The Minuteman

Volume 26 Issue 1

September 1996

President's Corner

This November marks the end of our 25th anniversary year. There are a few of us who have been around and involved with the MMRA for that whole time....and those people can remember how the group grew from a few guys working on the first repeater in garages and basements to an organization 500 strong with 4 two meter repeaters.

When I first attended a meeting it was one of the May election meetings. There were about 200 people there, and candidates for the Board of Directors and Officers' positions were making campaign speeches. They actually stood up in front of all those people and tried to convince them that they were right for the job.....

Now we hover around 300 or so members, 11 repeaters, and have trouble finding people to run un-opposed for the jobs that need to be filled to keep the MMRA running. We are lucky to have some people who will go to the wall to keep improving and maintaining the systems we now have.

Since there are a lot more hams now than in the 70's, one would expect a much higher membership than we now have, and a lot more of the kind of people it takes to do the work....but for some reason it just ain't so.

To make it possible to do the work with fewer people, we've procured our own service monitor, equipped the repeaters with easily programmable controllers and are replacing infrastructure components. It's a slow process, because we are limited to a budget derived from a smaller membership than we had when there were only 4 repeaters to support.

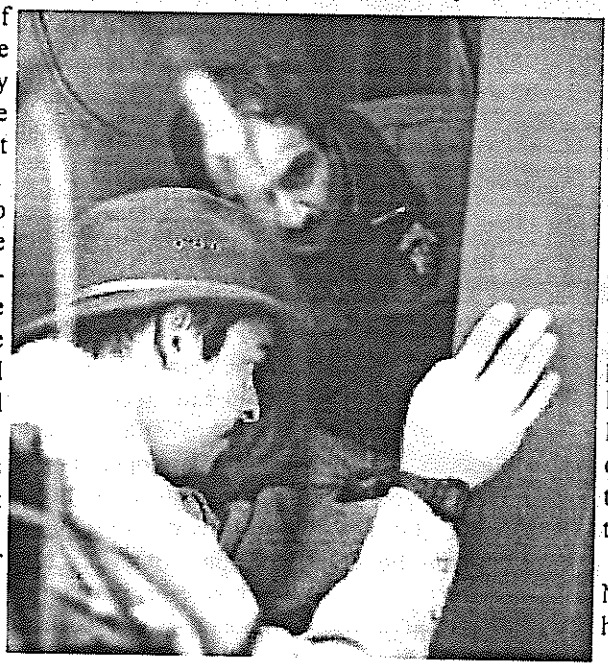
There are three ways that members can make a difference....the first is not to drift away from the group. If all you do is to remain a member to support all the group's activities, that's significant. The more members we have, the more we can afford to do. The second is to brag about the MMRA and attract more new members....some growth would be very helpful. If we had half the usual annual membership loss, we would have over 600 members. The last is obvious....get involved, help with working on the system.

Above all, remember that the MMRA is a major resource for public safety....it deserves your continuing support on that basis alone. So renew your membership and bring a friend or two.

Hope to see you at the September meeting!

'61 Gets New Repeater!

Over the Memorial Day weekend, the Spectrum repeater that has served the Marlboro system so well for nearly 20 years was replaced by a GE Master II commercial base station. Andy, N1BHI, acquired the second hand station from a commercial radio maintenance shop along with a second vhf Master II and a low band Master II last winter. Bryan, KA1YQB, got the necessary goodies to do the conversion, and finished it just before Memorial Day.



Left: Bryan and Chris putting the finishing touches on the machine. These are two of the key guys in making it all happen....N1BHI Photo

That Saturday, Chris, N1NVL, and Andy went down to Bryan's place to check out the station and make a few final adjustments. They had planned to do the actual install at a later date, as Bryan's time has been limited, but their enthusiasm took over when they saw just how ready the new system was. So they decided to go for it that afternoon.

They got in touch with Ed, N1NOM, and Reed, KD1LV, who had just finished a foxhunt....they

SEPTEMBER MEMBERSHIP MEETING

WEDNESDAY, SEPT 18, 1996 - 1930 HRS

CAMPION CENTER, WESTON MA

PROGRAM:

NETWORK UPDATE

HT Clinic

Budget

Raffle

Other Stuff

Repeater News....Continued

Above: This is the front seat of Chris's truck....you can readily see that he is environmentally conscious....he never throws out a styrofoam coffee cup...we assume he is a recycler.

300 or so millisecond pause between input carrier drop and drip.

Since the new repeater has been in place we've all done a lot of driving around and coverage testing -- it appears that '61 has better coverage than it ever had -- the power output is a solid 135 watts with cool heat sinks on the power amplifier, and the receiver is hot -- 12 dB sinad at .25 microvolts! Chris can work it from Taunton reliably, and Bryan can now work it over his entire commute. It can be worked from the north shore, Boston and the south shore with a 10 watt or better mobil. We don't have a lot of western coverage information as yet....Bryan worked it for most of the length of the Mass Pike (495 to Boston) with an HT!

We have some antenna problems, but they are not yet too serious. When we replace the stationmaster with a DB-224 in the fall, there will likely be added improvement. But the biggest improvement is that now we have a system rated for full duty cycle at 220 watts output on the full time linked 2 meter repeater. It should take the pounding of being linked for a long time....so enjoy it.

We have a second vhf Master II that will probably go into service at one of the other sites....stay tuned for more on that.

New Antenna Planned for Quincy

The Quincy (146.67) repeater needs a new antenna. We have allocated the second Decibel Products DB-224 for that location; we need to set a date and get a crew together. The stationmaster that has developed the crunchies is now tilted over by about 30 degrees....that squall line that passed through the south shore area apparently was strong enough to blow it over a bit. Chris, N1NVL, is working with Mike, KA1HKP, to set up the antenna party.

Three dates were set in August and September, but had to be postponed — we'll let everyone know when it's going to happen.

(Continued from page 1)

agreed to meet at Bryan's place.. After some grunting they got the station loaded into Bryan's jeep and headed for the site.

Once they arrived, the first order of business was to disconnect and move the old rack. After some trepidation and finger crossing, they started.....the old system was disconnected and moved, the SCOM 7K interface board mounted in the new rack and connections made. The system worked fine from the start....the only thing that was not quite right was the delay from input carrier drop to courtesy "drip". This was corrected on the following weekend; Bryan made up a small delay circuit that restored the

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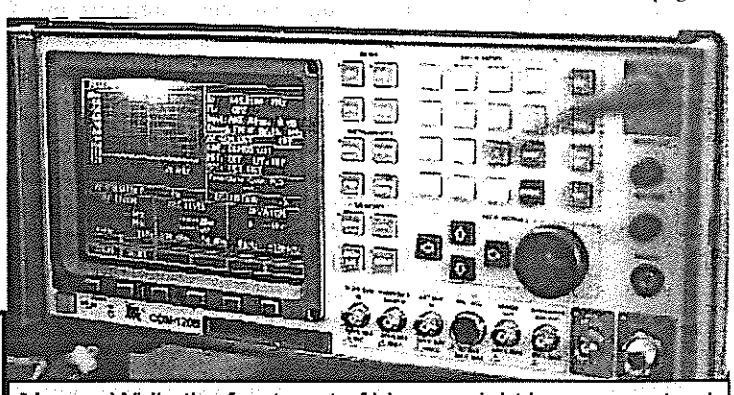
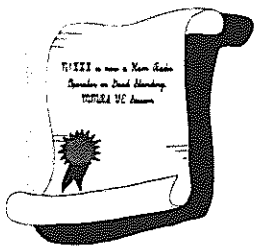


Above: While the front seat of his car might have some trash in it, there's nothing trashy about what Chris carries in the back....this is a state-of-the-art service monitor that does everything but make your coffee. It comes in handy when you do stuff like install new repeaters. We're lucky as an organization to have guys with access to this kind of technology.....N1BHI Photo



MMRA VE Sessions

2nd Saturday of Each Month
Marlboro Public Library, 9AM
Contact: Bill Wade, K1IJZ
617-891-9079 Evenings 6 to 10 PM,
Weekends 8 AM to 10 PM.
Accredited - ARRL VE Program

Repeater News...Continued

(Continued from page 2)

Six Meter Repeater Project Moves Ahead.....

Byan Cerqua, KA1YQB, reports that the MMRA now has a six meter repeater about ready to go on the air! He's got the repeater working, the linking system is ready to go as soon as the 440 coordinator assigns link frequencies, and all that needs doing are some final cleanup items.

We need transmit and receive antennas...it looks like we may be able to use some commercial grade antennas that Chris, N1NVL, has access to. Bob, WA1ZJE, is designing and building a mounting kit for the Slygo site. We hope to be able to use an un-used telephone pole up at the '61 site, where the transmitter will be located.

Network Gets PL for Links.....

On Saturday, September 7, we made a major stride in limiting the susceptibility of our network and links to interference. Walter, N1HBR, Chris, N1NVL, Clark, N1NVK, Bryan, KA1YQB and Ed, N1NOM combined forces to take the first major steps.

•Walter and Chris spent all day Friday to install PL (Private Line) tone decode for the input side to 449.925. The tone is set to 88.5, the standard PL tone for this area on 440 repeaters. The link radios for 146.61 and 223.94 have PL encoders for their transmitters so that they will open the squelch on 449.925. The other links will soon follow.

Since controller software upgrades were needed to support the PL scheme, Walter spent all night working on changing the programs. He was still awake and at it when people began to congregate for Saturday's efforts.

The bottom line is that with this done, we will no longer be plagued by interference from other systems such as that we have been experiencing from a system up in Maine. The network will be a lot quieter — spurious, intermittent bursts of RF energy on 449.925's input will no longer pump the network.

This is transparent to the 2 meter user; the PL is **only** set on the 440 repeater and the link radios. No PL is required to open the squelch on a 2 meter repeater....if you are a 440 user, you will have to set your PL tone to 88.5 — and N1HBR/R has tone both in and out, so you can activate CTCSS on your transceiver if it has that feature.

This is a big step....compliments and thanks to the crew that blew their Friday and Saturday (and sleep Friday night!) to get this done!

New Receiver Slated for Stoneham....

Clark found a GE receiver like the ones in the Master II's. That receiver will be going up to Stoneham soon....Bryan, KA1YQB, has re-worked it as he did the one for '61, and it will be placed in service to hopefully eliminate the interference and sensitivity problems we have experienced on 146.715. The GE receiver is extremely sensitive while providing excellent rejection characteristics. Since the problem in Stoneham has been identified as desense from other radio services, the new receiver may be the solution.

(Continued on page 5)

A Funny Thing Happened On The Way To The Fox...*By Clark Conti, N1NVK.*

Last Tuesday I was preparing for one of our twice weekly fox hunts, when a small boy of five rode his bike up to my car. He was crying. "Can you help me find my house?" he pleaded. How could I say no to someone in a Spiderman bike helmet?

One of the primary reasons for fox hunting is to practice radio direction finding techniques used in search & rescue operations. In this case the lost party found ME! All I had to do was get him home. I asked his name and he said "Patrick Murphy, 555-4321. (Note: That is not his real number...) It took a few tries before I realized he was giving me his phone number. Patrick was so excited that his speech was a little fuzzy. He had ridden his bike through a path in the woods that separate the houses from the industrial area we were in, and couldn't remember which path led home.

Obviously the fox and hounds waited patiently while I made several autopatch calls to the boy's home and the local police. The next goof was mine. Because we were at the site of a vacant building (a good spot to take readings) the building had no markings, and I hadn't made any note of the street or number. I couldn't give the police a proper address. Now I had to leave the young lad by the side of the lot, and drive around to the front to get the number off the building. The kid did NOT want to be left. It took a few minutes of encouragement before I could make the loop. I was back in about twenty seconds, and soon the locals had a car enroute.

Before they arrived, Patrick started screaming "I HEAR MY MOM... MOM...MOM..." We ran up and down the lot taking a few steps down each path and screaming before moving on to the next. One of mom's friends found us first and the three of us took turns screaming some more.

Mom wasn't sure if she should be angry, or delighted. The kid was not supposed to ride his bike this far, but he was safe. I stayed to tell the police the good news, while Patrick and his mom went home to dinner. I must say it was strange to have a small emergency crop up in the middle of an emergency exercise, but I kept my cool, made a few calls and the problem was solved. I don't mean to gloat, but I won the hunt anyway.

About the author: *Clark Conti aka N1NVK is Operations Manager for Calibron Instruments, a small electronics distributor. He is also Vice President of the Minuteman Repeater Association, New England's largest ham radio club, and a*

NEW FCC RF SAFETY STANDARDS INCLUDE AMATEUR RADIO

Excerpted From ARRL Letter

New FCC RF safety standards that become effective January 1, 1997, could affect the way some hams operate. As a result of a Report and Order adopted by the FCC on August 1 (ET Docket No. 93-62, Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation), Part 97 will require hams running more than 50 W PEP to conduct routine RF radiation evaluations to determine if RF fields are sufficient to cause human exposure to RF radiation levels in excess of those specified. "Measurements made during a Commission/EPA study of several typical amateur stations in 1990 indicated that there may be some situations where excessive exposures could occur," the FCC said in ending the blanket exemption for Amateur Radio. Although all amateur operation must comply with the new regulations for Maximum Permissible Exposure (MPE), amateur operation at power levels of less than 50 W PEP is "categorically excluded" from the requirement to perform a "routine evaluation" of station operation before operating. Where routine evaluation indicates that the RF radiation could be in excess of the limits, "the licensee must take action to prevent such an occurrence," the Report and Order stated. The FCC said this could mean altering operating patterns, relocating the antenna, revising the station's technical parameters--such as frequency, power or emission type--or "combinations of these and other remedies." Although the new exposure criteria will apply to portable and mobile devices in general, at this time routine evaluation for compliance will not be required of devices such as "push-to-talk" portable radios and "push-to-talk" mobile radios used by Amateur Radio operators. These transmitting devices will be excluded from routine evaluation.

The FCC encouraged the amateur community "to develop and disseminate information in the form of tables, charts and computer analytical tools that relate such variables as operating patterns, emission types, frequencies, power and distance from antennas." The Commission said it intends to provide "straightforward methods for amateur operators to determine potential exposure levels" by year's end.

"Exactly what is involved in conducting a "routine RF radiation evaluation' is not yet clear," observed ARRL Executive Secretary David Sumner, K1ZZ, adding that the FCC has promised to release a revised OST/OET Bulletin Number 65, "Evaluation Compliance with FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation." The League is now studying the 100-plus page docket, to see if the League should seek reconsideration of any aspects of the FCC decision.

In the Report and Order, the Commission adopted Maximum Permissible Exposure (MPE) limits for electric and magnetic field strength and power density for transmitters operating at frequencies from 300 kHz to 100 GHz. These MPE limits are generally based on recommendations of the National Council on Radiation Protection and Measurement (NCRP) and, in many respects, are also generally based on the guidelines issued by the Institute of Electrical and Electronics Engineers Inc. (IEEE) and subsequently adopted by the American National Standards Institute (ANSI) as an ANSI standard (ANSI/IEEE C95.1-1992). The Commission used the 1992 ANSI/IEEE standards instead of the 1982 ANSI standards that had formed the basis for the existing rules under which Amateur Radio stations were categorically exempted.

ARRL Laboratory Supervisor Ed Hare, KA1CV, said the new regulations will give hams an incentive to demonstrate that Amateur Radio operation is safe. "Although this means that hams will have to become more educated about RF safety, most amateur stations are already in compliance with the new regulations," Hare said.

Sumner said that for certain unusual situations where there is "uncontrolled exposure" to neighbors and the general public, "amateurs may well have to make changes in how they operate." The ARRL Lab staff and the RF Safety Committee are continuing to evaluate the new requirements.

Hare noted that the administrative burden for hams will be minimal, and the FCC does not require amateurs to submit any documentation to the FCC. "In essence, the FCC is telling amateurs that if they run more than 50 W, they need to learn about RF safety and evaluate how this applies to their own operation," he said.

The new regulations also will require the addition of five questions on RF environmental safety to the amateur examinations for Novice, Technician, and General-class elements 2, 3(A) and 3(B). Sumner noted that the Commission's Report and Order does not take into account the practical problems associated with such a significant revision to the volunteer-administered amateur examinations, and that more time than the Commission has allowed will be required to do a good job.

The Commission acknowledged the updated guidelines generally are more stringent than the current rules and are based on recommendations of the federal health and safety agencies, including the Environmental Protection Agency and the Food and Drug Administration. The Commission said that the new rules will protect the public and workers from strong RF emissions. Adoption of the new rules by August 6 was required by the Telecommunications Act of 1996.

The Commission also incorporated into its rules provisions of Section 704 of the Telecommunications Act of 1996 that preempt state or local government regulation of personal wireless services facilities based on RF environmental effects, to the extent that such facilities comply with the Commission's rules concerning such RF emissions. This preemption does not directly affect Amateur Radio, however.

The FCC said amateur stations "present an unusual case with respect to compliance with RF exposure guidelines," in part because they are authorized to transmit from any place where the Commission regulates the service, as well as on the high seas, and the FCC does not pre-approve individual amateur station transmitting facilities and no additional application is made for permission to relocate an amateur station or to add additional stations at the same or other locations. The FCC also noted that amateur stations "vary greatly" from one location to another, transmit intermittently, and can involve "as many as 1300 different emission types--each with a distinctive on-off duty cycle." The FCC said most amateur stations engage only in two-way communication, thus cutting the transmitting time of any given ham station. "There are many variables, therefore, to be considered in determining whether an amateur station complies with guidelines for environmental RF radiation," the FCC said in the Report and Order.

In comments filed earlier with the FCC, the ARRL strongly opposed adoption of the new requirements. The ARRL said most Amateur Radio users do not possess the requisite equipment, technical skills, and/or financial resources to conduct an environmental analysis. The League has, for several years, recommended a policy of "prudent avoidance" of exposure to electromagnetic radiation as a common-sense approach to potential--but not yet proven--health hazards and against such practices as running high power to indoor antennas or to mobile antennas that might expose the

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MMRA Information - Repeaters, Officers and Board Members

MMRA Repeaters:

Marlboro	146.61	N1BHI/R	FTL	P	
Marlboro	449.925	N1HBR/R	FTL	P	PL - 88.5 in and out
Quincy	146.67	KA1HKP/R	PTL	P	
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	N1BHI/R	FTL	L	PL - 103.5 in and out
Stoneham	146.715	N1NVL/R	PTL	P	PL - 146.2 out, none in.
Stoneham	446.725	N1NVK/R	PTL	L	PL - 88.5 in, none out
Taunton	449.575	N1NVL/R	FTL	L	PL - 88.5 in, none out

[FTL = Full Time Linked PTL = Part Time Linked]
[L = Patch available via link] P = Local Autopatch]

MMRA Officers:

President:	Andy Morrison, N1BHI	To Contact Officers or Board Members
Vice President:	Clark Conti, N1NVK	
Secretary:	David Croll, KT1X	
	Lynne Ausman, KA1NLD	Call MMRA Voice Mail Line:
Treasurer:	Ian MacLennon, AF1R	
Clerk:	Ed Mulhern, N1NOM	
Directors:	Tom Qualtieri, WB1GMA	508 - 489 - 2282
	Al Kunian, KA1AL	Toll Free from
	Chris Conti, N1NVL	508 and 617 Areas
	Bob Feltmate, WA1ZJE	
Newsletter Editor:	Andy Morrison, N1BHI	MMRA E-Mail mmra@mmra.org

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 make an article more interesting and useful. Give it a try!

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 1996-97 Season: September 18, November 20, January 15, March 19, & May 21.
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.
MMRA Voice Mailbox	(508) 489-2282. -- This is a local call from any 508 exchange phone, and is a free call from both 617 and 508 areas.

Newsletter Information	September issue	November issue	January Issue	March Issue	May issue
Mailing Date	Sept 11, 1996	Nov 13, 1996	Jan 8, 1997	Mar 12, 1997	May 14, 1997
Submission Deadline	Sept 1, 1996	Oct 26, 1996	Dec 28, 1996	Feb 22, 1997	Apr 26, 1997

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.

MMRA to Support Boxboro This October

The MMRA has been asked to provide the talk-in support for the Boxboro Convention again this year. We'll have the same hospitality room as last year.

We plan to have a membership table, and since the HT clinic was such a success last time, we'll do that again.

We'll need help, so try to reserve some time for us that weekend -- even if you can spare only a couple of hours on either day, come and give us a hand. Remember that we provide members with a nice place to stop, have a cup of coffee, chat with fellow members - a nice place to hang out for a while to rest your feet.

We ran into the convention organizers at Boxboro; one or our Foxes chose the hotel parking lot as a hiding place, and was found first by the two key guys running the show. They were there doing some advance planning.

The convention is on Saturday and Sunday, so the Rochester and Boxboro may actually enhance one another, because the New Hampshire show is on Friday and Saturday. The big vendors will be coming to Boxboro, according to the event organizers. We'll keep you up to date on what's happening.

(Continued from page 3)

More Repeater News.....

Autopatch Code Changes.....

November 1 is the date new autopatch codes will be in effect. Starting within the next week or so, use of an old code will bring up a message reminding the user that codes will change in November just before the patch activates. On November 1 use of an old code will trigger a message reminding the user that the new codes are in effect.

You can see from the Repeater News who does all this work for us; a small group of dedicated members put a lot of effort into making the system work well. They deserve your support....without it they would not have the resources to do the kind of quality work they are known for.....

Renew! Show them you care.....

New RF Standards.....Continued

(Continued from page 4)
vehicle's occupants. The ARRL also argued that amateur stations, because of their intermittent operation, low duty cycles, and relatively low power levels, rarely exceed the 1992 ANSI/IEEE standard. Finally, the ARRL noted that unlike other radio services, RF safety questions already are included in amateur license examinations.

The FCC agreed in part. "We concur with the ARRL that amateur operators should follow a policy of prudent avoidance of excessive RF exposure," the Commission said. "We will continue to rely upon amateur operators, in constructing and operating their stations, to take steps to ensure that their stations comply with the MPE limits for both occupational/controlled and general public/uncontrolled environments." But the FCC expressed concern that Amateur Radio operations "are likely to be located in residential neighborhoods and may expose persons to RF fields in excess of the MPE guidelines."

For now, the League advises hams not to panic and to read up on the subject. You can download the complete Report and Order at http://www.fcc.gov/Bureaus/Engineering_Technology/Orders/fcc96326.txt. Other resources are available on the ARRLWeb page at http://www.arrl.org/news/rfsafety/.

General information on RF safety is available in the safety sections of the 1996 edition of The ARRL Handbook and in the 15th edition of The ARRL Antenna Book. These materials offer guidelines on how to comply with the ANSI standard the Report and Order refers to. Additionally, the ARRL Technical Information Service offers an information package on RF safety. It includes a reprint of the Handbook material, an April 1994 QST article by Wayne Overbeck, N6NB, and a bibliography on the subject. This package is available for $2 for ARRL members or $4 for nonmembers, postpaid. Nonmembers should include payment with orders. Contact Bridget DiCosimo, e-mail bdicosimo@arrl.org or write 225 Main St, Newington, CT 06111. Other resources are available on the ARRLWeb page at http://www.arrl.org/news/rfsafety/. The ARRLWeb information will be updated as circumstances dictate.

TWA 800: LESSONS LEARNED

Some 125 hams from the Greater New York City-Long Island vicinity contributed more than 2500 volunteer hours to support recovery operations in the wake of the TWA Flight 800 disaster on July 17. Although the recovery effort continues, Amateur Radio support--which was primarily on behalf of the American Red Cross--concluded during the last weekend in July. "I hope all who assisted with the Flight 800 incident remember that it was only because of their tireless efforts that the job was done," said Walt Wenzel, KA2RGI, the Region IV RACES officer for the New York State Emergency Management Office (and Babylon, New York, ARES emergency coordinator and radio officer). Wenzel also offered some lessons learned from the now-concluded recovery support effort. Among them: You can't always count on 2-meter repeaters alone to provide coverage (the Flight 800 recovery effort, in fact, relied on a 70-cm repeater). Also, keep a database of available equipment that can be loaned to operators who turn out. Wenzel reminded prospective volunteers that while duty shifts usually are 8 hours, they often can be 10 or 12 hours long. "People have to remember that having two batteries does not mean they have long-term power for hand-helds," he said.

Darlana Mayo, KB2EPU, of Westchester County, New York, an assistant EC who was involved in the crash recovery, said previous drills and training didn't help much when the ham volunteers confronted the reality of the situation. "Nothing had prepared us for TWA. Nothing could have prepared us for this," she said. Mayo had some advice of her own. "Don't try to be Superman," she recommended. Volunteers should know their limits and not try to stay on duty too long. "You get tired and make mistakes," she said. Both Wenzel and Mayo stressed flexibility, too. Be ready when asked to step into an assignment, but don't be surprised if plans suddenly change. "There are always going to be a few people standing by waiting for an assignment," Wenzel said. He also said volunteers might be serving several agencies with differing requirements, so they have to be on their toes.

And both agree that coordination is key. "Coordinate, coordinate, coordinate with other ECs," Mayo said. Wenzel said individual volunteers also must coordinate their involvement with those in charge and "not just show up to assist." Both also recommended that volunteers not make statements to the media.

Even those with little or no public service experience can be valuable in an emergency situation, Wenzel said. "Do not think because you have not been involved for long with emergency communications or Amateur Radio that you cannot assist," he said. "Most people that can assist are new and are learning, and if you have checked into club nets and ARES or RACES nets, then you have the basics needed to assist."

Overall, Mayo said hams did "a fantastic job under the circumstances" during the Flight 800 recovery effort.

Editor's Note: This is what it's all about....it's obvious from the above that Amateur Radio has a special place in our society. This is what we have built our repeater system for. Our infrastructure would be invaluable in a similar situation....**continue to support it!**

Renew Your Membership!

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

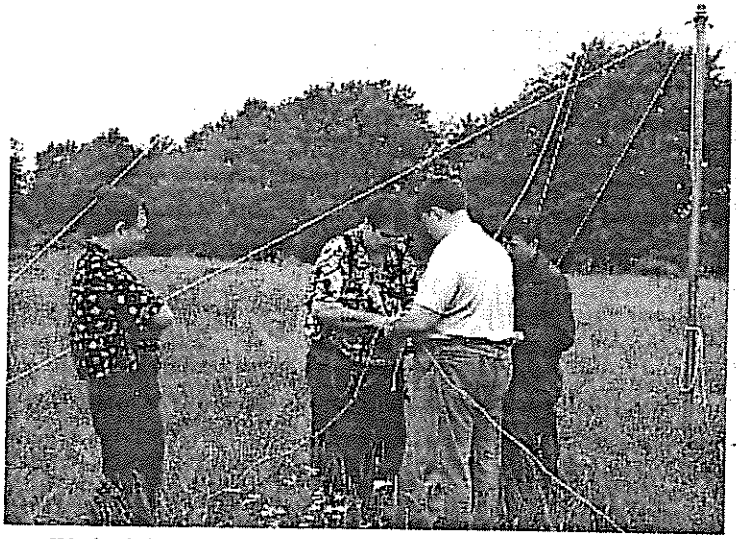
Field Day 1996

This year our Field Day effort was small but fun. The group that stuck it out for the whole affair consisted of Bob, WA1ZJE, Tom, WB1GMA, Ed, N1NOM, Clark, N1NVK and Andy, N1BHI. They operated as WB1GMA on HF, 2 and 6 Meters.

The setup was made simple; the HF antenna was an extended double zep at 40 meters, which works well on 75 and 80 as well. A small mast mounted our 2 and 6 meter beams using a wrist power rotor. All operating was done out of Bob's camping trailer, using two Icom 706 rigs — Bob and Tom brought those — nice in that kind of operation because they cover all the bands we used.

We again had the convenience of Minuteman Power and Lite (Pictured to the right — N1NOM photo); its President, Bob, again brought his truck-mounted 10 kilowatt generator....it may seem like overkill, but the benefits were emphasized when Don Cusson (Marlboro Emergency Management Director) and Quin Speer (Algonquin Amateur Radio Club) came up to Slygo for a visit. Quin remarked that it must be nice not to have to fill gas tanks on a bunch of little generators every few hours, and have enough power to run microwave ovens, spot lights and whatever else we brought along.

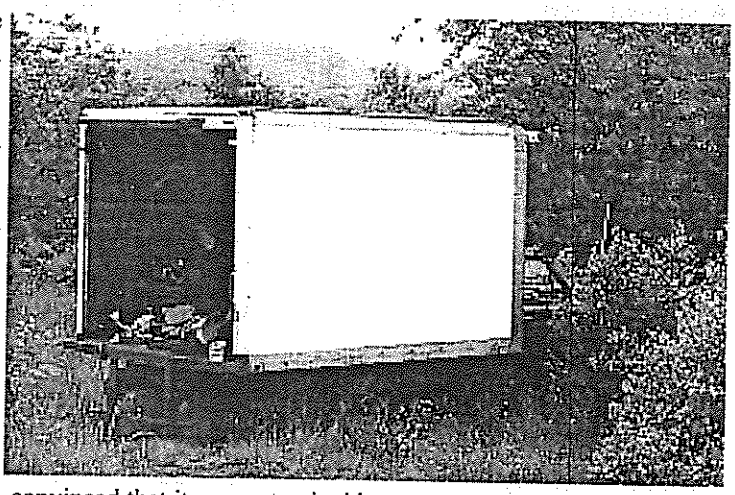
Setup went smoothly, albeit slowly....with only five guys it goes one step at a time. Below are three of them conferring over knot configurations. Tom, Andy, Clark and a visitor from abroad who stopped by to check out field day are shown finalizing the HF antenna installation.



We had the VHF stations on the air first; pictured to the right is Tom finishing up the VHF antennas. As usual, there were openings on both 2 and 6 in the morning before the start of the contest, and they both died promptly at 2 PM. There was minor activity, but no big openings on either band occurred during the operating period.

All the normal luxuries were in place; we had the N1HBR shelter up, and all the necessities for good eating and drinking were in place. Andy did most of the cooking...nobody got sick, and they all were polite enough to say the food was good. This year there was no malicious mischief aimed at busting Andy's

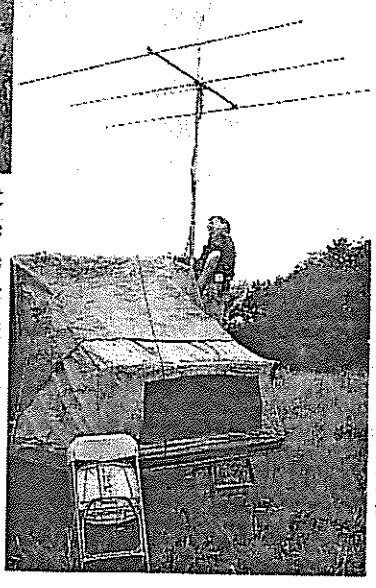
chops...The portable head last year was vandalized....someone removed the "H" (See above - N1NOM Photo). Andy was



convinced that it was not coincidence.

Above all we had some fun. We did wish for more people; we would have been able to keep the stations on the air for the whole operating period with a few more operators. Ed brought a video camera, and we recorded the hilights (lowlights?) of the weekend for posterity. We'll show it at one of the meetings this year. In one of the segments of the tape, Ed comments that everyone who fails to come up to Slygo for Field Day has no idea just how much fun we do have.....

We'll be doing it again next year, and we sure would like to have some more people involved. It gets to be even more fun when the work involved is spread around a little more. If we can get 8 to 10 people, we will have enough to get the work done quickly and dedicate more time to playing radio and having a fine time.



For people with other interests, such as satellite communications, Field Day is an opportunity to do something a little different. We hope to find some people with diverse interests who will get involved. Give it some thought....maybe you might figure out a new way to have fun in the field with us!

Income:	1995 Budget	1995 Actual	1995 Variance	1996 Budget
Dues	7650.00	6735.00	(915.00)	7850.00
Advance Dues				
Flea Market	1300.00	820.75	(479.25)	
Raffles	200.00	365.00	165.00	200.00
Misc.	0.00	118.00	118.00	
Total	9150.00	8013.75	(1111.25)	8050.00

MMRA 1996 Budget

This budget sheet shows 1995 Budget versus Actual. The 1995 Budget will be voted on at the September 18 Meeting.

All Expenses:	Budget	Actual			
Administration	4910.00	4474.75	435.25	4350.00	
N1BHI-146.61	600.00	1867.08	(1267.08)	550.00	*Normal Expenses*
KA1HKP-146.67	500.00	260.00	240.00	500.00	*Normal Expenses*
N1NVL-146.715	500.00	170.00	330.00	500.00	*Normal Expenses*
KA1AL-146.82	500.00	805.90	(305.90)	500.00	*Normal Expenses*
N1BHI-223.94	200.00	23.90	176.10	200.00	*Normal Expenses*
N1KUG-224.40	100.00	0.00	100.00	50.00	*Normal Expenses*
N1HBR-224.70	100.00	0.00	100.00	50.00	*Normal Expenses*
N1NVK-449.725	100.00	0.00	100.00	50.00	*Normal Expenses*
N1NVL-449.575	100.00	0.00	100.00	50.00	*Normal Expenses*
N1HBR-449.925	350.00	674.72	(324.72)	600.00	*Normal Expenses*
KA1OUI-145.03	100.00	0.00	100.00	50.00	*Normal Expenses*
R&D/Contingency	500.00	129.11	370.89	500.00	
Field Day	100.00	330.89	230.89	100.00	
Total	9230.00	8736.35	969.64	8,050.00	*See Note 1.*
1995-96 Administration					
Newsletter	1500.00	1003.18	496.82	1500.00	
Meetings	500.00	581.52	(81.52)	600.00	*Price Incr frm Campion*
President's Account	50.00	26.95	23.05	50.00	
Secretary's Account	300.00	909.09	(609.09)	800.00	
Treasurer's Account	200.00	27.04	172.96	100.00	
Flea Market	1000.00	654.88	345.12	0.00	*See Note 2.*
Insurance	900.00	836.00	64.00	850.00	
P.O. Box	100.00	104.00	(4.00)	100.00	
Voice Mail/Pager	160.00	135.75	24.25	150.00	
Miscellaneous	200.00	196.34	3.66	200.00	
Total	4,910.00	4474.75	435.25	4,350.00	
Test Equipment Fund-remaining from money raised by raffles	1045.99				

Note 1. The actual for 1995-1996 included the unplanned expenditure for 2 - DB 224 antennas (approx. $900), one for Quincy, one for Weston.
Note 2: The flea Market was nearly a wash....we made 149 bucks because of a low turnout at the door.

Minuteman Repeater Association, Inc.
P. O. Box 2282
Lexington, MA 02173
Voice Mailbox: (508) 489-2282

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

-Application for Membership-

☐ *New* or ☐ *Renewal*
☐ *Individual Membership (Dues $25 per year)* ☐ *Family Membership (Dues: $35 per year)*
☐ *Novice Membership (1st year dues: $10)*

I hereby apply for Membership in the MINUTEMAN REPEATER ASSOCIATION, INC. I agree to abide by the rules and regulations of the Association as stated in the by-laws, and understand that acceptance of this application entitles me to all rights and privileges of membership as provided under the by-laws.

Signature: _____ Date:_____

Name: _____ Callsign:_____ Class of License:_____

Home Address: _____
_____

E-Mail Address: _____
Occupation: _____ Employer: _____
Work Phone#: _____ Home Phone: _____

Member of: ARRL?_____Other Clubs?_____

Equipment Available for Your Use:

Type	No.	Mobile	Port.	Fixed	DTMF	FM	SSB	Packet	CW	Patch	Rtty
HF	_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
VHF	_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
UHF	_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

I can and am willing to assist/serve the Association and/or help maintain the Repeaters in the following ways (check all appropriate boxes)

☐ Antennas
☐ Flea Market
☐ Receiver
☐ Publicity
☐ Transmitters
☐ Newsletter
☐ Logic
☐ Public Service
☐ Telephone
☐ Legal Aid
☐ Education:
☐ Technical Documentation
☐ Shelters
☐ Medical Aid
☐ Equipment Construction
☐ Meeting Set-up
☐ Equipment Transportation
☐ Social Events
☐ Technical Documentation
☐ Refreshment
☐ Schematic Drawing
☐ Technical Library
☐ Teach Code
☐ Teach Theory
☐ Repeater Tech Committee
☐ Special Projects
☐ Repeater Control Operator
☐ Association Officer
☐ Board of Directors
☐ Field Day
☐ Emergency Communications
☐ CW Operation
Other-Specify:_____

Send this form with your Dues to:

MMRA, P.O. Box 2282, Lexington, MA 02173

The Minuteman

Volume 26 Issue 1 September 1996

Dear Member.....It's Time To Renew Memberships!

It's the beginning of another new year for the MMRA, and that means it is time to renew your membership. Your continued support is vital to the organization, so renew now....a lot of improvements to our system have been made and are continuing — New antennas, better, commercial grade repeaters, a new 6 meter system — all these things take time and money. Your support, both through your dues and participation make all this possible.

To Renew, just cut this last page out...on the back is the standard renewal or new membership form. If any of your information has changed, fill in the appropriate blanks; if not, the mailing label identifies you -so send the form with your dues to the return address just below – Thanks!

Return Address:
MMRA
P.O. Box 2282
Lexington, MA 02173

It's Time to Renew your membership – See Above!