Minuteman Repeater Association

The Minuteman

Volume 52 Number 5 March 2023

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

Annual/Membership Meeting: Wednesday, 17 May 2023 ~7:30—9:30 pm

Annual Elections/Vote and *An Introduction to POTA*

David Hornbaker, N1DCH

This is a Hybrid meeting: Marlborough Central Fire Station+ ZOOM

(Directions to Marlborough Central Fire Station on Page 9)

Members: log into your account on MMRA.ORG to obtain the ZOOM info.

Non-members: send an email to contact@mmra to request the ZOOM info.

Annual Meeting Vote: This motion has been approved by the Board of Directors for presentation to the full membership: ***Motion to bring to the membership a proposal to purchase a replacement RF unit and UHF band pass filter for Boston 146.82, and to purchase a replacement RF unit and amplifier for North Reading 146.715, not to exceed $4900.***

This presentation will get you started with POTA. *Parks on the Air* was founded in September 2010. Its purpose is to encourage Amateur Radio Operators who enjoy the outdoors, but may not be interested in or able to take long hikes or climb steep hills, to combine interests by operating from local, state, or national parks around the world.

Aspects of POTA to be discussed include Hunting and Activating parks. Portable station setup (rigs, battery, antenna) , operation (logging, modes, exchange), log submission, and POTA websites will be covered for both hunters and activators. Additionally, the presenter will review the contents of his POTA Go-Bag.

David's interest in radio began when he was a kid and hung around the shack of his uncle Myron Hornbaker, W0GFU (SK), Fowler, Kansas. David got his First-Class Radiotelephone License in 1975 (now, General Radiotelephone Operator License). He was employed by a local telephone company as an installer of IMTS telephones for automobiles. Later, he went to work for Wichita, Kansas television station KAKE-TV as a master control operator.

David received his General Class Amateur Radio License in December 2017 and his Amateur Extra Class License in February 2018. David is an ARRL Volunteer Examiner who works regularly with the MMRA VE team. David is a member of Minuteman Repeater Association and has been the MMRA president since 2018. David is also a member of Algonquin Amateur Club, Long Island CW Club, and G QRP, a QRP club based in the United Kingdom. David is also a member of ARRL.

David owns and is president of DCH Consulting Services, an Information Technology company. He has worked in the computer industry for over 40 years, most recently with the Microsoft Corporation. David received a Master of Science, Information Technology, University Massachusetts Lowell.

Annual Elections

President: Dave Hornbaker – N1DCH
Vice President: John Spencer – WA1MDD
Secretary: Jason Peardon – W1HFP
Treasure: Kevin Paetzold – K1KWP
Clerk: Stephen M Babbitt –KC1LPZ
Director >> 2025: Roger Coulson – WA1NVC
Director >> 2025: Bob DeMattia – K1IW

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About the Minuteman Repeater Association

MMRA Control Operators Responsibilities

https://www.mmra.org/MMRACOPolicy-March2019.pdf

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 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: send 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.

Contact information is listed on the top of the last page of this newsletter.

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 with that individual on the air. Please include the time and date of any incident.

Repeater and Frequency Information

Band	XMTR Location	Freq	PL	Call	Linking To: Hub 1	Hub 2
10m	Marlboro East	29.680	131.8	W1MRA	PTL	PTL
			Linked to 146.79: 9am-3pm every day			
6m	Marlboro East *Remote receive Marlboro West: PL=100*	53.810	71.9	W1BRI	PTL	PTL
2m	Brookline	145.160	na	K1MRA	D-Star (REF050C)	
	Belmont	145.430	146.2	KC1CLA	PTL	FTL: DARI
	Mendon	146.610		K1KWP	FTL	PTL
	Quincy	146.670		W1BRI	FTL	PTL
	North Reading	146.715		KC1US	FTL	PTL
	Weston	146.790		W1HAI	PTL	PTL
				Linked to 29.68: 9am-3pm every day		
	Boston	146.820		K1BOS	FTL	PTL
	Billerica *Output tone = 162.2*	147.120		W1DC	PTL	PTL
	Marlborough	147.270		W1MRA	PTL	PTL
1¼m	Marlborough	223.940	103.5	W1MRA	FTL	PTL
	Quincy	224.400		N1KUG	FTL	PTL
	Weston	224.700		N1NOM	PTL	PTL
	Burlington	224.880		KC1US	FTL	PTL
70cm	Lowell	442.250	88.5	W1MRA	FTL	PTL: 446.775
	Weston *	442.700	88.5	N1DCH	Network Hub 2 (PTL to Hub 1)	
	North Reading *System Fusion*	446.775	88.5 Linked 71.9 Local	W1DYJ	FTL [88.5]	PTL [88.5]
	Marlborough	448.225	na	W1MRA	D-Star (REF050C)	
	Hopkinton *System Fusion*	449.575	88.5 Linked 71.9 Local	W1BRI	FTL [88.5]	PTL [88.5]
	Marlborough *	449.925	88.5	W1MRA	Network Hub 1	
33cm	Boston *	927.0625	D244	K1RJZ	PTL	PTL
	Marlborough * *PL out = 131.8*	927.700		W1MRA	PTL	PTL
Marlborough		144.390	none	W1MRA	APRS Digipeater	
???		145.630	146.2	W1MRA	Fox Box	
*Internet	HUB1– 449.925: IRLP node 4133 / Echolink node 4133 Connected to Echolink NEWENG2 conference (9127) for TIAOS net.					
	HUB2 – 442.700: IRLP node 4136 / Echolink node 4136 Connected to 220 Reflector 9124 on Tuesdays					
	927.0625: IRLP 4977		Normally linked to the NE900 Reflector, 9125. Linked to MMRA via "NEWENG2" node 9127 for the TIAOS net. Normally linked together.			
	927.700: IRLP 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, however the two hubs can also be linked together.

President's Corner ~ David Hornbaker, N1DCH

The annual MMRA officer elections will be held at the May Membership meeting. In addition to the election of the four officers and two board members, we will also be voting to fund the replacement of the Back Bay 2-meter repeater at the Prudential Center and the North Reading 2-meter repeater. Both repeaters are at least 25 years old and suffer from low power output.

The presentation will be: An Introduction to POTA

> **In person** at Marlborough Central Fire Station, 215 Maple Street, Marlborough MA https://www.bing.com/maps?q=215+maple+st+marlborough+ma&FORM=HDRSC4
>
> Meetings are a great place to meet and greet your fellow hams and to welcome our new members. Bring a friend, you do not have to be a member to attend.
>
> **Via Zoom:** All MMRA meetings are also available via Zoom. The Zoom code is available to members on http://www.mmra.org. If you need assistance getting connected, contact us at contact@mmra.org. If you are not a member, request the meeting code via email at contact@mmra.org.

VE Exams: The March VE Session will be held on Saturday, May 20th at 9:00 AM, at City Church Marlborough 2nd floor, 72 Jefferson Street (across from Kellher Field), Marlborough, MA https://www.bing.com/maps?q=72%20Jefferson%20Street+marlborough+ma&FORM=HDRSC4

Walk-ins are welcome.

Please remember to bring a State ID, your FRN, and if upgrading, a copy of your current license (from FCC website). For more information, contact Ron – WO1E at ve@mmra.org or wo1e@mmra.org.

Net Control Operators wanted: Interested in becoming a control operator for the TIaOS net? Larry is looking for a back-up operator. Contact Larry Banks – W1DYJ w1dyj@mmra.org.

Membership renewal: All MMRA memberships expire on August 31. Please check your profile and if your membership expires in 2023, please renew. Renewals may be done on the website, or you can mail your renewal to Minuteman Repeater Association, PO Box 669, Stow, MA 01775-0669. Please allow 7 days for us to process your renewal. Please allow 14 days for renewals that are mailed. While you're on the website (https://www.mmra.org) checking your expiration date, please verify your email address.

Free Membership: Do you know someone that has passed the Technician test (element 2) in the last year? They are eligible for free membership in MMRA. Have them send email to contact@mmra.org requesting membership. The club secretary, Jason – W1HFP, will contact them with details on how to qualify.

Tuesday Net: Join us Tuesday night at 8:00 PM for our weekly Technical Information and Other Stuff (TIaOS) net. There will be a lively discussion on all sorts of ham issues, including equipment, antennas, software, repeaters, and other stuff. The main purpose is to test our ability to link up the repeaters in case of an emergency or to support an event like the Boston Marathon. You can also join via EchoLink if your radio is a little under the weather. See below for more information.

You can find out more information about how and when the repeaters are linked on the website (https://www.mmra.org/repeaters/repeater_linking.html).

Please remember to keep your profile up to date, especially if your email changes. Note that if your callsign changes, send email to contact@mmra.org and we will update your callsign in the database.

73

Dave – N1DCH

15 March 2023 Membership Meeting ~ Minutes

Called to order @ 7:31 PM

This meeting was changed to a Zoom only meeting as a pre-caution because of the weather forecasts predicting more snow and ice than what accumulated in the Metrowest area where the Sci-Tech Natick facility is located. Due to that decision the AREDN Presentation has been split into two separate parts. Part 1 has taken place tonight and will be described later on in these minutes. Part 2 will be presented at our April 19th monthly meeting at the New England Sci-Tech Center where a live hands-on demonstrations will happen.

VE Exam Session: Saturday, March 18th at 9:00 AM at Marlborough Fire Station Classroom, 215 Maple St., (Rt. 85), Marlborough, MA. Contact Ron (WO1E@mmra.org) for more information.

Please tell your friends, who are interested in taking tests, that they must have photo IDs and FRNs.
SS#s are NOT accepted by the FCC.
Please log onto the FCC website to obtain your FRN **before** you arrive to take your Test. Thank You.
Copy of license required if upgrading (or Proof from the ARRL, or QRZ website)

Upcoming Meetings

April 19, 7:30 pm – Membership Business Meeting – Part 2 AREDN
Michael Ford – WZOC & Jim Garner, KC1BHD New England Sci-Tech and ZOOM
May 17, 7:30 pm – Annual election of officers
Speaker is Dave Hornbaker – N1DCH – An Introduction to POTA
Marlborough Central Fire Station Training Room & Zoom
Tuesday night, 8:00 pm (year long)
Technical, Information and Other Stuff Net MMRA Linked Repeaters

All Other Meeting Agenda Items – have been tabled.

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Feature Presentation – Part One - Amateur Radio Emergency Data Network (AREDN) – Orv Beach, W6BI covering the West Coast & Michael Ford, WZ0C covering New England {James Garner, KC1BHD – Part Two - will do a live demonstration at our April monthly Meeting}.

Background information on Orv, Michael and James is in the March, 2023 MMRA Newsletter.

Orv – W6BI - described how the West Coast has been using AREDN to communicate. California has many mountains, deep valleys and desert areas that present many communication challenges. Besides the networking hardware and antennas, the AREDN software is the heart of this technology both in educating folks and in the data transmission.

Connecting and using AREDN can be found at https://www.arednmesh.org/ and extensive documentation is located at https://docs.arednmesh,org/en/latest/ (on getting started).

Michael – WZ0C – described AREDN in terms of how it can be used in New England where our terrain is just hilly with lots of trees that presents differing challenges than California. Using AREDN is accomplished by line-of-sight on 2 & 5 Gigahertz bands. The longest link (hop) is approximately 50 miles. Multiple

15 March 2023 Membership Meeting ~ Minutes, cont'd

shorter links are faster than one long hop. With the multiple repeaters used by the MMRA, this technology appears to be a great fit for the MMRA to consider. Clearly this is relevant for us where we can likely implement AREDN.

Having this presentation turn into two separate parts has been a blessing in disguise giving us time to assess how we will use AREDN. Also our questions for next month will be more precise and targeted when we view and participate in the live demonstration at our April meeting. We encourage our members and guests to join us in person at the Natick Sci-Tech Center. This will still be offered as a Zoom hybrid meeting. Our meeting tonight ended on a very upbeat note.

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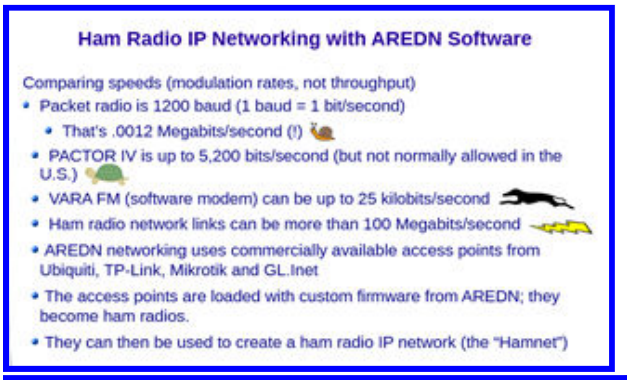
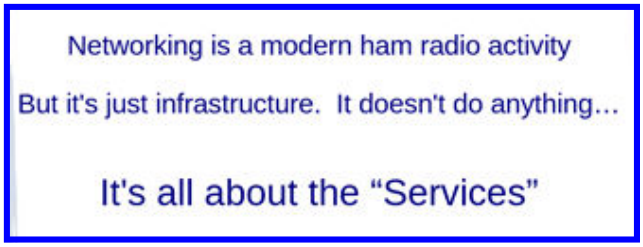
Zoom Meeting Attendees::
Dave Hornbaker, N1DCH; Stephen Babbitt, KC1LPZ; Dan Long, N1DFL;Tom Turner, KB1OQA; Chris Conti, N1NVL; John Spencer, WA1MDD; Greg Troxel, N1DAM; Orv Beach, W6BI; John Mullaney, K1BOS; Ed Moore, WE1I; Bob Douglass, KB1VIU; Michael Ford, WZOC; Roger Coulson, WA1NVC; Ken Horton, KA1GFN; Larry Banks, W1DYJ; Alan Lewis, K1ALL; Rob Evans, N1BE; Kevin W Paetzold, K1KWP; Marcia Forde, KW1U; Howard Shpegel, AC1MN; Matt Wagner, N1ZYY; Jason Peardon, W1HFP; Duke Dodds, N1CVO; Phil Temples, K9HI; Leandra MacLennan, AF1R; J Rollins, KM6NUY; John Nitzke, KF1KI; Ken Peluso, KC1PFS; Mike Burnell, KC1RSV; Mike Rioux, W1USN; Joe Weisse, W1HAI; Joe Wiesenfeld, N1JIW; Aaron Bauch, NE1AB;: Jonathan Traum, K1BTZ; and one additional participant who did not indicate their name/call on ZOOM

Meeting Adjourned at 9:07 PM

Respectfully Submitted by Stephen M Babbitt – KC1LPZ – Clerk

15 March 2023 Meeting ~ A few of Orv, W6BI's 83 Slides





15 March 2023 ~ A few of Orv, W6BI's 83 Slides ~ continued

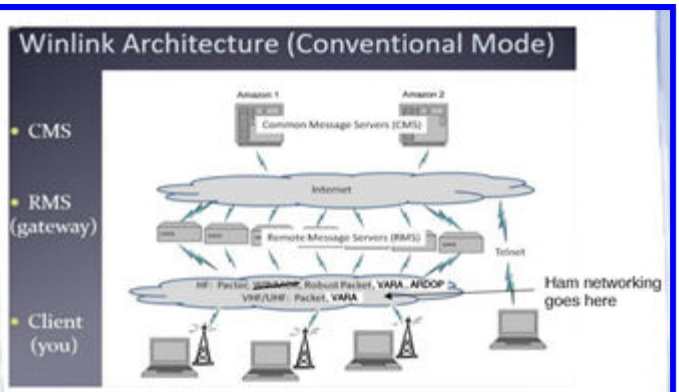
Messaging

The future of EmComm is not voice, but rather data

Plain old Email

- Email servers & clients, using standard SMTP
  - Thunderbird, etc.
  - Web clients are available (e.g., Roundcube)
- Winlink and a ham radio network were made for each other!

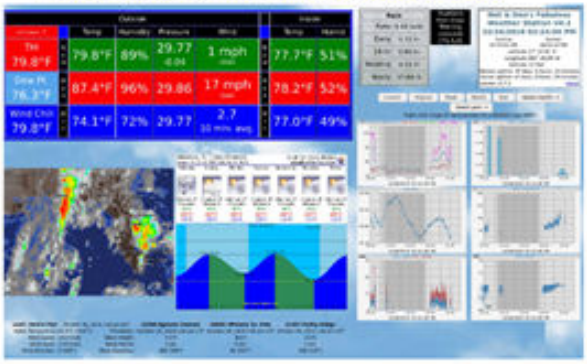
Winlink Architecture (Conventional Mode)



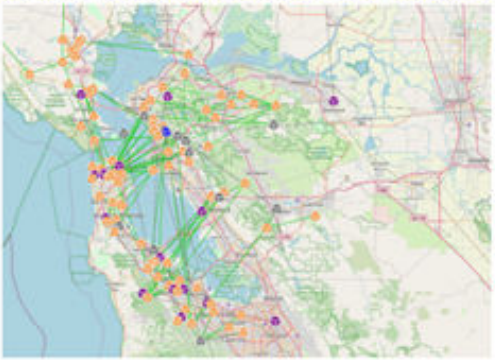
Typical PTZ camera view

The Woolsey Fire – Thousand Oaks, CA 11/2018
Also streamed to YouTube

Weewx gone wild - highly-customized



Network map – BAM (Bay Area Mesh) - San Francisco, CA



Where to get AREDN Ham Network Info

- Amateur Radio Emergency Data Network (arednmesh.org)
  - List of supported products
  - Software downloads (production & nightly builds)
  - How-Tos
  - FAQs
  - Extensive, detailed documentation
  - Forums – more than 4,100 users
- Social media sites: Facebook, Mastodon, Slack, Discord, etc.
- AREDN channel on YouTube
  - * Beware of older HSMM and AREDN YouTube videos; they can be way out of date.

How do I Get Started?

- Ask around your club; ask around repeaters and/or mailing lists
- Get a link going (may require some tree trimming)
- Or tunnel someplace, if no RF link
- Make friends with repeater owners! (Especially if site is line of sight to you) Point out the advantages of being networked :-)
- Join the AREDN forums and/or any local mailing lists. Read!

15 March 2023 ~ A few of Michael, WZ0C's Slides

What is happening across New England?

- Manchester, NH – Mesh network supporting hospitals
- New Hampshire and Maine have built a tunnel between their meshes
- Walpole, MA – ARES experimenting with AREDN to support hospitals during emergencies
- Rhode Island – Have ARDC grant. Deploying remote cameras on fire towers. Experiments up to 10 GHz.
- Connecticut – Mesh deployed at ARRL HQ to be extended into Newington area
- NEDCN – Utilizing mesh at some DMR repeater sites

Maine deployment: Portland to Downeast

Southern New England mesh

Cape Cod

- Cape Cod ARES has been testing on 5.8 GHz
- Developing mobile mesh networks for emergency deployment
- Demonstrated real time video transmission across Cape Cod Bay

MMRA repeater network

Radio path study
5.8 GHz
- 14 Repeater sites

Selected line of sight paths:

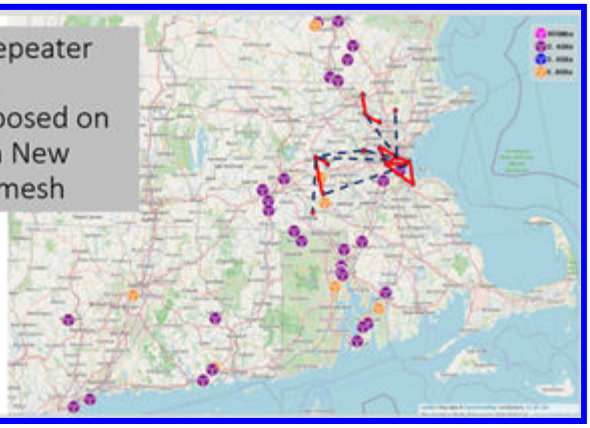
Strong signals

Requires directional antennas at both ends and testing

Some use cases for AREDNmesh in Eastern Mass.

- Repeater linking with less reliance on Internet
- Remote control of repeaters
- Cameras to be able to see repeater site
- Access to tools for remote spectral monitoring at collocated sites
- Support public service events (Boston Marathon, etc.)

MMRA repeater network superimposed on Southern New England mesh



Amateur Radio Digital Communications (ARDC) grants

ARDC makes grants that align with their mission to support amateur radio and digital communication science and technology.

- Non-profit organizations can apply for ARDC grants
- ARDC has been issuing many grants to build mesh infrastructure
- Grants can exceed ARRL grant limits ($25,000)
- Application turnaround tends to be about six months
- In 2023, grant applications will be reviewed on April 1, July 1, and October 1.

My first Parks on the Air Activation - David Hornbaker, N1DCH

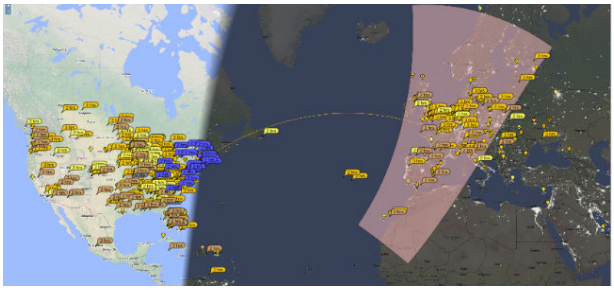
I activated K-2424 Callahan State Park on 04 April 2023 15:05 EST. This was my first park activation attempt. I set up a table and chair just off the parking area and deployed my QRP Boys 40-meter End Fed Half Wave antenna. Using an arborist throw bag and line to put the antenna in a tree, I got it about 30 feet up and configured the antenna as an inverted-v. The radio was a Xiegu X-6100 with an external battery giving me 10 watts SSB. I did not need a lot of power, QRP worked just fine.

Equipment used:

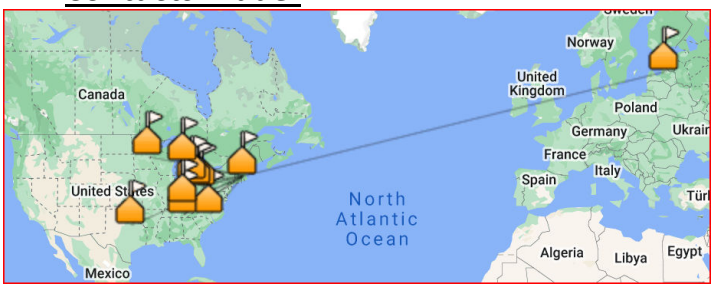
Xiegu X-6100 HF transceiver
QRP Boys EFHW antenna with 66' of DX Engineering high visibility wire
Arborists throw bag and line in a storage cube
Microsoft Surface Laptop 4
USB GPS Unit
Anytone AT-878UV HT
Phone for internet access
Portable table and chair
POTA Sign
Clipboard with scratch paper, backup paper log, US Band Plan, copy of license

I spotted myself on the POTA.App website and started off on 20 meters SSB. My first CQ call was answered by WN8SCI a mobile station. Unfortunately, I was unable to make any further SSB contacts and since it was late in the day, I switched to FT-8 (8 watts). I was able to make nine additional contacts on 20 meters and one on 17 meters using FT-8. Two of the contacts were Park to Park, and one was DX (Latvia). I had one SSB contact and 10 FT-8 contacts, 11 contacts, a pretty good first activation.

Stations that heard me:



Contacts made:



Lessons learned:

Develop a workflow for an activation:
- *Before activation:* (scheduling, make sure batteries are charged, and your go bag is ready)
- *During:* (equipment setup, logging configuration, internet access, spotting)
- *After:* (site cleanup, log submission, charging batteries)

Make sure you have everything you need (and you can find it in your bag). I couldn't find my USB hub, so I was unable to connect both the radio and the GPS to the computer. I had synced the time earlier that day and it wasn't a problem

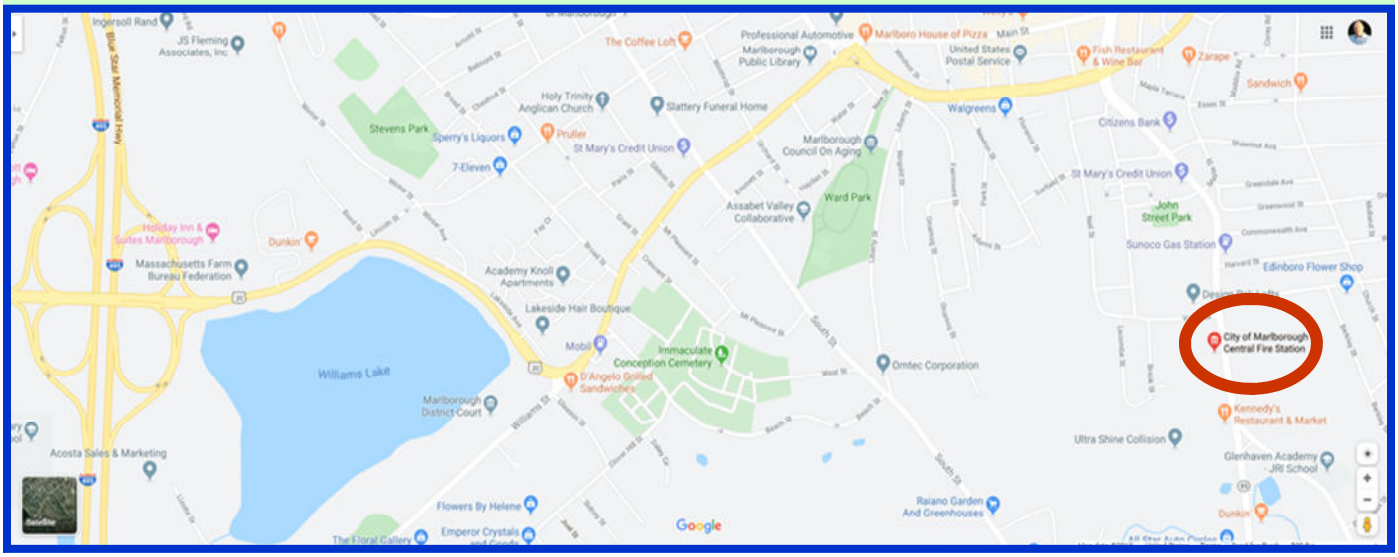
Try to set up your station so the sun is not on your back, I had trouble with both the computer and radio screens being washed out by the sun

Bring and use insect repellant (Tick and Mosquitoes) and sunscreen (no foliage protection in springtime)

I had a lot of fun with this deployment!

73—Dave

Directions to:
Marlborough Central Fire Station, 215 Maple St (RT 85), Marlborough, MA
Enter through the side classroom door.



Treasurer's Report - Kevin Paetzold, K1KWP

The MMRA receives a significant amount of donations each year. On behalf of the club I would like to acknowledge and thank people below who donated since my list in the March newsletter:

KC1SMQ, K1LXV, KW1U, and WU2C

We have 240 paid memberships which is 15 less than the previous year. This amounts to $375 in dues.

The funds balance was $27392.63 on June 1,2022. At this writing on April 29, 2023 the balance is $26066.95.

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

Repeater Report ~ Bob DeMattia, K1IW
Prudential Antenna System Replaced

The new Boston/Prudential antenna was installed on 25 April. I don't use this word often, but the difference is astounding. I was able to hear and key the repeater ON THE PRUDENTIAL LOCAL RECEIVER all the way down the Mass Pike and on to I-495 from the Mass Pike to the Boxborough exit.

I stopped at the Sligo site, to do a few more tests. There was no noticeable difference going in on the Prudential receiver vs. going in on Brookline receiver. **It is highly likely we no longer need the remote receiver.**

At my home station, signal level has improved from a noisy S3 to clear S7. My signal into Boston has similarly improved.

When I got home, I reprogrammed the Boston link radio to receive HUB1 directly. The radio was able to hear HUB1 perfectly. The radio was also able to hear HUB2 without an issue. **Since the link signal from the remote receiver is essentially unusable, '82 is now directly linked to HUB1, with a PL of 146.2, and the remote receiver is shut down.**

The Pru rooftop, looking west.

One final note, the Mastr II transmitter at the Pru is putting out 4W, so evidently its PA has all but failed. So that strong signal I described above is with a mere 4W. It might be time to consider replacing the Boston Mastr II. (See the *note about the vote on page 1* — editor.)

Another added feature is that our coax has been upgraded from 1/2" (below the arrestor, going 8 feet to the repeater) to 7/8" (above the arrestor - the long run to the antenna). This was an existing heliax that was abandoned by a former tenant.

The Pru rooftop, looking east

MMRA Repeaters and Public Service Events
Bruce Pigott, KC1US

With 21 analog repeaters available in Eastern and Central Massachusetts, how are they used to support Public Service Events? Normally the repeaters are in default configurations when not used for a net. Those groupings can be seen on the Linking Info page on the MMRA web site at <https://www.mmra.org/repeaters/repeater_linking.html>. Public Service Events take place in a particular area, so repeater linking is changed from the default mode to cover that area. Here are six events in 2022 that used custom configurations.

In April, for the **Boston Marathon**, seven systems were used for different functions on the course. Hopkinton 449.575 was unlinked from HUB1 to provide good coverage of the start area. Belmont 145.430 and Back Bay 146.820 were used individually on short sections of the race course for medical aid and hydration stations. Marlboro 147.270, Weston 146.790 and Quincy 146.670 were linked together through HUB2 in Weston to provide complete coverage of the 26 mile route. Being able to use the second hub for this event allowed unused systems to remain linked through HUB1.

The **Max Performance Triathlon** in May starts in Hopkinton State Park and used Hopkinton 449.575 in stand alone mode for coverage of the bicycle and road race portions.

For the **Pan-Mass Challenge Kids Charity Ride Concord**, Weston 146.790 and 442.700 repeaters were linked together in June.

In Marlboro was the New England and Hudson divisions **HamXposition** convention in August. For this event, the 147.270, 223.940 and 449.925/HUB1 systems were linked for talk in. Guess where those systems are located.

Marlboro and Weston two meter and seventy cm repeaters were linked, to support the **Ride to Defeat ALS** with four routes starting in Wayland, in September. The 100km route went through Carlisle and Chelmsford, so the new Billerica machine was also connected in this year to the other four.

October has the **Cystic Fibrosis Cycle for Life** tour with routes surrounding Holliston. The Hopkinton 449.575 repeater was used to support this activity.

Information about scheduled events and linking changes can be found on the Public Service web page calendar at <https://www.mmra.org/pubserv/index.html>

The event organizers and the radio coordinators want to thank the MMRA for support through the year. I want to thank the technical and work crews who keep the hardware, software and 14 repeater sites maintained. Yes, yard work needs to be done at certain locations.

Marathon Experiences

Editors Note: **With the Boston Marathon just completed, I solicited our members for any memories or experiences from their participation. I received three — *Larry, W1DYJ***

Marathon '98 — Bill McIninch, KA1MOM

In 1998 I was assigned to the Kenmore Square water station and saw two pieces of whimsy of the sort that seems to have been another casualty of 2013.

- Just after the Red Sox game let out, we noticed a struggling runner approaching with what looked like a broomstick under his arm. As he reached Kenmore, he whipped it up and unfurled his banner proclaiming: "Yankees suck!" The cheers rattled windows, and he visibly soaked up energy from the crowd.
- As traffic was backed up waiting for Commonwealth Avenue to reopen, the water volunteers decided not to waste the remaining Gatorade: they hurried around through the traffic jam handing out cups of it to everyone who wanted some in the cars.

My first Boston Marathon '23 — Howard Shpegel, AC1MN

It is the morning after the MMRA business meeting, and I wanted to share my Boston Marathon experience. Many of our MMRA repeaters were used for the race and they worked well.

Let's start with the Boston Marathon which is a project of proportions that boggle the mind. When I signed up as a volunteer, and started reviewing the voluminous documentation, a feeling of panic started to creep in. There is a document to cover every aspect of the Marathon a ham might become involved in. It can be overwhelming. My one year and a few months of being a licensed ham did not prepare me for the experience I was going to have.

In the end, it was not the technical demands of Marathon that left me feeling that I had done something special. It was becoming part of the team that puts on the Marathon that leaves you with a feeling of accomplishment. The people you work with are welcoming and grateful that you are there. They are dedicated, hardworking, and compassionate. They clap for the runners and do everything they can to make sure it a good day for runners, volunteers, and spectators. I encourage every ham, regardless of experience, to take this E ticket ride and volunteer for the Boston Marathon.

After signing up to volunteer a few months ago, the emails started to trickle in. Then a preparatory meeting a month ago helped to orient me as to what exactly I might be doing on the day of the Marathon. You don't really find out exactly what you will do until about a week before the event. There are many different jobs for hams at the Marathon. First and most important, we are an insurance policy that guarantees that no matter what, there will be a way the people who run the Marathon to communicate. That is the main reason we are there. Ten years ago, when bombs went off, amateur radio was still working when other comms went down. We show up and help with the start and finish as well as the entire course. On the course, hams are at the hydration and medical stations checking in twice an hour to ensure that comms are still working and sending stats on the assigned station. Hams are also in the many transport buses

My assignment was the medical tent designated M18 at mile 21.7 of the course. It is about a mile after

Marathon Experiences — Continued

heart attack hill and runners are tired by the time they pass by. The race starts at 9:00 with the wheelchair athletes, followed by the professionals who are the only ones with names on their bibs. Next comes everyone else. Around 30,000 people will have passed by the days end. You see many who are in a trancelike state and wonder what they are thinking. Their faces may be contorted in pain, serene, and everything in between. Others come by and it is clear they are there to party. They are smiling, maybe wearing costumes, slapping the hands of spectators as they go by. I saw one runner go by drinking a beer. By the afternoon it thins out and eventually those who no can longer run, walk. This will continue long after everything is dismantled and you're on your way home.

The day of the Marathon I got up at 4am to be at the site by 7am. By 7:45 the streets will be closed so don't be late. Check in with your station captain and meet the people you will be with all day. Some are multi-year veterans and others like me, first timers. They are doctors, nurses EMTs, and interns. The cool weather helped and only a handful of runners had to take a cot in our tent. Some got oxygen, some intravenous fluids, some were bused to the finish line. A guy much older than me (I'm 74) staggered in, received oxygen, and went on to complete the race. Many runners limped up and received a massage with freeze spray from the medical staff to relieve cramped leg muscles. The medical staff was never negative or critical, always encouraging, and helpful. Watching them all day made me feel proud to be part the team even if I was only a comms guy. Would I do this again? You bet!

Marathon '23 — Steve Umans, K8ZBE

Smooth operation of the Boston Marathon depends upon the participation of many hundreds of volunteers. Something on the order of 190 amateur radio operators volunteered for the 2023 marathon. I was one of around 75 hams who were assigned to the marathon Finish-Area as part of a total group of well over 1000 Finish-Area medical volunteers, many of whom were medical personnel including paramedics, nurses, EMT's and physicians. There were also an equally large group of volunteers assigned to other tasks.

My sweep team. Medical personnel wore red jackets while hams and other volunteers wore blue jackets.

My assignment was to provide communications for one of 22 medical sweep teams. In addition to medical supplies as well as a defibrillator, each team pushed a number of wheelchairs. The task of the Finish-Area sweep teams was to identify post-race runners who might be having medical problems, check them out and, if necessary, transport them to one of two large Finish-Area medical tents for further care.

Each sweep team was assigned to specific areas in the Finish-Area. My team was initially assigned to the

Marathon Experiences—continued

Family-Meeting Area on Stuart Street, where runners could meet family and friends following the race. The elite/professional runners were directed to a special location at the finish line so the runners who came to the Family-Meeting area were all amateurs. This is a photo taken around 1PM which was fairly early in the day and hence the runners at this time, identifiable by the Mylar blankets which they were given at the end of the race, were early on in the crowd of runners. The temperature was in the 50's and there was a cold wind and, as can be seen in the photo, it had been raining on and off. In spite of that, very few of these runners needed any medical attention, although many of them were really pleased to find out that there were buses parked a bit farther down the street specifically to give the runners a place to warm up.

The Family-Meeting-Area around 1 pm

Later in the afternoon, my team was assigned to a position on Boylston Street just past the Finish Line. Because of the security surrounding the Marathon, most of the area around the Finish Line is closed off to the public but is accessible to volunteers, each of whom is supplied with an identifying badge which must be presented upon entering the secure area. This is a photo take around 3PM. At this point I am sure that many thousands of runners had completed but what was really impressive to me is that almost without exception the runners looked like they could have kept going and they were definitely thrilled to have run their race … every one of them was a winner.

Runners having completed the Marathon just past the finish line. The finish line is the blue banner seen a bit in the distance at the middle of the photo.

Volunteering at these sorts of events, be it the Boston Marathon, the Head of the Charles Regatta, the Massachusetts Triathlon and the many races, rides and walks to raise money for medical research is an amateur-radio public-service activity that I very much enjoy. For those of you who might be interested in getting involved in the public-service aspect of amateur radio, I highly recommend these sorts of events. I should also point out that the MMRA played a major role in that many MMRA repeaters were used for communications during the marathon.

19 April 2023 Business Meeting ~ Minutes

Called to order @ 7:31 PM

Due to an unexpected cancellation of the (part 2) AREDN presentation demonstration at the NE Sci-Tech Center, this meeting was changed to Zoom only. Rescheduling the AREDN demo was discussed. Dave – N1DCH – will contact Michael – WZ0C to reschedule. Please pay close attention to the meeting agenda as it may change with the AREDN being scheduled for May, June or some other monthly Wednesday meeting date

Elections: - Candidates –All running unopposed

Officers

- President – Dave Hornbaker – N1DCH
- Vice President – John Spencer – WA1MDD
- Treasurer – Kevin Paetzold – K1KWP
- Secretary – Jason Peardon – W1HFP
- Clerk – Stephen Babbitt – KC1LPZ

Directors 2023-2025

- Roger Coulson – WA1NVC
- Bob DeMattia – K1IW

Repeater Status Report – from Bob DeMattia – K1IW –

Prudential Antenna – The antenna install is scheduled for April 25th weather permitting.

North Reading – The site cleanup will be scheduled sometime in June. A more permanent remote reset solution will also be done to replace the Kasa Smartswitch that Bob is using for a remote reset when necessary.

10 Meter Weston Receiver: - The intermittent functioning still remains making the 10 meter option inconsistent.

6 Meters: Output power not stable yet.

2 Meter Weston Repeater – The SWR issue that was brought up during the February Monthly Business Meeting will be fully investigated when Bob and Dave can meet onsite. Currently we do not know if it is a bad connector, water damage to the cable, hardline damage or something else.

Burlington: Bob states, since he cannot hear that repeater from his home, he cannot confirm or deny the 5 second drop out issue**.** No one has mentioned it for several months**.**

All other MMRA Repeater systems normal – No other malfunctions reported.

MMRA & DLARC The Internet Archives is seeking Amateur Radio

While no one knew what the “DLARC” abbreviation exactly meant, it was best described as the “Wayback” machine that has a snapshot of everything that was ever posted by date stamp on the internet. Overall, this was viewed very positively as another venue of exposure for the MMRA and Ham Radio in general. No decision by us was made as there are multiple issues we must understand to avoid any

19 April Business Meeting ~ Minutes—cont'd

negative externality. From a quick Google Search I have one link here at *https://archive.org/details/dlarc* or *https://swling.com/blog/2022/10/dlarc-the-internet-archive-is-seeking-amateur-radio-content/* as another example.

On a separate but somewhat related note, do we want to publish the videos we have (except the sensitive ones) on YouTube, Rumble or other social media sites.

Upcoming Meetings

- May 17, 2023, 7:30 PM – Annual elections and an Introduction to POTA
  Speaker Dave Hornbaker – N1DCH
  Marlborough Central Fire Station Training Room and Zoom
- June 21, 2023, 7:30 PM - Business Meeting – Zoom Only
- September 20, 2023, 7:30 PM The National Traffic System,
  Nets in the Area and the Basics of Sending a Radiogram
  Speaker: Marcia ford – KW1U and Joe Weisse – W1HAI
  Location TBD
- October 18, 2023, 7:30 PM Business Meeting – Zoom Only
- November 22, 2023, 7:30 PM A Smorgasbord of Radio -The People, Places and Incidents
  Speaker Don Mallozzi – N1DM
  Location: TBD

- Tuesday night, 8:00 PM (Year Round)
  Technical Information and Other Stuff Net
  MMRA Linked Repeaters

Newsletter: Information to Larry, W1DYJ – Deadline Friday 4/28/23 – Email W1DYJ@mmra.org

Zoom Meeting Attendees::

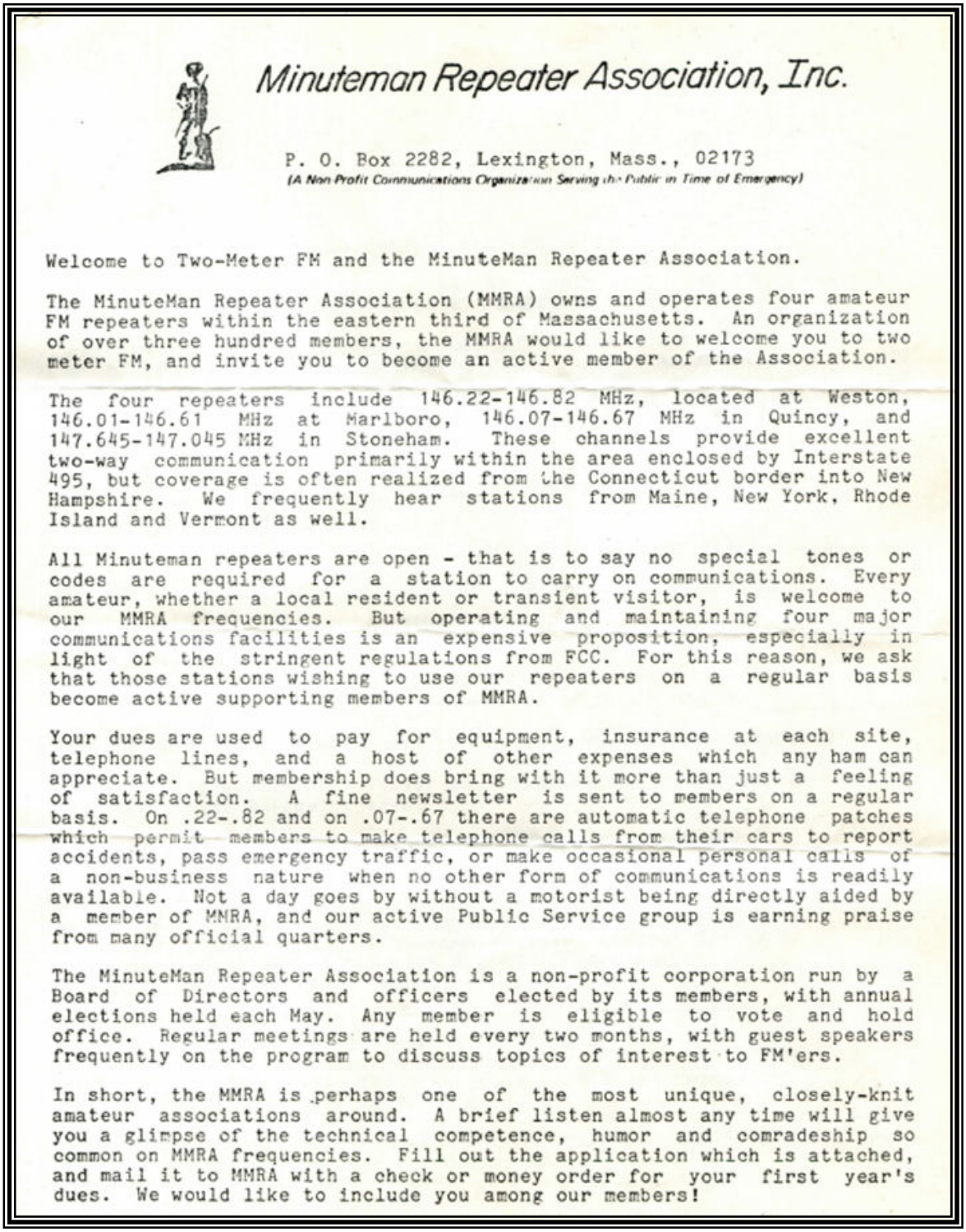
Dave Hornbaker, N1DCH ; Bob Phinney, K5TEC; Stephen Babbitt, KC1LPZ; Ken Horton, KA1GFN; Kevin W Paetzold, K1KWP; Jason Peardon, W1HFP; Roger Coulson, WA1NVC; Howard Shpegel, AC1MN; Bob Evans, N1BE; Larry Banks, W1DYJ; Joe Wiesse, W1HAI; Steve Umans, K8ZBE; Bruce Pigott, KC1US; Bob Douglas, KV1VIU; James Lee, N1DDK; Donald Dooner, KC1NJO; Juan Jimmenez-Tirado, KC1SOZ; Jeff Donaldson, KC1QFD; Mora Stone, WA1MCS; Glenn Axelrod, KC1HPZ

Meeting Adjourned at 9:05 PM

Respectfully Submitted by Stephen M Babbitt, KC1LPZ, Clerk

A bit of MMRA History ~ Larry Banks, W1DYJ

Skip Youngberg, K1NKR — a colleague of mine on the HamXposition Program Committee — found this when he was going through some old Algonquin ARC files. I found it quite interesting and thought I would share it. It appears to go back to the earliest years of the MMRA.



Minuteman Repeater Association, Inc.

P. O. Box 2282, Lexington, Mass., 02173

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

Welcome to Two-Meter FM and the MinuteMan Repeater Association.

The MinuteMan Repeater Association (MMRA) owns and operates four amateur FM repeaters within the eastern third of Massachusetts. An organization of over three hundred members, the MMRA would like to welcome you to two meter FM, and invite you to become an active member of the Association.

The four repeaters include 146.22-146.82 MHz, located at Weston, 146.01-146.61 MHz at Marlboro, 146.07-146.67 MHz in Quincy, and 147.645-147.045 MHz in Stoneham. These channels provide excellent two-way communication primarily within the area enclosed by Interstate 495, but coverage is often realized from the Connecticut border into New Hampshire. We frequently hear stations from Maine, New York, Rhode Island and Vermont as well.

All Minuteman repeaters are open - that is to say no special tones or codes are required for a station to carry on communications. Every amateur, whether a local resident or transient visitor, is welcome to our MMRA frequencies. But operating and maintaining four major communications facilities is an expensive proposition, especially in light of the stringent regulations from FCC. For this reason, we ask that those stations wishing to use our repeaters on a regular basis become active supporting members of MMRA.

Your dues are used to pay for equipment, insurance at each site, telephone lines, and a host of other expenses which any ham can appreciate. But membership does bring with it more than just a feeling of satisfaction. A fine newsletter is sent to members on a regular basis. On .22-.82 and on .07-.67 there are automatic telephone patches which permit members to make telephone calls from their cars to report accidents, pass emergency traffic, or make occasional personal calls of a non-business nature when no other form of communications is readily available. Not a day goes by without a motorist being directly aided by a member of MMRA, and our active Public Service group is earning praise from many official quarters.

The MinuteMan Repeater Association is a non-profit corporation run by a Board of Directors and officers elected by its members, with annual elections held each May. Any member is eligible to vote and hold office. Regular meetings are held every two months, with guest speakers frequently on the program to discuss topics of interest to FM'ers.

In short, the MMRA is perhaps one of the most unique, closely-knit amateur associations around. A brief listen almost any time will give you a glimpse of the technical competence, humor and comradeship so common on MMRA frequencies. Fill out the application which is attached, and mail it to MMRA with a check or money order for your first year's dues. We would like to include you among our members!

Upcoming MMRA Meetings

Note: Meeting locations and times are subject to change.
Consult the MMRA website for the most up-to-date information. ZOOM Teleconference login info is available once you log into your account on MMRA.ORG
Non-members: if you wish to attend, email contact@mmra.org.

Wednesday, 17 May – ANNUAL Membership Meeting ~ 7:30
Location: Marlborough Central Fire Station + Zoom Teleconference
Topic: Elections + Intro to POTA / Dave Hornbaker, N1DCH

June 21, 2023, 7:30 PM - Combined Membership/Business Meeting
Part II oF AREDN
Location: New England Sci-Tech + Zoom Teleconference

September 20, 2023, 7:30 PM The National Traffic System,
Nets in the Area and the Basics of Sending a Radiogram
Speaker: Marcia ford – KW1U and Joe Weisse – W1HAI
Location TBD

October 18, 2023, 7:30 PM Business Meeting – Zoom Only

November 22, 2023, 7:30 PM A Smorgasbord of Radio
The People, Places and Incidents
Speaker Don Mallozzi – N1DM
Location: TBD

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 TIOS Net. Keep up with what's happening in the MMRA and ask your ham related questions.

Net Control Operators:

Week 1	W1DYJ	Larry Banks
Week 2	KB1OQA	Tom Turner
Week 3	KC1CLA	Ed Curley
Week 4	K1KWP	Kevin Paetzold
Week 5	K1BTZ	Jonathan Traum

To connect using Echolink during the Net:

- **Echolink Conference *NEW-ENG2***

NOTE: we need another NC to be available as a substitute. If you are interested, email W1DYJ@mmra.org

MMRA Leaders

Executive Board — Officers

President	Dave Hornbaker	N1DCH
Vice President	John Spencer	WA1MDD
Secretary	Jason Peardon	W1HFP
Treasurer	Kevin Paetzold	K1KWP
Clerk	Stephen Babbitt	KC1LPZ

Executive Board — Directors

Director »2023	Bob DeMattia	K1IW
Director »2023	Roger Coulson	WA1NVC
Director »2024	Rob Evans	N1BE
Director »2024	James Lee	N1DDK

Technical Officer

Technical Officer	Bob DeMattia	K1IW*

President Emeritus

Bob DeMattia K1IW

Technical Officer Emeritus

Bryan Cerqua W1BRI

Repeater Trustees

Belmont 145.43	Ed Curley	KC1CLA*
Billerica 147.12	Mike Rioux	W1USN*
Boston 146.82	John Mullaney	K1BOS*
Boston 927.0625	Rick Zach	K1RJZ*
Brookline 145.16	Joyce DeMattia	K1MRA*
Brookline Rcv 146.82	Bob Phinney	K5TEC*
Burlington 224.88	Bruce Pigott	KC1US*
Hopkinton 449.575	Bryan Cerqua	W1BRI*
Marlborough 53.81	Bryan Cerqua	W1BRI*
Marlborough: 29.68, 144.39, 147.27, 223.94, 448.225, 449.925, 927.70 Lowell 442.25 all as W1MRA	Bill Northup	N1QPR*
Mendon 146.61	Kevin Paetzold	K1KWP*
N. Reading 146.715	Bruce Pigott	KC1US*
N. Reading 446.775	Larry Banks	W1DYJ*
Quincy 224.40	Bill Dunn	N1KUG*
Quincy 146.67	Bryan Cerqua	W1BRI*
Weston 146.79	Joe Weisse	W1HAI*
Weston 224.70	Eddie Mulhern	N1NOM*
Weston 442.70	Dave Hornbaker	N1DCH*

Additional, non-Voting

Newsletter Editor	Larry Banks	W1DYJ*
Emerg. Coord.	Kevin Paetzold	K1KWP*
Pub. Serv. Coord.	Bruce Pigott	KC1US*
VEC Liaison	Ron Rothman	WO1E*
Net Manager	Larry Banks	W1DYJ*
Web Page Editor	Bob DeMattia	K1IW*
Social Media Coord.	Steve Umans	K8ZBE*

* Appointed

Contacting the MMRA

Members: mmra@groups.io
Note: This may take some time.
You must be approved by the moderator.
Officers: contact@mmra.org
Control Ops: control-ops@mmra.org

http://www.mmra.org/

https://www.facebook.com/mmraham

MMRA VE SESSIONS

Check out https://www.mmra.org/exam.html or email *ve@mmra.org*

Ask your friends to become a member **Just let them know that it is not fully automated. Although they can log into the MMRA website immediately, they need to be manually processed. This could take up to a week.**

If you haven't updated your MMRA profile in a while, now is the time!
Go to < MMRA.ORG > and log in to do so.

Previous issues of the MMRA Newsletter are available at: www.mmra.org > Newsletter Archive (on the left)

Heavy Hitters Traffic Net

This net is active on our repeaters Sunday to Friday evenings from 10—11 PM. Active repeaters are:

2m: Mendon (146.61), Quincy (146.67), North Reading (146.715), Boston (146.82), and Marlborough (147.27)

220: Marlborough (223.94), Quincy (224.40), Weston (224.70), and Burlington (224.88),

440: Lowell (442.25), North Reading (446.775), Hopkinton (449.575), and Marlborough (449.925)

NEW ENGLAND SCI-TECH

New England Sci-Tech Inc is a new 501(c)(3) STEM education center, amateur radio training center, and maker space located at 16 Tech Circle, Natick. It is home to New England Amateur Radio Inc (NE1AR) and the youth radio club Sci-Tech Amateur Radio Society (STARS). NE Sci-Tech welcomes memberships and donations via www.NESciTech.org or www.NE1AR.org.

Get connected on the MMRA Repeater System ~ Dave Hornbaker N1DCH

What is the best way to get connected on the MMRA repeater system? Try announcing yourself! Just say your call sign followed by "listening". If you want, you can include the last 3 digits of the repeater frequency. For example, "N1DCH listening" or maybe "N1DCH listening on 925", you may very well get a response. Try to connect by announcing yourself several times.

Most of the time, Marlborough Hub1 (449.495) is linked to the following repeaters, Boston (146.820), North Reading (446.775 *and* 146.715), Mendon (146.610), Lowell (442.250), Hopkinton (449.575) and Quincy (146.67.) Remember that when the repeaters are linked, you need to wait two or three seconds after you key up and before you speak. This is especially important on the TIaOS net on Tuesday when most of the repeaters are linked.

You can also link (and delink) the repeaters yourself. See the information you received when you became a member, or check the User Control Codes once you log into the MMRA web.

Try one of the non-linked repeaters too. There are Hams monitoring them as well. For more information on the repeater network and how it is linked at various times, check out https://mmra.org/repeaters/repeater_linking.html.