD transmitter, the building houses a mini-museum of WTAG broadcast history.

Come join us in seeing this one-of-a-kind broadcast facility

Talkin: 147.27

From Boston: Take I-90 West to I-290 East to I-190 North to Exit 2, then turn left...

From Marlborough: Take I-290 West to I-190 North to Exit 2, then turn left...

From Fitchburg: Take I-190 South to Exit 3, then turn right...

...on West Mountain Street.
At Brattle Street, turn right,
then at Shrewsbury Street, turn
right again.

The station will be a short distance down Shrewsbury Street on the left.



**Have you renewed your
membership yet?**

All 2014 memberships expired on August 31st!
Time to renew either on the Member's login link at
www.mmra.org or by U.S. Mail with a check to
MMRA, PO Box 669, Stow, MA 01665.

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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 each month from September to June. Meeting times, locations, and talk-in frequency vary and are announced in this newsletter and on weekly nets. Meetings are open to all interested parties. Guest speakers and programs of general interest occur in September, November, January, March, and May. The intervening meetings are also open to all members and are for general business.

The Minuteman newsletter is Emailed one week before each general interest meeting. Members are encouraged to submit articles which can be sent to the editor at 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.yahogroups.com/.

You can also follow us on twitter @mmraham and like us on Facebook: <https://www.facebook.com/mmraham>.

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 way (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

Check <http://www.mmra.org/repeaters/index.html> for up-to date info

Band	XMTR Location	Freq	PL	Call	Linking	
					To Hub 1	To Hub 2
MMRA Voice Repeaters						
10m	Marlboro	29.680	131.8	W1MRA	PTL	PTL
6m	Marlboro	53.810	71.9	W1BRI	PTL	PTL
2m	Brookline	145.160	—	W1MRA	D-Star	
	Belmont	145.430	67.0	N1DDK	Off the Air until 1 December	
	Mendon	146.610	146.2	AE1C	FTL	PTL
	Quincy	146.670		W1BRI	PTL	PTL
	Burlington	146.715		KC1US	Off the Air until 1 December	
	Weston	146.790		N1BE	PTL	PTL
	- also C4FM Digital				Not linkable until 14 June	
	Boston	146.820	146.2	K1BOS	FTL	PTL
Remote receive in Brookline Boston: PLin = 127.3						
Marlboro		147.270	146.2	W1MRA	PTL	PTL
1½m	Hopkinton	223.940	103.5	KB1LOY	PTL	FTL
	Quincy	224.400		N1KUG	PTL	FTL
	Weston	224.700		N1NOM	PTL	FTL
	Marlboro	224.880		W1MRA	PTL	FTL
70cm	Lowell	442.250	88.5	K1LVF	FTL	PTL: 446.775
	Weston *	442.700		W1MRA	Network Hub 2 (PTL to Hub 1)	
	Burlington	446.775		W1DYJ	Off the Air until 1 December	
	Southboro	449.575		W1BRI	PTL	PTL
	Marlboro *	449.925		W1MRA	Network Hub 1	
33cm	Boston *	927.0625	D244	K1RJZ	PTL	PTL
	Marlboro *	927.700		W1MRA	PTL	PTL
MMRA Other Systems						
Marlboro		144.390	none	W1MRA	APRS Digipeater	
???		145.630	146.2	W1MRA	Fox Box	
*Internet	HUB1— 449.925: IRLP node 4133 / Echolink node 4133					
	HUB2 — 442.700: IRLP node 4136; Connected to 220 Reflector 9124 on Tuesdays					
	927.0625: IRLP node 4977			Normally linked to the NE900 Reflector, 9125. Linked to MMRA via IRLP for the TIAOS net. Normally linked together.		
	927.700: IRLP node 4978					

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.

September Membership Meeting

The Art and Science of Radio Direction Finding

Bob Ravenstein, W1FDR

Bob is an ardent fox hunter and has a great home-built dish he often uses. He recently entered the ARDF < <http://www.homingin.com/farsnews.html> > and < <http://www.bostonardf.org/?event=the-fourteenth-usa-ardf-championships-boston-massachusetts-june-5-8-2014> > and won a silver medal.

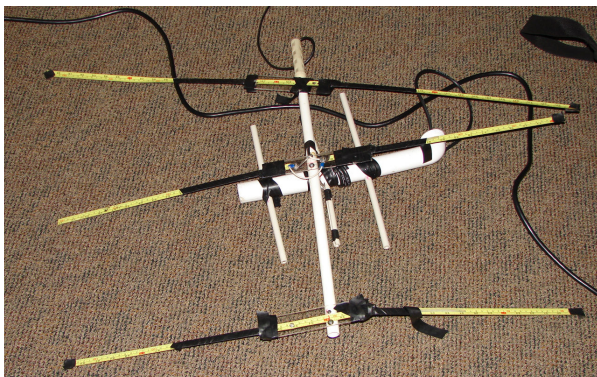


Fox Hunting 2013-2014

From local hunting in the woods
To
National ARDF Championship



Bob's parabolic antenna for close in work



Bob's well used 2m and 440 antennas

...and from the general meeting session...



The cake that celebrated it.

Have you renewed your membership yet?

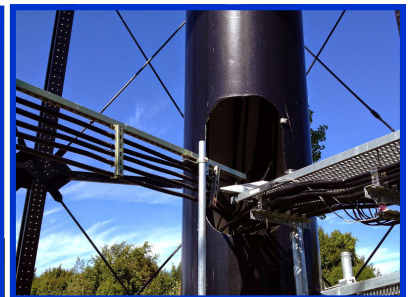


Here are some hams who made it happen.

K1IW, W1BRI, N1DDK, KG1H, N1BE, WA1NVC, K1KWP, N1NVK
(There were many others too!)

Sligo is Back! — Some Photos

Thanks to Bryan Cerqua, W1BRI, David Wolfe, KG1H, & Bob DeMattia, K1IW



October Business Meeting ~ Bob Evans, Clerk, N1BE

The MMRA board met on Oct 15 at 7 PM in the Maynard office of Stratus Technologies for a business meeting. In attendance were K1KWP, K1IW, WA1NVC, N1BE, N1DDK, KB1LOY, KG1H, KB5JR and W1MPN.

Kevin, K1KWP presented a Treasurer Report highlighting MMRA finances since the start of the fiscal year on June 1. Looking at projected expenses, we expect up to a 30% increase in electric bills (for Quincy and MRW). Then we looked at income so far and projected for this fiscal year. Next Kevin reviewed the costs of the Sligo antenna and shelter project, this project has been ongoing since the 2011 fiscal year. Looking at the membership numbers, 98 of last year's members have not yet renewed, but there are 27 new members.

(Reminder, dues are now overdue. MMRA memberships expire at the end of August.)

Bob, K1IW discussed the need for a club Photo Archivist. There are many MMRA photographs that need to be organized, in some online site. Bob offered to solicit a volunteer by email.

The Westborough fire department has a used 50 foot Rohn tower available. K1IW is inquiring about whether it is standing or on the ground. Bob suggested that we could use this at a future repeater site.

Repeater Status report by K1IW:

The BEARS (Broadcast Engineers Amateur Radio Society) net equipment is at K1IW's shack. Bob plans to install it at the Belmont repeater. This would provide internet links to other BEARS repeater sites in CA, DC, FL and NY.

146.715 / 446.775 is off the air and being worked on by K1IW. Bob is also changing terminations on cabling between controller and the radios for easier installation and removal for servicing.

There is some noise on 6M at MRW.

In response to an inquiry by a member, the board had a discussion about whether there is excessive messaging on the MMRA repeaters. K1IW has already reduced

some of the messaging. Bob also suggested that we consider eliminating repeater announcements upon initial key-up.

The board moved that it would be useful to multiplex all the received voice audio at MRW, without messages, over the internet; also useful but not essential would be transmitting this audio. The board approved this motion. Boyd, KB5JR offered to bring a proposal back to the board of how to implement this function.

Sligo repeaters have several issues:

There are crunchies on 147.27. We suspect an antenna mounting problem. K1IW will contact the installer to investigate this.

927.700 is making a loud "buzz saw" noise. There are also reports of intermod, choppy audio over IRLP - local audio is OK. We think the buzz saw noise may be local to our repeater. One suggestion was to try reducing the transmit problem to eliminate the buzz saw. Another option is to link 927.700 to 449.925 for a day to further observe these problems.

James, N1DDK offered to install some hardware to allow "Tilt Down" of the 30-ft mast next to the MRW shelter. James also offered to manage the installation of cooling for the MRW shelter - fans, duct work, etc. The board approved an expenditure not to exceed \$250 for these items.

Roger, WA1NVC discussed CFS hardline connectors. One 900 MHz connector from MRW apparently has problems. There is a concern that other hardline terminations may also have problems due to these new style connectors. Discussion indicated this might not be a problem if the correct installation tool were used with the directions for installing this particular connector. Roger offered to try replacing the problematic connector with an older style connector that will more firmly connect to the cable.

James, KB1LOY, the new trustee, visited the Hopkinton site and met with the contact person briefly there. James and K1IW plan to together visit that site soon.

The meeting adjourned at 9PM.

**Next MMRA Business Meeting:
Wednesday 17 December, 7PM
Stratus, Maynard**

**Have you renewed your
membership yet?**

Public Service Events ~ David Wolfe, KG1H

The following recent Public Service Events have been supported by the MMRA members in addition to the hams from other organizations:

- ◆ Jimmy Fund Walk - Boston
- ◆ Ride to Defeat ALS
- ◆ Westford Grace Race
- ◆ CF Cycle for Life
- ◆ Boston Athletic Association Half-Marathon
- ◆ The Head of The Charles Regatta® 2014
- ◆ Third Annual Ashland Half-Marathon & 5K

Here's a link to the communications for the Ashland Half-Marathon, held Sunday, April 26th, 2014:

https://drive.google.com/file/d/0B_R6snQbpJ3Ma2FJUy1VbzRHOUU/view?usp=sharing

The MMRA TECHNICAL CREW – ALWAYS READY

By Tom Turner, KB1OQA

One of the many groups within the organizational structure of the MMRA is the technical crew who constantly maintain and upgrade our repeaters located at various locations throughout Massachusetts. These are the dedicated Hams with electronic expertise who are, for lack of a better term “on-call” when sites go down, antennas need to be replaced, new equipment needs to be installed and/or tested, and when on-going preventative maintenance is necessary to keep all systems working at peak efficiency.

A major project of the Technical Crew has been at Sligo Hill in Marlborough. Now that antennas that had to be removed or re-located are now back on the refurbished Tower at their former heights, this group



KG1H and friends at the 11th Annual Grace Race
KG1H Photo

has been hard at work doing antenna reconnections and testing to make sure that our network provides the best-quality signal for its users.

The services of the MMRA Network are called upon for such events as the Boston Marathon. The Head of the Charles Regatta, and many other Public Service venues for various organizations. Without the work of this highly skilled group of Amateurs, our Organization would not be able to provide the high quality of service that it has become known for and their efforts should not be forgotten.

(Editor: the MMRA can always use additional technical help.)

Upcoming MMRA Meetings

[Not the 3rd Wednesday]

Wed, 24 Sept ~ Membership Meeting
The Art and Science of Radio Direction Finding, Bob Ravenstein—W1FDR
Northborough Public Library

Wed, 15 Oct ~ Business Meeting
Stratus, Maynard

Saturday, 15 Nov ~ Membership Meeting
Our November meeting will be at the WTAG radio station transmitter in Holden. Don't miss this special event!

Wed, 17 Dec ~ Business Meeting
Stratus, Maynard

Wed, 21 Jan ~ Membership Meeting
Amateur Radio and the Weather, Mike Neilsen—W1MPN
Location TBA

Wed, 18 Feb ~ Business Meeting
Stratus, Maynard

Wed, 18 Mar ~ Membership Meeting
Weak Signals and DX'ing
Location TBA

Wed, 15 Apr ~ Business Meeting
Stratus, Maynard

Wed, 20 May ~ Membership Meeting
Annual Meeting: Officers Report and General Elections
Location TBA

Wed, 17 June ~ Business Meeting
Stratus, Maynard

Wed, 21 July ~ Mid-summer Get Together
Location TBA

Wed, 19 Aug ~ Business Meeting
Stratus, Maynard

Don't Forget! Join Us.

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

The MMRA's repeaters are linked Tuesday nights for the TlaOS Net. Keep up with what's happening in the MMRA and ask your ham related questions.

Want to try your hand at Net Control? Contact me at W1DYJ@mmra.org for our script, or find it at <http://www.mmra.org/tios.html>

Current Net Control Operators:

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

To connect using Echolink / IRLP during the Net:

- Echolink Conference *NEW-ENG2*

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 »2015	Steve Schwarm	W3EVE
Director »2015	Roger Coulson	WA1NVC
Director »2016	Clark Conti	N1NVK
Director »2016	Mike Neilsen	W1MPN

Repeater Trustees

* Belmont 145.430	James Lee	N1DDK
* Boston 927.0625	Rick Zach	K1RJZ
* Boston 146.820	John Mullaney	K1BOS
* Brookline 146.820 Rcvr	Bob Phinney	K5TEC
* Burlington 146.715	Bruce Pigott	KC1US
* Burlington 446.775	Larry Banks	W1DYJ
* Hopkinton 223.940	James Cahill	KB1LOY
* Lowell 442.250	Vince De La Flor	K1LVF
* Marlboro 53.810; Quincy 146.670; Southboro 449.575	Bryan Cerqua	W1BRI
* Marlboro 144.390, 147.270, 224.880, 449.925, 927.700	Bill Northup	N1QPR
Weston 442.700 — all as W1MRA	Jim Podsiadlo	AE1C
* Mendon 146.610	Bill Dunn	N1KUG
* Quincy 224.40	Bob Evans	N1BE
* Weston 146.790	Eddie Mulhern	N1NOM
* Weston 224.700		

Other, non-Voting

* Newsletter Editor	Larry Banks	W1DYJ
* Emerg. Coord.	Kevin Paetzold	K1KWP
* Pub. Serv. Coord.	David Wolfe	KG1H
* VEC Liaison	Bill Wade	K1IJ
* Net Manager	Larry Banks	W1DYJ
* Web Page Editor	Bob DeMattia	K1IW

* Appointed

Previous issues of the MMRA Newsletter are available at:
www.mmra.org → [Newsletter Archive](#) (on the left)

MMRA VE Sessions

Oct 11, Nov 8, Dec 13

9 AM at the Marlboro Public Library

Contact: Bill Wade, K1IJ 781-891-9079
Evenings 6 - 10 PM Weekends 8 AM to 10 PM.

Membership Meeting ~ Saturday, Nov 15 ~ 12 Noon

WTAG Transmitter Tour

400 Shrewsbury St, Holden, MA

Talkin: 147.27

Calendar of Ham Radio Flea Markets

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

29 Nov	Windsor CT	VR+C Mus 115	11,12Apr	Wakefield MA	Photographica @AmericalCtr
15 Feb	Marlboro MA	AARC at Mid. Sch	1,2 May	Deerfield NH	NEARfest X
16 Feb	Westford MA	NEARC RadioXLVI @Regency	6 June	Hermon ME	PSARA @8 @HS TG
28 Feb	S Burlington VT	RAoNVt @ HI I89	21,23 Aug	Boxboro MA	FEMARA NE Conv
7 Mar	Chicopee MA	MtTomARA @MooseLodge	13 Sept	Ballston Spa	NY SCRACES @FG
14 Mar	Dayville CT	ECARA @StJosephCh	13 Sept	Newtown CT	CARA @TownHall
15 Mar	Southington CT	SARA @HS	19 Sept	Forestdale RI	RIAFMRS @VFW
27,28 Mar	Lewiston ME	AARC ME Conv @Ramada	16,17 Oct	Deerfield NH	NEARfest XVII @FG

THE MINUTEMAN REPEATER ASSOCIATION

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

Email: contact@mmra.org



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

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