The Minuteman Repeater Association
A Non-Profit Communications Organization Serving the Public in Time of Emergency

The Minuteman

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Special Edition

ARRL New England Division Convention
Holiday Inn Boxboro Woods ~ 22-24 August 2008

MMRA Raffle!!! **Tickets: $1 ea. / 6 for $5 / 14 for $10** **MMRA Raffle!!!**

Six (6) free raffle tickets to anyone who pays dues for two (2) Years!
Raffle will be called at noon on Sunday. You don't have to be present to win.

First Prize: ICOM IC-V82 2m HT: 7W output on 2m, 200 memory channels
Second Prize: MFJ VHF/UHF Cross needle power/SWR meter
Third Prize: MFJ deluxe 24-hour wall clock

What is the MMRA?

The MMRA or Minuteman Repeater Association is a Ham Radio club dedicated to public service. In the last 30+ years the MMRA has built a large system of over a dozen voice and digital repeaters.

Why join the Minuteman Repeater Association?

- Support the largest repeater network in Massachusetts
- Meetings with interesting speakers
- Have linking and autopatch codes for repeaters used by ARES, RACES and Public Service Events
- Enjoy activities that combine fun and technology
- Participate on field trips to interesting sites
- Share ideas on APRS, EchoLink, Satellites, and other new Amateur Radio Technologies
- Enjoy the Tuesday evening TIAOS Net with your Ham friends

Welcome from the MMRA

Welcome to Boxboro. I and all the MMRA members welcome you to this biannual event. For many years now, MMRA has had the honor of providing the voices and repeaters for the convention talk-in.

In addition to the talk-in, the MMRA maintains a hospitality booth off of the hotel's main atrium. We hope you will take a few minutes to stop by and chat with some club members. We will also be holding a raffle with three excellent prizes - see above! You can help support our club by purchasing a few tickets, or perhaps even by joining as a member.

As you will see in the following pages, the MMRA maintains an extensive repeater network whose primary purpose is to provide public service communications. Most of the time, when the network is not needed for this purpose, it is open to members and non-members alike for a friendly chat. I encourage you to learn more about our organization. If you somehow miss our booth, please join us any Tuesday night at 8PM for the on-the-air club net.

73, Bob, K1IW MMRA President

About the Minuteman Repeater Association

MMRA Leaders

President
Bob DeMattia K1IW
Vice President
Steve Telsey N1BDA
Secretary
open
Treasurer
Kevin Paetzold K1KWP
Clerk
Bob Evans N1BE
Technical Officer
Bryan Cerqua W1BRI
Director 2008-10
Clark Conti N1NVK
Director 2008-10
Mike Neilsen W1MPN
Director 2007-09
Steve Schwarm W3EVE
Director 2007-09
Roger Coulson WA1NVC
Emergency Coordinator
open
Net Manager
Larry Banks W1DYJ
Newsletter Editor
Larry Banks W1DYJ
Public Service Coordinator
Bruce Pigott KC1US
VEC Liaison
Bill Wade K1IJ
Web Page Editor
Bob DeMattia K1IW

Tuesday's @ 8 PM Technical, Informational and Other Stuff Net

Most of the MMRA's repeaters are linked every Tuesday night for the MMRA TIAOS Net. Join us! This is a good way to keep up with what is happening with the MMRA as well as ask your ham related questions.

Repeater and Frequency Information

Location	MHz	PL	Call	Linking	
				To Hub 1	To Hub 2
MMRA Voice Repeaters					
Marlborough	53.810	71.9	W1BRI	PTL	ð
Belmont	145.430	67.0	WA1RTT	ð	ð
Mendon	146.610	146.2	N1BHI	FTL	planned
Quincy	146.670	146.2	W1BRI	PTL	PTL
Stoneham	146.715	146.2	N1NVL	PTL	PTL
Weston	146.790	146.2	N1BE	PTL	planned
Brookline	146.820	146.2	K5TEC	FTL	PTL
Marlborough	147.270	146.2	W1MRA	PTL	PTL
Hopkinton	223.940	103.5	N1BHI	FTL	ð
Quincy	224.400	103.5	N1KUG	FTL	PTL
Weston	224.700	103.5	N1NOM	FTL	planned
Marlborough	224.880	103.5	W1MRA	FTL	PTL
Weston	442.700	88.5	N1NOM	**Network Hub 2** (PTL to Hub 1 or 448.625)	
Stoneham	446.725	88.5	W1DYJ	FTL	PTL
Southborough	449.575	88.5	W1BRI	FTL	ð
Marlborough	449.925	88.5	W1MRA	**Network Hub 1** (planned link to 448.625)	
Affiliated Voice Repeaters					
Bolton	29.620	131.8	W1OJ	PTL to Hub 2 (+ FTL to 448.625)	
Norwell	145.250	77.0	AC1M	PTL	PTL
Coventry RI	145.370	67.0	N1JBC	PTL	ð
Norwell	443.600	88.5	NS1N	PTL	PTL
Princeton	448.625	88.5	W1OJ	PTL to Hub 2 (+ FTL to 29.620)	
Milford	446.825	100.0	WA1QGU	PTL to 53.810	
Brookline	447.875	136.5	K1IW	FTL	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 (usually to Hub 1)
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.

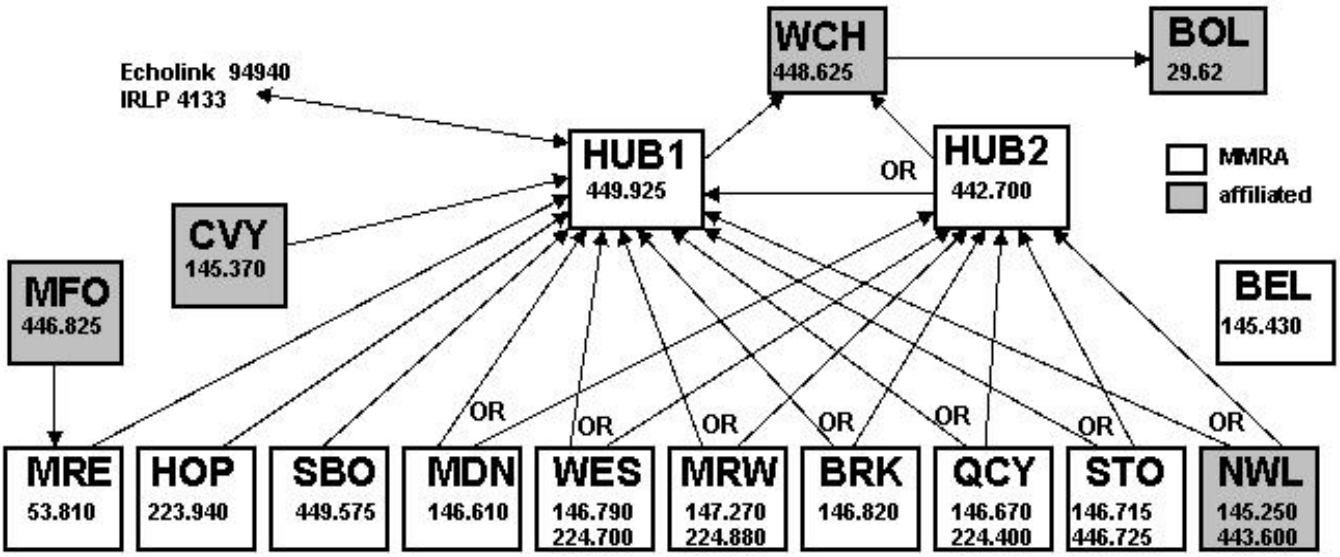
Autopatch: Only the Hub 1 has a telephone line. Link to Hub 1 if necessary, then bring up the autopatch using the 449.925 autopatch codes.

Control codes are sent to members upon receipt of dues.

The MMRA Repeater Network

The MMRA operates sixteen repeaters at ten locations in Eastern and Central Massachusetts. There are also five non-MMRA "affiliated" repeaters capable of linking into the MMRA network. MDN, HOP, and SBO may only link to HUB1. All others may link to either HUB1 or HUB2. Finally, HUB2 may link to HUB1, and either HUB (or both) can link to WCH. WCH is full-time linked to BOL.

The MMRA Operating Guide provides information on how to operate on MMRA repeaters. This is available to members along with information about linking the repeaters.



Antenna Work at Weston Hub

Bryan Cerqua — W1BRI

New antennas were installed on HUB2 main repeater and link radio last December.

After spending about three frustrating hours trying to get the 7/8" hardline up the shaft that runs up the six floors within the building we could not get it by the last leg where there as a right angle turn near the floor below the roof. We ended up using the hardline that was on the corner reflector. The corner reflector was removed since it was not being used. We did however get a run of 9913 coax up the shaft for the new link antenna. A 5dB Antennex stick was used on HUB2 and coverage is greatly improved. This antenna was originally used on Shrewsbury 449.575. For the HUB2 link radio a small 5 element beam was mounted on the tower about 7 feet off the roof to hit HUB1 and Mt Wachusett. This link antenna is used to connect HUB2 to HUB1 as well as Mt Wachusett 448.625 (W1OJ 10 Meter System.)

Bryan in his glory!

Thanks go to the crew, Nat NG1Z, Bob K1IW and W1BRI.

The Antennex Stick

The Link Antenna

Nat, NG1Z

The MMRA Foxbox is Operating at Boxboro

Can you find it???

The MMRA Foxbox will be hidden on Friday afternoon before 3 PM. The Foxbox periodically transmits on 145.630 PL 146.2. The box will be moved Saturday at around 5PM to a new location. A list of those who found the box on Friday/Saturday will be posted in the MMRA booth by 8AM on Sunday. All who found the box (including those who find it after being moved on Saturday evening) will be announced in the September MMRA newsletter.

Let us know if you would like to have an experienced Foxhunter give you tips or even potentially lead you on a fox hunt.

Stoneham 440 and Pave Paws

As you may know, the Stoneham 446.725 repeater was one of the repeaters that was cited by the Air Force for interfering with the Pave Paws radar system on Cape Cod. Our original RF power was ~ 63 Watts ERP: 20 W output to a 5 dB vertical. We were asked to reduce our RF in that direction by 24 dB.

The MMRA installed a corner reflector antenna pointed away from Cape Cod. This antenna has 40 dB Front-to-Back attenuation and 10 dB forward gain.

While mitigating our interference to Pave Paws, this also improved our coverage on 440, from the North to the North-West. With 20 Watts and 10 dB gain the ERP toward Lowell and Concord NH is about 200 Watts. As far as we know, both the MMRA and the Air Force are happy.

Projected Stoneham 446.725 coverage
(Thanks to Andy, N1BHI for this map)

Quincy Antenna Upgrade

Late last April the Quincy 2M antenna was raised about 40 feet to the top of the tower. Charlotte Richardson, KQ1F, and Paul Young, K1XM, were the tower crew. The MMRA owes them a great debt, and they did this for the price of a good dinner! Bob, N1BE, and Bryan, W1BRI were the support crew.

KQ1F starting her climb

K1XM near the top

Comments from Charlotte:
The water tower is about 60' tall - the tower sections on top add another 40'. The tower is a specially-built heavy tower at the bottom and a couple pieces of Rohn 45 on top of it, with the station-master bolted to the side of the stand-pipe top section. The heavy-duty bottom tower is a custom job and has a flat plate at the top. The bottom of the Rohn 45 is on a pier-pin base (but drilled out with large heavy bolts connecting the two. It's rock-solid.

N1BE, Bob, and W1BRI, Bryan, working on the new link

The resident Hawk