The MINUTEMAN

Official Newsletter of the Minuteman Repeater Association

Volume 23 #3 Jan/Feb 1994

The President's Corner

Andy Morrison, N1BHI

Another new year....and the MMRA is a year older. We've been making some good progress in technical areas; Chris (N1NVL), Bryan (KA1YQB), Walter (N1HBR), Clark (N1NVL) and I have been working to get the links up. '82 was linked on the weekend of the 18th of December. More detail in the repeater report; many thanks to the guys who are working on this.

We are working on a date for the flea sale; it looks like the only date available will be Sunday, March 20, 1994. Mark that date on your calendars, if it should change, call the MMRA Information Line (508-489-2282) in January and the announcement will include the flea market date. We'll go for an early April date should that Sunday fall through.

Be sure to come to the January meeting....the program will be a presentation by Jack Tibbets and one of his associates from CellOne. They will explain how their cellular phone system works. It's a wild combination of RF, telecommunications and computer stuff. We hear that their talk has been well received at other ham club meetings, so it should be worth the trip. The meeting will be on Tuesday, January 18 at 1930.

President's column continues on page 7

Items of Interest

MMRA VE Session	**Feb 12 at 9:00am**
Marlboro Public Library - Contact KD1GG	
MMRA General Meeting	**Jan 18 at 7:30pm**
Weston Campion Center	
Every Tuesday Night	**MMRA Info Net**
MMRA Board Meeting	**Feb 15**
Deadline for March Newsletter	**Feb 22**
MMRA VE Session	**Sat March12**
MMRA Flea Market	**March 20.**

------>> Special Alert! <<----------
The Flea Market date of Sun March 20 has been *CONFIRMED*. Sellers can enter at 8:00 AM, buyers enter at 10:00 AM. MMRA Members: Please consider helping SET UP on Saturday evening March 19th.

The Repeater Report

Chris Conti, N1NVL - Technical Director, MMRA

For all repeaters, the autopatch codes were changed on December 1. Most of the machines will respond with an error message telling the user "ERROR CODE CHANGE" If you still have trouble with the autopatch please call the MMRA Hot-Line (508) 489-2282.

Many thanks to Bryan KA1YQB who not only joined the MMRA Tech-Crew but has jumped in with both feet up to his knees in mud (more later). Bryan took 3 of the link radios, put them on the bench, re-tuned, renovated, and ran cables for audio, transmit and carrier detect along with some modifications to the exciters. Thanks Bryan for all your help!!! (*and your article -Ed*)

146.610 N1BHI/R Marlborough, MA

After some investigation into some distortion in the audio on the link between 61 and the 449.925 repeater, it was discovered that the low frequencies were being clipped and after chasing audio around with an oscilloscope, and utilizing the new IFR 1000/S service monitor, levels were reset making the link clear as possible. Primary tech was Andy N1BHI, along with help, or at least lots of opinions from Walter N1HBR, Clark N1NVK, Bryan KA1YQB, Chris N1NVL, and Mike KD1OA provided "color" with his play-by-play of the event. The Tuesday night MMRA Net was also run from the shelter by Andy N1BHI after the work was done.

146.820 KA1AL/R Weston, MA

The repeater continues to run well but the link does not. More time was spent trying to work out all the logic between the 82 repeater and its 220Mhz counterpart that both must share the same link radio. The 82 machine is not a full time link but the 220 is, see also the Network explanation elsewhere in this newsletter. Our goal is to have a more reliable link control that is easy to use. Work done by Chris N1NVL, Andy N1BHI, and Bryan KA1YQB.

146.715 N1NVL/R Stoneham, MA
NEW FEATURE! (taa dahhh) after an on air discussion with several of the regulars, Lou N1QIG said "hey when are we gonna put a tone on the output of this thing, I get sick of listening to NY all day when I'm at home, I have the CTCSS (or Tone Squelch) feature on my rig and I could listen to this repeater without having to hear them (NY)." He then asked how much and when could we do it. I told him it wasn't a planned budget item for this year and I was short on time so he said "well you buy it, I'll pay for it, and put it in" and so it happened! Plans were made and tone on the output was set up on Dec 10. The Tone is set at 146.2 Hz and if you have a tone decoder in your rig you will find this to be a pleasant way to listen, I have also found this to be good in heavy intermod areas where you may normally hear interference, now the only thing I hear is the repeater. Problems - on Dec 7-9 It was noted by several stations that the power was going up and down. I found that the repeater was working along the Mass Turnpike, but difficult to copy, other stations noted weak but usable coverage in the 128 north area. Well Lou N1QIG, Clark N1NVK, and Chris N1NVL all headed up to the site after work and found the repeater running so weak we could not get a reading on the wattmeter (it had to be under 200mw), but alas you could hear it! The problem ended up being a loose mounting of the crystal oven and oscillator causing it to shift in the case and drop down to where the connections touched the case. After remounting and retuning much to everyone's amazement, the repeater went back to full power with no damage to components. In other news, the Receiver Carrier Operated Delay built by Herb KB1TE is performing well, it was noted during the last maintenance that it had prevented the repeater from "false keying" from noise at the site, Thanks again Herb!

224.400 N1BHI/R Quincy, MA
Nothing to Report - Status Quo

146.670 KA1HKP/R Quincy, MA
No report available

224.700 N1HBR/R Weston, MA
At the November meeting a request was made for someone to work on the receiver. That call was quickly answered by Bryan KA1YQB who went downstairs to the repeater room and removed the receiver. Then he found an intermittent crystal socket along with other little things. Two days later it was reinstalled and working fine. At this time the link is down due to re-working the link for the Weston site.

223.940 N1BHI/R Hopkington, MA
The site owners are replacing the building, so a crew of Bryan KA1YQB, Walter N1HBR, and Andy N1BHI (and all their 4X4 vehicles) went up to the site, on a muddy night. As I understand it Bryan won't need any beauty treatment after falling in the mud (he was covered), and we may never find Andy's shoes! As the parade headed out to Weston to put the repeater in the shop for re-work, a call was put out for more help on the Weston side (Bryan had to go home to de-mud) Clark N1NVK, and Chris N1NVL responded but much to our surprize and delight Shelby KA1NIW answered, re-arranged a busy schedule while enroute from the central artery and came up to Weston to help! On behalf of the MMRA and Tech crew a big THANKS! to shelby for his willingness to help out. P.S. we will need people to bring it back to the site.

446.725 N1NVK/R Stoneham, MA
The machine is working fairly well with some experiments being done on the audio at this time. Clark N1NVK has been working on an automatic level adjusting audio amp, this could be implemented in other MMRA machines, but for now this one is the Guinea Pig. Power output problems have been resolved and the machine consistently now puts out it's maximum allowed 50 watts.

449.925 N1HBR/R Marlborough, MA
Burrrrr! the repeater now likes to act-up during the cold weather, sometimes the audio gets muddy, an interim solution was to wrap the exciter and receiver in that "heat tape" the you put on pipes to keep them from freezing, but that only helps a bit. More on this saga as it unfolds. Also an A.C. Power failure detection was implemented.

145.030 KA1OUI-3 Node
(A.K.A. MMRA-3) Marlborough, MA - Nothing new to report, just that it continues to run without a hitch! I've been to the site and that thing is always busy keying up and sending stuff all over the place...I just think that sometimes people forget that that's one of the many stations the MMRA supports. If you are a regular user of this node, we'd like to know. Tell us about how the club can make this hobby more fun for you!

Editor's Note: Not an MMRA machine, but look for a new YCCC PacketCluster node to come on line soon. K1MM in Marlboro will soon be on the air, possibly on 145.57. The node is located on Mt. Royal Avenue at PacketCluster Inc.'s headquarters.

Special Bulletin:
Some of you may have noticed longer than usual delays in our handling of renewals and membership applications. While some delays might be attributable to Holiday mail, most of the delays are our fault. We recently had to change the way our mail is picked up from the PO Box in Lexington which has resulted in excessive delays. We are in the process of dealing with the problem and by the time you read this we should have it solved. We are sorry for any inconvenience the mail delays have caused; we value our menbers and try to provide fast, reliable, and courteous service. The toll-free MMRA Hotline (508)489-2282 is a recent example of the changes being made to ensure just that. Please feel free to call the Hotline for any MMRA related problem or question. *de N1HBR*

Bob Levine, KD1GG

Thanks to Mark AA1IA (formerly KD1QT, formerly N1ONG), I will be able to share the newsletter responsibilities with someone. Mark has volunteered to take on the prestigious and high paying job of the newsletter distribution. This includes all the fun labor of folding, labelling, stamping, stapling, and carrying to the Post Office about 400 newsletters. He had to push and shove his way through the crowd which had gathered to take this job, so you know he is ambitious. Thanks Mark.

On page 9 of this issue, I placed an ARRL Bulletin about the "vanity callsign" issue. Just before publication of this issue, I received the actual text from the FCC, so I decided to insert it her for everyone:

COMMENTS REQUESTED ON ADOPTION OF VANITY CALL SIGN SYSTEM FOR AMATEUR RADIO OPERATORS - PR DOCKET NO. 93-305 (Report No. DC-2451, Action in Docket Case)

The Commission has proposed to allow amateur radio operators to choose their own call signs. In light of this decision, the Commission by separate action vacated the rule provisions that established private entity call sign administrators and reinstated the prior rules.

Action by the Commission December 13 by NPRM (FCC 93-545) and by MO&O (FCC 93-546). News Media contact: Patricia A. Chew at (202) 632-5050; Private Radio Bureau contact: Maurice J. DePont at (202) 632-4964.

So, I guess it's official now. The FCC is finally going to implement buy-a-call. It will be interesting to see how it is implemented. Although it seems like the impetus for this program was that there are no 1x3 or 3x1 Extra Class calls left in the US, there is no mention of restrictions on buy-a-call for any class of license. I guess this means big business for those who sell callsign database programs (so we can hunt for unused nice callsigns) and for QSL card printers. I can't see much benefit to the Ham community besides that. I heard a rumor that the fee will be about $7 per year. So, say $70 for your 10 year renewal. If 20% of the new hams every year opt for a vanity callsign, that will be 40,000 * 20% = 8,000 hams. If another 8,000 request changing their current call, that will make 16,000. That brings the Government in over $1 million the first year. Since this money must go into the General fund, maybe Billary can spend it to improve his health care reform!

Consignment Buying

One of the things that many new hams and many hams on a tight budget always want to know about is where to buy good used equipment. There are many places to look for used gear such as flea markets, packet BBSs, the Want ADvertiser, etc... However, it is caveat emptor (let the buyer beware) in those places. One of the perpetual supporters of the Minuteman has a nice consignement policy that addresses that risk.

Rivendell Electronics has one of the most generous consignment plans in the area. Here is how it works for buyers. All of the items in the consignment areas in the store have labelled prices. It is possible to make offers on something you see and they will relay your offer to the seller. If you are willing to pay the labelled price, you have 7 days to test drive the gear, unless it is marked "as is". If you decide to return it for some reason, it ***must*** be in the same condition as when it left the store. Rivendell will withhold payment to the seller for that period of time. This is how the your risk is reduced, you get a guaranteed return policy if the gear doesn't perform as you expect.

For sellers, there are advantages also. If you want to sell some gear, you bring it to the store and the staff can assist you in setting a fair price. The gear will go on display and there is always someone there to help any customer interested in the gear. Small items like handhelds are displayed in the glass case at the front of the store for added security. After a sale is made, the selling price is split, 85% is returned to you and Rivendell keeps 15%. The major advantages to you as a seller is a captive audience of potential customers who have come to a Ham store to BUY gear.

So, the next time you have an opportunity to get out for some Ham shopping, I suggest that you check out the goodies that can be found at Rivendells. BTW, while you are there, be sure to thank them for their continued support of the MMRA.

Keep the Emergency Quick!

After discussions with several Police Dispatchers (mostly from State Police) we need to update the basic operating guide for placing emergency calls. The onset of the cellular phone and it's autodial feature the State Police dispatch center is always busy with incoming calls from cars. It really is not necessary to say "This is an Amateur Radio Operator N1NVL calling from my mobile on an autopatch can you copy ?" your best bet is to immediately give location, situation, and/or injuries. Example "128 southbound between Masspike and Route 9 accident center lane no injuries" or "495 Northbound at Route 20 Marlborough vehicle in ditch with injuries" and immediately un-key **(OVER)** to await response.

(continued on page 9)

How MMRA Linking Works

Andy Morrison, N1BHI

One of the questions I get most often is "How are the repeaters linked?" We have explained it at one of the meetings, and a couple of years ago I had a newsletter article about it, but a long time has passed and a lot of new guys are asking about linking. So here's an explanation of how it works. By the way....if this starts to read like the script from the famous "who's on first..." routine, bear with it and read carefully.

At Marlboro, we have a 440 machine, N1HBR/R, on 449.925 Mhz. This is the hub of our network....it rebroadcasts whatever is being transmitted by one of the linked repeaters. Every time the receiver on a linked repeater has a signal, that repeater is rebroadcasting the received signal both on its own output frequency and 444.925 - which is the input frequency for Marlboro 449.925. So when 146.61 Marlboro has input on 146.01 Mhz it is transmitting both on 146.61 Mhz and 444.925 Mhz.

Since 444.925 is Marlboro 440's input frequency, it repeats what is coming into 146.61's input on 449.925. So anyone listening to Marlboro 440 will hear activity on 146.61.

If we have a receiver at another repeater - let's use 223.94 Hopkinton in this example - that is listening to 449.925, we can pipe the audio into 223.94 and make its transmitter go on the air, repeating what is being heard from 449.925. And that signal just happens to contain the activity on 146.61. Give 223.94 a transmitter that can operate on 444.925 and we do exactly what 146.61 does - any activity that comes into 223.94's receiver on 223.34 Mhz (down 1.6 Mhz) will be sent out to Marlboro 440 and get repeated.

Put a receiver at 146.61 listening to 449.925 and it can repeat what comes into Marlboro 440...and that could be a signal that originated on 222.34 - the input to Hopkinto 220.

This is implemented physically by placing any mobile or handheld 440 rig at the site of a repeater to be linked. We generally use old commercial 450 gear tuned down into the ham band. The hookup is simple.....

- Link radio Carrier Operated Squelch (COS) signal is connected to repeater Push to Talk (PTT)
- Link Radio Receiver Audio is tied to repeater transmitter audio
- Repeater receiver COS signal is tied to Link Radio transmitter PTT
- Repeater receiver audio is tied to Link Radio Transmit audio

In sites that have SCOM 7k controllers the hookup is simple. In some cases we need to convert logic levels to make it work, but this is not hard to do.

Right now we have link radios at the Quincy 220, Hopkinton 220, Weston 220 and Marlboro 2 Meter repeater sites. Weston 2 Meter is being worked on and will soon be linkable. Shortly after that, Stoneham will be linkable also.

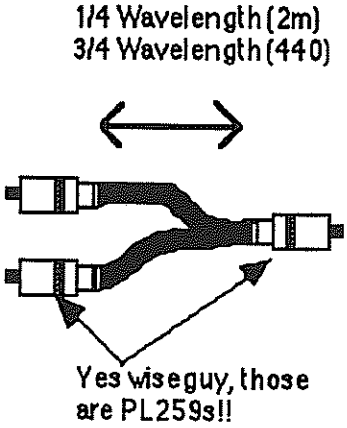
Only the 220 machines and the Marlboro 2 meter system are linked full time. The other 2 meter repeaters will be callable into the network by a user. He will use touchtones just like when doing and autopatch. A voice announcement will confirm that the repeater is now linked. It will stay linked until the user does a "link down" code or the repeater has no activity for 2 minutes. After 2 minutes of no input on the repeater's main receiver, the link will automatically come down.

If this has made it clear...great. If you are more confused than before, check into the MMRA Information Net on a Tuesday night. There will likely be someone on who can get you even more confused.....

A Cheap 50%/50% Power Splitter for Your Transmitter

Chris Conti, N1NVL

Coax shown here is 72Ω RG-59u



If you want to try stacking 2 Yagis or 2 phased verticals for 2m or 440, try building this splitter. Use RG-59U (72Ω) cable even though your TX cable is 50Ω. Calculate the exact length of each side using

$$\text{Length} = \frac{738}{\text{FREQ}} = \frac{3}{4} \text{ wave on 440}$$

(or)

$$\text{Length} = \frac{246}{\text{FREQ}} = \frac{1}{4} \text{ wave on 2m}$$

Once you have the Length, multiply by .66 for the velocity factor of RG-59U. So, for 146Mhz,

$$\textbf{Actual Length} = \frac{246}{146} * .66 = \frac{1}{4} \textbf{ wave = 13.3"}$$

Notes: You can also assemble this in a metal box using panel mount connectors, but the wiring harness shown here has been used on some of the biggest buildings in Boston attached right to the mast and survived several New England winters.

Power rating varies with the cable. This particular splitter was used at my office a lot for 5 watt applications. However, I do know of one setup I worked on that ran 45 watts input and got 18-20 watts out to 2 Yagis and rean constantly , 21 hours of key down time every 24 hours for a period of 3 years without a failure.

In some applications, a vertical was used on one side and a Yagi on the other pointed at one place that needed an extra push in that direction.

I noticed one day a packet message asking about running phased dipoles (horizontally) to do some directional SSB to work up and down the east coast (pointed N/S). Might be worth a try...

Tic Tic on Two Meters

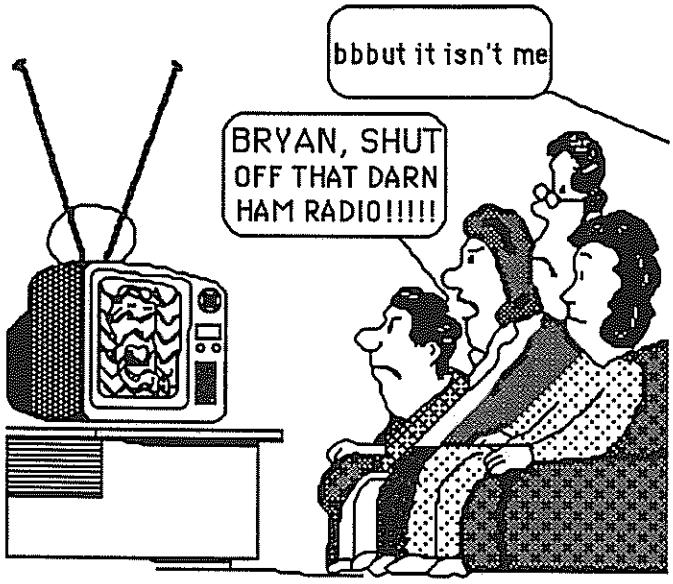
Brian Cerqua, KA1YQB

Ever since getting my ham license in 1991 I've experienced a strange ticking noise heard on the VHF high band frequencies between 144 and 160 MHZ. The noise was strongest in the two meter ham band and sounded like a narrow pulse of de-sense at a 3.5 Hz rate. The ticking noise was heard on just about all two meter repeaters that were not full pin, twenty four hours a day, seven days a week. The noise was easily detected using my Regency MX 7000 in AM mode on any unused two meter frequency. Using a Cushcraft 13B2 beam on my sun deck I was able to determine that the noise was horizontally polarized and in a westerly direction. Rotating the beam it was difficult to determine the exact direction it was coming from. Now it was time to start driving around in attempt to find the source. I was able to hear the noise 2.5 miles away across the valley from my QTH on a high point in Mendon. I started out on foot with the MX 7000 and a two meter dipole and got another fix that told me the noise was somewhere between my condo and where I was standing. Let me tell you that I got many strange looks from people passing by but I tried to not let that bother me. I cooled off and let a couple of weeks pass before continuing the search. I spent many summer nights on my deck trying to figure out just where the heck this was coming from.

I worked at night since I live on a golf course and didn't want to attract much attention. I figured since the noise was horizontally polarized it MUST be coming from the one of the electric fences in the farm lands across the valley. I jumped in my car and drove to the farm where I thought it was coming from. I went up to the farm and rang the door bell and asked the farmer if he had any electric fences that I could check for interference. He had two and let me take my radio on his farm and check them out. Low and behold there was no noise detected from either fence. Now

totally dissapointed, I returned home and was at ground zero again.

After letting a few months pass and inviting a few hams over to listen to the interference I was no further finding the source then when I started. I needed a radio that was more portable and one that had an A.M. mode detector so I ordered the service manual for my Bearcat 100 XLT pocket scanner and added a switch to put the radio in AM mode when listening to two meter frequencies. Now I was able to detect the noise without having to lug my MX 7000 around with a 12V camcorder battery. I also built up a small six inch diameter tuned sniff loop that could easily pick up the noise. Attaching the sniff loop to my car and driving around the neighborhood I was able to determine that the noise was coming from one of six or so condos. I wish I did this before driving around every night for a week many miles from home. All I needed now was some moral support from my nephew Jeffery N1QOM and his friend Mike to walk the golf course with me.



RFI isn't ALWAYS caused by us Hams!!!

We started out on foot with the pocket scanner, HT, sniff loop and dipole. Using the modified pocket scanner and a coax running down my sleeve to the sniff loop in hand I was able to walk around without attracting much attention. We started on the first green and had to wait for some golfers to get out of the way. The noise was very strong and I had to switch to the dipole to get a null right at the condo across from the first green. I walked about 50 yards down the fairway and got a second null aiming at the same condo. Now I was getting closer and real excited. I recognized an older gentleman walking his dog nearby and explained what we were up to. After talking condo talk for a few minutes I told him that we were going to walk around to see if we could find the noise. The noise was coming somewhere from this building and since each building contains four condo units I couldn't tell which one it was coming from. We went up on one of the sun decks and I noticed a treadmill in the window, having heard that the computers in treadmills can cause interference, I immediately rang the door bell. Guess what, the same man I met earlier answered the door. I said hello again and asked if he could pull the plug to his tread mill, he did and the noise was still there. He came back out and I explained that the noise is very strong in this area and asked him if he wouldn't mind shutting off the main power to his condo. I had to start someplace and it might just as well be his unit. He got his flashlight and went down the cellar while we waited on his sun deck. All of a sudden the noise went away, now we are jumping up and down since we found the condo with the noise. The man comes back outside and closes the door behind him while I explained that the noise is coming from his unit. I asked if he had any thing that was on all the time and if he would let me in to sniff around. Well when he tried to open the door he discovered that he locked himself out of the condo. Now he is a little mad since he lives alone and didn't have a key or someone nearby that did. I told him that I would go home and get my car so he could keep warm inside. I had Jeff and Mike keep him company while I ran home to get the car, tools and cordless phone. Upon returning I called the Milford locksmith on the cordless but nobody was around on Saturday. The man asked me for a big screw driver so that he could pry the door open. I said that I would pay for any damage done and

helped him break in. After a small hip check the door bounced open, thank god. Now that I was standing inside his condo I asked if he had anything that was on all the time. He showed me a small plug-in pest repeller device that he had in his hand. I said that might be it and asked if I could plug it in and out, I did and it was not that. He had another one and I unplugged that and the noise was still there. I switched to my HT with a small rubber duck and asked if I could sniff around, he said OK. I went into the kitchen and check things like the clock, cordless phone etc. I looked down on the floor and saw two Radio Shack tweeter boxes with a flashing red LED at about 3.5Hz rate. Jumping up and down screaming that's it,

that's it, the man said "how do you know?". I told him that I was aware of people using Radio Shack tweeters for pest repellers and removed the wall transformer and the noise quickly vanished. I checked the other one out and it was clean. The man let me take it home so that I could fix it for him. Now the fun started, I couldn't believe after two years of listening to this ticking noise that I had the source in my possession. Plugging this in at home was a real thrill, it was so noisy that not only did it mess up the two meter band but the 440 band as well. I took it to work and pried it open and found a small PC board with two integrated circuit 555 timers. Before I did anything I looked at it using the spectrum analyzer at work and the damn thing was noisy from 300KHZ to 3GHZ and should of have been thrown in the trash. Being of the inquisitive type I wanted to find out just what is this thing. The box had a red push button on it for testing the unit, when pushed, it let out an incredible loud sweeping noise.. Also there is an adjustment for controlling the low frequency sweep rate. I traced out a schematic for the device and determined how it worked. It used one timer's control voltage to sweep the pulse width of the other which was running at 67KHZ. It sounded at first like it was sweeping the frequency and I was concerned about this since the man owned a dog and this thing may be driving the dog crazy. But who ever designed this device must of taken that into consideration by sweeping the carrier pulse width instead on the frequency. Using an oscilloscope to observe the waveform across the tweeter element showed that the output was breaking into a real strange oscillation. I replaced the timer but that didn't do the trick so I added a 1K resistor in series with the tweeter to reduce the load seen by the output. This reduced the drive to the tweeter but still had plenty of audio when the red button was pressed. I placed the cured device back on the spectrum analyzer and it was clean so I box it up and went home The following Thursday I called the man up to tell him I would be stopping by to return the device. I rang the door bell and gave him back his device along with a fruit basket to keep things on friendly basis. I gave him a copy of the schematic, before and after spectrum analyzer plots and he commented that these plots remind him of his EKG plots. Lucky enough the man was a super nice guy. Well that's the end of my long story buy it's not often that I get involved with something of this nature. All I can say it's very easy to assume many incorrect things while chasing interference. It turns out the beam heading that I got from my deck was not in the correct direction. I was getting many reflections off the other condos in the neighborhood. All's quiet now.

73s de KA1YQB Bryan

Chris Conti, N1NVL

Have something to share with out members ? A nifty project ? build a new gizmo that makes your operating more fun ? The first entry and great example is Bryan KA1YQB and his quest to find the tic tic on 2-meters, etc. Suggestions include a home brew antenna, a story of interest to the members, maybe a funny experience with someone on the air. Get that stuff in! Submit your articles to Bob KD1GG for the March, May and Sept Issues of the Minuteman. Articles submitted after review will be published (we reserve the right to edit any article). Now here's the best part, at the Sept Meeting, those present at the meeting will vote on the best article submitted, the author of that article will then have their 1994 Dues waived and get a free membership for the year. If it is a Family membership, same thing, the year is free. If this all goes well and the response is good we will continue this as an annual event that at each Sept meeting, the article of the year is voted on. I might even be able to talk the board into issuing a 1st 2nd and 3rd prize.

Presidents Column Continued from Page 1:

Some thanks are due Walter, Brian, Chris, Clark and Sheldon (N1NOM) for helping me with the removal of 223.94 from the Hopkinton site. Tenneco is replacing the shelter we are in, so I took the opportunity to get the machine over to Weston where we can work on it. It's going to get a new Hamtronics receiver, a new link radio and a general tuneup.

And by the way....that work will be made easier by the fact that we now have a fully operational IFR 1000S! It was fixed and calibrated by IFR...and our total cost was less than half the monies we raised with the raffles!

Walter honchoed getting it fixed, negotiating with the IFR guy who worked on it -- turns out he's a ham, so we have a good contact out there.

When we have a work session, and Chris shows up with his toys from work, we might have 3 monitors sitting around to work with....I guess there's truth to the old saying "When it rains it pours..."

I look forward to seeing you at the meeting...and don't forget that the MMRA Information Net is weekly now. Very soon the 2 meter machines at Weston, Stoneham and Marlboro will all be linked for the nets. Keep an ear out and join in.

Useful Ham Related Toll Free 800 Phone Numbers

COMPANY	LOCATION	800-NUMBER
A.R.S.O.N	Madison TN	327-8700
AEA	Vienna Va	336-8473
All Electronics	Los Angeles CA	526-5432
Am. Elect.Supply	Orlando FL	327-1917
Am. Elect. Supply	Milwaukee WI	558-0411
Am. Wholesale Elect.	Miami FL	317-3102
Antenna Bank, The	Alexandria VA	336-8473
C.O.M.B	Minneapolis MN	328-0609
C-COMM	Seattle WA	426-6528
CE CO Comm.	Brooklyn NY	221-0860
Comm Center, The	Laurel MD	638-4486
Comm. Center	Lincoln NE	228-4097
Comm. Elec. Spec	Winter Park FL	327-9956
Comm. Specialist	Orange CA	584-0547
Consolidated Elect.	Dayton OH	543-3568
CW Electronic Sales	Denver CO	526-6147
DAK Industries	N. Hollywood CA	423-2636
Data Display Product	Inglewood CA	421-6815
Delaware Am. Supply	New Castle DE	441-7008
Derrick Electronics	Broken Arrow OK	331-3688
Drake, R.L.	Miamisburg, OH	543-5612
EGE	Woodbridge VA	336-4799
Elect. Equipment Bank	Vienna VA	368-3270
Electronic Rainbow	Indianapolis IN	428-3500
Erickson Comm.	Chicago IL	621-5802
G.I.S.M.O	Rock Hill SC	845-6183
GTE Microcircuits	Tempe AZ	828-7280
Ham Radio Center	St. Louis MO	325-3636
Ham Radio Outlet	Anaheim CA	854-6046
Harrison Radio	E. Farmingdale NY	645-9187
Harvey	New York NY	223-2642
Heath/Zenith	Benton Harbor MI	253-0570
Henry Radio	Butler MO	421-6631
Jun's Electronics	Culver City CA	648-3962
KDK Distributing	Madison TN	251-4141
Lacomb Distributors	Lacomb LA	336-4799
Long's Electronics	Birmingham AL	633-3410
Memphis Am.Elect.	Memphis TN	238-6168
MFJ Enterprises	Mississippi St MS	647-1800
Mid-Com Electronics	Brentwood MO	325-3609
Missouri Radio Center	Kansas City MO	821-7323
N&G Distributing	Miami FL	327-3364
Phillips EC (Partsguide)	Seneca NY	225-8326
Polar Research	Thief River Falls MN	328-2041
Power Comm.	Phoenix AZ	426-4267
Pro Search Electronics	St. Louis MO	325-4016
Quick Brown Fox	New York NY	547-5995
R.F. Electronics	Anaheim CA	854-4655
Radio World	Oriskany NY	448-9338
Radios Unlimited	Somerset NJ	526-0903
Ramsey Electronics	Penfield NY	828-6286
Shure Brothers	Evanston IL	323-6556

FCC Proposes Instant On-The-Air Licensing

Reprinted from the ARRL Letter

The FCC has proposed temporary operating authority to unlicensed persons who pass the examination for a new amateur operator license. The temporary operating authority would begin when the exam is passed and an application for a license is filed, and last until a full-term license is received from the FCC (not more than 120 days).

The temporary operating authority would not be available to anyone whose license has been revoked or suspended or who has been involved in other enforcement proceedings before the FCC. Under the proposal, the Commission also would reserve the right to cancel such temporary operating authority without a hearing if a need to do so arose.

Those operating under the proposed new rules would use call signs determined by the initials of their name and by their mailing address. The prefix for each such call sign would be WZ followed by a number indicating the appropriate Volunteer Examiner Coordinator region.

The Commission said it believes this system "would be useful to the amateur community, yet practical to implement." The FCC also said it was making the proposal "to better serve new amateurs and to increase productivity in the processing of license applications."

The proposal, assigned PR Docket 93-267, was based on a petition for rule-making made in July by the Western Carolina Amateur Radio Society (WCARS) VEC of Knoxville, Tennessee (RM-8288). The WCARS-VEC aired their proposal at the National Conference of VECs in June.

At presstime only the FCC news release, not the actual text of the NPRM, was available.

The ARRL board of directors said in July that the Commission's on-going program to implement electronic filing of amateur license applications was the

preferred method to eliminate any perceived need for a temporary operating authority.

ARRL Executive Vice President David Sumner, K1ZZ, said that the League has always supported getting new amateurs on the air quickly, and has offered as much encouragement as it can to the FCC in the implementation of electronic filing, which would allow FCC staff to make the most of the limited time available for Amateur Radio license administration.

The League believes very strongly, Sumner said, that "any operating authority must stem directly from the FCC, not from some 'middle man' private entity, even though the ARRL/VEC is the largest such 'middle man.'

"Many of the protections we enjoy against arbitrary local and state regulations," Sumner said, "are the result of our being federally licensed. It would be a serious mistake to allow this federal status to be diluted in the interest of some short-term expedient."

Sumner said that the League would respond to the FCC proposal when the full text of the NPRM is available and when League members have had a chance to express their views on the subject to their ARRL directors.

ARLB116 Pick your call sign

The FCC today proposed that amateurs be able to choose their own call signs, once a new automated processing system is in place at the Commission's Private Radio Bureau.

Under the proposed system, amateurs wishing to apply for an available call sign would be required to file a form and pay a fee.

Trustees of club and military recreation stations also would be eligible for the new program. Also today, The FCC canceled a rule it adopted last summer establishing a call sign administrator program for amateur club and military stations, a program that was never implemented.

The FCC said that at the present time call sign selection by new licensees was not feasible, but left the door open for that possibility in the future.

The FCC said that the new PRB computer might eventually allow amateurs to check for themselves the availability of call signs, and that the new system might be used to allow electronic filing of applications, making the process easier for applicant and FCC alike.

At the meeting today, the first under new FCC Chairman Reed Hundt, Private Radio Bureau staff began by telling the FCC commissioners that recent Nobel Prize winners Joseph Taylor and Russell Hulse had begun their scientific education as radio amateurs.

The "vanity" call sign plan was unanimously approved by the four FCC commissioners. The text of the Notice of Proposed Rule Making is not yet available but is expected to be issued shortly.

Emergency Reporting (continued)
More than likely you will get an "OK" from the dispatcher.! (OVER) If you have driven by an accident and you don't know if there are injuries, say "unknown Injuries" (OVER) DO NOT SAY I DON'T THINK THERE ARE ANY INJURIES. (OVER) This could mislead the responding personnel into thinking the situation is less urgent. Chances are the Dispatcher will not need to know your name, or your callsign.
Remember: Location - Situation - Injuries (if known)
OVER

Novices get Entire 220 Band

The Commission has amended the amateur service rules to create a small new subband at 222.00-222.15 MHz where repeaters are prohibited, and has authorized frequency privileges for Novice Class operators in the entire 1.25 m band.

In November of 1992, the FCC proposed three changes in theoperational rules for the amateur service: 1) the creation of a subband in the 222-225 MHz (1.25 m) band where repeaters would be Pos prohibited; 2) the authorization of frequency privileges for T To Spell Novice Class operators in the entire 1.25 m band; and 3) the eligibility of Novice Class operators to be licensees and control operators of repeaters in the 1.25 m band, as well as in the 1270-1295 MHz segment of the 1240-1300 MHz (23 cm) band.

The Commission found that the establishment of a subband in the 1.25band for non-repeater operations would facilitate experimentation which is one of the fundamental purposes of the amateur service. The Commission further concluded that the authorization of Novice Class operators to use the entire 1.25 m band would provide them with the opportunity to become proficient in a wider variety of amateur service operations and give them greater flexibility in selecting the mode of transmission to use. However, the Commission determined that Novice Class operators should not be authorized as control operators and licensees of repeaters in the 1.25 m and 23 cm bands because they lack knowledge about repeater operation. Further, it would diminish the distinction between the Novice and Technician Classes.

The Minuteman

Newsletter of the Minuteman Repeater Association - Jan/ Feb 93
Volume 23 Number 3

MMRA Repeaters:

Weston	146.82	KA1AL/R	PTL	P
Marlboro	146.61	N1BHI/R	FTL	P
Marlboro	449.925	N1HBR/R	FTL	P
Stoneham	146.715	N1NVL/R	PTL	P
Quincy	146.67	KA1HKP/R	PTL	P
Quincy	224.40	KA1CLX/R	FTL	
Weston	224.70	N1HBR/R	FTL	
Hopkinton	223.94	N1BHI/R	FTL	
Stoneham	446.725	N1NVK/R	PTL	

FTL=Full Time Linked PTL=Part Time Linked P=Autopatch

Happy New Year from the MMRA

MMRA Officers:

President:	Andy Morrison, N1BHI	508-481-3878	
Vice President:	Walter Ching, N1HBR	508-481-0994	
Secretary:	Frank Morrison, KB1FZ	508-443-6047	
Treasurer:	Ian MacLennon, AF1R	617-449-1227	
Clerk:	Al Williams, KA6BUV	508-369-0717	
Directors:	Tom Qualtieri, WB1GMA	617-329-9151	Al Kunian, KA1AL 872-2912 (office)
	Chris Conti, N1NVL	508-489-1426	Mike Ryan, KD1OA (unlisted)

Newsletter Editor: Bob Levine, KD1GG 508-485-7006

Important MMRA Club Information:

Membership Meetings: 3rd Tue of Sept, Nov, Jan, Mar, May at Campion Center, Weston at 7:30pm
Meeting Dates for 1993-94 Season: September 21, November 16, January 18, March 15, & May 17.

Board Meetings: 3rd Tue 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 VE Sessions: Sat. Sept 11, Sat. October 9, Sat. November 13, Sat. December 11 (all 9am at the Marlboro Public Library)
1994: Sat. Jan 8, Sat. Feb 12, Sat. March 12, Sat. April 9, Sat. May 14, Sat. June 11.
Contact Bob KD1GG (508) 485-7006 for information and reservations

MMRA Voice Mailbox (508) 489-2282.

Newsletter Information	September issue	November issue	January Issue	March Issue	May issue
Mailing Date	done!	done!	done!	March 8	May 10
Submission Deadline	done!	done!	done!	February 22	April 26

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.

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Lexington, MA 02173

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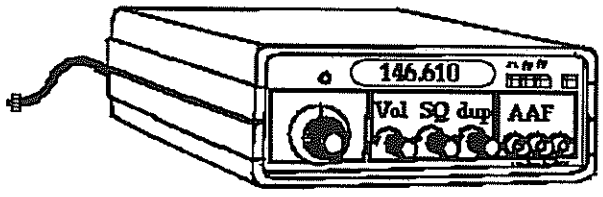

First Class Mail