

# NEDA Quarterly

Pardon the crummy looking banner but I didn't have a copy of SCAN font on the PC to reproduce the banner with - KA2DEW Feb 1999

Devoted to packet  
Networking in the  
North East

Volume 4

Issue #1

July 1, 1993

## Editor's Column

I've just learned that it is now possible to connect from Michigan to the Atlantic coast via terrestrial VHF/UHF packet radio. This shows the progress of network development. All we need to do now is get the links to work a little more reliably. We're doing pretty well so far. Here's the path from Detroit to Boston:

DET220 = Mo-town

LONDON = London Ontario

KTCHNR = Kitchener Ontario

TORONT = Toronto Ontario

BARRIE = Barrie Ontario

TORNTO = Toronto Ontario

COBURG = Coburg Ontario

CRTLND = Cortland NY

CHSTR = Chester Mass

NSHORE = Wenham Mass, not far from the Gloucester Fisherman statue. Remember the Gorton's TV commercial?

The reverse path should also work. Unfortunately I don't have maps for the southern Ontario and southeast Michigan areas but hopefully we will by next issue if the paths hold up.

Another great piece of news, punctuated by terrible news. For about two weeks we had a redundant link from Albany to Rochester, or from Montreal to Coburg, depending on how you look at it. The bad news is that just after the golden spike was driven into the last piece of track, KA2JXI's house burned down. Bad news. Roger runs his business out of the house too. Doubly bad. On the other hand, no-one was hurt. Roger and his wife Pat are staying at their summer cabin while the house is rebuilt.

If you look at the abbreviated map you'll see that only one connection may be missing. It's very close.

More news.. We finally have good maps of the area south of 42° latitude.

Check out the NJ, NYC+LI, southeast NY, CT and Cape Cod maps. There are many hams working for the cause that were previously not given any credit. Next issue we may have some maps into Philadelphia, south Jersey and points beyond. If you check the roster you'll see that there are 16 members in NJ alone, not to mention the other previously unmapped areas. I'm looking forward to seeing some additional dedicated point to point links to complement the excellent work that's already been done.

If you haven't seen the new NEDA Annual you should check your membership expiration date carefully (see your mailing label). If you find your membership expired, a hasty renewal using the form on page 52 will ensure you get a copy. Just because you receive this issue of the Quarterly does not necessarily mean your membership is current. This is in part to express our appreciation for everyone's patience when the last issue arrived late. We've extended a grace period for this issue by mailing it out to members who might have expired as long ago as Sept. 1992.

The Annual is 180 pages of good information. Even if you are already an expert at packet the Annual has excellent material that is very good for answering questions of newcomers. There's information in it for even the more experienced packeteer as well as the complete resource manuals for both versions of TheNET, 2.10 and X1-H. Check out the extensive glossary. There are over 300 entries.

As usual, if you have any improvements, comments, criticisms or new material for any NEDA publications please packet to NEDA @ WB2QBQ.ny attn. Editors.

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# Minutes of 1st Quarter Board of Directors Meeting

February 20, 1993

## Call to Order

Meeting opened at 1:33PM W1JFP presiding as meeting chairman. The following members were in attendance:

Jim	K1MEA
Don	N2IRZ
Bill	NX2P
Dave	WB2VXS
John	WB8PUF
Russ	WA1TLN
Tadd	KA2DEW
Burt	VE2BMQ
Bob	WB2QBQ
Dana	WA2WNI
Cal	W1JFP

## Secretary's report

K1MEA moved to accept the minutes as printed. Seconded by WB2QBQ passed.

## Treasurer's Report

### For the Quarter Ending 12/31/92

Beginning Balance 3823.35

Income 1178.21

Expenses (444.17)

Ending Balance 4557.39

W1JFP reviewed the ending balances for 1992. K1MEA moved to accept the finance report ending 12/31/92. WA2WNI seconded. Passed.

## Annual Election Results

WB2QBQ reported on the results of the annual election process. (See the list of officers on page 3). Due to an additional vacancy that was being filled, there was a leftover 1 year position on the board to be filled. The balloting process did not clarify which candidate would get either the 1 or 2 year position. WA2WNI offered to take the 2 year position if that would make things any easier to decide. WB2QBQ moved that WA2WNI's offer to serve the 2 year position be accepted. Seconded by K1MEA. Accepted. The list of officers is as follows

Cal Stiles, W1JFP	2 yr. Term
Burt Lang, VE2BMQ	2 yr. Term
Dana Jonas, WA2WNI	2 yr. Term
Rich Place, WB2JLR	1 yr. Term
Jim Wzorek, K1MEA	1 yr. Term
Bob Seger, WB2QBQ	1 yr. Term

## BBS Committee Report

K1MEA reported on a discussion with N2LSS regarding Paul's being willing to be the Chairperson of the BBS Committee. Jim also mentioned problems with G8BPQ matrix access that is being studied

by NTECH. Results will be published in future Quarterly.

A new version of AA4RE is in the works with extended binary features. WORLI is also working on a new version which is rumored to support CLOVER.

Inquiry was made if anyone understands about the problem with FBB systems duplicating messages. Not a lot known about this. [See article and Good Questions]

WA2WNI moved that N2LSS be appointed to BBS Chair. K1MEA seconded. Passed. Jim will contact Paul regarding this and continue to provide input to the committee

## Technical Committee

VE2BMQ reported that the NTECH committee was recommending KA2DEW be appointed to NTECH chairman. This was seconded by W1JFP. Passed. Burt reviewed the various recommendations which the committee came up with. (Look at the minutes of the Technical Committee Meeting elsewhere in this issue for details -Ed)

## HexiPus™ Project Report

WA2WNI moved to accept WA2TVE's report. WB2QBQ seconded. Passed. It was also decided that when supplies of the current Hexipus™ ran out, that NEDA would support the concept of independent vendors and suppliers providing an equivalent to this product.

## TCP/IP Committee

WZ2B had provided no information on progress being made to NTECH. To be addressed by new NTECH chairman.

## DxCluster Items

We had an interesting discussion....

## Editor's report

WA2WNI reported that the printer was working well. He requested that the board approve purchase of a backup toner cartridge. Dana reported that the current quarterly came out very well because of the use of the new resource. Dana also reported that he had appointed KA2DEW as Associate Editor seeing as how he was doing all the "dirty work" anyway. It was reported that Tadd was about to release the new NEDA Annual, which has some "major good stuff" in it. Dana also asked that each Board Member please provide at least 1 short (or long) article for each Quarterly.

WB2QBQ moved that a backup toner pack be approved as an expense. Seconded and passed.

# Technical Committee Meeting Summary February 20, 1993

Enfield, Connecticut

## Call to Order

The Meeting was called to order at 9:43am by acting chair Burt Lang VE2BMQ

The following people were in attendance:

Jim	K1MEA
Don	N2IRZ
Bill	NX2P
Dave	WB2VXS
John	WB8PUF
Russ	WA1TLN
Tadd	KA2DEW
Burt	VE2BMQ
Bob	WB2QBQ
Dana	WA2WNI
Cal	W1JFP

## Tiny 2 Mark 2 TNC

NX2P gave a brief overview of the new PacComm Mark 2 TNC which comes with 27512 EPROM with TNC PMS in one side and WA8DED HOST code in 2nd side. The TNC has a switch on the back to move between the two EPROM sections. It comes with a 10Mhz clock and uses CMOS parts drawing only about 35 mils of current. The clock module cannot be trimmed if you have a birdie as there is no longer an osc trimmer cap. There is an undocumented PC run to a spot on the board called JPR0M which will jumper pin 1. This can be useful for implementing X1 code. The suggested selling price for the new Mark 2 is about the same as the original Tiny 2.

## Map update help

WA2WNI passed out maps and asked for mapping update help. Dana pointed out the need for help in getting accurate info to the guys doing the mapping for the Quarterly.

## Time to live questions

W1JFP brought up a discussion of *time to live* which is currently set at 9. Cal suggested this number needs to be increased to something higher. The problem is that dogbones loose too much Q through the wire linked setups. This is perceived as a hindrance to the node ops at several of the larger node stack sites. The committee discussed this at length and decided on the following steps.

Recommendation #1: On a case by case basis the Q value should be *tried* at higher

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# NEDA Officers and Appointees

## Board of Directors:

Cal Stiles	W1JFP	@W1JFP.nh
Burt Lang	VE2BMQ	@VE2FKB.qc
Dana Jonas	WA2WNI	@WA2PVV.ny
Rich Place	WB2JLR	@WB2PSI.ny
Jim Wzorek	K1MEA	@K1MEA.ma
Bob Seger	WB2QBQ	@WB2QBQ.ny

## Appointees:

Chairman:	Cal Stiles	W1JFP
Vice Chair:	Rich Place	WB2JLR
Treasurer:	Bob Seger	WB2QBQ
Documents:	Bob Seger	WB2QBQ
Membership:	John Burningham	WB8PUF
Office:	Don Rotolo	N2IRZ
Archives:	Don Rotolo	N2IRZ
Maps:	Tadd Torborg	KA2DEW
Rec Secretary:	Dana Jonas	WA2WNI
NTECH/NBOD Dist:	Bob Seger	WB2QBQ
Editor:	Tadd Torborg	KA2DEW

## Board Member Alternates:

W1JFP	Ⓞ	Russ McAllister	WA1TLN
VE2BMQ	Ⓞ	Don Rotolo	N2IRZ
WA2WNI	Ⓞ	Bill Slack	NX2P
WB2JLR	Ⓞ	John Burningham	WB8PUF
K1MEA	Ⓞ	Dave Packard	K1YHR
WB2QBQ	Ⓞ	Tadd Torborg	KA2DEW

## Technical Committee:

chairman: Tadd Torborg KA2DEW @NX2P.nj

## Network Volunteer Regional Contacts

South East Ontario	Eric Meth	VE3EI @VE3NUJ
Montreal area	Burt Lang	VE2BMQ @VE2FKB.qc
Northern New York	Steve Long	KB2DAJ @WB2TUP
Rochester NY area	Mark Oliver	NM2J @WB2PSI
Central Eastern NY	Howard Cohen	WA2TVE @WA2TVE
Central Southern NY	Chris Perrine	KB2FAF @KB2HKI
Northern Tier PA		
+ Southern Tier NY	Dave Schmarder	N2DS @WF2A
Eastern New York	Dana Jonas	WA2WNI @WA2PVV
ENY Hudson Valley	Eric Svalland	N2JHJ @WA2PVV
Western Mass		
+ Northern Conn	Jim Wzorek	K1MEA @K1MEA
New Hampshire		
+ Eastern Mass	Linds Collins	NR1N @WA1WOK
New Jersey	Tadd Torborg	KA2DEW @NX2P

## BBS Committee:

chairman:	Paul Straney	N2LSS
	Jim Wzorek	K1MEA
	Herb Salls	WB1DSW

## NEDA Emergency Services Advisory Committee

cochair:	Dana Jonas	WA2WNI
cochair:	Cal Calvito	WA1WOK

## HexiPus™ Project Committee

chairman:	Howie Cohen	WA2TVE
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# Not a Lost Cause

Hi. NEDA has had some major appointment changes. Most of this is good news. The bad news is that before the changes took place we lost some time and probably some members. I'm sorry and mortified that this could take place. Hopefully you will find it in yourself to forgive and perhaps to volunteer to help put us back together. What we need more than anything else is enthusiasm and communications (i.e. talk to people).

The defects in the club that were most pronounced include:

- we haven't been getting a newsletter out every 3 months as planned;
- some of our board meetings in the past year didn't make quorum (although we had proper make-up meetings to take care of business)
- club correspondence was not handled promptly
- membership renewal reminders were not sent out
- the Annual has not been updated regularly as it should.

To fix this the club has accepted more volunteers to fulfill newly created offices. We now have an office manager whose job is to distribute incoming mail to the appropriate people, to make sure that replies are timely and that no mail, incoming or outgoing, gets lost. We now have a separate documentation manager position to make club documents available for flea markets or other promotion activities. We have a new membership manager. And... I've volunteered to be editor again.

Dana, WA2WNI, did lots of the work to get this issue out but didn't quite get it all together before family and job commitments caused major delays. I'm finishing this issue and zipping it out the door as soon as possible. Some events in the past few weeks are not documented in this issue and will be handled in the next issue. Most of the events that occurred in later May and June are not reported here. Some map changes and corrections are not shown. Please don't panic. The next issue will be out as soon as I can get it together. I'm going to try real hard to get four issues out this year.

## Board Meeting June 5

On June 5th there was a NEDA board meeting in Canandaigua NY. Attendees came from NJ, Cape Cod, NH, Mass, Quebec and NY state. The minutes of that meeting will be in the next issue. A packet announcement was made of the meeting in advance so all of you who are voting members at least had the announcement. I'm sorry that we didn't get the minutes of the February meeting to you all before this meeting. I'll be on top of this and we should be back on schedule by the August board meeting which will be held in Northeast New Jersey on Saturday, August 28th.

—Tadd Torborg, KA2DEW

—NEDA Editor, as of June 5th

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## Local Packet Meeting Announcements

This column lists clubs and special interest groups that meet to discuss packet radio or aspects of packet radio. Please send this information to me as early as possible or as late as necessary. Obviously it would be better for the Quarterly if meetings were planned well in advance or regularly scheduled. The purpose of listing them in the Quarterly is not because all of your people should see it here. I hope that your meetings are well publicized via packet BBSs, DxClusters and at general ham radio club meetings.

### **MAPRA, VT/NH border**

The Mt. Ascutney Packet Radio Association meets every other month. The meetings dates are set at the previous meeting but they are always held on Sunday and usually in Newport, New Hampshire. Contact N1CB @ WA1WOK or at his PMS N1CB-5 from the VNH node for more information.

### **DOERS North East NY and Northern VT**

The Digital Operators Emergency Radio Service meets every Sunday morning at 09:00 local time at the QTH of WA2JPM in Morrisonville, NY. Talk-in is on 147.15+ and 224.02-.

DOERS may be contacted at the following address:  
P.O. Box 600  
Morrisonville, NY 12962  
(518) 563-6851 Chuck KD2AJ

### **SYRPUG, Central NY**

SYRacuse Packet User Group meets every other Sunday morning at 9PM at the Fairway Restaurant at the Camillus Mall in Camillus NY. SYRPUG is sponsored by Camillus Parks and Recreation. The club has packet classes lasting 6 weeks and are held twice a year.

Contact person is  
Dave Brooks KA2VEE @ KB2DIO.ny  
315-488-8866  
107 Kimberly Drive West  
Syracuse NY 13219

### **RATS North East NJ**

The Radio Amateur Telecommunications Society is not a packet radio club although their meetings tend to be more about packet radio than anything else. RATS members promote packet, amateur radio, and software. Members of the club have created software including PacketTracker (channel monitoring for the Mac), ROSEswitch (TNC based networking), ROSEserver/PRMBS (mail box) and RMAILER (BBS nonspecific distribution list handler).

RATS meets at 8PM on the second Thursday of the month at the Wendy's in Little Falls NJ on Rt 46 west bound, just west of the Rt 3 and Rt 46 junction. Most gather at around 7PM for dinner and conversation.

Contact RATS by packet.  
Send to ASKRAT @ KB4CYC.nj  
or by mail  
Box 93, Park Ridge NJ 07656

### **CCPG, South East MA**

The Cape Cod Packet Group meets about once a month. The meeting dates are decided a couple of weeks in advance and announced at the KC1UA BBS, KQ1K BBS, KC1KM BBS, and N1HOQ BBS. The messages are addressed to USERS @ CCLAN. Or call Scott, KC1UA 508-539-1824. Scott is acting as secretary for the group. The meetings are usually held at KQ1K's QTH in Dennis MA.

### **Ottawa packet group**

This group meets the last Thursday of every second month at the Museum of Science and Technology in the east end of Ottawa at 7:30PM.

Contact: Barry by packet at ve3jf@ve3jf or by phone 613-820-3207.

### **Cornwall Packet Group, extreme eastern Ontario + St. Lawrence Seaway area of NY**

This newly formed group in the Malone, Massena NY/Cornwall Ontario area has no meeting schedule yet but meets regularly on the VE3PGC repeater. Contact Eric, VE3EI @ VE3NUU for more information. Give a call on the repeater. Many of the locals monitor, or connect to some of the services shown on the Eastern Ontario map.

### **Other Meetings?**

If you don't have a group in your area you might want to start one. If your group is successful enough to overflow your living room then you've obviously done a good thing! Even if your meetings aren't scheduled far enough in advance, or at the time of a Quarterly release I'd like to print contact info on how someone in your area can find out about your meetings.

Send your info to  
NEDA @ WB2QBQ  
attn. Quarterly  
—NEDA Editor

## Syracuse Packet User's Group SYRPUG

On Sunday March 21 1993 the first official meeting of the Syracuse Packet User's Group (SYRPUG) took place in Camillus NY. Dave Brooks KA2VEE presided and 10 local packet enthusiasts joined in. So far, SYRPUG is an informal organization affiliated with the Camillus Dept. of Parks and Recreation. A lively discussion ensued regarding the need for more NEDAlike network user ports in the Syracuse area and the need for further redundant network links to adjacent areas. It was decided that SYRPUG would be a grass roots organization emphasizing off the shelf technology and supporting NEDA networking principals.

Several of those in attendance volunteered to host network node sites. Anyone in the Central NY region who is interested in packet networking may contact Dave KA2VEE at 315-488-8866.

The NEWARK ↔ PENVL link is back up! Irv WA2SOK finally got through the snow to find the receiver squelch had been fully tightened at the NEWARK site. Steve, KB2DAJ, and Dave, K1YHR, continue to work on a PENVL ↔ WATERT dedicated link. Recently Mark, NM2J, has completed modifications on a 6 meter radio for Dave's end of the link. We hope this radio will make the difference. [Itdid!]

BBSDIO should soon be on a dedicated link to PENVL thanks to the generous donation of a pair of 220 radios by Jim, K1MEA. Thanks Jim! The exact configuration of the link is not yet settled as of the date of this report.

—Dave K1YHR and Chuck  
KB2DIO



### **Editor from page 1**

Thanks to all of you who have been doing excellent work for your communities and for your network. Keep up the excellent work.

—Dana, WA2WNI  
NEDA Editor

# Cape Cod Packet Group News

April, 1993

With the coming of spring, all kinds of new things are sprouting out of the earth, including 50' of Rohn 35 at KC1UA in Forestdale. This should greatly enhance the SWL node's coverage of the Cape and S.E. Mass, and will hopefully provide a platform for a proposed link off-cape to the north. We're hoping to have the tower up in the air in early April if all goes well. The hole for the base is dug, the guy wire plan has been staked out, and logistics and mother nature's cooperation are the only pending factors.

## Cape Cod local network update

Our 9600 baud backbone on 430 MHz continues to work very well. The link to DENNIS:KQ1K-7 from SWL:KC1UA-7 remains at 1200 baud for the moment. Remaining links between FAL:WA1GPO-7, CAPCOD:WA1YKN-7, and SWL:KC1UA-7 are at 9600 baud. We have the capability to go to 19,200 baud, but will refrain from doing so until other links are capable. Throughput has been extremely good, but the user must keep in mind that info coming into the network from a 1200 baud link will be slower, despite the fact the final step may be coming to the node you're connected to at 9600 baud. However, connecting to stations through the 9600 baud portion of the link will be just about as fast as being directly connected to that station.

Jim/KC1KM, who is located in Harwichport, has recently returned to the Cape after retiring from the Navy, and has expressed an interest in putting a Cape Cod LAN node on line. His location would enhance lower cape access into the network. Stay tuned for further developments. A 9600 baud link from his location either to SWL or CAPCOD would be the likely course of action.

## Links to north networks and beyond

Currently, there is only one link off of Cape Cod. This is into the Rhode Island area to RI:K1AD. Due to heavy local usage in the Providence area the throughput has from time to time been less than adequate. It has become apparent that a second link off cape has become a necessity. We are planning some discussions with some off cape amateurs regarding the possibility of establishing a link north. In the next newsletter we will hopefully be able to bring you some good news regarding this. If things roll along quickly we'll certainly advise you as soon as it happens. The RI link is functioning fine, but may be slow from time to time. There

are a few alternatives to try if you get the chance, that are kind of neat!

Connect to the FAL:WA1GPO-7 node on 145.010, or thru the Cape Cod LAN and do an MHEARD list for port 1

### MH 1

If you see a recent listing for N1CSI-1, try connecting to it on FAL's port 1

### C 1 N1CSI-1

This will initiate a "Level 2" connect between the two nodes and get you quickly into the Boston area. FAL and N1CSI-1 (AKA MBOS1) seem to have a good path to one another most of the time. (More on "Level 2, 3, and 4 connects next month). From MBOS1: N1CSI-1, you can quickly go through the network to access New York State, New Hampshire, parts of Maine and Vermont, as well as stations throughout Massachusetts. If you don't see N1CSI-1 as a recent entry on FAL's MHEARD list, though, don't bother. *Keep in mind that 145.01Mhz is a user frequency. This method of node-hopping across 2 meters should probably be kept at a minimum during peak user hours.* Northern network users of course could reverse the procedure and connect to WA1GPO-7 from MBOS1 to access the Cape Cod network.

Would you like to take a packet trip to London? Once again, connect to the FAL node and do an MHEARD list for port 1 (MH 1). If you see a recent listing from W1OPS-1, try connecting to it on port 1 of FAL (C 1 W1OPS-1). Once connected to this node, which is named SECT for Southeast Connecticut, connect to the NYHUB node (C NYHUB). From NYHUB, connect to LONNY. Your packets are now being sent via an underwater fiber-optic link [read: commercial/non-amateur link] between the NBC studios in New York City and London, at a speed of 9600 baud. When you get back the "Connected to LONNY" message, you've made it to London, old chap! If you're not up for a trip to London, you can leave NYHUB for points east, south or west, covering Long Island and into New Jersey. Our hopes are to eventually be able to offer a protected link into Long Island New York and onwards to the New York City area. As it is now, SECT:W1OPS-1 will probably only be around during good conditions and band openings, but it is fun to try it when it can be done. There's so much more to packet than just checking into the local BBS! Again, it's best to do this stuff [connecting via non HTS free links] during off-peak time, for the benefit of all on the frequency!

## Condolences to KQ1K

All of us in the Cape Cod Packet Group pass along our condolences and sympathies to Bob/KQ1K, whose mother recently passed away. Our thoughts are with you Bob.

## WQ10 weather node

The WQ10 WeatherNode, located on 145.070 MHz, and also accessible through CAPCOD:WA1YKN-7 port 1, was a huge success during the "Blizzard of '93". It was used by and large by the Falmouth Civil Defense station, W1HQB, Harwich CD station WC1AAZ, and Plymouth CD station N1HMJ, and several others. Frank stood ready to switch to emergency power in the event of a power failure which mercifully did not come despite the storm's ferocity.

## Speaking of Civil Defense

Shawn/N1HOQ's Civil Defense Cluster Node CDCN2C provided a solid link off-Cape into the Plymouth area to Ka-Node CDCN2B, and on to WC1CAA at MEMA in Bridgewater. Enhancement of this operation and integration into the Cape Cod LAN is forthcoming. Shawn's dedication to Civil Defense will make this a top notch operation.

## Questions to Cape Code P.G.

If you have any questions, comments, gripes, etc. about the Cape Cod Packet Group or Cape Cod LAN, feel free to drop a note to either Mitch/WA1YKN@KQ1K, or Scott/KC1UA@KC1UA. We'll respond as soon as possible. For folks in the local area, give us a call on 146.565 simplex. You're more than likely to find one or all of us there during the evening hours.

Think Spring! It's out there somewhere! See you next month. 73.

—Respectfully submitted for the  
Cape Cod Packet Group by Scott/  
KC1UA.



The magazine of the Mount Ascutney Packet Radio Association. Material by the members of MAPRA.

Mount Ascutney (VNH node) is in the vicinity of the New Hampshire and Vermont border about 45 miles east of Rutland and 80 miles west of Concord NH. Meetings are held on Sundays about every other month in Newport NH. Contact N1CB @ WA1WOK or on his PMS N1CB-5 from the VNH node.

## Bulletin Board BBSET

Edmond S. Cooley, N1GMC

To address the needs of a large and certainly vocal ham community in the Upper Valley area of New Hampshire and Vermont, the Mount Ascutney Packet Radio Association (MAPRA) proposed installation of a local bulletin board. Many hams had been complaining of slow network response times from having to connect down-state to either Concord or Marlow, and other users of the backbone where complaining about the BBS users! Thus, Cal Stiles, W1JFP, and Ted Cooley, N1GMC, met to discuss installing a BBS at Dartmouth College. Equipment was scrounged, and the board was put into service in the Fall of 1992.

The purposes of the new bulletin board were to:

1. Provide information access locally to a reasonably large ham community.

2. Support off-hour forwarding of bulletins, traffic, and personal messages from board to board.

3. Support off-hour automatic forwarding of personal messages to individual personal mailboxes.

4. Put the BBS in a location where it was connected directly into the NEDA network (1 less radio hop) and where the board could be maintained easily!

After some experimentation and much discussion by the MAPRA group, it was decided that BBSET would be an "almost full service" board. By this I mean that all bulletins, traffic or personal messages can be sent by a user on BBSET, and all traffic and personal messages received will be accepted. Regarding

bulletins, only those of regional or general radio interest were handled: i.e., NHBBS, NEBBS, and ARRL bulletins.

BBSET has been well received by the local users. It is now stable (automatically reboots on power failure or software error) and reliable. It is however, slow. The computer scrounged to run the BBS code is a 4.77MHz PC clone! Yes, you did read that right. Needless to say, the old machine has all it can do to just keep up with the software. We will, therefore, graciously accept any and all donations of faster equipment!

—Ed

## Life With Packet

by Cal Stiles, W1JFP

Back in 1987 I found myself remodeling my parents home in preparation for converting it to a rental unit. Extensive modifications were required which included the replacement of much of the plumbing and the installation of a forced hot water heating system.

Being somewhat of a do-it-yourself home mechanic, I personally accomplished much of the work myself. As this property is 90 miles from my home, I decided to take up temporary residence at the site, during the week.

Of course I needed something for entertainment, so I installed a temporary packet station, with a dumb terminal, TNC, and radio so that I could stay in contact with my usual circle of friends.

When I arrived home one week end, (my real home), I found the following file on my machine. I won't mention any names regarding the author, but the log file indicated it had been left by WA1TLN.

### News Flash

Strafford, NH (UPS): Government agents yesterday intercepted strange radio signals emanating from what was thought to be an abandoned farm near Center Strafford. When

they moved in, they discovered a complicated mass of electronic equipment set up in the kitchen of the old farmhouse.

"I never saw anything like it", said Jake Gumshoe, an agent from Boston. "There were wires everywhere." The equipment was on and seemed to be sending secret messages all by itself.

At first the agents did not see anyone in the house, but then they heard drilling sounds coming from upstairs. Upon investigating, they found a male subject installing a massive antenna system in the walls using copper tubing.

"He was going to recover the walls so the antenna would be hidden", said Gumshoe, "With all that copper tubing you could talk to anybody!"

The subject, brandishing a flaming torch and a heavy roll of lead, tried to explain the antennas by describing them as "water pipes".

"He even put dummy valves and faucets on them", said an amazed Gumshoe. "It even looked like real plumbing".

Another agent, stepping through a hole that the subject had made in the wall, came up behind him and, after a brief struggle, disarmed the subject and stamped out a fire

caused when the subject dropped the torch in a pile of wood chips.

"It's going to take awhile to find out who he really is", said Gumshoe, "He had a very realistic set of I.D.'s - driver's license, credit cards, and many other forms of 'identification'".

"He even said he was licensed by the FCC to operate the equipment and showed us a permit for it, but it was the same alias as all his other papers!"

While the agents were escorting the subject away, he made a lunge for the radio equipment and said something like, "I've got to disconnect!" "He almost got to it", said agent Gumshoe, "but we tackled him..we figured he was going to unplug stuff to keep us from seeing the information that was scrolling up the screen." "We plan to leave it on to get more evidence, which will probably lead to further arrests."

The agents impounded a large cache of copper antenna pipes and fittings. The subject was taken away for further questioning.

—Cal

Mount Ascutney (VNH:WA1TLN-1 node) is in the vicinity of the New Hampshire Vermont border about 45 miles east of Rutland, VT, and 80 miles west of Concord, NH. Meetings are held every other month in Newport, NH. Contact W1RFP@W1ET or at his PMS W1RFP-5 from the HANOVR node.

**Officers:**

President, Cal Stiles, W1JFP  
Vice President, Rick Cook, N1KQB  
Secretary/Treasurer, "Bunny" Pratt, W1RFP  
Trustee, Russ McAllister, WA1TLN

Other nodes owned and operated by MAPRA, are HANOVR:W1ET, located at the Thayer School of Engineering, Dartmouth College, Hanover NH, and a transparent relay node located between Ascutney and Concord. A BBS is also located at the Hanover node.

## Software Sources

Looking for the latest in ham packet software? Here are the landline numbers for 4 BBS ops and packet ops who keep lots of good stuff on tap!

SALT BBS  
KQ1K@KQ1K  
508-385-3427

Vectorboard BBS  
716-544-1863  
or 716-544-2645  
300 through 9600 baud  
including V.32 + V.42.  
Operated by RFCARC.

AA6ED BBS  
AA6ED @ AA6ED 206-271-4657

Highland BBS  
N2JYG @WA0PTV.ny  
300-38400 baud 716-761-6460

## FBB Bug?

I have just upgraded to FBBS 515 and observed a rather interesting occurrence during a forwarding session. While forwarding with an FBB515 system in compressed mode, and being forwarded to by an REBBS BBS in standard mode on different ports, both stations managed to send me the same bulletin simultaneously. This happened several times during the session. The result, the same bulletin with the *same* BID appears twice on my BBS. This happened several times during the session. I wonder if any body else has seen this happening and if there is a cure. The obvious one is to keep the same two BBS from forwarding simultaneously! Is there a fail safe for this? or can I look forward to purging a dozen or so dupes on a daily basis?? Gentlepersons, your input?

—Michael KA2MSL.ny

## G8BPQ Interface to Hexipus™

*The following text borrowed from BPQ v4.06 release docs*

The driver code for linking to a NET/ROM diode matrix has been fixed. I had misunderstood the system, and used the wrong polarity of signals. So inverters were required to connect the PC to the matrix. Now a simple 5 wire cable with one pull-up resistor can be used to link a diode matrix port intended for a TNC2 to the PC. Remember that to operate with a matrix, you must set FULLDUP=0 in BPQCFG.TXT. This time I have tested it pretty thoroughly!

—John, G8BPQ

*The following text converted by KA2DEW from information supplied in BPQ v4.06 release docs*

PC25 pin	PC9 pin	Hexipus
2	3	2
3	2	3
4	7	8
5	8	7
10K R 7	5	5
	20	

## Lose Some, Win Some? 220 Band

**ARRL bulletin 24 ARLB024**  
**From arrl headquarters**  
**Newington CT March 5, 1993**  
**To all radio amateurs**  
**SB QST ARL ARLB024**

### ARLB024 fcc proposes new band

In response to a request by the ARRL, the FCC has proposed in et docket 93-40 to establish a secondary allocation for the amateur service in the 219-220 mhz band to be used for amateur auxiliary station (point-to-point) packet backbone networks and other amateur point-to-point fixed communications. The commission also proposed operating limits and other measures to ensure that such amateur operations do not cause interference to primary operations in and adjacent to the 219-220 mhz band.

The FCC noted that these systems can be used in times of emergency when other communications facilities are out-of-

service or overloaded to efficiently carry a large volume of messages, and that amateurs plan to use wide band backbone packet radio networks to provide intercity links of their local packet radio systems.

In its petition, ARRL asked the commission to authorize access by amateurs on a secondary basis to the 216-220 mhz band for amateur wide band packet networks and other point-to-point fixed communications services. ARRL argued that crowded conditions on the existing bands, particularly in urban areas, prevented completion of a nationwide backbone packet network following the loss of access to the 220-222 mhz band.

The commission is proposing to authorize amateur wide band packet point-to-point communications and other point-to-point fixed communications on a secondary basis in the 219-220 mhz band. The commission said it believes this will foster technological experimentation and inno-

vation, particularly with higher data rates, and facilitate the construction of a nationwide packet data backbone network. The commission expects that this action will relieve congestion in the 222-225 mhz band in certain geographic areas. The commission said the amateurs' ability to perform interference analysis, the directional nature of the proposed services, and the secondary status of this proposed allocation should adequately protect all primary and existing secondary operations in and adjacent to the 219-220 mhz band.

The comment deadline on the FCC proposal will be announced later, when the complete text of the notice of proposed rule making is available.



# Good Questions

*This is a regular column run in the NEDA Quarterly where people submit questions, both simple and complex, and the NEDA Board Of Directors runs around in circles looking for an answer that is correct, clear, and to the point. Usually the simplest questions are the ones that take the most work to answer! Some of the questions are submitted with answers. This is also appreciated. The board and editorial staff reserve the right to edit your answers if submitted to this column. Editorial comments may also be submitted if you prefer not to have your opinions edited. Submit any contributions to:*

*NEDA@WB2QBQ.ny  
attn: Quarterly*

*Thanks to all who have written for their support!*

## Question?

Why are NEDA people yelling at me for putting my BBS on the same 2m frequency as the local node?

## Answer:

When a node offers a two meter access port that is on a quiet frequency in it's area, i.e. a user LAN, what you have is a very nice place for users to access a network. If a server or node is exchanging data with that same network on a busy 2m frequency and the sysop of that service discovers that exchanging data on the LAN frequency works better for his server or node, he may be tempted to move there. He may also move to the LAN frequency so that stations that operate into the network via the LAN can also work his service. This encourages other server and node ops to do the same. This would be simple and cheap, but it would be bad. It is important to remember that operating a service to others is expensive. It's always expensive in time and usually expensive in dollars. Do it right. Otherwise, why bother?

If you hook up your server to the network via a dedicated link you will have a more efficient station that is a benefit to the entire network and not a detriment to your local users. Your users can then get to your server via the local network node. If the local node isn't close enough or in the right location then add a port to your server and let the users access you, and the network, on a new two meter frequency.

If you run your server on the same two meter frequency as another server or node you are making the bold statement that your equipment is far more impor-

tant than the equipment whose users you are definitely going to impair.

It's actually worse than that. If you operate your server such that it's two meter access is on the same frequency as an existing node, and if nobody makes a stink about it, then you are setting a precedent that this is the correct mode of operation. Well, it's not. Do it right! The packet community can always use and appreciate more and better services. We've never seen *too many* well operated services.

## Question:

How come bulletin messages sometimes appear several times as duplicates on a BBS?

## Answer:

If two different mailboxes are forwarding into a single mailbox at one time the single mailbox will not reject the second copy of the message because the first copy hasn't ended yet and the BID for the message isn't saved in to the BID file until the message is complete. Thus the second isn't rejected. The receiving BBS will generate it's own new BID for the second copy of the message. This typically happens with older versions of WORLI. New versions fix this. This might also be a problem with new BBS programs that haven't taken *everything* into account. [Answer by Scott, N7FSP]

## Question:

When typing a message to a BBS across the network I got far enough ahead that the network was getting backed up on my end. The TNC had a whole bunch of packets backed up. My TNC was retrying over and over but I know that the path was good. What's going on and how do I stop it?

## Answer:

The TheNET nodes can only stack up so many messages before they have to tell your TNC to stop sending. This is called flow control. The message that the node sends to your TNC is called a choke. Your TNC is supposed to stop sending until the node tells it to go ahead and continue. Some TNCs don't handle this right, ever. Others have a command called FIRmnr which is a hack to fix the problem. On your TNC, type FIR <return>. If it says "eh?" then you don't have this feature. If it says FIR off, then say FIR ON. This feature makes the TNC handle the choke message correctly.

## Question:

My university has Unix workstations with Internet access. I am thinking of

adding a wormhole link between a local node that is backboned into the network, to another node 300 miles away. What are the implications of this?

## Answer:

There are no FCC implications of this. The FCC doesn't care if we patch radio over the telephone. So long as the stations on both ends are hams this is not a problem. In your case this will be true.

The technical aspects are also pretty easy. There are already several stations who have node via Internet to node links up. K2CC in Potsdam NY is an example.

There are other implications. A wormhole will probably work better than an off-the-shelf 1993 style packet network between those two points. Once your wormhole up, considering amateur radio history, it is unlikely that an amateur radio packet network will come into existence to connect those two points together. This would be too bad. Wormholes don't offer the educational or emergency preparedness benefits of a amateur packet radio network. It is also possible that the amateur network might eventually get to be better than the Internet connection through improvements in the state of the art of off-the-shelf equipment. This too would be unlikely if the Internet operation was in place.

It doesn't take much more than drive, enthusiasm and good public relations to make a terrestrial amateur radio packet network come together between continental North American cities. Using non-amateur equipment to perform this task should be considered cheating. It should also be possible to arrange point to point 14Mhz links between continents. Think about it.

—That Answer Guy





# DRSI Announces New TNCs

Digital Radio Systems Inc has recently produced two new TNCs. The one pictured below is the DPK-9600. The other, which looks almost identical, is the DPK-2. Here is the scoop as read from the DRSI catalog.

- single board devices that are TNC2 compatible and will therefore run KISS, TheNET and ROSE
- chassis as shown in the picture, 1.25" high x 5" wide x 6.25" deep
- built in message system and TAPR 1.1.8 compatible software
- includes PaKet PC software that acts as a terminal emulator
- 9-pin DB9 RS-232 connector (opposite sex from PacComm's)
- modem disconnect header
- 1200 baud crystal controlled modem (no adjustments)
- connectors included
- 5 pin DIN radio connector (same as MFJ and PacComm)
- Available for below retail price from Ham Radio Outlet @800-444-0047 NH and IGE, 313-846-0158.

## ***DPK-2 features***

- 40ma current draw at 12 vdc
- 300 to 19.2Kbaud async serial speed (to computer or matrix)

- Suggested retail price is \$114.95

## ***DPK-9600 features***

- 3 speed modem, 4800, 9600 or 19.2Kbauds
- 50ma current draw at 12 vdc
- up to 38.4kbaud async serial speed (to computer or matrix)
- 10Mhz clock speed standard
- K9NG and G3RUH compatible
- Has reduced bandwidth mode
- Simple one board design using single chip CMOS FSK modem and PLD chip.
- Suggested retail price is \$249.95

DRSI may be lending some of the staff a couple of units for review in which case we'll get back to you with a follow-up article.

—**KA2DEW @ NX2P.nj**  
**of the NEDA Technical Committee**

## Multi-way Wireline Node/Switch Coupler

The NX2P wireline adapter allows two or more co-located TNCs to communicate with each other via their radio ports at high speed, by bypassing their modems. This is useful for connecting one or more user station directly to a node or switch TNC without going over the radio. This may also be used to couple multiple diode matrix boards together or to tie a BBS (that uses a KISS TNC for instance) into a matrix, via a dedicated node or switch TNC on the matrix. This wireline adapter method will work with 2, 3 or even up to 6 TNCs. You could have a BBS using KISS, a NOS node, using KISS, a user TNC and three diode matrices, all wired together and all running at wireline speeds, using very few components. This far outshines the circuit that KA2DEW came up with in 1989.

Construct the circuit shown in the diagram. It is connected to the 20 pin Modem disconnect header inside the TNC. The transistor can be just about any PNP type, the resistor is a 1/4 watt with the value not critical, and the diode is a plain-vanilla 1N914 or equivalent. Build the circuit either on a 20 position modem disconnect socket or using a 10-pin SIP socket. There's not much room (about 1/

2") between the PC board and the TNC's case so the transistor will have to be bent over.

The three wires (the third is TNC ground, available from pin 15 of the modem disconnect header in the Tiny-2) should be long enough to exit the TNC case via the TTL connector hole. Put the connector of your choice on the end, so you can remove the TNC from the wireline if necessary.

The wireline itself is simple: just connect all of the wires from pin 17 together, all of the wires from pin 1 together, and all of the grounds together. Naturally, you'll use a connector that mates with whatever you used on the TNC.

### The way this works:

Pin 17 is RxData and Pin 19 is TxData. The TNC is cranking out flags (on/off/on/off...) on the TxData line all of the time. The transistor, when off, keeps the TxData from getting to the RxData. Pin 1 is carrier detect. Normally it floats high, around 5 volts. Pin 5 is PTT and it normally is also at 5v. When the TNC goes to transmit it pulls PTT low, dragging it's own pin 1 low through the diode, and thus dragging all of the other TNCs' pin 1 low.

This TNC's PTT light will turn on, as well as all of the DCD lights. Since pin 5 is low, only on this TNC, the base of the transistor is pulled down, through the resistor, opening a path for TxData to get out to pin 17 which is then connected to all of the other TNCs. (actually it's magic, we made all this up).

—Article by N2IRZ and KA2DEW.

Idea and design by NX2P.

First published in "By Any Other Name", the magazine of the Radio Amateur Telecommunications Society (RATS)

Board kits with all parts, including plugs which attach to the top of an existing modem disconnect header (included with TNC or you supply) are available for \$3.00 per TNC and \$1.00 for a gizmo that serves as the common junction point between up to 6 TNCs.

Amateur Networking Supply  
POBox 219  
Montvale NJ 07645

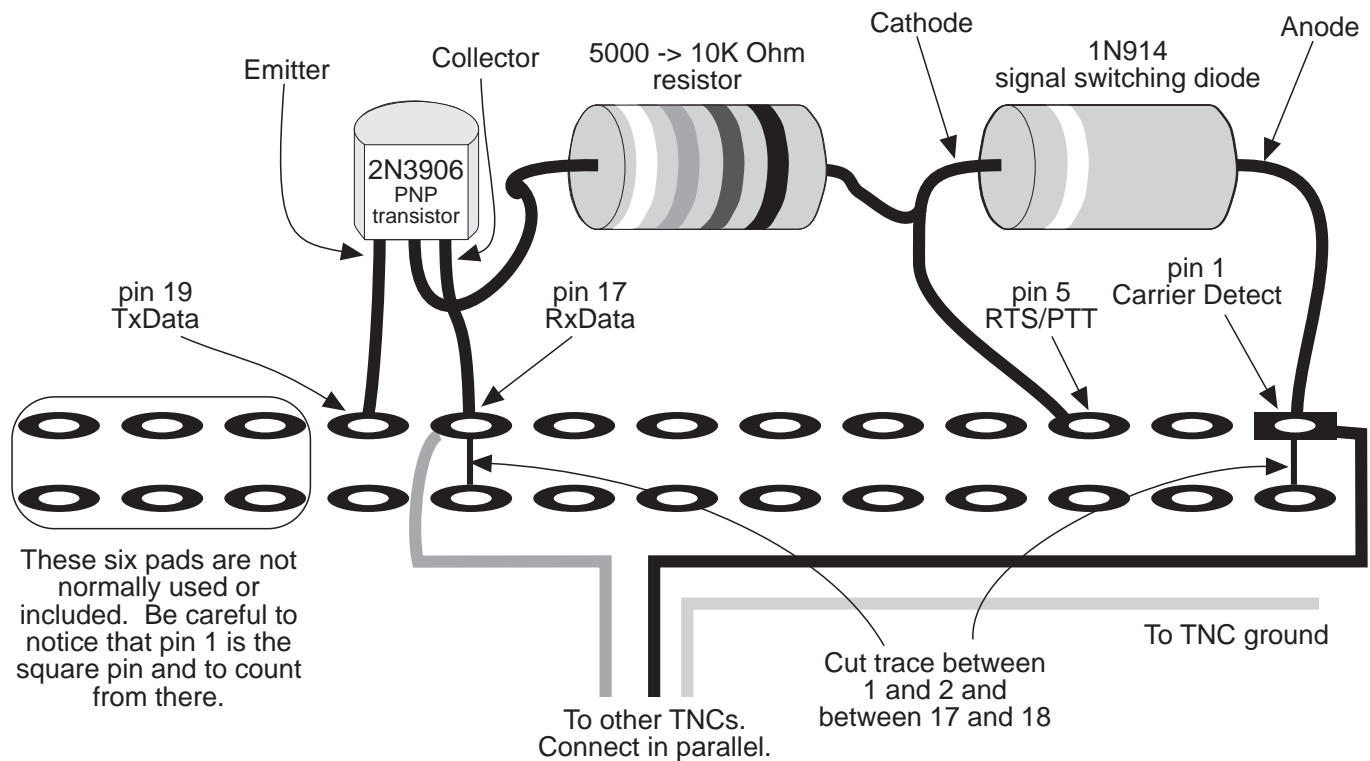


Illustration of wireline link circuit. The drawing shows one TNC end of the system attached to the modem disconnect header. Replicate this circuit for each TNC.

# HAPN-T 4800 BPS MODEM in PacComm Tiny-2 Mk2

## Installation Instructions

The following instructions detail the installation of a HAPN-T 4800 bps modem into the new PacComm Tiny-2 MK2 TNC to give a package that is clean (with no hanging wires out the back) and able to switch speeds between 1200 and 4800 bps by means of a front or rear panel switch or in the case of a TheNET node by remote control.

### ***On the HAPN-T board, make the following modifications:***

1. Drill the extra 6 holes for the new 26 pin header socket according to the directions in the revised HAPN-T instruction sheets section 11 on page 5 (If you do not have a section 11 on page 5 then you have the older instruction sheets - just drill the extra 2 rows of 3 holes using a piece of perf board as a drill guide if necessary to maintain the proper spacing). A trace from J103 pin 5 will be cut in this process - do not worry, it is not used in the modified board and should be scraped away in the area of the header pin.
  2. Install the 26 pin header socket (or a short2x3 pin socket if the 20 pin socket is already installed) and the wire the extra pins as follows using short pieces of small hookup or wirewrap wire:  
Pin 21 to J102 pin 1  
pin 22 to the via hole between U1 and C28 that was connected to J103 pin 5.  
pin 24 to J103 pin 4.  
pin 25 to pin 15 of the modem header (J4).  
pin 26 to the +12 terminal hole in the corner.
  3. Put a shorting jumper wire between the 2 pins at J105 (speed select). Leave the header in place and jumper it under the board. (note: the header on J105 should be a right angle type to keep the board profile low).
  4. Jumper U6 (74HC132) pin 2 to pin 13. This makes DCD work at both speeds.
  5. Solder a wire between J102 pin 5 and J4 (modem header) pin 1. This makes HAPN DCD work in place of the TCM3105 DCD on the Tiny-2.
  6. Solder loops of bare wire as test points on the end of R9 nearest U3 (TP4) and on pin 6 of U6 (data out test point).
  7. Install a 2N3904 transistor in the 3 holes in-line along the edge of the board near J105. (collector end towards J105 - case flat side towards center of board).
  8. Install 47K resistor in the position beside R31.
  9. Install a 5 inch length of hook-up wire in the hole connected to the end of the 47K resistor nearest the 1N5231B. These last 3 mods allow the speed to be remotely switched by applying a logic high to this wire. It can be connected to pin 1 of P4 (DE9P serial connector) or pin 17/18 of J3 immediately behind P4 on the Tiny-2 MK2 to implement this feature in a TheNET node with the RELAY ON/OFF feature. Otherwise this wire is grounded (to J3 pin 1 or wherever convenient).
- B. Solder a fine wire between the 4800 baud pin on JPT and J5 pin 16.
  - C. Locate the trace on the top of the board that runs from J5 pin 12 under the end lead of R6 and goes between pins 15 and 16 of U14 (SIO chip). Scrap the solder mask off the trace and check with an ohmmeter for continuity with J5 pin 12 if unsure. With a sharp knife, cut the trace.
  - D. Jumper U10 pin 1 to pin 13.
  - E. Remove and do not use the jumper plug on JPR (radio baud select).
  - F. Remove and do not use jumper plug on JPD (DCD select).
  - G. Locate the small via hole between Q3 and R26 trimmer pot. (note it may be covered by the 100K white printing). The trace from this via hole is an undocumented connection from the EPROM switch on the back panel to pin 16 on J5. It must be cut to avoid interference with the 4800 baud clock signal that the HAPN board uses on pin 16. Cut this trace in a spot that would be easy to bridge should you want to restore this feature. A wire from the via hole to J105 on the HAPN modem board allows the EPROM switch to be used to switch speed. If you choose this option, be sure to jumper JPROM (near lithium backup battery) to disable the EPROM switch function.
  - H. Otherwise install a switch on the front panel just above the connect LED. A miniature SPST switch is sufficient. Wire one terminal to J105 on the HAPN modem and the other terminal to a nearby ground hole. Grounding J105 will enable the 1200 baud speed setting (and disable the remote speed switch option). Switch open enables 4800 baud speed (and allows remote speed switch to select 1200 baud if desired).
  - I. Some radios may need more audio than is normally available from the Tiny-2. R11 (currently 22K) may be reduced to 2K or even 1K to substantially increase the TX audio drive available.
  - J. Solder a small capacitor between J2 (DIN socket to radio) pin 1 and ground. The value of the capacitor should be .001 uf as long as R11 is 22K. The RC low pass filter of this capacitor with R11 helps prevent high frequency noise from the CPU clock getting into sensitive modulator circuits. If R11 is substantially reduced, increase the value of the capacitor in proportion unless there is a shortage of audio drive. If this is the case, the radio will be much less affected by the noise anyway. Some extremely sensitive modulator circuits in radios have been known to generate noise sidebands up to 5 MHz wide without this RC low pass filter, so use it if possible.
  - K. Locate the double row of holes behind the DE9 connector (marked J3). Clear the solder from pin 1 (the square pad nearest Q4) and pin 17 or 18 (holes second from the other end) and solder single header pins into these holes. Pin 1 (the square pad) is ground and pin 17/18 is connected to pin 1 of P4 (the DE9P connector). P4 pin 1 goes high when the connect LED is on and is a suitable drive source to control the remote speed select on a TheNET node with ON/OFF sysop command. To implement this option, connect the wire from the 47K resistor on the HAPN board to J3 pin 17/18.

That completes the changes to the modem board.

### ***On the Tiny-2 Mk2 board make the following changes:***

- A. Solder a fine wire (like 30 gauge wirewrap wire for example) between the 1200 baud pin on JPT (or JPR) and J5 pin 12.

Continued on page 13

# ARRL Proposes Digital Subbands on HF

**QST de W1AW**

**ARRL bulletin 10 ARLB010**

**from ARRL Headquarters**

**Newington CT February 2, 1993**

**To all radio amateurs**

**Petition for HF digital**

The ARRL, acting on recommendations of its volunteer digital committee, has petitioned the federal communications commission for changes in the amateur rules regarding digital communications below 30 MHz.

On February 1 the League filed a petition for rule making with the FCC to permit, under certain conditions, automatic control of RTTY and data communications in certain portions of the amateur bands below 30 MHz. Namely, the league seeks to permit automatically controlled data communications, including third-party messages, in specific subbands.

In conjunction with the filing, the League also asked for a further extension of its special temporary authorization for such communications by designated stations (which was scheduled to expire February 3) for the duration of the rule making proceedings.

In its filing of more than 30 pages the league recounted the history of amateur digital communications, saying that despite problems with implementing automatic digital forwarding in the HF bands there are "good and sufficient reasons why automatically controlled data communications at HF should be authorized.

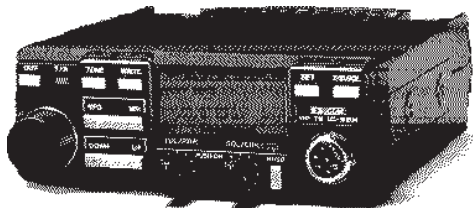
"Development of new software and hardware to refine the technology and further new types of data communications and data networks requires that at least some amateur stations in a network be permitted to operate under automatic control in the HF amateur bands," the League said.

Its goal in submitting the petition, the League said, is "to encourage experimentation and the development and refinement of (RTTY and data communications) to adapt complex digital technologies to practical use and to permit the implementation in the amateur radio service of more efficient emergency and public service communications technologies."

The proposed subbands for automatic digital control are as follows:

28.120-28.189 MHz	24.925-24.930 MHz
21.090-21.100 MHz	18.105-18.110 MHz
14.095-14.0995 MHz	14.1005-14.112 MHz
10.140-10.150 MHz.	7.100-7.105 MHz
3.620-3.635 MHz	

—ARRL



**ARRL Bulletin 11 ARLB011**

**From ARRL Headquarters**

**Newington CT February 3, 1993**

**To all radio amateurs**

The FCC has granted a final extension of the ARRL's special temporary authority for certain amateurs to use automatic control of digital communications below 30 MHz. The STA has been in effect since 1987 to allow a limited number of amateurs to explore future systems and advance amateur digital techniques.

On February 1 the ARRL filed a petition for rule making, proposing permanent rules for operation of amateur stations using data emissions on HF frequencies under automatic control. Since the notice and comment phases of rule making can take a significant amount of time, the ARRL requested this final extension of the STA to carry through until the consideration of new rules has been completed by the FCC.

The extended STA would have expired February 3, 1993.

—ARRL

## Comments on ARRL HF Digital Modes Proposal by NT3B

The proposal RM-8218 filed by the ARRL concerning the HF digital modes fully automatic and subbands will greatly affect all digital users now on HF. If you use any digital modes on HF, you need to investigate how this proposal will affect the way HF digital modes are today. If you are for or against this proposal, you should write your comments to the FCC in Washington and your ARRL representatives.

These are questions to ask yourself about the rm-8218.

1. ArRL wants all digital modes for fully automatic operations assigned in a small subband of their own. Ask yourself this question. How will packet, AMTOR, Clover, RTTY, and Packtor live together in the same assigned freq's? Who will win? The guy with the most power? You can bet packet will not win on HF. It needs a quiet conditions on HF which it has proven to be many repeats after repeats.
2. Ask yourself if you think you want to have subbands where these few will be only allowed to operated. They are asking for some of the best area's of RTTY Dx on 20 and 15 meters.
3. If you mostly use CW do you think it will not affect you if the other digital modes start to grab more space because of this rm-8218.
4. Why has this proposal been turned down twice already by the digital world?
5. Why did arRL try before to pass the rm-7248 under the digital folks noses if it was so good?
6. Why did the digital users say in the arRL survey that the major part of the digital world does not want this to happen?

These are just some of the questions to ask yourself. The ARRL seems to not even listen to it's own digital committee it assigned to check out this plan. So, it is up to you. It will affect you now or later.

—Jack NT3B

## Send Your Comment

The ARRL filed a petition with the FCC on February 1, 1993. The petition requests the FCC to change its rules and permit fully automatic digital operations at HF. These operations would be confined to very small sub-bands (especially on 20m and 40m).

Many hams oppose all automatic digital operation. Others support this kind of operation all over. Still others are happy if they are confined to specific sub-bands. Most hams seem to support semi-automatic operation. That is where a digital station, which is attended, can open a mailbox of an unattended station. There is a danger that the ARRL proposal, while not specifically dealing with the issue of semi-automatic operation, may be construed as dealing with semi-automatic operation in the same way as fully automatic.

You may comment on this petition if you comments reach the FCC before May 17. Your comments do not need to be in any specific format. The should, however, have the index number of the Petition right at the top of the comments like this:  
Re: RM-8218

You should send on original and 4 copies to the FCC. You also need to send a copy to the ARRL and put a statement at the end of you comments that you have mailed a copy to the ARRL.

That's all there is to it. Good luck.

—W2NRE

**The American Digital Radio Society.**

*Sorry this is late but this applies to other petitions and Notices of Proposed Rulemaking.*



## HAPN 4800 from page 11

If this option is not desired connect the remote switch wire to J3 pin 1 (ground).

- L. Cut the traces between J5 pins 11 and 12, and between pins 17 and 18 on the bottom of the board.

*Thanks to KB4CYC for supplying this information. There were many changes (4 Quarterly pages of them). I've grabbed some of the juiciest of them. Please obtain a copy of the FBB BBS and check it out if you are interested. Software sources are listed elsewhere in this issue. Check the table of contents.*

### Bug fixes

- BPQ beacon was sent on a wrong port. Fixed.
- Several bugs fixed in handling PK232 as BBS port TNC.
- Answer to NH command now checks for valid callsign.
- L@ did not check BBS callsign, but route.
- Number of new messages was lost when using NZ, NH, NQ, X commands. Fixed.
- Problems with YAPP resume. Fixed.
- Messages that went directly to H(eld) did not have the BID registered.
- From: and To: was not inserted in message during compressed forward.
- C(ontinue) and N(ext) work with the verbose read option.

### New features

- EMS/XMS handler now supports separate Message cache, BID information, Hierarchical routes, overlay cache, forward-file, reject-file and WP.
- "Read-only-mode" for telephone-connects. Now non-amateurs can be allowed to telephone an FBB-BBS in read-only-mode.
- F or Q can now be used to exit from a question of QTH-locator. Earlier the user had to give a correct QTH-locator to be allowed to continue.
- Number of last listed message updated only if the disconnection is made with the 'B' command. This to avoid to loose the last-listed number if a disconnect should occur.

### White Pages (WP).

- The WP server is built-in. Only need to declare an entry in INIT.SRV. It answers to request messages like :

```
SP WP @ F6FBB
subj: Wp Query      <-
Any title
```

## FBBS version 5.15 Available

```
F6FBB ?          <-
Ask F6FBB information
LA6CU ?          <- Ask
LA6CU information
CTRL-Z
```

White Pages is a kind of database-server, that contains the most important information on each user. This data-base is automatically updated from incoming messages, and the BBSs also send updates between themselves. For those of you that know RLL, most of this will be well-known. All WP-updates can go to one central data-base, or to all adjacent BBSs. All BBSes en route will pick up any info in any updates, even if the message is just "passing through" to another BBS. So every BBS can be a full WP-server. Each BBS will normally send its updates as soon as it has enough updates to fill a message at about 4kb. Still, it will never take more than 24 hours before an update-message is sent. This MAY cause much traffic on bad HF-links, but this can be controlled by the way the messages are sent, and by the forward-file.

### Other comments.

I am at the moment testing FBB together with DX-cluster and BPQ under DesqView. It now works very nicely..

About the WP. We are afraid that the WP may generate a LOT of traffic of update-messages. Luckily the sysops can control the sending of these updates, either as bulletins or private messages. And the routing of the bulletins will be important. Anyway, in the start, there will be lots of updates, to generate a database in each BBS. But the update-traffic will probably decrease after a while. It will probably NOT be a good idea to start full forward of WP-updates on bad HF-links !

—Editor

—VE2BMQ

# FCC N.P.R.M. Regarding Message Forwarding Systems

Before the  
Federal Communications Commission  
Washington, D.C. 20554

PR Docket No. 93-85

Amendment of Part 97 of the	RM-7649	RM-7669
Commission's Rules Concerning	RM-7675	RM-7676
Message Forwarding Systems in	RM-7681	RM-7904
the Amateur Service.		

## NOTICE OF PROPOSED RULE MAKING

Adopted: March 18, 1993; Released: March 29, 1993

Comment Date: July 1, 1993

Reply Comment Date: August 1, 1993

By the Commission:

### I. INTRODUCTION

1. In this Notice of Proposed Rule Making (Notice), we propose to amend the rules concerning amateur stations participating in message forwarding systems.<sup>1</sup> This proceeding was initiated by six petitions for rule making.<sup>2</sup>

### II BACKGROUND

2. Currently, the rules that apply to control operator responsibility for content of messages for an amateur station participating in a message forwarding system are the same rules that apply to the control operator of any other amateur station.<sup>3</sup> Essentially, under the current rules, all intermediate relay stations have responsibility to assure that the content of each retransmitted message complies with the amateur service rules, even though the message may be received and retransmitted automatically. The petitioners claim, however, that Section 97.103(a) of the Commission's Rules, 47 C.F.R. 97.103(a), hampers unnecessarily the operation of high speed message forwarding systems<sup>4</sup> and repeaters.<sup>5</sup> The petitioners claim that the potential for transmitting large numbers of messages in these systems cannot be achieved because Section 97.103(a) does not distinguish

between the responsibilities of the station originating and those only forwarding or repeating violative communications.<sup>6</sup> They state that Section 97.103(a) leaves no alternative but for the control operator of every forwarding station in a system to delay the retransmission of each message until after it is review carefully.<sup>7</sup> They claim, moreover, that amateur operators are reluctant to participate in high speed message forwarding systems because their stations might retransmit violative communications inadvertently.<sup>8</sup>

3. The petitioners request that the Commission modify its compliance policy for stations participating in message forwarding and voice repeater systems. Specifically, the petitioners request that we hold the licensee of the station originating a message primarily accountable for violative communications. Under this approach, licensees of stations that only retransmit messages would not be held accountable for communications they forward or their stations retransmit unwillingly.<sup>9</sup> The objective of this proceeding, therefore, is to ascertain what special rules, if any, should be provided for message forwarding systems.

### III. DISCUSSION

4. We concur with the petitioners that it is impractical to apply the current policy regarding licensee accountability to all stations in message forwarding systems. Requiring a message-by-message screening procedure at each forwarding station greatly reduces the efficiency of these systems. On the other hand, like the petitioners, we are concerned about the potential for misuse of these systems. Therefore, we want to examine our general policy for message forwarding systems.

5. The petitioners recommend that only the station licensee and the control operator of the station that originates a communication that violates the rules be held responsible. While we agree that the originating station licensee and the control operator should be held responsible for violative communications they originate,<sup>10</sup> we are not convinced that only holding the originating station licensee responsible would be sufficient to prevent misuse of message forwarding systems. It appears that the control operator of the station that first forwards<sup>11</sup> communications

1 A message forwarding system is a group of amateur stations participating in a voluntary, cooperative, interactive arrangement where messages and other communications from the control operator of an originating station are transmitted to one or more destination stations via forwarding stations, which may or may not be automatically controlled.

2 The petitions were received from Tom M. Blackwell and Joe Jarrett (RM-7649), John S. Burningham (RM-7676), James N. Howard, Jr. (RM-7669), Michael R. Reynolds (RM-7904), Robert Charles Rogers, Donald LaBrenz II, and George Schemm (RM-7681), and Douglas E. Smith (RM-7675).

3 See Part 97 Subpart B - Station Operation Standards, Section 97.101 through 97.121 of the Commission's Rules, 47 C.F.R. 97.101-97.121.

4 Amateur operators frequently refer to these systems as automatic packet radio message forwarding systems or packet networks, linked repeater networks, digipeaters, and packet radio bulletin boards.

5 RM-7649 requests amendment of the rules as they apply to voice repeater operation. RM-7676 requests amendment of the rules as they apply to repeater and data system operation generally. The other four petitions are directed to

amendment of the rules as they apply only to amateur stations transmitting digital communications.

6 Section 97.113 of the Commission's Rules, 47 C.F.R. 97.113, prohibits amateur stations from transmitting music; communications in connection with any activity that is contrary to law; encrypted messages; words, language, or meaning that is obscene, indecent, or profane; and false or deceptive messages or signals. It also prohibits any communication the purpose of which is to facilitate the business affairs of any party and transmitting communications as an alternative to any other authorized radio service. Revisions to these prohibitions are being considered in another rule making proceeding. See Notice of Proposed Rule Making, PR Docket No. 92-136, 7 FCC Rcd 4231 (1992).

[7] RM-7904 at 1.

[8] RM-7669 at 2.

9 RM-7649 at 1, RM-7669 at 2, RM-7675 as 3, RM-7676 at 1, RM-7904 at 1.

10 See Sections 97.103 and 97.105 of the Rules.

11 The first forwarding station is the station that receives a communication directly from the originating station and inputs it into the system. The first forwarding station lic-

from the originating station on behalf of the system is also in a good position to determine if those communications violate the rules and take corrective action where necessary. Therefore, in addition to holding the originating station licensee and control station operator accountable, we propose to add new Section 97.217 to the rules to also hold the control operator of the first forwarding station accountable for communications transmitted within a message forwarding system. We believe that this approach would allow high speed message forwarding systems to operate as efficiently as they are intended and still provide safeguards necessary to prevent system misuse.<sup>12</sup> Under this approach, the only delay occurs during screening at the first forwarding station. Thereafter, all other stations can retransmit the message with little or no delay. Because of the standardized format of the amateur AX.25 frames, for example, both the originating and the first forwarding station can be readily identified.<sup>13</sup>

6. To avoid confusion regarding the meaning of the term "message forwarding system", we propose to add a definition of this term in Section 97.3 of the Rules, 47 C.F.R. 97.3, we also propose to revise the definition of the term "repeater" in Section 97.3 to clarify the differences between a repeater and a message forwarding system and to reflect the practical meaning that "repeater" appears to have in the amateur service, i.e., a station that uses different channels to receive and instantaneously retransmit the frequency or phase modulated voice or television transmissions of another station. Further, we propose to codify in Section 97.205, 47 C.F.R. 97.205, the existing compliance policy applicable to control operators of repeater stations. Under this policy, established in the Memorandum Opinion and Order in Docket No. 21033, 67 FCC 2d 1107 (1978), the control operator of a repeater is not held accountable for communications retransmitted inadvertently by the repeater station.

#### IV. CONCLUSION

7. This proposal would serve the public interest by removing a barrier to automatic message forwarding systems relaying messages at high speeds, thereby making more efficient use of available radio spectrum and encouraging greater numbers of licensees to participate in message forwarding systems. Additionally, these rules would provide improved communications capabilities while protecting against abuse. We seek comment, therefore, on the rule changes as proposed in the Appendix.

#### V. PROCEDURAL MATTERS

##### ***Ex Parte Rules - Non-Restricted Proceedings***

8. This is a non-restrictive notice and comment rule making proceeding. Ex parte presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in Commission rules. See generally 47 C.F.R. 1.1202, 1.1203, and 1.1206(a).

ensee could establish guidelines for messages that the station will accept for introduction into the message forwarding system. For example, the control operator of the first forwarding station could personally review each message prior to allowing its introduction into the system or could accept the risk of retransmitting a message from an originating station whose licensee the control operator deems trustworthy without checking it.

12 Although control operators of forwarding stations other than the first forwarding station would no longer have to screen each message, they would be responsible for discontinuing communications that violate the rules once they become aware of their presence.

##### ***Regulatory Flexibility Act***

9. We certify that the Regulatory Flexibility Act of 1980 does not apply to this rule making proceeding because, if the proposed rule amendments are promulgated, there will not be any significant economic impact on small business entities, as defined by Section 601(3) of the Regulatory Flexibility Act. The amateur service may not be used to transmit business communications on regular basis. See 47 C.F.R. 97.113(a). The Secretary shall send a copy of this Notice of Proposed Rule Making, including the certification, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 605(b) of the Regulatory Flexibility Act. Pub. L. No. 96-354, 94 Stat. 1164, 5 U.S.C. 601-612 (1981).

##### ***Comment Dates***

10. Authority for issuance of this Notice is contained in Sections 4(i), 303(b), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 303(b), (g), and (r). Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Communication's Rules, 47 C.F.R. 1.415 and 1.419, interested parties may file comments on or before July 1, 1993, and reply comments on or before August 1, 1993. To file formally in this proceeding, you must file an original and five copies of all comments, and reply comments. To file informally, you must file an original and one copy of you comments, provided only that the Docket Number is specified in the heading. You should send comments and reply comments to: Office of the Secretary, Federal Communication Commission, Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center (Room 239) of the Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. 20554.

11. For further information, contact William T. Cross, Personal Radio Branch, Private Radio Bureau, (202) 632-4964.

FEDERAL COMMUNICATION COMMISSION

Donna R. Searcy  
Secretary

#### APPENDIX

Part 97 of Chapter I of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

##### **Part 97 - Amateur radio service**

1. The authority citation for Part 97 would continue to read as follows:

**Continued on next page**

13 The AX.25 Amateur Packet-Radio Link-Layer Protocol specifies the content and format of a packet-radio frame and how that frame is processed at the Link layer by packet-radio stations. This protocol was one of the first protocols used in amateur service automatic message forwarding systems.



## PR Docket No 93-85 from previous page

Authority citation: 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C. 151-155, 301-609, unless otherwise noted.

2. Section 97.3(a) would be amended by redesignating paragraphs (28) through (44) as paragraphs (29) through (45), respectively, adding a new paragraph (28), and revising paragraph (36) to read as follows:

### § 97.3 Definitions.

(a) \*\*\*

(28) Message forwarding system. A group of amateur stations participating in a voluntary, cooperative, interactive arrangement where communications are sent from the control operator of an originating station to the control operator of one or more destination stations by one or more forwarding stations.

\*\*\*\*\*

(36) Repeater. An amateur station that instantaneously retransmits on a different channel the angle-modulated phone or image transmission of another amateur station.

\*\*\*\*\*

3. Section 97.109(e) would be revised to read as follows:

### § 97.109 Station control.

\*\*\*\*\*

(e) No station may be automatically controlled while transmitting third party communications, except a station participating as a forwarding station in a message forwarding system.

4. Section 97.205 would be amended by adding new paragraph (g) to read as follows:

### § 97.205 Repeater station.

\*\*\*\*\*

(g) The control operator of a repeater is not accountable for violative communications that the repeater retransmits inadvertently.

5. Subpart C of Part 97 would be amended by adding new Section 97.217 to read as follows:

### § 97.217 Message forwarding system.

(a) Any amateur station may participate in a message forwarding system, subject to the privileges of the class of operator license held.

(b) The control operator of the station originating a message and the control operator of the first station retransmitting that message are accountable for violative communications that are transmitted in a message forwarding system. The control operators of other stations inadvertently retransmitting violative communications in a message forwarding system are not accountable for the violative communications.

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## Andy's Comments on 93-85

Comments on PR Docket 93-85

Andrew Funk, KB7UV

Packet: kb7uv@kb7uv.#nli.ny.usa.na

Internet: kb7uv@panix.com

What follows is a fairly rough draft of my thoughts on the FCC's proposed new rules regarding responsibility for content of Amateur message traffic. While the aim of the proposed rules is excellent, I find many problems with the proposed implementation. The reason this is rough draft is that I am targeting my letter to the FCC to be sent near the time limit they have set so I can update my comments based on latest information and discussion with the amateur community.

I offer my thoughts as a starting point for those considering filing comments on this NPRM. All groups and individuals involved with message forwarding systems in the \*broadest\* sense, including nodes and switches, should consider filing comments. It's a lot easier to influence proposed new rules than it is to change established rules.

### "Repeater" and Channels

The proposed new definition for "repeater" is highly restrictive as to mode. There are many repeater systems in operation for modes other than angle-modu-

lated voice and image. Examples of these systems include linear translators and full-duplex data repeaters. In addition, Amateur Radio is not a channelized service. Radio Amateurs operate on self-assigned frequencies within frequency bands authorized by the FCC. Therefore I suggest that the mode-specific language be removed from this definition, and that references to "channel" be replaced with "frequency":

(36) Repeater. An amateur station that instantaneously retransmits on a different frequency the transmission of another amateur station.

### Data Relay

Much as VHF/UHF FM voice communications depend, to a large extent, upon repeaters, VHF/UHF data operations depend upon stations providing a similar function. The service provided by these stations is instantaneous or near-instantaneous ("real-time") retransmission of the transmissions of other stations. This retransmission can be on the same frequency or a different frequency as the original transmission. Additionally, the retransmission may be by a different station than that which received the original transmission when this relay is done by stations acting as part of an automatic relay network.

I propose that this type of operation be called "data relay" and that a new definition be added to the rules:

Data Relay Station. An amateur station, acting alone or as part of a network, that instantaneously or near-instantaneously retransmits the data transmission of another amateur station.

### Accountability


Codification [*putting into part 97*] of the existing compliance policy applicable to control operators of repeater stations [*repeater op is not responsible for the action of the repeater users*] is excellent, but I feel that this policy should apply as well to the control operators of *data relay* stations [*sysop of digi/node/switch should not be responsible for action of users*].

Therefore I propose the following new rule:

The control operator of a data relay station is not accountable for violative communications that the station retransmits inadvertently.

### "Message Forwarding System"

The proposed definition of "message forwarding system" could be interpreted to pertain to data relay stations (i.e. nodes and switches), which does not seem to be

Continued on next page 

# ARRL on 93-85

ZCZC AG73  
QST de W1AW  
ARRL Bulletin 32 ARLB032  
From ARRL Headquarters  
Newington CT March 23, 1993  
To all radio amateurs  
SB QST ARL ARLB032  
ARRL032 ARLB030 revision/  
update

Message content proposal

The FCC has proposed to change the responsibility for the content of amateur messages relayed by high-speed networks.

On March 22, 1993, the Commission announced action in Docket 93-85, in Notice of Proposed Rule Making 93-154, proposing to establish "a compliance policy for amateur stations participating in automatic message forwarding systems, to

hold the licensee of the station originating a message and the licensee of the first forwarding station primarily accountable for violative communications."

"Under this approach," the FCC said, "licensees of stations that only retransmit messages within a high speed message forwarding system would not be held accountable for communications they forward or their stations retransmit unwittingly."

"Under the current rules," the FCC said, "each amateur licensee is fully responsible for assuring that the contents of every transmission from his or her station complies with the rules. This requirement was not a burden when licensees sent each message manually. With the availability of digital technology, however, some licensees have tied their stations together

into high volume, high speed message forwarding systems. The stations are configured so that each message is instantly retransmitted to its destination through a series of stations.

"Because message screening is difficult with these automatic systems and because screening at each station in these systems diminishes the advantage of high speed, the Commission proposed holding accountable only the licensee of the originating station and the licensee of the first station in a high speed message forwarding system."

—ARRL

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## Andy from previous page

the intent of the Commission proposal. I suggest the broad term "communications" be changed to "record communications," as the messages handled by message forwarding systems are record traffic. Therefore, I suggest the following wording:

(28) Message forwarding system. A group of amateur stations participating in a voluntary, cooperative, interactive arrangement where record communications are sent from the control operator of an originating station to the control operator of one or more destination stations by one or more forwarding stations.

### Originating Station?

I heartily agree with the Commission regarding limiting accountability for possibly violative communications retransmitted by stations participating in message forward systems. I wish to point out, however, that message forwarding systems are international in scope. Many messages are handled which are originated by and first forwarded by stations not operating under FCC jurisdiction. Control operators of such stations will judge the content of their communications based upon the regulations they operate under which may differ substantially from Commission rules. Therefore I suggest the Commission modify the proposed 97.217(b) to hold the control operator of the first *FCC licensed* station retransmitting a message accountable for violative communications.

### Re-Transmitting

The control operators of stations participating in message forward systems of-

ten originate messages. In the case of these messages the first station *re-transmitting* the message is actually the second message forwarding station handling the message. This results in ambiguity as the proposed 97.217(b) is written. In order to avoid this ambiguity I suggest this wording:

97.217 (b) The control operator of the station originating a message and, if different, the control operator of the first FCC licensed station participating as a forwarding station in a message forwarding system to transmit the message are accountable for violative communications. The control operators of other stations inadvertently retransmitting violative communications is a message forwarding system are not accountable for the violative communications.

### Third Party Traffic

The Commission suggests in proposed 97.109(e) that the only automatically controlled stations permitted to transmit third party communications should be those participating in a message forwarding system. I wish to suggest that this permission be extended to data relay stations and repeaters.

Many, if not most, message forwarding system stations communicate with each other through the facilities of automatically controlled data relay stations. Therefore, permitting data relay stations to transmit third party communications while under automatic control is essential to "allow high speed message forwarding systems to operate as efficiently as they are intended."

In addition, users of repeaters often wish to participate in third party communications. One common example is the Radio Amateur who asks another Amateur, through a repeater, to telephone his or her home to alert their family that they are delayed in traffic. When a repeater is operating under automatic control this communication is technically prohibited. As Commission proposed 97.205(g) states "the control operator of a repeater is not accountable for violative communications that the repeater retransmits inadvertently" there seems no reason, to us, to prevent users of repeaters from conducting third party communications through the repeater.

Therefore I suggest the following language for 97.109(e):

(e) No station may be automatically controlled while transmitting third party communications, except repeaters, data relay stations, and stations participating in a message forwarding system.

### In Conclusion

Anyone wishing to discuss this can contact me at the addresses given above. I look forward to hearing from any and all.

—Andy

# NEDA Constitution as revised 2/20/93

## 1. Purpose of this Article

- a. This article lays down the rules for operation of the North East Digital Association. No other N.E.D.A. document may change or replace the rules set down in the Constitution. The Constitution may only be modified by the procedures described herein.

## 2. Officers

- a. There are six Board of Directors positions plus appointments and alternates. The board of directors are elected for two year terms. Three of the directors are elected annually.

## 3. Appointments

- a. Appointed positions include Treasurer, Chairman of the General Meeting, Membership Director, Board Member Alternates, Chairman of the Technical Committee and Network Regional Sysops. The Network Regional Sysops report to the Chairman of the Technical Committee and are considered members of the Technical Committee.
- b. Other appointments may be made at the direction of the board of directors. These appointments are made by the board of directors. Only voting members may be appointed to a committee chairmanship, board member alternate or office position. Board members may also serve other appointed positions and appointees may serve multiple appointments.

## 4. Board Member Alternates

- a. Each board member may appoint an alternate to represent him or her at board meetings in the event that the board member is unable to attend.
- b. The alternate must be approved in advance by the board during a board meeting in which the board member presenting the candidate for alternate is present. The candidate must also be present and agree, or furnish written consent to serve.
- c. Appointment of an Alternate may be terminated at any board meeting under any one of the following conditions:
  - At the request of the board member the alternate represents.
  - At the request of the alternate.
  - Using the same procedures as removal of a board member, (Article 5).
- d. The alternate appointment is automatically cancelled when:
  - The alternate is elected to a board position;
  - The alternate is no longer a voting member;
  - The member the alternate represents is no longer on the board.
- e. The alternate has full voting rights at board meetings in the absence of the aboard member which he or she represents.
- f. It is the responsibility of the board member and his or her alternate to maintain reasonable communication so that the alternate my act on behalf of the board member in an informed manner.
- g. Any alternate may act on behalf of any absent board member, who's alternate is also absent, if necessary to provide a quorum. The member he or she is originally designated to represent must also be present. The alternate would have the same voting rights as in (e.) above for the member he or she is representing at the meeting.

## 5. Removal of a Person From Office or Revocation of Membership Privileges

- a. A petition for removal of a person from office or membership must be submitted in writing to the board of directors with a minimum of four signatures of voting members. The petition must be presented at least two weeks before a quarterly board meeting in which it is to be acted upon. The board of directors must vote on the petition at a quarterly board meeting. The document will be kept in the club archives unless removed and expunged at a later board meeting.
- b. This person being removed is held as a removal-pending member for one quarter and then is reviewed at the following quarterly board meeting. This issue is then presented in the minutes in the Quarterly so that it may be reviewed by all the membership and commented on before the following quarterly board meeting.
- c. A person removed from membership is not eligible for voting membership unless the privilege is restored by an act of the board of directors at a later date.

## 6. Membership

- a. Membership is open to all. Dues are at least 2 levels for individuals. One of these levels is called Voting Membership. Voting membership is open to all except as defined under 'Removal' above.

## 7. Dues

- a. Dues are paid to the Membership Director or his designee who then forwards the funds to the Treasurer. Dollar values of dues is set in the NEDA bylaws but the dues level for a Voting member is \$25 or greater. Dues are used to fund:
  - operating expenses for the club;
  - development costs for club products that facilitate network growth.
  - documentation in the form of an Annual and Quarterly
  - documentation in the form of free technical documentation distributed for the benefit of packet networking.
  - documentation in the form of free promotional literature on NEDA and on packet networking.

## 8. Membership Privileges

- a. Voting Members receive the 4 copies of the NEDA Quarterly per year and a copy of the Annual each year. The Annual is delivered to the member at renewal time (after renewal) or at the anniversary of the member's membership.
- b. Voting members are invited to attend the Board of Directors meetings, run for office annually and vote for officers by mailed ballot.
- c. Additional privileges are defined in the bylaws.

## 9. Board Meetings

- a. A board of Directors Meeting is a physical gathering of the board members.
- b. A minimum of 4 directors or approved alternates must be present to open a board meeting. The board meetings must be announced via the NEDA Quarterly or via packet Email to every voting member at least two weeks before the meeting. Each voting member is responsible for keeping the membership manager notified of his/her current packet email address. If a quorum of board

members or alternates is not available to start the meeting, a new meeting must be scheduled and new announcements must be sent out.

- c. Board meetings should be held in different cities each time to allow voting members from different NEDA regions to be able to attend board meetings and have access to administrative proceedings.
- d. Board meetings may be attended by voting members or those given special dispensation by the board of directors or any approved by the bylaws.
- e. Board meetings must be held 3 times a year. The 3 board meetings must be held as close as possible to the months of February, June and October. Additional board meetings may be called by the board of directors with a vote of 4 board members. A board meeting is required in order to:
  - Establish or make changes to the annual budget.
  - Spend club funds.
  - Discipline a member.
  - Change the appointment of chairman of any committee.
  - Assignment or re-assignment of any board member alternate.
  - Appointment of any member to any of the positions as detailed by Article 3.
  - Change the constitution or bylaws.
  - Appoint a chairman for the Board of Directors.
  - Form or disband any committee.
- f. Actions which must occur at the board meeting include the reading of a current NEDA treasury report. This will be recorded in the minutes and printed in the subsequent NEDA Quarterly.

## 10 <removed>

## 11. Elections

- a. Elections are held by mailed ballot after the October Board of Directors Meeting. Immediately after the October Board of Directors Meeting attendance of each member, over the previous year's board meetings, are tallied. Any voting member who is paid up for two years from the end of October of the current year, who has attended half of the year's board meetings, and who are not already in the middle of a two year term are automatically nominated and are listed on the ballot.
- b. This ballot is sent to all NEDA voting members complete with a self addressed stamped envelope. The envelope also has a return address label with a note stating that the return address must be filled in for the ballot to be counted. The ballot includes instructions that the voting member should order all of the listed people in ascending order, 1 for first choice, 2 for second choice. This way the results will still be meaningful if one or more nominated members are unavailable to fill the positions. The ballots are mailed to the club POBox and then counted by one of the board members whose term is not expiring this year. The balloting process, and the counting process must be operated with a process which maintains confidentiality of the ballots.
- c. The ballots must be mailed out to all NEDA voting members within two weeks of the board meeting. They must be returned to the club POBox within five weeks of the board meeting. Results are included in the Quarterly or are mailed out separately to all members to arrive at least a week before the winter board meeting.

- d. The results include the following statistics:
  - total number of ballots sent;
  - total number of ballots returned;
  - list of all nominees;
  - list of the three new board members;
  - and a list of nominees who abstained but who had a higher vote than the selected board members.
- e. If three new board members are not chosen by this process then a board member may be chosen by consensus of the founders and the existing board from those voting members who were previously board members and who ended their term as board member in good standing. If there still are not three eligible new board members then the club must be dissolved.

## 12. Board Member Responsibilities

- a. Board members or their alternates must attend the quarterly board meetings or obtain an alternate to handle meetings the board member cannot attend. Failing to do so twice in a single year is grounds for removal from office. Board members or their alternates are also obligated to attend additional board meetings called by verbal agreement by any four of the board members.
- b. Board members represent NEDA and are obligated to carry out the NEDA Charter in regards to dealings with other members and non-members.
- c. The board of directors as a body are responsible for seeing that the NEDA Quarterly and the NEDA Annual are published on time. As these are the instruments of the club and as the NEDA Quarterly is the means by which the financial operations of the club are published to the membership, the paying membership has the right to expect these documents.

## 13. Filling Spots on the Board Due to Board Member Resignation

- a. If a board member resigns or is otherwise no longer available to fulfill the remainder of his or her term a new board member is selected to serve until the next annual meeting. The new board member is selected from those voting members who were previously board members and who ended their term as board member in good standing.

## 14. Network Maps

- a. Network maps must be maintained and are presented in the Quarterly. The maps must consist of at least the callsign, nodename, location (at least relative), user access frequencies for AX.25 (if any) and backbone connectivity for all NEDA network nodes.

## 15. NEDA Quarterly

- a. The NEDA Quarterly is published within 60 days after the quarterly board meeting. The Quarterly is fully described in the bylaws but as a minimum must include the minutes of the board meeting (including the treasurer's report), the network maps, and membership roster.
- b. The board may delegate the task of production and mailing of the Quarterly but maintain the responsibility.
- c. In the Fall edition of the Quarterly whatever results that are available from the annual elections are printed. This may include the nominees or the final results.

## 16. NEDA Annual

- a. The NEDA Annual is the current statement of NEDA packet network involvement. This includes user informa-

tion for usage of the NEDA network as well as lessons in the technology needed to fulfill the goals of NEDA as stated in the charter.

- b. This document is delivered annually to each and every paid member of the club. This document should be updated at least once annually to reflect the current state of networking technology in use by NEDA.
- c. The Annual is the responsibility of all of the board members. The board may delegate the task of production and mailing of the Annual but maintain the responsibility.

## 17. Changes to the Constitution

- a. Changes to the Constitution may only be made by the following process:
- b. At a regularly scheduled quarterly Board of Directors meeting a proposal for a change is submitted in printed or typed form (8 copies) to each of the Directors, to the editor and to the secretary. The item must be presented in person by a NEDA voting member.
- c. The format of the submission is in bulleted sections. The following sections must be included: TITLE, PRESENTED, BY, BRIEF, SPECIFICS, PURPOSE. The page is headed with "Constitutional Change Request". TOPIC is followed by one line which identifies the change request. PRESENTED is followed by the date of the board meeting. BY is followed by the name and callsign of the author. BRIEF is followed by a single paragraph description of the change. SPECIFICS is followed by a paragraph by paragraph description of the changes including reference section and paragraph numbers. PURPOSE is followed by a justification for the change. A sample change is available from the club.
- d. The proposed change is entered into the minutes of the Board of Directors meeting at which it is presented. Discussion may follow. No vote is taken at this time.
- e. At the following board meeting the change is brought up

as old business and after discussion is either ratified or not. No change is made if a tie occurs.

- f. If a change is ratified then the new copy of the Constitution is printed in the following Quarterly in its entirety.

## 18. Changes to Bylaws

- a. Changes to the bylaws may be made at a single board meeting with the vote of a majority of the board members present. If a tie occurs then no action is taken.

## 19. Grounds for Dissolution

- a. If the board of directors doesn't hold 4 board meetings during the year or if the club is unable to hold elections or there were not three eligible and willing candidates or if the Quarterly in at least it's minimum form) isn't delivered on time then the club must be dissolved.

## 20. Dissolution of the Club

- a. After paying out any pending bills the treasurer is directed to write a check for the remainder of the club treasury to the American Cancer Society and to close the all club bank accounts. The name of the club (i.e. North East Digital Association) and it's logo NEDA become the property of the founders of the club, WA2WNI, WA1TPP, KA2DEW, K1MEA, NQ1C, WA2VAM, KC3BQ, to do with as they wish. All paperwork pertaining to software management of individual nodes is delivered to the node/site managers.

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## Tech Committee from 2

levels. Time to Live should not be increased past 9.

Recommendation #2: Tell map makers to show *dogbones* on maps so users will realize the number of steps from one point to another in the network.

Recommendation #3: have a *visible* node show at all dogbones as a stepping point where feasible.

### Tech committee restructuring

WA2WNI moved that KA2DEW be appointed to NTECH Chair. Seconded by W1JFP. Passed. The board will tell Tadd what his duties are when he is appointed.

### N2IRZ's Netrix diode matrix

N2IRZ showed a new matrix he had made which does not require cables when used with a TINY 2 or Mark 2 TNC. The new matrix, called a NETRIX, is 6 ports and should sell for about \$25 as a kit. Don also displayed a wireline adapter called the ANS-Wiremodem. The adapter, which uses the circuit developed by NX2P, should sell for about \$7 for basic 2 port link, or just add \$3 per wire for additional ports up to 6 ports. This item connects multiple TNCs together at their "nose",

bypassing the modems and instantly creating a wire link interface. This is a major time saver over the original NEDA wire link setup (For those of you who don't recall, Tadd created the 1st wire link at the BERK site when Herb out-staked his Octopus™ with an 11 port node shortly before NEDA was founded!-Ed) Don said he would be happy to redo his board screening or printing to show information on NEDA or other packet networking groups. This might help lead network builders to the information they need on how to do networking and the existence of networking organizations such as NEDA.

### G8BPQ to Matrix Problems

BPQ matrix lockup problems will be researched and a fix for various versions documented. (Note: N2LSS has done some research which uncovered the fact that an early version of G8BPQ V406 has a bug. The CORRECT version of code which works properly is the version which shows a date of 9-28-92 for the BPQCODE.EXE file. A few releases of an earlier version with an earlier creation date all suffer from crashes and hang-ups, particularly where interface with a matrix is concerned.)

### PARMS problems?

Problem noted that KK4L is allowing nodes to show and not following TCP/IP subnet policy. Also noted that IPUCA, which is running a customized IP based switch code that was created some time ago by N2GFN, also has PARMS which are outdated enough to be causing problems with surrounding network sites. This points up the importance of running TheNET interfaces which have viewable PARMS such that actual on line network architecture and parameters can be viewed by anyone wishing (needing?) to do so. (With X1 becoming so popular, maybe this will become a problem of the past. X1 displays ALL parameters.-Ed)

### IP vs TheNET compatibility?

USER Subnets? Where and how do individual USERS access the network?

Recommended: That TCP/IP be linked into the network via same methodologies as other nodes and services. I.E.: If user does not come in through a user LAN, but may come in through a Dedicated IP LAN.

Continued on next page ↑↑↑

## Board Minutes from 2

### *NESAC Committee*

Dana told about his interview with the NY State EOC Communications Supervisor for the article in the current Quarterly.

### *NTECH-NBOD Distribution*

WB2QBQ reported that his BBS has been upgraded to latest AA4RE and that distribution lists are working fine. Bob asked that KA2DEW please provide him with an update to who is on NTECH list as soon as Tadd reviews and revises the list.

## Old Business

### *Member acknowledgment*

A brief discussion was held regarding the delays that had sometimes occurred between a member sending in for a new membership or upgrade, and then finally getting some acknowledgment of the membership manager receiving the materials OK. W1JFP will send a note to WB1DSW advising policy for acknowledging new and renewing members by mailed notice.

## New Business

Next meeting will be June 5th, 1993 to be held in Western NY region. The next meeting will be arranged by Richard Place somewhere in the vicinity of the previous meeting in western NY.

### *Constitutional Change Request*

WA2WNI moved that the Constitutional Change Request regarding the number of required board meetings per year be accepted as printed. The motion was seconded by K1MEA for discussion. Discussed at length. It was noted that having a requirement of 3 meetings per year would not prevent the board from holding 4 or even more a year, but would make things easier on the board if any 1 meeting could not be held. The motion passed unanimously.

### *Tentative Meeting Dates for 1993*

The next board meeting was set for early June in western NY region.

The 3rd quarter date was tentatively set for the end of August somewhere in Northern NJ. The 4th quarter meeting will be in Hanover NH sometime in late October (or even early November). Actual dates to be determined.

### *Board Member Alternates*

Reviewed and approved as follows:

Bob WB2QBQ's alternate is Tadd KA2DEW.

Jim K1MEA's alternate is Dave K1YHR

Rich WB2JLR's alternate is Chris WZ2B

Dana WA2WNI's alternate is Bill NX2P

Burt VE2BMQ's alternate is Don N2IRZ

### *Documentation manager*

Held over till the next board meeting

### *Documents for Approval*

Moved to approve the Annual as shown to the board by KA2DEW. 2nd & passed.

### *Appropriations & Revisions of the Budget?*

#### *Freebies-covered in budget.*

Tadd's proposed project of sending out Quarterly's to expired members was discussed at length. WA2WNI moved to send 30 Quarterly copies to expired members with Tadd to do the labels. John, WB8PUF offered to help with this project and the follow up to see how effective the results turn out. To be reported on after the task is accomplished and the results are in.

### *Budget Review*

The annual budget, which had been extensively documented and charted out by W1JFP was reviewed for accuracy and appropriateness.

Recommended that NEDA file for incorporation, then file for non profit status. W1JFP will send a note to WB1DSW who

is working on this and approve his ongoing efforts.

WA2WNI moved to accept the budget for 1993 as submitted. Second by WB2QBQ. Passed. WA2WNI commended W1JFP for his accuracy and efforts regarding his ongoing work with the budgetary figures.

The board reviewed the financial status overall with the Hexipus™ project. Things are going fine and should not need further review until the next board meeting

### *Quarterly journal*

Publishers deadline is March 10th. Should be shipping Winter Quarterly hopefully in early April.

### *Promotion Packages*

It was decided that the promotion packs should sell for \$5.00 and will include one Quarterly and one Annual.

WA2WNI moved that WNI, QBQ and BMQ work out details and advise Herb DSW. Seconded by WB2QBQ. Passed.

### *Life Membership in NEDA*

After discussion, it was decided that this needs further looking at. Remanded back to KA2DEW and WA2WNI for more documentation.

### *Spectrum Management*

KA2DEW will work on this project. N2IRZ will give Tadd info on NJ region stuff.

### *Meeting Expenses*

WA2WNI moved to bill NEDA for the room expenses thereby reimbursing W1JFP. Second K1MEA. Passed.

Meeting Adjourned

Meeting closed at 5:11 PM 2-20-93

—WA2WNI

—Recording Secretary

## ↻↻↻Tech from previous page

Recommended: That CANDGA upgrade to X1H software and regional nodes in that area run NEDA standardized PARMS as much as possible.

W1JFP provided copies of PARM sheets for different versions of software including G8BPQ TheNET, and TCP/IP. Tadd

was also asked to work on publishing TCP/IP parameter information as part of the IP sub committees research works out.

### *Meeting Adjourn*

Meeting ended at 1:30pm

—WA2WNI

—Recording Secretary



# Membership Roster as of 05/07/93

showing members with  
expiration dates of 08/92 and  
later

callsign	first name	last name	city	state	home	BBS	exp	MC	callsign	first name	last name	city	state	home	BBS	exp	MC
W1FW	Merr	Vall	Radio Club	No Andover	MA	KA1PEP	9210	Q	KA2DEW	Tadd	Torborg	Hackensack	NJ	WA2PVV	9510	V	
W1NRG	Meriden	ARC		Meriden	CT	W1NRG	9308	Q	VE2DJE	Richard	Aubin	Laval	PQ	VE2CRL	9306	Q	
KB2FAF	Skyline	A.R.C.		Cortland	NY	WB2PSI	9303	V	KA1DLK	Michael	Powolka	Shaftsbury	VT	WA2UMX	9312	Q	
W1EDH	Middlesex	ARC		Glastonbury	CT	W1EDH	9404	V	K4DMU	Joseph	Leitsch	Louisville	KY	W4CN	9312	Q	
K2ZWI	Univ Roch	A.R.C.		Rochester	NY	WB2PSI	9303	Q	AA2DP	Daniel	Shanks	Oneonta	NY	W2RGI	9308	Q	
WB2PSI	RFC	AR Club		Rochester	NY	WB2PSI	9212	Q	WA1DRP	Robert	Howarth	Lisbon	NH	WA1DPP	9212	Q	
WA1OJB	Brunswick	A.R.A.		Pownal	ME	KA1RTW	9401	Q	VE2DRB	Bob	Gobrick	Champlain	NY	VE2FKB	9305	Q	
W1BD	Central VT	ARC		Montpelier	VT	N1BRT	9404	Q	N2DS	David	Schmarder	Beaver Dams	NY	WB2PSI	9304	Q	
KD2AJ	DOERS			Morrisonville	NY	KD2AJ	9312	Q	KA2DST	Jim	Clark	N.Plainfield	NJ	KB4CVC	9210	V	
VE2PWI	West Island	Park ARC		Dorval	PQ	VE2FKB	9306	Q	WB1DSW	Herb	Salls	E. Kingston	NH	WB1DSW	9302	V	
VE2CEV	Sud Ouest Inc			ARC	Mercier		PQ		KD3DU	Clarence	Thompson	Warren	PA	KA3SFC	9306	Q	
VE2CEV	9307	Q							N2DU	David	Unverhau	Schenectady	NY	WA2UMX	9209	V	
VE2RM	VE2RM	Inc		PtClairDorvl	PQ	VE2BMQ	9312	Q	N5DUB	Doug	Everitt	Boulder	CO	NONE	9304	Q	
NONE	Brunswick	Packet Assn		Pownal	ME	KA1RTW	9312	Q	N4DW	Dave	Wilson	E. Burke	VT	K1UAQ	9312	Q	
N2HWA	Ramsey	Electronics		Victor	NY	NONE	9302	V	WB2DWD	Robert	Seastream	Long Valley	NJ	N2ELC	9405	Q	
NOCALL	Philip	Anderson		Perry	NY	NONE	9309	Q	KA3DXX	George	Stickler	Severn	MD	KA3DXX	9209	Q	
NOCALL	Edward	Eldredge		Cobleskill	NY	NONE	9305	Q	N3DDY	William	Timmins	Warren	PA	KA3SFC	9301	Q	
NOCALL	Homer	Duquette		Indian Orchd	MA	K1MEA	9405	Q	KF2EB	Jon	Hall	Medford	NJ	WB2MNF	9210	Q	
NOCALL	Joe	Lachacz		Burlington	VT	NONE	9401	Q	VE3EBT	David	Tilley	Lancaster	ON	NONE	9401	Q	
NOCALL	Linda	Reedy		Tampa	FL	NONE	9405	Q	N1EKF	Warren	Ritchie	Newbury	NH	WA1WOK	9212	Q	
NOCALL	Steven	Svoboda		Shutesbury	MA	NONE	9303	Q	VE3EI	Eric	Meth	Monkland	ON	VE3NUU	9301	V	
KU2A	Nick	Fero		Frankfort	NY	WA2TVE	9505	Q	N3ELI	Don	Pistner	Bradford	PA	N3ELI	9308	Q	
WA2AAR	Bob	Adamkewicz		Hillside	NJ	WA2AAR	9303	Q	N7ENT	Peter	Kallio	Port Orchard	WA	N7ENT	9212	V	
AA2AC	Vernon	Siegel		Clarence	NY	W2SEX	9305	Q	WB1ERE	Walter	Piotroski	Afton	NY	KK4L	9504	V	
N2AFP	Frank	Cannan		Liverpool	NY	WA2TVE	9405	V	KC3ET	Charles	Gessner	West Mifflin	PA	KA3VNP	9312	Q	
N2AFZ	Bud	Johnson		Canandaigua	NY	WB2WXQ	9210	Q	N3ET	Randy	Lilly	Allentown	PA	N3ET	9307	V	
KA1AH	Dave	Belisle		Claremont	NH	WA1WOK	9306	Q	N2EUW	Albert	Clark	Phoenix	NY	NONE	9401	Q	
AA1AH	Karen	Garrison		Durham	NH	WB1DSW	9308	Q	W2EXY	Richard	Marshall	Ransomville	NY	N2CVQ	9306	Q	
N2AIA	Robert	Gutshall		Charlton	NY	WA2UMX	9401	Q	KF2EZ	Anthony	Testa	Fulton	NY	N2KQN	9303	Q	
VE1AIC	Ron	MacKay		Cornwall	PEI	VE1AIC	9408	Q	N1EZD	Fred F	Donaldson	Templeton	MA	N1EZD	9304	V	
K2APL	Stan	Buckwalter		Briarwood	NY	K2APL	9308	Q	NB1F	John	Brown	Hanover	NH	W1ET	9310	Q	
VE3APY	Carl	Wall		Toronto	ON	VE3OY	9309	Q	KY2F	Fred	Swiatlowski	Oswego	NY	NONE	9403	Q	
VE2AQI	Jim	Leslie		DDO	QU	VE2FKB	9308	Q	WA1FBI	Doug	Bassett	Greenfield	MA	K1MEA	9301	Q	
WA2AWG	Joel	Rappaport		Holmes	NY	WA2AWG	9405	Q	N1FCC	Dave	Taylor	Belchertown	MA	W1NY	9303	V	
N7AYC	Roger	Nace		Sumner	WA	W7DK	9304	Q	VE2FCH	Denys	Fournier	Lasalle	PQ	VE2FCH	9404	Q	
KD1B	George	Makris		Yarmouthport	MA	KQ1K	9404	Q	KA2FEO	Bob	Ellison	King Ferry	NY	WB2WXQ	9210	Q	
WZ2B	Christpher	Piggott		Rochester	NY	WB2PSI	9303	V	N1FGY	Ed	Grosso	New Ashford	MA	WA2UMX	9303	Q	
K2BEH	James	Wenskus		Rochester	NY	WB2WXQ	9308	Q	N1FIL	Richard	St Jean	Manchester	NH	WA1WOK	9312	V	
VO1BK	Wilson	Penney		Cornr Brook	NF	NONE	9312	Q	VE3FJB	Len	Morris	Orilla	ON	VE3FJB	9404	Q	
KB2BLX	Ted	Wolf		W. Milford	NJ	WB2GTJ	9303	V	E16FK	Thomas	Davis	Hannacroix	NY	WA2PVV	9312	Q	
VE2BMQ	Burton	Lang		Howick	QU	VE2FKB	9312	V	W2FMM	James	Ward	Nichols	NY	WF2A	9306	Q	
KB1BN	Rick	Zach		Marlboro	MA	WB2QBQ	9404	Q	VE2FN	James	Morehouse	Montreal	QU	VE2FKB	9312	Q	
N2BNE	J.D. Van	Griethuysen		Rochester	NY	WB2WXQ	9306	Q	WA2FQA	Jerrold	Friedman	Spencer	NY	WF2A	9212	Q	
KA2BQE	Brian	Riley		Underhill Ctr	VT	KA2BQE	9305	V	N1FSF	Harold	Woering	Easthampton	MA	K1MEA	9209	Q	
K2BRF	Fran	Ziobro		Utica	NY	WA2TVE	9310	Q	N7FSP	Scott	Cronk	Seattle	WA	N7ENT	9303	Q	
KA2BSG	James	Rice		Rushville	NY	NONE	9308	Q	N1FSR	Joseph	Grey	Claremont	NH	WA1WOK	9310	Q	
VE2BTZ	Robert	Robillard		St Constant	PQ	VE2CPT	9404	Q	WD9FWD	Robert	Scott	Hudson	NH	KA1GOZ	9210	Q	
N2BUL	Paul	Altpeter		Farmington	NY	NONE	9404	Q	WB2FWK	Peter	Harvey	Albany	NY	WA2UMX	9306	Q	
KA2BVG	John	Trzaskos		Clifton Park	NY	WB2QBQ	9406	Q	WA1FXK	Donald	Patterson	Carthage	NY	WB2TUP	9405	V	
K1BXG	Joe	Devlin		Bellows Fals	VT	WA1WOK	9404	V	W1FYM	Edward	Harper	Glastonbury	CT	W1EDH	9305	V	
N8BZC	Dave	Chatham		Maple Hgts	OH	WA8BXN	9405	Q	W1FYR	Alan	Merrill	Gilsum	NH	WA1YTW	9308	V	
NC2C	Owen	Clute		Cooperstown	NY	NONE	9210	Q	WB2FYZ	Vince	Staffo	Ilion	NY	NONE	9404	Q	
NQ1C	Bob	Lafleur		Springfield	MA	W1NY	9312	V	KC1FZ	George	Davis	Hingham	MA	NS1N	9212	Q	
VE3CAB	Terry	Darling		Willowdale	ON	VE3OY	9305	Q	N3GAF	James	Sutkoff	Morrisonville	NY	KD2AJ	9302	Q	
N1CB	Carl	Breuning		Newport	NH	WA1WOK	9211	Q	N1GBE	Ralph	Celone	Thomaston	CT	N1DCA	9307	Q	
KB2CCL	Peter	Flezar		McLean	NY	WA2TVE	9212	Q	N2GDE	Bob	Hansen	Elmira	NY	WF2A	9303	V	
KD1CD	Ed	Hamilton		Jamaica Pln	MA	NONE	9308	Q	N2GDV	Art	Niebuhr	Lockwood	NY	KC2AZ	9305	Q	
N1CDR	Mickey	Yale		Westfield	MA	K1MEA	9404	Q	N1GEP	Reade	Williams	New London	NH	WA1WOK	9302	Q	
VE3CDX	Barrie	Garratt		Caledonia	ON	VE3CDX	9505	V	VE2GFF	Andre	Girard	Sorel	QU	VE2CSC	9404	Q	
VE3CDY	Don	Brunet		Kingston	ON	VE3CDY	9309	Q	N1GJB	Birlem	Pomroy	Portsmouth	NH	WB1DSW	9311	Q	
WA2CEB	Dennis	Griffin		Orchard Park	NY	W2OY	9309	V	KB2GLO	Thomas	Kenny	Toms River	NJ	NN2Z	9301	Q	
KB2CEV	Stephen	Tedesco		Merrifield	VA	NONE	9308	Q	WB8GLQ	Michael	Nugent	Peterborough	NH	WB1DSW	9404	V	
K1CGI	Vic	Ouelette		Lexington	MA	K1UGM	9306	Q	N1GMC	Dr. Edmond	Cooley	Lyme	NH	WA1YTW	9303	Q	
VE3CLN	Bruce	Colman		Gloucester	ON	VE3JF	9312	Q	KD4GOE	Geoff	Peacock	Theodore	AL	W4IAX	9504	Q	
KD3CR	Daven	Kreifeldt		Williamsport	PA	W3AVK	9308	Q	N3GOT	William	Case	Gillette	PA	WF2A	9303	Q	
KB2CS	Jack	Abel		Albany	NY	KB2CS	9213	V	KA1GOZ	Donald	Dillaby	Nashua	NH	KA1GOZ	9303	Q	
K1CSB	Ray	Feeley		Southampton	MA	K1MEA	9404	Q	KA2GPJ	George	Masny	Penfield	NY	WB2WXQ	9305	V	
K1CXS	Leon	Henderson		Wht Riv Jct	VT	NONE	9307	Q	K1GQH	Roger	Guillemette	Manchester	NH	WA1WOK	9404	Q	
N2CZL	Donald	Russ		Rochester	NY	WB2PSI	9305	V	W1GQR	David	Finn	Gray	ME	W1GQR	9404	Q	
W1DA	George	Hita		Sudbury	MA	WB1DSW	9504	Q	WB1GQU	Rick	Sheppe	Post Mills	VT	WA1FHB	9302	Q	
W1DA	George	Hitz		Sudbury	MA	WB1DSW	9304	V	N1GUJ	Peter	Ferguson	Granby	MA	K1MEA	9309	Q	
KB2DAJ	Steve	Long		Chaumont	NY	WB2TUP	9210	V	W1GXH	Alan	Chaffee	Westford	MA	WB1DSW	9404	Q	
W2DBU	Richard	Black		Brookport	NY	WB2WXQ	9404	Q	WB1GXM	Conrad	Ekstrom	Claremont	NH	WA1YTW	9310	Q	
N1DCO	Donald	Clark		W. Newbury	VT	W1ET	9306	V	AA2GY	Thomas	Farstad	Elmira	NY	KC2EQ	9404	Q	



callsign	first name	last name	city	state	home BBS	exp	MC	callsign	first name	last name	city	state	home BBS	exp	MC
N3GZW	Corey	Dean	Wellsboro	PA	K3RLI	9310	V	W1JY	O.W.H.	Johnson	Bristol	NH	WA1FHB	9303	Q
W2IH	Ike	Hathaway	Syracuse	NY	WA2TVE	9403	V	WN2K	Paul	Agoglia	Oneonta	NY	W2RGI	9401	Q
NP2H	David	Ovad	Blairstown	NJ	KA3VGD	9302	V	WA1K	John	Chapman	Middletown	CT	W1EDH	9302	V
KE2HB	Richard	Bartlett	Cooperstown	NY	N2NQH	9308	Q	KJ1K	Sigurd	Kimpel	Pittsfield	MA	WA2PVV	9303	Q
N1HFF	Lloyd	Swanburg	Atkinson	NH	WB1DSW	9404	Q	AA2KA	Donald	Woods	Rochester	NY	WB2PSI	9404	Q
WB4HFN	Ron	Baker	Derry	NH	WB1DSW	9308	Q	N8KCA	Brian	Copeland	Waukesha	WI	WB9TYT	9305	Q
KC1HH	Robert	Merril	Goffstown	NH	WA1WOK	9606	Q	N1KDX	Jeffrey	Patterson	Lawrence	MA	KA1PEP	9310	Q
N2HII	William	Savarese	Nesconset	NY	KC2FD	9303	Q	N3K GK	Phil	Swartz	No Warren	PA	KA3SFC	9301	V
W1HJF	Larry	Rappaport	Colebrook	NH	UNK	9304	Q	N1KGL	Stephen	Prodouz	Eliot	ME	WB1DSW	9303	V
WA1HJR	Leonard	Leach	Hudson	NH	KA1GOZ	9311	Q	N1KIO	Thomas	Saluti	New Durham	NH	WA1WOK	9212	V
KB2HKI	Ivah	Kingsley	Cortland	NY	KB2HKI	9312	Q	N1KJH	William	Roy	Londonderry	NH	NONE	9212	Q
N1HKK	Nick	Csernelabics	Portsmouth	NH	WB1DSW	9301	Q	N1KNK	Dave	Cunningham	Worthington	MA	K1MEA	9308	Q
N1HLY	William	Chase	Saco	ME	K1UAQ	9306	V	N1KNS	Barry	Evans	No Falmouth	MA	KQ1K	9404	Q
N1HNP	Richard	Lang	Lebanon	NH	W1ET	9404	Q	N1KNW	Elbert	Powell	Sandwich	MA	KQ1K	9302	Q
K2HNW	Ted	Goble	Schenectady	NY	WA2UMX	9303	Q	WB6KOK	Ed	Stokes	Randolph Ctr	VT	W1JFP	9305	Q
KB2HPU	Peter	Brayman	Unadilla	NY	W2RGI	9307	Q	N2KPR	Terry	Kennedy	Milford	NY	W2RGI	9403	V
N1HSM	Stan	Graziano	Exeter	NH	WB1DSW	9301	Q	N1KQB	Rick	Cook	E Corinth	VT	WA1WOK	9404	V
KB2HVL	James	Buch	Penfield	NY	WB2WXQ	9301	Q	N2KQN	Robert	Purdy	Fayetteville	NY	N2KQN	9212	Q
WA2HWG	George	Hanrahan	Utica	NY	NONE	9401	Q	N2KTM	Dr. James	Faux	Brockport	NY	NONE	9303	Q
KC1HY	Stanley	Dickinson	Springfield	VT	WA1WOK	9212	Q	W8VKV	Ted	Jacobson	Ripley	VT	NONE	9310	Q
KB2HYT	Kenneth	Girard	Rochester	NY	WB2VPH	9310	Q	N2KWI	Robert	Sexton	Richmond	NY	K1MEA	9306	Q
KA7I	Bruce	Fingerhood	Newfield	NY	WF2A	9210	S	N1KWW	Fred	Hogaboom	E. Granby	CT	K1MEA	9303	Q
KC1I	Larry	George	Sanford	ME	WA1WOK	9405	Q	N7KXL	Jim	Raehl	Orem	UT	NONE	9310	Q
KK2I	Todd	Oldenburg	Tonawanda	NY	VE3CDX	9301	Q	N2KXS	Judith	Stonehill	Honeoye Fls	NY	NONE	9308	V
ND1I	Travis	Redman	Florence	VT	WA2UMX	9212	Q	KZ2L	Ken	Coyne	Pine Island	NY	WA2RKN	9309	Q
NN2I	A. P.	Reid	Keeseville	NY	NONE	9307	Q	N1LBJ	Robert	Poor	Berwick	ME	WA1WOK	9303	Q
W3IAG	Robert	Heavener	Erie	PA	NM3G	9404	Q	G8LCK	Lee	Reynolds	Greenville	NH	KA1SRD	9303	Q
N1IAO	Dave	VanZant	Fremont	NH	WB1DSW	9210	Q	N2LDR	Martin	Miller	Philmont	NY	WA2PVV	9210	Q
WB2IBO	Harry	Morton	Massapequa	NY	WB2IBO	9301	V	KB6LE	George	Lanning	Olympia	VA	WB2QEU	9305	Q
N1IBR	Ronald	Douillard	Chicopee	MA	K1MEA	9301	V	K1LEC	Roland	Aldrich	W Sprigfield	MA	K1MEA	9312	Q
W2ICZ	Syd	Chiswell	Buffalo	NY	W2SEX	9305	V	W2LGF	Reuben	Merchant	Lake George	NY	WA2UMX	9504	Q
K1IDF	Donald	Scott	Sunderland	MA	K1MEA	9306	Q	N1HLX	Kenneth	Hall	Merrimick	NH	KB4N	9303	Q
KA1IIA	Robert	Provost	Guild	NH	WA1WOK	9211	Q	N2LIB	George	Reynolds	Penfield	NY	NONE	9211	Q
N2IJM	Phil	Phillips	Geneva	NY	WB2WXQ	9303	Q	N2KLA	Patrick	Onesty	Pine Bush	NY	N2LKA	9404	V
W2IKF	Paul	Klinko	Elmira	NY	KC2EQ	9401	Q	N1LKF	Douglas	Wood	Auburn	NH	WB1DSW	9305	V
WA2IKL	Richard	Factor	Kinnelon	NJ	NONE	9404	Q	WA2LKI	Tom	MacDonald	Venice	FL	NONE	9304	Q
N1IMC	Thomas	Berry	Littleton	NH	K1UAQ	9301	Q	N1LMD	Ronald	Walker	Quincy	MA	N1LMD	9310	Q
W2IMK	Jim	Centanni	Fairport	NY	WB2WXQ	9308	Q	KB2LML	Alvah	Haggett	Champlain	NY	KD2AJ	9312	Q
AA2IO	Ruthie	Hoffman	Middlesex	NY	WB2WXQ	9307	Q	KA1LNJ	Joel	Dumont	So Deerfield	MA	K1MEA	9304	S
KB2IP	Paul	Trepanier	Fairport	NY	WB2PSI	9305	Q	N1LNZ	Joseph	Lachacz	Burlington	VT	KD2AJ	9401	Q
N1IPT	John	Ferguson	Buzzards Bay	MA	KQ1K	9405	V	KA1LQE	John	Terry	So Burlingtn	VT	KD2AJ	9308	Q
N1IQG	Bruce	Gowans	Bow	NH	WA1WOK	9307	Q	WA2LRE	C Anthony	Calongne	Plattsburgh	NY	KD2AJ	9312	Q
WA2IQJ	Les	Schmarder	Elizabethtown	NY	KD2AJ	9310	Q	N2LSS	Paul	Straney	Garrattsville	NY	W2RGI	9309	V
N2IRZ	Don	Rotolo	Riverdale	NJ	WB2GTX	9407	V	K2LSX	John	Gubernard	Bergenfield	NJ	N2IMC	9306	Q
N2ISQ	Ted	Leonard	Maple Spgs	NY	WA0PTV	9306	Q	K8LT	Gary	Grebus	Brookline	NH	WA1PHY	9212	Q
WA1ITZ	Justin	Barton	Randolph	VT	N1BRT	9307	Q	N2LTI	Hervey	Gauvin	Penfield	NY	WB2WXQ	9304	Q
N1IUP	Harold	Read	Berlin	MA	NONE	9308	V	KC3LV	E. J.	Seppala	Fairview	PA	NM3G	9305	Q
KC2IV	Bob	Phillips	Middle Grove	NY	WA2UMX	9305	Q	N1LVL	Ira	Wilner	Putney	VT	WA1YTW	9306	Q
KB7IVK	DAmien	Cox	Veronia	OR	WORLI	9305	Q	WB8LVP	Fred	Sole	Poland	OH	WB8LVP	9308	Q
WB3IVY	Gerald	Engman	Warren	PA	KA3SFC	9212	Q	WA3LWR	Robert	Chimel	Clarks Summit	PA	K3RLI	9303	Q
N2IXL	Darrell	Leavitt	Plattsburg	NY	KD2AJ	9305	V	N2LWY	Dale	Fravel	Rochester	NY	WB2PSI	9404	Q
N2IYS	Richard	Spingarn	Trumansburg	NY	WB2WXQ	9303	Q	N1LXG	Jim	Feldhousen	Bristol	VT	KD2AJ	9404	Q
K2IZA	Jack	Aber	Canisteo	NY	NONE	9303	Q	WB8LYJ	Joseph	Townsend	Painesville	OH	N2JYG	9210	Q
N2IZT	Walter	Kannapel	Rochester	NY	WB2PSI	9301	V	N1LZD	Louis	Calabrese	Springfield	MA	WA1TPP	9404	Q
N2IZV	Russell	Harris	Newark	NY	WB2WXQ	9604	Q	KB2LZF	Donald	Schleede	Brockport	NY	WB2WXQ	9305	Q
NM2J	Mark	Oliver	W. Henrietta	NY	WB2WXQ	9209	V	NK1M	Bill	Hallahan	Nashua	NH	KB4N	9210	Q
NW1J	Michael	Rioux	Boxford	MA	K1UGM	9212	Q	KY1M	Dexter	Howe	Bradford	NH	WA1WOK	9405	V
NV2J	Anthony	Volino	Elmira	NY	WF2A	9307	Q	N1MAU	Greville	Balzarini	Gloucester	MA	KA1EDY	9310	Q
WB2JAB	Doc	Nellis	Winthrop	NY	KA2JXI	9210	V	VE1MDD	Allen	Bishop	Kentville	NS	NONE	9209	Q
N2JAW	Ron	Raposo	Holland Ptnt	NY	WA2TVE	9308	Q	K1MEA	James	Wzorek	Easthampton	MA	K1MEA	9312	V
N3JBG	John	Filiatrault	Russell	PA	KA3SFC	9401	Q	WA2MFV	Peter	Detweiler	Gladstone	NJ	NONE	9306	Q
N1JDK	Steve	Maloney	Bedford	NH	KB1PJ	9305	V	N2MGI	Matt	Parker	Philadelphia	PA	KA2JXI	9405	V
N1JEB	Daniel	Senie	Clinton	MA	WA1PHY	9404	Q	N2MH	Mark	Herson	W Orange	NJ	N2MH	9405	Q
N1JEO	Joel	Curneal	Meriden	CT	W1NRG	9404	V	W1MIV	Charlie	Tamm	Wakefield	NH	WB1DSW	9310	Q
VE3JF	Barry	McLarnon	Ottawa Ont	ON	VE3JF	9210	Q	KC1MJ	John	Blowney	York Harbor	ME	WB1DSW	9301	Q
W1JFP	Calvin	Stiles	Hanover	NH	W1JFP	9401	V	N2MKC	Thomas	Psych	Syracuse	NY	KB2DIO	9404	Q
N2JHJ	Eric	Svalland	Kingston	NY	WA2KQY	9404	Q	KA1MLN	Joseph	Jolda	Webster	MA	K1MUJ	9212	Q
N1JHX	Fred	Hibbard	Littleton	NH	K1UAQ	9303	Q	WA2MNM	William	Fedder	Sanbron	NY	NONE	9212	Q
N2JJV	Kenneth	King	Cobleskill	NY	WA2PVV	9310	Q	N2MRZ	Sanjay	Hiranandani	Endicott	NY	WF2A	9210	Q
WB2JLR	Richard	Place	Canandigua	NY	WB2WXQ	9506	V	KB2TM	Dennis	Baumgarte	Port Jerus	NY	KA2MSL	9308	V
N1JMC	David	SWanson	Dennisport	MA	KQ1K	9405	Q	VE3MX	Ron	Kramer	Port Colborn	ON	VE3SNP	9305	V
N3JNS	Dan	Sekera	Kingston	PA	K3RLI	9404	Q	KA2MYD	Thomas	Mathewson	Norwich	NY	KA2MYD	9401	V
N1JRA	Carl	Snyder	Cavendish	VT	WA1WOK	9504	Q	KB2MZQ	Tom	Hirasuna	Ithaca	NY	WA2FQA	9404	Q
N1JRC	Brian	Burke	Etna	NH	WA1WOK	9211	Q	WY2N	James	Brewer	W. Winfield	NY	WA2TVE	9305	Q
N1JUM	Robert	Dupre'	Salem	NH	KB4N	9302	Q	NR1N	Lindsay	Collins	Washington	NH	WA1WOK	9212	V
VE2JV	Reginald	Theriaux	Terrebonne	PQ	VE2VMS	9306	Q	NS1N	Karl	Johnson	Scituate	MA	NS1N	9303	Q
WB2JWD	Mike	Brown	West Islip	NY	N2BQF	9210	Q	NM1N	Edward	Los	Nashua	NH	KA1GOZ	9303	Q
KA2JXI	Roger	Ousterhout	Ogdensburg	NY	KA2JXI	9212	V	N2NAP	Kevin	Davis	Shortsville	NY	NONE	9307	Q

callsign	first name	last name	city	state	home BBS	exp	MC	callsign	first name	last name	city	state	home BBS	exp	MC
W4NBC	Earl	Smith	York	ME	WB1DSW	9305	S	K2SJB	David	Slade	Ithaca	NY	WB2PSI	9311	Q
N0NDO	John	Painter	Federal Way	WA	N0NDO	9912	V	K2SLZ	Roger	Bean	E. Aurora	NY	N2CVQ	9407	Q
N1NEG	Ken	Winegard	Manchester	NH	WA1WOK	9308	Q	KA1SMC	Marlon	Wood	Windsor	VT	WA1WOK	9302	Q
N2NFU	Carl	Squires	Apalachin	NY	WF2A	9307	V	WA2SOK	Irv	Walter	Palmyra	NY	WA2WXQ	9212	Q
N2NJH	Karl	Weir	Buffalo	NY	W2OY	9212	Q	N2SQQ	Thomas	Woznack	Latham	NY	WA2UMX	9404	Q
W1NMQ	Joseph	Boudreau	Fiskdale	MA	W1BIM	9404	V	WT1T	Scott	Robinson	Tyngsboro	MA	WA1PHY	9210	V
N2NGH	Michael	Basile	Cooperstown	NY	N2NQH	9401	Q	WB2TCV	Carl	Roby	Columbiaville	NY	WA2PVV	9305	Q
WA7NTF	Gary	Kohtala	Puyallup	WA	HL9TG	9306	Q	KA1TDL	Schley	Warren	Chicopee	MA	K1MEA	9304	Q
WB9NTO	Steve	Fisher	Durand	WI	NONE	9401	Q	WA1TLN	Russell	McAllister	Lebanon	NH	W1JFP	9303	Q
KE0NX	Jack	Christiansen	Salt Lk City	UT	NONE	9308	Q	DK1TM	Juergen	Malner	Westfield	MA	K1MEA	9307	Q
N2NYF	Virginia	Reed	Potsdam	NY	K2CC	9312	Q	KB1TH	Michael	Ribeiro	Granby	MA	K1MEA	9404	Q
KA1NZA	Eric	Handly	N.Clarendon	VT	WB2RUM	9301	Q	WA1TNG	Richard	Hook	Augusta	ME	WA1IE	9210	Q
WS1O	Brian	Battles	Middletown	CT	W1EDH	9303	V	K2TNN	Jerry	Batik	Stamford	NY	W2RGI	9307	Q
WJ2O	Dave	Farnsworth	McConlesvill	NY	WA2TVE	9308	V	WA1TPP	Herb	Belin	Granville	MA	W1NY	9404	Q
NX9O	Brian	McCarthy	Vestal	NY	WF2A	9405	V	K1TR	Ed	Parsons	Windham	NH	KA1PEP	9303	Q
KA3ODJ	Andy	Horn	Bangor	PA	N3DPU	9210	Q	WB2TRC	James	Saniewski	Rochester	NY	WB2PSI	9305	Q
N2OEH	David	Vergamini	Liverpool	NY	WA2TVE	9404	Q	N2TTA	Thomas	Remmert	Slingerlands	NY	KB2CS	9404	Q
WA1OFR	Robert	Johnson	Bridgewater	MA	NS1N	9209	Q	KA7TTY	John	MacDuff	Issaquah	WA	N7DUO	9404	Q
N2OKA	Candice	Pettys	Corinth	NY	WA2UMX	9307	Q	W1TTY	H. Skid	Schermerhorn	E. Sandwich	MA	KQ1K	9404	Q
KA2OMQ	Thomas	Calvete	Rochester	NY	WB2PSI	9212	V	WA2TVE	Howie	Cohen	Utica	NY	WA2TVE	9301	V
N2ONV	William	Oszust	W. Babylon	NY	WB2IBO	9309	Q	KA1TWX	Bruce	Graves	Keene	NH	WA1YTW	9404	Q
N7OO	Jack	Taylor	Sierra Vista	AZ	NJ7P	9312	Q	KC1UA	Scott	Halligan	Forestdale	MA	KC1UA	9310	V
W1OQ	Hartley	Gardiner	Phoenix	AZ	N7MRP	9311	Q	KE2UA	David	Little	Watertown	NY	KB2JXI	9212	Q
WA4OSR	Felton	Mitchell	Mobile	AL	WA4OSR	9305	Q	K2UBE	Joseph	Michaud	Mohawk	NY	WA2TVE	9305	Q
W1OT	A. L.	Berg	Stow	MA	NONE	9305	Q	W1UBG	Robert	King	Dover	NH	WB1DSW	9404	Q
KA1OU	Chan	Eddy	Penacook	NH	WA1WOK	9310	V	N2UBH	John	Kushneis	Clay	NY	KB2DIO	9505	Q
WA2OVT	Robert	Gardner	Big Flats	NY	K3RLI	9401	Q	KA1UDX	Rick	Bogdan	Hull	MA	WA1PHY	9504	Q
VE3OX	A. F.	Smardon	Carrying Pl	ON	VE3CDY	9404	Q	K1UGM	Jim	Morris	Wakefield	MA	K1UGM	9301	V
VE3OY	Keith	Goobie	Thornhill	ON	VE3OY	9210	Q	WA2UKX	William	Reiter	Pen Yan	NY	WB2PSI	9305	Q
KC2P	Ronald	Brodowski	Elma	NY	NONE	9504	Q	WA2UMH	Jim	McKnight	Schuyerville	NY	WA2UMX	9308	V
KM2P	Alan	Gonsenhauser	Boonton	NJ	K2RW	9404	Q	WA4UMR	John	Morton	Louisville	KY	WA4UMR	9405	Q
NG2P	Bob	Hunter	Rochester	NY	WB2VPH	9308	V	K2UOB	Don	Weiman	Almond	NY	NONE	9212	V
NX2P	Bill	Slack	Sparta	NJ	NX2P	9308	Q	K1UOL	Robert	Stevenson	Bethel	CT	K1UOL	9405	V
W1PEX	Dan	MacDonald	Nashua	NH	KB4N	9308	Q	W1USK	Richard	Guyer	Lebanon	NH	WA1WOK	9302	Q
K2PEY	Joseph	Huie	Quincy	IL	NONE	9401	Q	W1UU	Peter	Butler	No Andover	MA	W1UU	9405	V
N2PFL	Ernest	Nitka	Fayetteville	NY	N2KQN	9308	Q	KB7UV	Andrew	Funk	Astoria	NY	KB7UV	9305	Q
KF8PH	Bob	Bennet	Shaker Hgts	OH	KF8PH	9405	Q	NR2V	Dean	LaClair	Tupper Lk	NY	KD2AJ	9504	Q
KB1PJ	David	Speltz	Amherst	NH	KB1PJ	9212	V	WD1V	John	Seney	Manchester	NH	WB1DSW	9304	Q
WA2PKB	William	Zaleski	Duanesburg	NY	WB2QBQ	9405	Q	WA2VAM	Kevin	Wright	E. FreeTown	NY	WA2TVE	9302	V
VE2PNK	Daniel	Audet	SJ Chrystome	PQ	VE2SJC	9306	Q	K1VC	Victor	Carozza	Deerfield	NH	WA1WOK	9308	Q
WA1PTC	Michael	Staines	Rochester	NH	WA1PTC	9308	V	K1VDZ	Joe	Lanoue	Cheshire	CT	KA1XN	9401	Q
WB2PTX	Cosmo	Castellano	New Hartford	NY	WA2TVE	9210	V	VE2VE	James	Hay	Pointe Clair	PQ	VE2FKB	9306	Q
WB8PUF	John	Burningham	Mahopac	NY	WA2AWG	9404	V	W1VGZ	Thomas	Dimilla Jr	Saugus	MA	K1UGM	9404	Q
W2PX	William	Coffey	Ballston Lk	NY	NONE	9312	Q	K1VNE	Tom	Abare	Saxtons Riv	VT	NONE	9512	Q
K6PYP	Scott	Swanson	Pac Palisade	CA	N6YN	9310	Q	W4VOS	Hank	Resch	Pittsford	NY	NONE	9307	Q
NK1Q	Jim	Cedrone	S. Boston	MA	K1UGM	9308	V	W1VOV	Arnold	Snow	Farmington	CT	NONE	9405	Q
WA3QAG	Sanford	Reedy	Canton	PA	WA3QAG	9303	Q	WB2VPH	Richard	Lievence	Brockport	NY	NONE	9304	Q
WB2QBQ	Robert	Seger	Altamont	NY	WA2TVE	9404	V	WB2VUN	R. George	Newton	Skaneateles	NY	WA2TVE	9305	Q
W1QJW	John	Leech	N Chelmsford	MA	WA1PHY	9404	V	KE2VW	Gregory	Yound	Holland	NY	KE2VW	9405	Q
W2QLI	James	Dates	Corning	NY	WB2QBQ	9304	Q	WB2VXS	David	Kinerson	Averill Park	NY	WA2PVV	9309	V
KA1QP	Paul	Chauvin	Manchester	NH	WA1WOK	9303	Q	AI2W	Ed	Dombert	Hornell	NY	NONE	9308	Q
N8QWK	Jim	Grimes	Akron	OH	N8QWK	9405	Q	KV2W	James	White	Hammondsport	NY	WB2PSI	9401	Q
KA2QYE	Frank	Frisone	Schenectady	NY	NONE	9308	Q	KA0WBX	James	Savino	Avoca	NY	WB2PSI	9211	Q
KZ2R	Stephen	Maier	Medina	NY	WB2WXQ	9504	Q	VE2WEM	Robert	Schwartz	Cot St Luc	PQ	VE2FKB	9306	Q
VE1RB	Jim	Harris	Yarmouth	NS	VE1RB	9310	Q	WA2WNI	Dana	Jonas	Valatie	NY	WA2PVV	9312	V
W1RFP	Blanchard	Pratt	Norwich	VT	WA1WOK	9210	Q	K1WNZ	David	Stuart	Dover	NH	WB1DSW	9301	V
KA2RGI	Walter	Wenzel	West Babylon	NY	WB2IBO	9301	V	WA1WOK	Cal	Calvitto	Concord	NH	WA1WOK	9310	V
KA2RHM	Bruce	Roberts	Ravena	NY	WA2UMX	9312	Q	WA1WRM	Joe	Deyette	Northampton	MA	K1MEA	9302	Q
WA3RIZ	Jeff	Chapman	KingO Prussia	PA	WB3JOE	9308	Q	W1WUO	Thomas	Merrick	Atkinson	NH	WB1DSW	9310	Q
VE2RJV	Roger	Viner	Toronto	ON	VE3OY	9305	Q	NQ1X	Pavel	Duolek	Hanover	NH	W1ET	9304	Q
VE3RM	Don	Dashney	LORignal	ON	VE2FKB	9307	Q	VE3XO	Steve	Tobe	Toronto	ON	VE3CDX	9308	Q
W1RNZ	Gordon	Stearns	N. Sprgfield	VT	WA1FHB	9304	Q	WK1Y	Joseph	Boyle	E. Rochester	NH	NONE	9209	Q
KA1ROH	Paul	Cabbe	Derry	NH	KA1PEP	9209	Q	KM1Y	Harold	Pugh	Abington	MA	NS1N	9405	Q
KA2RRK	Jerry	Devine	Browns Mills	NJ	WT3V	9404	Q	K1YHR	David	Packard	Pennellville	NY	K1MEA	9311	V
K1RSC	John	Johnston	Rye	NH	WB1DSW	9308	Q	KB2YJ	Gary	Zanghi	Angola	NY	KE2VW	9308	V
KA3RSJ	Larry	Steffy	Manheim	PA	NR3U	9303	Q	WA1YKN	Frank	Hill	Osterville	MA	KQ1K	9304	V
WA2RUN	Robert	Estes	Delhi	NY	W2RGI	9212	Q	KB1YL	James	Robertson	Rumford	ME	NS1Z	9404	V
VE3RWN	Randy	Neals	Bethany	ON	VE3KRG	9305	Q	K1YPP	Dennis	Blanchard	Hampstead	NH	WB1DSW	9310	Q
KE2RX	Harry	Hubbard	Fine	NY	NONE	9405	Q	KA3VRW	Philip	Hemenway	Wellsboro	PA	KB2HKI	9310	V
WA2RXL	Henry	Sdchwalenstocker	Saranac Lk	NY	WA2RXL	9404	Q	KB7YW	Fred	Peachman	Brookfield	OH	WB8LVP	9308	Q
WB2RYB	Brian	Langton	Malone	NY	WB2RYB	9312	Q	WT2Z	Colson	Carr	Alexandra Bay	NY	KA2JXI	9404	Q
WA2RZG	Jack	White	Scottsville	NY	WB2WXQ	9308	Q	WY2Z	Wallace	Roworth	W. Webster	NY	NONE	9212	Q
N2SBL	Sean	McCann	Palenville	NY	WA2PVV	9404	Q	NS1Z	John	Wilcox	Rumford	ME	NS1Z	9404	V
K2SBQ	D	Berwald	Oswego	NY	NONE	9305	Q	W3ZCE	Therese	Bates	Rutland	VT	WB2RUM	9312	Q
N4SD	Sperry	Davis	Virginia Bch	VA	WD4MIZ	9404	Q	KA2ZMC	Paul	Sumski	Arcade	NY	NONE	9209	Q
KA3SFC	Lloyd	Ellsworth	Warren	PA	KA3SFC	9301	V	K2ZR	Dick	Stein	N Tonawanda	NY	W2OY	9305	Q
VE3SGG	Eric	Taada	Gloucester	ON	NONE	9210	Q	KC2ZS	Ansel	Martin	Lakewood	NY	KA3SFC	9306	Q
KA1SGU	Steve	Hillson	Boston	MA	WA1PHY	9305	V	KA2ZSC	Tom	Arrigo	Grand Island	NY	N2CVQ	9305	Q
								WB2ZUF	Glenn	McCoy	Nichols	NY	WB2ZUF	9305	Q
								W1ZWE	John	Ramsey	Easthampton	MA	K1MEA	9305	Q

*Map #01 E ONI*

*Map #02 Montreal*

*Map #04 SE ONT*

*Map #05 NNY*

*Map #06 VT*



*Map #07 NH*

*Map #08 ME*

*Map #10 NWNY*

*Map #11 CNY*

*Map #12 ENY*

*Map #13 W MA*

*Map #14 E MA*



*Map #18 SWNY*

*Map #20 NEPA*

*Map #21 SE NY*

*Map #22 CT*

*Map #23 RI*

*Map #24 Cape Cod*

*Map #26 XNJ*

# *Abbreviated map*



# *Abbreviated map*

*Map #27 NYC + LI*

# NEDA HexiPus™ Order Form

Use this order form when purchasing HexiPus™ board kits by mail from the POBox or from a NEDA consignee at a special event.

Use the latest version of this form if possible. See bottom of the page for release date.

You do not have to pay shipping if you are getting the HexiPus™ from a NEDA agent/consignee.

To Consignee: Please make sure that each purchase is handled with one of these forms. Correctly document funds exchanged, check numbers, purchaser's name and address if not by cash; and quantities of each kit type delivered.

chase is handled with one of these forms. Correctly document funds exchanged, check numbers, purchaser's name and address if not by cash; and quantities of each kit type delivered.

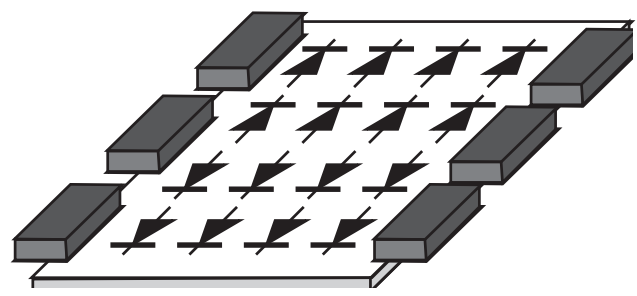
To Mail Purchaser: Please fill out all sections of the form except those marked "For Office Use Only".

This will help our treasurer track the sales of the product so that our club may be run efficiently and above board.

Thank you and good luck with your node!

<b>Purchaser Information</b>		<input type="checkbox"/> Cash <input type="checkbox"/> Check Number <input type="checkbox"/> US bank <input type="checkbox"/> Canadian	
Name		<input type="checkbox"/> <input type="checkbox"/>	
Address		<input type="checkbox"/> If funds are Canadian compute exchange rate as best you can. If check is drawn on a Canadian bank add \$15 U.S. to total.	
City	State/Province	# <input type="checkbox"/> rd+Diode Kits	# of Com-
Country	Zip	p. <input type="checkbox"/> s	(US)
Callsign (Optional)	Date Purchased	x\$22.95 +	subtotal in US funds: <input type="checkbox"/>
		If by mail add \$4.00 per unit No mail delivery outside U.S.	

<b>Agent/Consignee Information</b>	<b>Please specify the connector gender required.</b>
Name	Total in US funds: <input type="checkbox"/>
Event	Please check only one box:
	<input type="checkbox"/> DB9 Male Connectors
	<input type="checkbox"/> DB9 Female Connectors



The NEDA HexiPus™ Kit is, as of this printing, available in three formats. Board with diodes; Board with diodes and female connectors; or board with diodes and male connectors. Please specify your preference in the notes section above. The shipper will give you male connectors if female connectors run out.

Send orders to : **NEDA HEXIPUS**  
**PO Box 563**  
**Manchester, NH 03105**

<b>For Office Use Only (Treasurer)</b>		
Date Rx by Treasurer:	Date Tx to HexiPus™ Cmty	Deposit
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**Order Form Date: 09/16/91**

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# North East Digital Association Membership Application

Welcome to NEDA and Packet Radio. This is the official membership form for NEDA.

## Some general information about NEDA:

NEDA is a club formed in 1989 to promote packet radio and to lead the development of a general purpose, user accessible wide area packet radio network.

NEDA's area of interest includes the north eastern United States, Quebec, Ontario and the Maritime Provinces..

NEDA publishes the *NEDA Quarterly* as a periodical four times a year. The *NEDA Annual* is published each year as well. Associate w/Quarterly and Voting Members receive these documents by mail. The club distributes the magazine at flea markets as well.

NEDA's administration is based on 6 directors, 6 director alternates and several appointees. The six directors of the board are elected by the membership for two year terms. The six alternates are appointed by the elected board. Three of the directors are elected each year. The appointees include recording secretary, membership secretary, treasurer and editor. The board meets four times a year in various locations within the

club's area of interest. Those meetings are open to the voting membership and are fully documented in the minutes which are published in *The NEDA Quarterly*. The club bylaws are available with a SASE to the club's mailing address.

NEDA members sponsor general interest and specific interest packet meetings throughout the region of interest of the club. Those meetings may be announced in *The NEDA Quarterly* and meeting results may also be published. Other packet radio clubs can request space in *The NEDA Quarterly*. NEDA's focus is to publish information on packet radio and packet radio networking.

## The dues structure of NEDA is as follows:

- Subscription membership with US address ..... \$15
- Voting membership with US address ..... \$25
- Subscription membership with Canadian address ..... \$20
- Voting membership with Canadian address ..... \$30
- Upgrade to voting membership all countries ..... \$10

All membership rates are US funds only. Canadian applicants should send funds in a Postal or Bank Money-Order in US funds. Non-US or Canada applicants, libraries and other Amateur Radio clubs should contact NEDA at the mailing address for information and rates. Thank you. This form is dated Q41-052393.

<b>Membership Applying for - Check one box:</b>	
US Associate/Subscription Membership, \$15/year <input type="checkbox"/>	US Full/Voting Membership, \$25/year <input type="checkbox"/>
Canada Associate/Subscription Membership, \$20/year <input type="checkbox"/>	Canada Full/Voting Membership \$30/year <input type="checkbox"/>
Upgrade to Full/Voting Membership, \$10/year <input type="checkbox"/>	Information Update Only <input type="checkbox"/>

Check here if this is a RENEWAL or if you've ever been a NEDA member before.

Enter # of years you wish to pay for:  Amount Enclosed:

Name:

Address:

City:  State or Province:

Country, USA, CANADA  Zip:

**Full Service BBS at which you get your packet mail**

Callsign:  @  .  
Example: N3EIC @ KA2EIA.pa

Home Phone:

**Other Computer addresses we can contact you at: (TCP/IP, FIDO Net, Internet, CompuServe etc.)**

If a NEDA member gave you this form, what is his or her callsign?

If you are a RACES or ARES member in NEDA's area of interest, put your county here:

**Make Checks to NEDA.**  
Address this form and all other correspondence to:  
**NEDA**  
**Box 563**  
**Manchester NH 03105**

**FOR OFFICE USE ONLY:**

RCT: \_\_\_\_\_ CNO: \_\_\_\_\_ ACK: \_\_\_\_\_ DDP: \_\_\_\_\_ DOE: \_\_\_\_\_ PKG: \_\_\_\_\_ |

# TheNET Sysop's Help Sheet

Parameter	Function v2.08	LAN	Bkbn	U/G
1	Minimum Quality For Auto Update1	50	50	50
2	HDLC Channel Quality	0	203	50
3	RS-232 Channel Quality	203	203	203
4	Obsolescence Count Init Value	3	3	3
5	Obsolescence Count Min For Broadcast	4	1	4
6	Nodes Broadcast Interval (sec)	1800	1800	1800
7	FRACK (sec)	4	1	9
8	MAXframe	1	1	1
9	Link RETRIES	10	10	10
10	Digipeating 0=no; 1=yes	0	0	0
11	Validate Callsigns 0=no; 1=yes	1	1	0
12	Host Mode Connects	0	0	0
13	TxDELAY (10ms)	35	35	35
14	Broadcast Via Port b0=radio; b1=RS-232	2	3	3
15	Pound Node Propagate 0=no; 1=yes	0	0	0
16	Connect Command Enable 0=no; 1=yes	1	0	1

## EPROM parameters

17	Destination List Length	100	100	100
18	Time-to-live Initializer (hops)	9	1	9
19	Transport Timeout (sec)	200	200	200
20	Transport RETRIES	2	2	2
21	Transport ACK Delay (sec)	1	1	1
22	Transport Busy Delay (sec)	180	180	180
23	Transport Window Size	2	2	2
24	Congestion Control Threshold	4	4	4
25	No-Activity Timeout (sec)	7200	300	7200
26	P-persistence (see text)	128	255	64
27	Slot Time (10ms)	20	1	20
28	Link RESPTIME [t2 timeout] (10ms)	50	20	50
29	Link T3 Timeout [CHECK] (10ms)	65000	65000	65000
30	Station ID 0=msgsg;1=after; 2=always	1	0	1
31	CQ Broadcasts 0=no; 1=yes	1	0	1
32	Heard List Length	20	20	20
33	Full Duplex 0=no; 1=yes	0	0	0

## Parameter Function v2.10

Parameter	Function v2.10	LAN	Bkbn	U/G
1	Minimum Quality For Auto Update1	50	50	50
2	HDLC Channel Quality	0	203	50
3	RS-232 Channel Quality	203	203	203
4	Obsolescence Count Init Value	3	3	3
5	Obsolescence Count Min For Broadcast	4	1	4
6	Nodes Broadcast Interval (sec)	1800	1800	1800
7	FRACK (sec)	4	1	9
8	MAXframe	1	1	1
9	Link RETRIES	10	10	10
10	Validate Callsigns 0=no; 1=yes	1	1	0
11	Host Mode Connects	0	0	0
12	TxDELAY (10ms)	35	35	35
13	Broadcast Via Port b0=radio; b1=RS-232	2	3	3
14	Pound Node Propagate 0=no; 1=yes	0	0	0
15	Connect Command Enable 0=no; 1=yes	1	0	1
16	Destination List Length	100	100	100
17	Time-to-live Initializer (hops)	9	1	9
18	Transport Time-out (sec)	200	200	200
19	Transport RETRIES	2	2	2
20	Transport ACK Delay (sec)	1	1	1
21	Transport Busy Delay (sec)	180	180	180
22	Transport Window Size	2	2	2
23	Congestion Control Threshold	4	4	4

## EPROM parameters

24	No-Activity Time-out (sec)	7200	300	7200
25	P-persistence (see text)	128	255	64
26	Slot Time (10ms)	20	1	20
27	Link RESPTIME [t2 time-out] (10ms)	50	20	50
28	Link T3 Time-out [CHECK] (10ms)	65000	65000	65000
29	Station ID 0=msgsg;1=after; 2=always	1	0	1
30	CQ Broadcasts 0=no; 1=yes	1	0	1
31	Full Duplex 0=no; 1=yes	0	0	0
32	Telemetry unit only			
33	Telemetry unit only			

Parameter	Function v1.1, 1.16 & X-1	LAN'	Bkbn	U/G
1	Destination List Length	100	100	100
2	Minimum Quality For Auto Update1	50	50	50
3	HDLC Channel Quality	0	203	50
4	RS-232 Channel Quality	203	203	203
5	Obsolescence Count Init Value	3	3	3
6	Obsolescence Count Min For Broadcast	4	1	4
7	Nodes Broadcast Interval (sec)	1800	1800	1800
8	Time-to-live Initializer (hops)	9	1	9
9	Transport Timeout (sec)	200	200	200
10	Transport RETRIES	2	2	2
11	Transport ACK Delay (sec)	1	1	1
12	Transport Busy Delay (sec)	180	180	180
13	Transport Window Size	2	2	2
14	Congestion Control Threshold	4	4	4
15	No-Activity Timeout (sec)	7200	300	7200
16	P-persistence (see text)	128	255	64
17	Slot Time (10ms)	20	1	20
18	FRACK (sec)	4	1	9
19	MAXframe	1	1	1
20	Link RETRIES	10	10	10
21	Link RESPTIME [t2 timeout] (10ms)	50	20	50
22	Link T3 Timeout [CHECK] (10ms)	65000	65000	65000
23	Digipeating 0=no; 1=yes	0	0	0
24	Validate Callsigns 0=no; 1=yes	1	1	0
25	Station ID 0=msgsg;1=after; 2=always	1	0	1
26	CQ Broadcasts 0=no; 1=yes	1	0	1

## Notes:

The above parms are those as approved by the technical committee for nodes participating in NEDA networking technology.

A **LAN** port is a port that is on a frequency which has no other nodes nor any servers. The port would be used by stations who mostly acquire data *from* the network. These parms would be incompatible with a crowded channel.

**U/G** indicates a port on a frequency which would be used by users and/or servers and/or other nodes. This includes LAN frequencies which have, since creation, have acquired KAnodes, digipeaters and/or other nodes and servers.

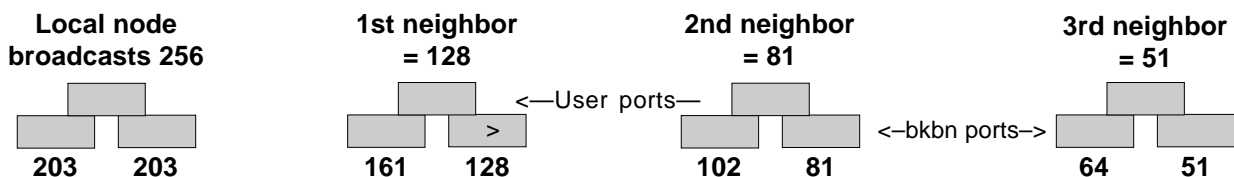
**Bkbn** indicates a port that talks to a single other node which is similarly configured.

While some of these parms may be adjusted to local needs, please be sure to keep all L3/L4, and values effecting node propagation, as listed. It is each node manager's job to *Gateway* to adjacent nodes which are not using compatible parameters.

When you receive any updates, please make changes on this sheet to avoid confusion. If you have input or questions on any of this information please send to NEDA @ WB2QBQ attn NTECH.

**This information is current as of time of publication. Check with your local Volunteer Regional Contact person for updates or changes to parameters being used in the network. Nodes using TheNET "work alike" softwares should match the effective values of these parms as closely as possible.**

*This drawing represents the node quality value for a single node as it propagates through several node hops.*



□ 1990, 1991, 1992, 1993 North East Digital Association

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The NEDA Quarterly is the official journal of the North East Digital Association. It is published four times annually. Distribution is around 600 copies including paid members and public relations purposes. Paid membership at the time of publication was 255.

NEDA is a non-profit club formed for the purpose of promoting free access general purpose amateur radio packet networking.

NEDA's mailing address is :  
NEDA - Box 563, Manchester NH 03105

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# Hexipus Photo

**The NEDA Hexipus™ is used to connect up to 6 TNCs together to form a network building block. To order a Hexipus™ see the order form on page 49.**