



The Minuteman



Volume 29 Issue 1

September 1999

President's Corner Bud Thorpe, KB1DPZ

It is interesting how time flies, especially when we speak of summer. I know that I'm not alone when I say Labor Day caught me flat footed. As the newly elected President of this fine organization, I feel compelled to introduce myself to membership at large. To answer the most frequently asked question up front - yes, I am new to amateur radio. I can readily trace my first Ham exposure to my father. He was standing in the driveway with a HT in one hand and a Quad in the other - spinning in circles trying to get his first line on the fox. I can remember his response to the obvious question, "I'm hunting the fox," he said. "Signaling the *mothership* is more likely..." was my quick retort. Then again, if you are one of the many who listens to the Saturday morning Fox Hunts on 61, you know I've been bitten, and I've been out there since.

By profession I am a career paramedic, and I am currently the Director of Education for a large private ambulance service. If you were at this last November's meeting, you heard me

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For those of you who missed the MMRA cookout, here's a shot of a guy who knows how to throw a party. Bill Thorpe (WA1NLR) spared no effort to make the gathering a fun and tasty time for all who attended. Article and more photos inside.....
N1NOM
Photo



Repeater Report for Summer 1999 Bryan Cerqua, W1BRI

Marlboro 449.925

Fall/Spring.

Power output measured low (8W) a few weeks after new antenna installed. I repaired bad connection on PC board on one of the UHF output power transistors. Members present: N1BHI, WA1NLR & W1BRI

Mid Summer:

A power amplifier failure on the Quintron transmitter was first diagnosed by WA1NLR, and N1QPR. I later returned to the site to pull the PA board. The repeater was kept running off the exciter while the PA was being repaired.

Inspection of the PA board on the bench at home revealed that all three UHF power transistors were blown, cause unknown. I ordered new transistors from RF parts which arrived within a few days. I Replaced all three power transistors and returned to the site within a week to replace the PA board. PA powered up fine and output stages were re-balanced. Also adjusted SWR protection circuitry. Just for reference the service manual for the Quintron transmitter does not match the model that we have. Members present for PA install: W1BRI and N1XXI

Stoneham 446.725

Sometime in June

N1NVL pulled the repeater due to unknown failure. Later WA1NLR transferred the repeater to me for repair the night we

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September MEMBERSHIP MEETING

Wednesday, Sept 15, 1999 - 1930 Hrs
Campion Center, Weston MA

Program:

COMMERCIAL TOWERS
Bill Thorpe, WA1NLR

Raffle
Other Stuff

MMRA Information - Repeaters, Officers and Board Members

Marlboro	146.61	N1BHV/R	FTL	P	PL - 146.2 out, none in
Marlboro	449.925	N1HBR/R	FTL	P	PL - 88.5 in and out
Quincy	146.67	K1ML/R	PTL	P	PL - 146.2 out, none in.
Quincy	224.40	N1KUG/R	FTL	L	PL - 103.5 in, none out
Weston	146.82	KA1AL/R	PTL	P	PL - 146.2 out, none in
Weston	224.70	N1HBR/R	FTL	L	
Hopkinton	223.94	N1BHV/R	FTL	L	PL - 103.5 in, out
Stoneham	146.715	N1NV/L/R	PTL	P	PL - 146.2 out, none in.
Stoneham	446.725	N1NVK/R	PTL	L	PL - 88.5 in, none out
Marlboro	449.575	N1NV/L/R	FTL	L	PL - 88.5 in, none out
Marlboro	53.81	W1BRI/R	PTL	L	PL - 71.9 in, none out

MMRA Officers:

President:	Bud Thorpe, KB1DPZ
Vice President:	Clark Conti, N1NVK
Secretary:	Bill Thorpe, WA1NLR
Treasurer:	Ian MacLennan, AF1R
Clerk:	Ed Mulhern, N1NOM
Director:	Bryan Cerqua, W1BRI
Director:	Al Kunian, KA1AL
Director:	Paul Cabral, N1ZCB
Director:	Wayne Foley, N1XXI
Director:	Andy Morrison, N1BHI
Newsletter Editor:	Andy Morrison, N1BHI
Technical Director:	Chris Conti, N1NVL

•Voice Mail: 508 489 2282

•Email: mmra@mmra.org

•Web Page:

www.ultranet.com/~mmra



Minuteman Articles — Solicitation

If you have ever built anything, fixed something, or have an experience that you want to share, then you should submit an article to the MMRA Minuteman. Contact Andy Morrison, N1BHI, if you want to talk about it. We can scan artwork and schematics to

Important MMRA Club Information:

Membership Meetings: 3rd Wed of Sept, Nov, Jan, Mar, May at Campion Center, Weston at 7:30 PM

Meeting Dates for 1998-99 Season: September 15, November 17, January 19, March 15, & May 10.

Board Meetings: 3rd Wed of Oct, Dec, Feb, Apr. Meetings are open and members are welcome. If a visiting member wants to be on the agenda, please contact Andy Morrison beforehand.

Newsletters are mailed one week before each meeting; article submissions are due one month before each meeting.

The MMRA is dedicated to Amateur Radio and the public service. The MMRA is a registered non-profit Massachusetts corporation. Membership is open to all amateurs. Annual dues are \$25.00 individual, \$35.00 family.

It's Time To Renew Your Membership!

The new membership year starts September 1. We know this sounds like a broken record...but we want to keep your involvement and support for the MMRA.

Remember that your dues, along with a lot of hard work, keep a major public safety and service resource up and running. Our network of repeaters provides a significant emergency communications resource to Massachusetts, not to mention a source of fun for us all. So, please renew. Use the form on the other side of this page...Thanks!

Interference on 146.61

If you are a user of '61 in Marlboro, you have more than likely noticed a pesky buzzy, staticky carrier that grabs the receiver and annoys anyone listening.

So did Ed, N1NOM, hear the noise and get annoyed. But Ed is no normal guy who would just get annoyed and do nothing about it. Since he is one of our best fox-hunters, he decided to find the source of the interference. It's a wandering spur, going as high as 147 something, meandering down to the '61 input.

On numerous occasions Ed climbed into his truck, "hunched up" his doppler, and went a-hunting. He was getting pretty frustrated...day after day that he went out resulted in failure. He had different directional indications, and no clear idea where the interference originated...he did know it was close to the repeater.

One day in late August, Ed heard the noise and went out...and he got some real good indications. It was not long before he was circling a building - we won't identify it here - watching his doppler point toward it all the time.

Paul, N1ZCB, went to the site and actually entered the building. Picture yourself as someone working in building management coming upon a fellow wandering around your hallways with a handheld radio, doing body fades. The woman who so encountered Paul listened to his story, and asked for identification. Paul made a strategic withdrawal.

Others, Bryan, W1BRI and Bill, N1QPR, have confirmed the source of the interference.

So, you think it's over...we know where it's coming from. Nope. Not even close. Building management/owner representatives were contacted, and told of the problem. Their response? Cite to us the applicable law that requires us to do something. As Bill, WAINLR, who was involved in these discussions, put it... "they put the ball in our court." Of course...a building owner is not going to do anything to disturb the "quiet enjoyment" rights of his tenants...and more importantly, he does not want to spend money unless he absolutely has to.

Re-enter our indefatigable Nimrod, Ed. He volunteered to work to contact the ARRL...when they heard the story, they advised the MMRA to contact a specialist in dealing with these matters. After phone calls and emails, Ed got the specialist on the case.

The ARRL guy is writing a letter to the owner that will inform him that "we offer a voluntary no-fault activity that will locate and help eliminate the problem so that the government agencies responsible for such things don't have to be involved." If that does not work, the specialist will get Vince Kujinski - who is in charge of the FCC's region one office - to write a letter requesting cooperation.

So, the fun is just beginning. We may have to listen to the buzz for a while...but now when you hear it, take comfort in the knowledge that Ed, Paul, Bill and Bryan have been on the case. And, your interference committee will pursue the matter to its conclusion.

223.94 Returning to Hopkinton

The 223.94 repeater started its life over in Hopkinton. The ham who built the repeater - we cannot remember his call, unfortunately, was looking for a site. He approached the Tennessee Gas Transmission Company, which has a really nice 300 foot tower on high ground in Hopkinton. Their response was less than enthusiastic..."Who are you? Why should we let you on our tower?" He was familiar with the MMRA and came to us with an idea.

Since the MMRA was the biggest ham organization in New England, he thought that Tenneco might be more willing to allow us on the tower. He joined up and agreed that his repeater would be an MMRA machine. We put together a package for the Tenneco people...it demonstrated the numerous occasions of MMRA support during communications emergencies, searches and other public service events. When they saw it, they offered to allow us to use their shelter and tower rent free.

The repeater was installed originally with a remote base link to the Mount Tom 6 meter repeater out in Springfield. About a year later, the builder of the repeater had to leave the area, and donated the repeater to the MMRA.

When we first started linking, 223.94 was the first 220 repeater to be linked. Andy, N1BHI, and Scott, KA1CLX, did the linking...Scott did the hardware and Andy programmed the new 5K controller - it was the first SCOM controller put into service by the MMRA. It's reliability and ease of use was what convinced everyone that SCOM controllers were the best deal.

The repeater performed well for a couple of years, then failed, requiring us to remove it for service. Tenneco was bolstering its site security at the time...which was to make getting access to the site very difficult. The repeater was out of service for over a year...when Bryan, W1BRI, rebuilt and re-packaged the machine, we put it up at Marlboro. It's been there for a couple of more years.

During the last 2 months while involved with Y2K contingency communications planning with Tenneco, Andy, N1BHI, has been able to make arrangements for 223.94 to return, with

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Give the MMRA World Wide Web Home Page a try.... let us know what you think.... any ideas are welcome. We are looking into things like an MMRA list server. We now have our own domain name - mmra.org. The Web Page keeps getting better.....

WWW Address:

<http://www.mmra.org/~mmra/mmrainfo.html>

President's Corner

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speak on "Emergency Medical Service and their Response to Terrorism." I can be heard frequently on 61, especially during later communing hours. Feel free to give me a shout.

To many, serving for a volunteer organization can seem like a race - a race against time, deadlines, and the needs of such a diverse group. Well, it is a race, but a qualified one. Our race is a relay race. I intend to take full advantage of the fact that more runners can move that baton along further - and faster - than any of us could alone. Many times we are hesitant to become involved - afraid that we may end up running a marathon, when we were just interested in a quick sprint around the block.

On behalf of the Board of Directors, I want to thank our long time "Marathon Runner," and outgoing president, Andy Morrison for his years of service. We look forward to his continuing advice as we work to move the ideals of the Association further. Look for Andy's thoughts in this newsletter as he continues on in his role as Editor.

Also in the "Thank You" department is our gratitude to the members of the cookout committee, with a special thanks to Bill Thorpe, WAINLR, for the lavish use of his time and the gracious use of his home. There are many that will remember his barbecue ribs as the outdoor culinary hit of the summer!

As the business of the Association moves on, I hope to meet more of you, and hear your thoughts and visions as we run onward. There is a saying, "It's not the destination that matters - it's all about the journey." Well, here's to the journey!

Editorial.....Andy Morrison, N1BHI

In past issues I had space in the President's Corner to say stuff I thought needed saying. Since Bud now owns that space, I will be making any editorial comments I might have in a separate space...this issue is pretty full, so I don't have much of it.

Bud and Bill Thorpe have come into MMRA management to undertake the task of rekindling the kind of interest and participation we used to have back in the 70's. It's a major challenge...but Bud's enthusiasm and Bill's long experience both as a ham and in the communications business are up to it.

Making changes and improvements is not something one can do alone...they are going to need your help. Members' ideas and actual participation in planning and doing things will be a key factor. So jump in...there will be plenty of opportunity for you to help out.

One area I believe that can provide a launching platform for the re-birth of MMRA member involvement is emergency and public safety communications. Y2K is providing some good opportunities for support of state and local communications planning. Everyone involved is finding that Y2K planning is giving the focus needed to upgrade permanent plans for emergency communications. We should do the same.

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Repeater Report...

control voltage for open loop operation at 85 watts and save the club sixty bucks. The repeater was returned the following weekend. Many thanks to Wayne for helping out on both trips.

Quincy 224.40

Early July

Since the 220 repeater is mounted on the back of the 146.67 rack and the fact that I had this at home in the shop I decided to retune the 10W PA for better stability. This was done to eliminate any problems that might be caused by the 220 transmitter having spurious emissions. So far the 220 repeater seems to play OK.

Fox Box 145.63

The duty cycle was changed from 5 minutes to 2.5 minutes to ease the frustration of the hunters. Fox Box was later returned due to constant transmitting caused by the leads of the time setting switch being too close together. The leads were spread apart and the Fox Box returned to N1ZCB.

Also some changes were made to make the Fox Box to play at extreme cold temperatures. Boy I wish we had those cold temperatures now.

Future Plans

Stoneham Site:

If things cool off this year we plan on a major work party at Stoneham to replace the antennas for 146.715 and 446.725. Also the 52.81 (173.8) receiver will be relocated to Stoneham. All items are ready to go and all we need is a cool weekend day and some help to pull this off, stay tuned for more information.

Quincy Site:

Need to relocate the 146.67 DB224 antenna from the edge of the stone tank to the top of the tower where the old antenna is now located. This will require some experienced tower climbers and some ground crew to complete the job.

All Sites:

Evaluate grounding for all repeaters and antenna systems. Also add lightning arrestors to all repeaters.

Summary:

This summer was busy and hot and maybe it's the heat that brings on all these failures but in any case we are fortunate to have the necessary support within the organization to keep all the repeaters up and running.

Editor's Note: *Bryan is quite correct...we are lucky. But if you look at the list of people involved...you can see how small it is. And it boils down to the fact that we are lucky that Bryan is so willing to keep things going. C'mon people...let's get him some more help. We know there are more out there who can make a difference.*

Repeater Report...

returned from the Dayton Hamvention. The failure was due to the 12V power supply output voltage stuck at 23 Volts. This caused the zener protection diode inside the 5K controller to short out which created a high current condition that melted the power connections on the repeater case. Luckily the shorted protection diode eventually caused the high current path to open up and save the 5K controller along with the transmitter and the receiver. The zener diode and power connections were replaced and the repeater checked out fine. Wayne, N1XXI, and I went to the Stoneham site only to discover that the hospital was locked up tighter than a drum. We located a security guard who after some pleading with allowed Wayne and I to enter the building. I don't complain too much but it was unbearably hot up there on the 5th floor. Initially the plan was to power the 446.725 with the power supply for 146.715 but the total current with both repeaters transmitting was more than the rated capacity of the power supply. Believe it or not there was a spare power supply sitting under the bench. We used this supply for the 446.725 repeater. Upon first power up, a large AC hum was heard on the repeater output. Now we know why it was a spare power supply. We had no choice but to leave it on this supply until the next visit when it will share a 50 amp supply with the remote six meter receiver, (see future projects below)

146.715

This was done at the same visit as the 446.725 re-install.

No real problems here except the repeater duplexers were re-mounted back in the rack. The repeater room was a real mess and Wayne and I spent some time cleaning the place up so that when we return in September it will be much easier to work. Later Wayne and I cooled off with a big ice cream sundae at the local Friendly's.

Marlboro 53.81 Transmit site

Early Spring

We added a ground rod to the antenna system and grounded the base station to eliminate some strange noises heard on the output.

Mid Summer

N1XXI and I visited the site to check the power output only to find that the SWR was flaky. A bad ground on the PL 259 connector was found and replaced. The PA tuning was touched up and all seems OK again.

52.81 Receivers

Late June

52.81 (71.9 tone in) receiver went deaf and the 173.8 tone-in receiver was not working at all. Seems like when it rains it pours. Sometimes things are easy, like having the power switch off on the 173.8 receiver. I must have accidentally kicked the power supply switch while working on the floor fixing the 449.925 transmitter. A simple flip of the switch took care of one receiver. The 71.9 receiver's preamp was blown. This preamp uses a dual gate MOSFET that gets blown easily with large transients due to lightning. The preamp was repaired by W1BRI and returned to the site and now the 71.9 receiver is back to normal. Members present N1XXI and W1BRI.

Marlboro 223.94

Early June

W1BRI and WA1NLR arrived at the site to troubleshoot. With the help of WA1NLR and his trusty power meter we confirmed that the exciter was putting out is rated power but the PA showed no output power. The failure was due to an open on the PC board on the output side of the power transistor. The PC board was repaired on site and the output power was back up to 50 Watts. Thanks to WA1NLR for providing the power meter and tools. Members present W1BRI and WA1NLR

Quincy 146.67


Early July

PA failure was reported by members. Again I and N1XXI visited the site on July 5th. This must have been the hottest day of the year...thanks to Wayne for bringing his fan along. This PA was used at 146.82 and has a long history of problems. The problem was thought to be a loose connection on the DC power transistor that controls 10 watt predriver amp. The bad connection was re-soldered and the repeater fired back up at full output power. Wayne and I decided to take a look around up on top of the stone water tank. Once on top we noticed the new 146.67 DB 224 antenna was leaning over at a 30 degree angle. The top bolts that hold the base of the antenna had pulled out of the stone wall. Wayne and I pushed the bolts back in. To hold the bolts in we found a 10 foot TV mast that was used to wedge the mast in against a metal plate on top of the tank. This was all we could do at that time and plans will have to be made to get back up there to re-secure the mast.

While enjoying the view and listening to the repeater on my HT to a QSO in progress the repeater failed again! Wayne had to hold me from jumping off the tank. We quickly got back down on the ground and decided to pull the repeater out of the room and take it home for repair, it was just too hot and I had run out of energy to try and fix it again on site. To ease my frustration we took a drive over to Marina Bay and put down a few cold Sam Adams. At home in my air conditioned shop I completely re-wired the DC control circuitry and found the control hybrid to be intermittent. Since this was the second time the control module had been replaced I decided to fix the

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MMRA VE Sessions

2nd Saturday of Each Month

Marlboro Public Library, 9AM

Contact: Bill Wade, K1IJ

617-891-9079 Evenings 6 to 10 PM,

Weekends 8 AM to 10 PM.

Accredited - ARRL VE Program



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It was a very hot day...good thing Bill, WA1NLR, got this tent. Unfortunately he didn't get very much time under it. As shown in the picture on the front page, he sweated over a hot grill so that those seated under the tent could enjoy the goodies. 40 or so MMRA members braved the heat to join together and break bread. N1NOM Photo

223.94 Returning Home.....

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the accessibility we need. The site management at Tenneco is different than before, and is willing to make provisions for us to get at the repeater when we need to do so. They were also impressed with what Andy told them about the kind of support that ham radio can provide during any communications emergency. New Year's Eve is not the only time that a land line failure can happen.

The repeater covers well from that site...it was workable from Providence. For those of us who have 220, it will add significant coverage from Hopkinton.

Plans are afoot to examine our antennas and feedline, still on the tower, to determine what must be done to prepare for the return. That done, it will be a simple matter of moving the machine into the Tenneco shelter and "hutching it up." We hope to get the system in place during September.



Here Wayne, N1XXI, spells Bill. Wayne is a new member of the board of directors, and has spent a lot of his time helping do MMRA stuff. He's been with Bryan, W1BRI, helping with repeater system maintenance, and helped a lot in preparing for the cookout. Wayne runs an auto repair business, and has a lot of mechanical savvy. He thinks he's well coordinated...here he waves and flips a burger at the same time. N1NOM

Below: The group that did the Slygo battery replacement. Left to Right: Bill, N1QPR, Shelley, N1VJE, Unknown, Bryan, W1BRI. Apologies to the unnamed gentleman. N1NOM Photo

