NEDA Report

North East Digital Association

Devoted to Packet Networking in the North East

Volume 4	Issue #3	December 19, 1997

Editor's Column

Hello and welcome to the ninth NEDA Report, which contains the minutes of the October 1997 meetings of the Board and Technical Committee, as well as an updated membership roster and the latest revision of the NEDA Constitution.

Last time, I wrote about the near-certain end of NEDA as we know it. In this issue of the Report, Tadd KA2DEW, one of the founders of NEDA, finds this as a cause for celebration.

Funny thing is, I agree with him.

No, I'm not happy to see the numbers of people interested in packet and networking decline. But, as Tadd points out, one must consider quality as well. It turns out that Packet is actually experiencing a revival, not in the number of participants, but in the level of participation of those remaining. Turn to Page 5 to see what we're talking about.

Meanwhile, life goes on. I wasn't at the Board meeting in October, partly because I'm not fond of fish chowder, but mostly because I had to attend the ARRL/TAPR Digital Communications Conference two weeks before, and I had used up all my ham radio travel points for the month.

If you ever get the chance to attend a DCC, by all means do so. In one spot, you have about 200 of the do-ers of the packet world, all talking about what they've done, and what they want to do, with packet. If you have something to report, or want to share an idea, you should submit it as a paper for the DCC proceedings. Hey, you can claim that you've been published!

Aside from all the usual cool stuff people are doing, two stand out: TAPR's Spread-Spectrum radio design, and the activities of the Packet Radio User's Group (PRUG) in Japan. If either interests you, and

Visit NEDA on the World Wide Web!

<http://www.cam.org/~burt/neda/neda.html>

RENEWAL NOTICE

Attention members with membership expiration dates from November 1997 (199711) to April 1998 (199804): this is your second and **final notice**. Please help support NEDA - complete the membership form on Page 15 and mail it in with your payment today, to ensure that you'll receive the next issue of the NEDA Report.

To those members with membership expiration dates from May 1998 (199805) to October 1998 (199810), this is your **first notice** that your membership is about to expire. Please renew early and show your support for NEDA.

Please refer to the "exp." column in the Membership Roster to determine your membership and subscription expiration date.

Minutes of Board Meeting 10/25/97

The meeting opened at 1:20 pm with Cal, W1JFP presiding. Voting members present were:

Burt Lang, VE2BMQ
Tadd Torborg, KA2DEW
Joel Curneal, N1JEO
Jim Wzorek, K1MEA
Ray Feeley, K1CSB
Dana Jonas, WA2WNI
Bob Seger, WB2QBQ
Cal Stiles, W1JFP
Mike Staines, WA1PTC

Secretary's Report

See Report Volume 4 Issue #2 dated July 21, 1997 for minutes.

Mike made a motion to accept the minutes as published. Burt seconded and the motion carried.

Treasurer's Report

For quarter 4/1/97 to 6/30/97
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Beginning Balance .......$2769.56
Receipts .................635.00
Interest ...................9.59
Expenses ....................(0)
Ending Balance ..........$3414.15
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Dana WA2WNI made a motion to accept the Treasurer's report. Jim K1MEA seconded and the motion carried.

For quarter 7/1/97 to 9/30/97
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Beginning Balance .......$3414.15
Receipts .................400.00
Interest ...................7.86
Expenses ...............(871.94)
Ending Balance ..........$2950.07
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Dana WA2WNI made a motion to accept the Treasurer's report. Jim K1MEA seconded and the motion carried.

BBS committee

No report

There has been little upgrade versions of BBS software lately, with the exception of FBB.

Technical Committee

No motions for the Board, see Technical Committee minutes

TCP/IP Committee

No report

Mike WA1PTC provided some information on TCP/IP activity in New England.

Membership Director

The membership statistics were reviewed and Cal noted that memberships continue to decline. As of 10/22/97 we have 246 members, including the 61 freebies. Cal reported that the membership list is all up to date in the database.

1997 NEDA Officers and Appointees

As of June 1997

Board of Directors:

** Cal Stiles	W1JFP	@W1JFP.nh
** Burt Lang	VE2BMQ	@VE2FKB.qc
** Mike Staines	WA1PTC	@WA1WOK.nh
++ Jim Wzorek	K1MEA	@K1MEA.ma
++ Bob Seger	WB2QBQ	@WB2QBQ.ny
++ "Cal" Calvitto	WA1WOK	@WA1WOK.nh

** Re-elected for 1997-98
++ Term expires end 1997

Board Member Alternates:

Alternate for Cal, W1JFP	- Dana, WA2WNI
Alternate for Burt, VE2BMQ	- Don, N2IRZ
Alternate for Mike, WA1PTC	- Pete, W1UU
Alternate for Jim, K1MEA	- Ray, K1CSB
Alternate for Bob, WB2QBQ	- Joel, N1JEO
Alternate for "Cal", WA1WOK	- Linsday, K1JY

Appointees:

Board Chairman:	Cal Stiles	W1JFP
Treasurer:	Bob Seger	WB2QBQ
Documents:	Bob Seger	WB2QBQ
Membership:	Cal Stiles	W1JFP
Sr. Admin. Asst.:	Leo-Paul Chauvin	KA1QP
Archives:	Don Rotolo	N2IRZ
Report Editor:	Don Rotolo	N2IRZ
Recording Sec'ys:	Dana Jonas	WA2WNI
	Cal Stiles	W1JFP
NTECH/NBOD Dis:	Joel Curneal	N1JEO
Map Coordinator:	Burt Lang	VE2BMQ
Regional Mapmakers:		
Cape Cod	Carl Black	W3KI
Central NY	John Kushneir	N2UBH
Maine	Jim Ledger	N1PGH

Technical Committee:

Chairman:	Burt Lang	VE2BMQ
Vice Chair:	Don Rotolo	N2IRZ

BBS Committee:

Chairman	Jim Wzorek	K1MEA

TCP/IP Committee:

Chairman	Mike Staines	WA1PTC

NEDA Emergency Services Advisory Committee

Co-Chair:	Dana Jonas	WA2WNI
Co-Chair:	Cal Calvito	WA1WOK

Network Volunteer Regional Contacts:

SE Ontario	Eric Meth	VE3EI @ VE3NUU
Montreal area	Burt Lang	VE2BMQ@VE2FKB
Northern NY	Roger Ostero	KA2JXI@KA2JXI
Rochester NY area	Mark Oliver	NM2J@WB2VPH
Central NY	Chuck Silva	KB2DIO@KB2DIO
Northern Tier PA	Qualified	Sysop **NEEDED**
Southern Tier NY	Qualified	Sysop **NEEDED**
Eastern NY	Dana Jonas	WA2WNI @WA2WNI
Western MA	Jim Wzorek	K1MEA @ K1MEA
Eastern MA	Peter Butler	W1UU@W1UU
Maine	Mike Staines	WA1PTC@WA1WOK
NH & E. MA	Cal Stiles	W1JFP@W1JFP
New Jersey/NYC	Don Rotolo	N2IRZ@WA2SNA
Connecticut	Joel Curneal	N1JEO@N1JEO

Editor

Don N2IRZ has agreed to edit the Report once again.

Map Editor

There are areas that need to be updated. Again, volunteers for supplying local data should send any maps they generate to the PO Box. Refer to the Mapmaker's guidelines elsewhere in this issue

Emergency Services Committee (NESAC)

Dana WA2WNI reported that the New York State EMO ran a Federally observed nuclear drill which used packet radio messaging between Albany and Oswego, NY.

NYSEMO is working on a new node site in Greene County which will hopefully hub to Western Mass, Lower Hudson Valley Region, Albany and some point westward.

NTECH-NBOD distribution Manager

Joel reported that the distribution lists are working perfectly, and that everything seems to be going via E-Mail now.

Old Business

None

New Business

Locations and date for next meeting

January 24, Northampton, MA

May 2, Albany, NY

Dana WA2WNI made a motion to accept the meeting schedule as presented. Mike WA1PTC seconded and the motion passed.

Appointment of board member alternates

The presently apporoved Alternates list is as follows, :

— Alternate for Bob, WB2QBQ -Joel, N1JEO

— Alternate for Jim, K1MEA -Ray, K1CSB

** Alternate for Cal, W1JFP -Dana, WA2WNI

** Alternate for Burt, VE2BMQ -Don, N2IRZ

** Alternate for Mike, WA1PTC -Pete, W1UU

— Alternate for "Cal", WA1WOK -Lindsay, NR1N

** Re-elected for 97-98

— Term expires end 97

Discuss Ballot process

Bob WB2QBQ has offered to send out and collect ballots. Tadd KA2DEW has agreed to print the ballots and nominee blurbs, which will be forwarded to Bob for distribution.

Discuss Publications

Continue on schedule

Discuss Assignments

No changes

Action to be taken on any items presented by the Technical Committee?

It was reaffirmed that there are no changes in NEDA policy regarding interfacing to other services.

Chairman's note: See NEDA Report Volume 2 Issue 3 dated October 25, 1995 and Volume 3 Issue 2 dated August 28, 1996, for additional information on this subject.

Committee Appointments?

There were no new committee appointments to be made at this meeting.

Approve - Disapprove any pending documents

There were no new documents pending approval.

Appropriations, revisions to Budget?

No changes were proposed.

Bob WB2QBQ made a motion to approve the preliminary budget for 1998. The motion was seconded by Burt VE2BMQ and passed as amended.

Constitutional Change Requests:

None were presented.

Other business:

Minutes on the Web

Jim K1MEA asked if the Board would consider publication of the minutes on the World Wide Web, thus saving significant publiocation and distribution costs. A discussion ensued and it was decided that the constitution prevented it.

Freebie List

A motion was made to delete 50 names from the Freebies list, as a means of savings costs and to update the listing, according to a list submitted by Don N2IRZ. This was discussed at the previous Board meeting.

Mike WA1PTC made a motion to accept the list and delete the names on it. Bob WB2QBQ seconded the motion and it passed.

Cal W1JFP adjourned the meeting at 3:18 pm.

Cal, W1JFP (standing), Bob, WB2QBQ (l) and Dana, WA2WNI (r) puzzle over some hardware at the October Board meeting. (Photo: KA2DEW)

Technical Session Minutes 10/25/97

Recorded by Dana, notes added by Cal, Edited by Don.

The Technical Committee session opened at 9:37 am with Burt Lang, VE2BMQ, presiding.

Present were:

Burt Lang, VE2BMQ
Tadd Torborg, KA2DEW
Joel Curneal, N1JEO
Jim Wzorek, K1MEA
Ray Feeley, K1CSB
Dana Jonas, WA2WNI
Bob Seger, WB2QBQ
Cal Stiles, W1JFP
Mike Staines, WA1PTC
Joel, WA1ZYX

Status of network

Rose network no longer exists (in New Jersey anyway) *(Note: ROSE is still used extensively in Florida, Texas, France and Australia, and less often elsewhere - ed).*

Little Ferry and Paterson nodes are gone permanently, also WA2IKL BBS.

Lots of stuff in the Metro NYC region is being upgraded to 9600 baud and local connectivity is doing ok.

No significant changes in the Canadian part of the network.

Northern NY has a 2nd port now running at Blue Mt. as a backbone.

Saratoga is working on a 900 MHz link from SRTGA1 to WMA.

STMFRD has had its power supply replaced but link to CRTLND is not working correctly. Needs to be fixed. NY SEMO says it is going to reconfig the site to a new bldg, schedule for this unknown. User port is functional.

CHSTR now has a formal agreement that has made its existence more permanent.

Buffalo has a 56K network now.

Position on non radio interfaces

This could be considered a reaffirmation of previously stated position on Internet gateways.

Chairman's note: See NEDA Report Volume 2 Issue 3 dated October 25, 1995 and Volume 3 Issue 2 dated August 28, 1996, for additional information on this subject.

The policy is that any node owner may run an internet or "other" interface provided it is only run as a LOCAL service. It may not show in the network other than at the site where the service is provided. The site owner is also responsible to monitor impact on network loading and performance and limit thruput from/to special services that could otherwise consume all available network resources. Available network resources need to be shared on an equitable basis.

Cals 9k6 Repeater

Cal's 9600 bps repeater is on the bench and talking, but he is not as yet satisfied with the performance. Noise radiated from the bit regenerator gave him some trouble for a time until he put some more distance between it and the receive antenna. Eventually this will go on Ascutney and link in 4 directions at once as a repeater, as well as allowing THRU linking between the 4 sites.

This project is moving altogether too slowly to suit Cal. Time constraints seem to be the hangup. He has most of the hardware needed to complete the project, but the shortage is time. So what else is new?

Ground Loops

Burt has been trying to get 2 KPC 9612's to work with Maxar radios, but found that an audio feed was grounded on both ends. This caused a ground loop that caused a severe oscillation, trashing the audio. Good reminder to look for this problem and try to do single point grounding.

Other Business

It was announced that Amateur Networking Supply was selling out their stock at discounted prices, and would no longer accept orders after December 7, 1997. Arrangements for TAPR to offer the NETRIX Diode Matrix Board until the existing supply of bare PC Boards ran out were under discussion.

The session was adjourned at 11:06 am.

New Software

While visiting CompuServe's HamNet forum recently, I came across two notable files, WinLink and PackHack.

WinLink (version 2.1a) is a full-featured BBS program that runs under Windows. In addition to supporting regular AX.25 Packet, it can also deal with AMTOR, PACTOR and Clover. Download the file WINL21A.EXE, put it into its own subdirectory, and run it - it is self-extracting. Uploaded by Hans A. Kessler, N8PGR.

PackHack (version 8) has been around for a while, but you might not have seen it yet. This DOS program analyzes packet radio channel activity, and provodes reports on who is transmitting, along with channel statistics (a list of packet frame types heard - RR, I, UA, REJ, etc.). The reports can be sent to a file, printer, or displayed on the screen. This is a useful tool for network efficiency and link performance analysis, especially on non-TheNET X1J channels, or channels with more than two stations on it (non-Point-to-point links). Supports most TNCs and PK-232.

By the time you read this, CompuServe's HamNet forum will be available from the Web at <http://forums.csi.com>. Of course, you have to either be a member of CompuServe, or pay by the hour, to access the site.

Packet:
Purpose, Potential, Past and Phuture

In the last edition of the newsletter our editor wrote about how NEDA (and packet radio as a mode) has possibly exceeded it's usefulness. It sure looks like that from the tales of woe in the field, from the membership roster, and from the falling sales of packet radio equipment. Some may call this good factual evidence and might have a real tough time finding evidence to the contrary. So be it. I think that the editor was wrong.

I don't have any evidence, just a position. Before I get to why I should be the one of all people to make this statement, let me tell you what I think accounts for all of the evidence supporting the editor. It's simple. People who were using packet radio as a means to play with digital communications are fleeing to the Internet. Wow. What a surprise! The Internet works much better for digital communications than Amateur Radio packet.

Does this mean the end for packet radio? Not in the least. What it means is that what is left in the hobby are the people who were NOT using packet radio as a means to play with digital communications. What is left is those who were using digital communications as a way to play with radios. Is this good? That depends on what your purpose for packet radio is. Are you in it to let you talk to people digitally? Or are you in it to let you play radio? If you fall into the second group then what has happened to packet radio is fantastic.

Why am I the one? In 1984 I got into packet radio. Before that I was a repeater builder having made a small name for myself in home-brew microprocessor based repeater controllers. I had quite a collection of small transmitters and receivers for making nodes out of but at the time there was a lack of software to make them out of. I helped W2VY and N2DSY with a Gator switch on a hill in my area (I was about 75 miles west of the NYC area where they were starting RATS). My digipeater (K3LZ-1) was the only one that Mt Beacon NY and Havre De Grace Maryland could go through providing one of the hops of a RF solid but very low speed link between ARRL HQ and Washington DC.

In 1986 I moved to southern NH, leaving my digipeater behind (Eventually it was taken off the air by lightning, but by that time it was an antique). In Nashua NH I put up a bulletin board and pioneered a low-coverage LAN with backbone connect to the existing big name bulletin board systems. Working with NR1N (now K1JY) I helped put together the first dedicated link system from K1TR's house (SNH) to NR1N's site at CENTNH. With WB2KMY's help I put on a node (CENTMA) at KA1OXQ's house in central Mass to make the jump to Mt Greylock which was participating in the EBN system. I then put up a dedicated link from CENTNH to SNH node.

K1MEA and the Mt. Tom ARC had the MTM node that we also linked via a dedicated link to CENTMA. In Albany, Dana, WA2WNI, put up the ALB144 nodes and at my suggestion started working with dedicated point to point links. By 1989 he had three nodes (ALB144, GRAFTN and N2CJ: CLV) linked with dedicated links. The cluster in eastern NY and our cluster in E MA and S NH were tied together through a 220 channel that Mt. Greylock was on.

When WA1TPP asked K1MEA how to tie into a packet network K1MEA called me. I drove a 430Mhz radio down to TPP's house (3 hours) that very evening to plug things together. Shortly TPP had his BERK node tied into GRAFTN and CENTMA making our dedicated link based network stretch from NH all the way to Albany. In late 1989 several of us, including WA2VAM and KC3BQ from the Syracuse area met at TPP's house. We formed NEDA for the purpose of seeing that the packet network that several individuals had constructed would outlast and go beyond the interest of those few of use that had started it. Well, it has.

What is going to happen with packet radio now? The ranks of people who have spent enormous amounts of time building onto the network and working on club issues swelled rapidly in the early 90s. We'd reached our biggest by 1992 or so. The numbers have been falling off just about as rapidly as Internet service has become commonly available. By now only the most elaborate packet radio links can compete with what a typical Internet user can get for $20/month. This could mean that our ranks will now only continue to fall because packet radio is either really worthless or because it is demoted by the press (we may be the press).

I think that we should think about what packet radio would be like with the Internet want-to-be users not among our ranks. We'd no longer be discussing problems caused by hams wanting to run 3rd party Internet information over packet radio by automatic means. We'd lose much of the traffic across our packet networks that are totally unrelated to ham issues. Most of the packet radio hams that have left our ranks have been the least interested in making radios work well, or in having sites that are useful in emergencies, things that are critical to an Amateur Radio packet network.

Those of us who are left doing packet radio in 1998 should be thinking about what the purpose of Amateur Radio is. How can we use packet radio to help that purpose? Do we need high speed backbones? Do we need redundancy? Do we need emergency operational capability? Which of these is most important? We have to think about these things. Please do. You, the readers of this column, are the ones who will make digital communications a solid piece of Amateur Radio's future.

- Tadd Torborg, KA2DEW - NEDA co-founder and candidate for NEDA Board of Directors

NEDA Constitution

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, Membership Director, Board Member Alternates, Chairman of the Technical Committee and Volunteer Regional Contacts. The Volunteer Regional Contacts 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 board 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 Report 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 Report

- 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 copies of the NEDA Report 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 Report 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 meeting 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 should be held as close as possible to any of the months of January, April, August or 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 or 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 Report.

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 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. The order of appearance of the names of those listed on the ballot shall be determined randomly.

b. This ballot is sent to all NEDA voting members complete with a self addressed stampled 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 P.O. Box within five weeks of the board meeting. Results are included in the Report 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 Report, NEDA Maps, and the NEDA Annual are published on time. As these are the instruments of the club and as the NEDA Report 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 NEDA Maps and shall be published annually at a minimum. 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 Report

a. The NEDA Report is published within 60 days of each Board meeting. The Report will include as a minimum minutes of the previous Board meeting, the Treasurer's report, the location and date of the next Board meeting, proposed and adopted Constitutional changes, and the membership roster.

b. The board may delegate the task of production and mailing of the Report but maintain the responsibility.

c. The Report immediately following annual elections will include the results of said elections.

16. NEDA Annual

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

Membership Roster as of November 2, 1997

Callsign	First	Last Name	City	St.	Exp.	Cl.	Packet Address	E-Mail Address
AA1GG	William	Sexton	Richmond	MA	199711	V	w1sexton@taconic.net	
AA1NB,Roy	Nelson	S Yarmouth	MA		199802	V		
AA2AC	Vernon	Siegel	Clarence	NY	199711	V	AA2AC.#WNY.NY.USA.NA	
AA2YS	Richard	Mulvey	Rochester	NY	199809	V	WB2PSI.#WNY.NY.USA.NOAM	mulveyr@frontiernet.net
AA7GK	Jeff	Tong	Bozeman	MT	199710	V		
AA9AW	Walter	Altus	Onalaska	WI	199711	A	AA9AW.#WWI.WI.USA.NA	
AD1I	William	Kenefick	Chelsea	VT	199803	A	W1ET.NH.USA.NOAM	MDKenefick@aol.com
G8KBB	Dave	Roberts	Ipswich		999999	C		
K1BXG	Joe	Devlin	Chester	VT	199904	V	WA1ZYX.NH.USA.NA	jdvln@sover.net
K1CSB	Ray	Feeley	Southhampton	MA	199804	V	K1MEA.#WMA.MA.USA.NA	efeeley@crocker.com
K1GQH	Roger	Guillemette	Manchester	NH	199804	A	WA1WOK.NH.USA.NA	
K1JY	Lindsay	Collins	Washington	NH	199710	V	WA1WOK.NH.USA.NA	lcollins@lcollins.mv.com
K1MEA	James	Wzorek Jr	Easthampton	MA	199812	V	K1MEA.#FN32PG.MA.USA.NA	jfw@crocker.com
K1PDX	Saul	Dinman	Waquoit	MA	199802	V	AA1FS.#EMA.MA.USA.NA	sdinman@aol.com
K1UOL	Robert	Stevenson	Bethel	CT	199712	V	K1UOL.CT.USA.NA	
K1YHR	David	Packard	Baldwinsville	NY	199711	V	KB2DIO.#CNY.NY.USA.NA	packardd@vax.cs.hscsyr.edu
K2BJG	Robert	Anderson	Oakland	NJ	199809	A	WA2SNA.NJ.USA.NOAM	
K2DN	Fred	Skinner	Cortland	NY	199807	A	KB2FAF.#WNY.NY.USA.NA	k2dn@juno.com
K2KTL	Dick	Lehner	Glenmont	NY	199710	V		
K2SBQ	Dexter	Berwald	Owego	NY	199805	A	WF2A.NY.USA.NA	
K2SJB	David	Slade	Ithaca	NY	199711	A	WB2PSI.#WNY.NY.USA.NA	dslade@delphi.com
K2SLZ	Roger	Bean	E Aurora	NY	199807	A	KE2VW.#WNY.NY.USA.NA	
K2UZV	Merrill E.	Ryder	Quoque	NY	199801	A	N4GAA	
K4DMU	Joseph	Leitsch	Lousiville	KY	199712	A	W4CN.KY.USA.NA	
K6EXO	Harvey	Stone	West Hills	CA	199710	A	WB6WFH.CA.USA.NA	
K6OZL	James R	Hill	Hanford	CA	199806	A	N6OA.#CENCA.CA.USA.NA	k6ozl@mcimail.com
K7PO	Donald	Sturtevant	Billings	MT	199903	A		
K8EIW	Don	Nelsch	Cuyahoga Falls	OH	199809	V	WB8BII.#NEOH.OH.USA.NOAM	dnelsch@mcs.kent.edu
K8LT	Gary	Grebus	Brookline	NH	199712	A	WA1PHY.#EMA.MA.USA.NA	
KA1APA	Joe	Lelievre	Sanford	ME	199811	A	WA1WOK.ME.USA.NA	joegbra@gwi.net
KA1DLK	Michael	Powolka	Shaftsbury	VT	199712	A	N1LSZ.#SWVT.VT.USA.NA	mikedlk@sover.net
KA1HPM	Nicholas	Szydlek	Exeter	NH	199710	A	WB1DSW.NH.USA.NA	
KA1OLE	Jeff	Wood	Woodstock	VT	199710	A	WA1WOK.NH.USA.NA	
KA1RTW	Michael	Grace	Pownal	ME	199801	A	KA1RTW.ME.USA.NA	mgrace@server.nlis.net
KA1TUZ	Richard	Doherty	Newton Center	MA	199712	A	KA1TUZ.#EMA.MA.USA.NA	tuz@world.std.com
KA1UDX	Rick	Bogdan	Zieglerville	PA	199804	A	NS1N.FN42PE.#EMA.MA.USA.NA	bogdanr@apci.com
KA2DEW	Tadd	Torborg	Amherst	NH	999999	V		tadd@jlc.net
KA2FIQ	Jim	Morgan	Thornwood	NY	200001	A	WA2AWG.#ENY.NY.USA.NA	
KA2JXI	Roger	Ousterhout	Ogdensburg	NY	199712	V	KA2JXI.NNY.NY.USA.NA	ka2jxi@k2cc.sos.clarkson.edu
KA2LGR	Richard	Tanner	Red Creek	NY	199803	A	WB2WXQ.#WNY.NY.USA.NA	
KA2MSL	Michael	Steup	Newburgh	NY	199712	V	KA2MSL.FN21XM.NY.USA.NA	
KA2QHL	Tom	Ross	Oneonta	NY	199805	A	W2RGI.#CNY.NY.USA.NA	
KA5RYF	Timothy	Mitchell	Gladstone	MO	199712	A	N0OEV.#NWMO.MO.USA.NOAM	
KA7TTY	John	MacDuff	Issaquah	WA	199804	A	N7DUO.#WWA.WA.NOAM	johntty@aol.com
KA9Q	Phil	Karn	San Diego	CA	999999	C		
KA9VAU	Paul	Roberts	Magnolia	IL	199711	A	KB9EDH.#CIL.IL.USA.NA	
KB1YJ	William	Clapp	Stratham	NH	199712	A	WA1DSW	
KB1YL	James	Robertson	Rumford	ME	199804	V	KA1RTW.ME.USA.NA	KB1YL@megalink.net
KB2CS	Jack	Abel	Albany	NY	999999	C	KB2CS	
KB2FAF			Cortland	NY	199803	A	KB2FAF.FN12VO.#WNY.NY.USA.NA	KB2FAF@clarityconnect.com
KB2KZB	Floyd	Harding	Liverpool	NY	199712	V	KB2DIO.NY	
KB2LML	Alvah	Haggett	Champlain	NY	199812	A	KD2AJ.#NNY.NY.USA.NA	haggetta@northnet.org
KB2RQB	David R.	Allen	Dexter	NY	199711		KA1JXI.NY.USA.NOAM	
KB2TXP	Mark	Harloff	Canandaigua	NY	199710	V	KB2TXP.#WNY.NY.USA.NOAM	mharloff@spacetech.com
KB2VCW	Bruce	Maxson	Cooperstown	NY	199711	A	N2NQH.#CNY.NY.USA.NA	bmaxson@mcimail.com
KB3QV	William	Watts	Salisbury	MD	199905	A	N3KNT.DE.USA.NA	
KB7IVK	Damien	Cox	Nellis AFB	NV	199710	A		
KB9BPF	Brad	Andrews	Godfrey	IL	199804	A	KD9SG.#SIL.IL.USA.NA	kb9bpf@kb9bpf.org
KC1BT	Allan R.	Machell	Barre	VT	199805	A	KA2TCQ	
KC1HH	Robert	Merril	Goffstown	NH	200006	A	WA1WOK.NH.USA.NA	bmerrioo@xtdl.com
KC2P	Ronald	Brodowski	Elma	NY	199804	A	N2NJH.#WNY.NY.USA.NOAM	kc2p@hamgate.sunyerie.edu
KC2ZS	Ansel	Martin	Lakewood	NY	199806	A	KB2OBB.#WNY.NY.USA.NOAM	drmartin@servtech.com
KC3LV	E J	Seppala	Fairview	PA	199711	A	K1MEA.#WMA.MA.NOAM	
KD1HL	Maurice	Richesson	Northboro	MA	199810	A	WA1PHY.#EMA.MA.USA.NA	riches@world.std.com
KD1SQ	Lee	Reynolds	Lempster	NH	199803	A	WA1ZYX	lee@tosspot.sv.com
KE0UQ	Roy E.	Crosier	Kansas City	KS	199710	A	W0XK.MO	
KF2HB	Richard	Bartlett	Cooperstown	NY	199801	A	KF2HB.#CNY.NY.USA.NA	
KI6AG	Chris	Anderson	Riverbank	CA	199710	A	KD6JZZ.#NOCAL.CA.USA.NA	
KV2W	James	White	Hammondsport	NY	199801	A		
KY2F	Fred	Swiatlowski	Oswego	NY	199803	A		
N0NDO	John	Painter	Everett	WA	999999	V	N0NDO.#SEA.WA.USA.NA	
N1CB	Carl	Breuning	Newport	NH	199712	V	WA1WOK.NH.USA.NA	
N1DCO	Donald	Clark	W Newbury	VT	199906	V	W1ET.NH.USA.NA	donald.clark@connriver.net
N1FJ	Frandy	Johnson	Northampton	MA	199803	A		frandyj@javanet.com
N1FJL	Ralph E.	Myra Jr.	Lancaster	NH	199710	A		N1FJL@juno.com
N1GJB	Birlem	Pomroy	Portsmouth	NH	199711	A	WB1DSW.NH.USA.NA	
N1HFF	Lloyd	Swanburg	Atkinson	NH	199804	A	WB1DSW.NH.USA.NA	LSwanburg@aol.com
N1IMB	Nancy	Robinson	Concord	NH	199710	V	WA1WOK.NH.USA.NA	n1imb@wa1wok.mv.com
N1IMO	Bernard	Peabody	Hollis	NH	199803	A	N1FT.NH.USA.NA	N1IMO@aol.com
N1IQC	Frank	Danisienka	New Ipswich	NH	199804	A		
N1JEO	Joel	Curneal	Meriden	CT	200004	V	N1JEO.CT.USA.NA	75566.1711@compuserve.com
N1JEZ	Michael	Seguin	Burlington	VT	199803	A	KD2AJ.#NENY.NY.USA.NA	mike73@aol.com
N1JHX	Fred	Hibbard	Littleton	NH	199710	A	K1UAQ.NH.USA.NA	
N1JYV	Ed	Benham	Waitsfield	VT	199810	A	N1BRT.VT.USA.NOAM	benham1@wcvt.com
N1MRY	Scott	Higgins	Brunswick	ME	199710	A	KA1RTW.ME.USA.NA	
N1MU	Tom	Mayo	Williamstown	MA	199801	A	WA2UMX.#ENY.NY.USA.NOAM	tcmayo@fang.berk.net tcmayo@matr02.psf.ge.com
N1PGH	James F	Ledger	New Gloucester	ME	199803	A	KA1RTW.ME.USA.NA	
N1PVJ	Harry J	Coon	Plymouth	CT	199906	A		
N1URO	Richard	Rogers	Unionville	CT	199710	V	N1URO.CT.USA.NOAM	

Callsign	First	Last Name	City	St.	Exp.	Cl.	Packet Address	E-Mail Address
N1WAT	Robert	Courtemanche	Nashpee	MA	199710	A		
N1WCU	Marc	Chauvin	North Conway	NH	199803	A		
N2IXL	Darrell	Leavitt	Plattsburg	NY	199803	V	KD2AJ.#NNY.NY.USA.NA	leavitdg@splava.cc.plattsburgh.edu
N2JPQ	Rick	DuBrava	Marathon	NY	199903	A	N2JPQ.#WNY.NY.USA.NOAM	rdurbava@spectra.net
N2JWW	Michael	Wilbur	Halifax	MA	199805	A		mwilbur@tiac.net
N2LEX	John	Wright	Albany	NY	199807	A	WA2UMX.#ENY.NY.USA.NA	jakdblu@aol.com
N2MVB	Jean	Seward	Batavia	NY	199804	A	WB2WXQ.#WNY.NY.USA.NOAM	
N2NSA	John	Romano	Bronx	NY	200003	A	KB2VLX.#BRONX.NY.USA.NA	n2nsa@maestro.com
N2OCW	Lawrence	Ashton Jr	Berkley Springs	WV	199804	V	N2OCW.WV.USA.NOAM	n2ocw@intrepid.net
N2OXB	Ken	Hilmar	Wappingers Falls	NY	199810	A		
N2QAE	Arthur	Martin	Long Valley	NJ	199905	V	N2QAE.#NNJ.NJ.USA.NA	
N2QT	Mark	Sihlanick	Forest	VA	199808	A	WA4RTS.VA	n2qt@.pipeline.com
N2SKI	Leonard R.	Clancy	Wappingers Falls	NY	199712	A	WA2AWG.#ENY.NY.USA.NA	
N2SNL	Jack	Tripp	Pittsford	NY	199802	A	WB2WXQ.#WNY.NY.USA.NA	
N2TKX	Stephen	Auyer	Liverpool	NY	199801	A	KB2DIO.#CNY.NY.USA.NOAM	N2TKX@aol.com
N2VEB	Susan	McLaughlin	Hammondsport	NY	199805	A		
N2XLC	Marcus	Shoobe	Albany	NY	199710	V	WA2UMX.#ENY.NY.USA.NA	
N2ZHS	Al	McChesney	Scotia	NY	199803	A	WA2UMX.#ENY.NY.USA.NA	J38AL@aol.com
N3ACL	Glenn	Beard	Red Hill	PA	199710	A	N3ACL.#SEPA.PA.USA.NA	n3acl@n3acl.ampr.org
N3ETP	Robert	McGrath	Salisbury	MD	199902	A	N3KNT.DE.USA.NA	
N3JNS	Dan	Sekera	Kingston	PA	199904	A	K3RLI.#EPA.PA.USA.NA	
N3LLR	William	Edgar	Bradford	PA	199710	V	N3LLR.#NWPA.PA.USA.NA	sysop@bfdin.com
N3NNA	David	Anderson	Parsonburg	MD	199807	A	BBS9HR.DE.USA.NOAM	
N5PBC	Hans	Zorn	Spring	TX	199910	A	WA4IMZ.#SETX.TX.USA.NA	hezorn@neosoft.com
N6VR	Ray	Benny	Oak View	CA	199806	A		jbenny@rain.org
N7KXI	Jim	Raehl	Orem	UT	199810	A	N7KXI.UT.USA.NA	jraehl@wicat.com
N8WQG	LeRoy	Anderson	Crystal Falls	MI	199806	A	KC8VC.#UP.MI.USA.NOAM	n8wqg@up.net
N9CFN	F Ronald	Nelson	Green Bay	WI	199801	A	KA9ALN.#GRB.WI.USA.NOAM	n9cfn@online.dct.com
N9FQF	Gerald T.	Kelley	Jeffersonville	IN	199711	A		
NI1X	Bruce D.	Hayden	Raynham	MA	199802	A	KA1RCI.RI.USA.NOAM	
NJ7P	William	Beech	Sierra Vista	AZ	999999	C		
NM1N	Edward	Los	Nashua	NH	199803	A	KA1GOZ.#SCNH.NH.USA.NA	
NS2K	Marty	Grozinski	Flemington	NJ	199710	A	W2EMU.#NNJ.NJ.NOAM	
NU1A	Frank	Finger	New London	NH	199805	A		
NV2J	Anthony	Volino	Elmira	NY	199807	A		
NY2V	Fredrick V	Adsit	Syracuse	NY	199710	A	W2RGI.#CNY.NY.USA.NA	ny2v@juno.com
VE1AIC	Ron	MacKay	Cornwall	PE	199808	A	VE1AIC.PE.CAN.NOAM	rmackay@peinet.pe.ca
VE1RB	Jim	Harris	Yarmouth	NS	199710	A	VE1RB.#YAR.NS.CAN.NA	harrisj@auracom.com
VE2BMQ	Burton	Lang	Howick	PQ	199712	V	VE2FKB.#MTL.PQ.CAN.NA	
VE2DJE	Richard	Aubin	Laval	PQ	199806	A	VE2TOY.PQ.CAN.NA	VE2DJE@amsat.org
VE2RM			PtClairDorvl	PQ	199712	A	VE2FKB.PQ.CAN.NA	
VE2SVF	Mario	Spenard	Laval	QC	199712	A	VE2CRL	
VE3APF	Gerry	Wilkins	Corbyville	ON	199710	A	VE3HQR.#ECON.CA	VE3APF@igs.net
VE3DGC	Douglas G.	Campbell	Haley	ON	199712	A	VA3KS.#EON.ON.CAN.NA	dgc@renc.igs.net
VE3EI	Eric	Meth	Cornwall	ON	199801	V	VE3NUU.EON.ON.CAN.NA	
VE5DA	Doug	Appleton	Regina	SK	199710	V	VE5RRG.SK.CAN.NA	
W1DA	George	Hitz	Sudbury	MA	199804	A	WB1DSW.NH.USA.NA	ghitz@.netcom.com
W1FVQ	Aime A.	Beaudry	Manchester	NH	199901	A	WA1WOK.NH.USA.NOAM	aabeaudry@juno.com
W1FYB	David	Swanson	Dennisport	MA	199805	A	KC1KM.EMA.MA.USA.NA	
W1FYR	Alan	Merrill	Gilsum	NH	999999	V	W1FYR.NH.USA.NA	
W1HHO	Calder B	Latham	Lincolnville	ME	199711	V	K1RQG.ME.USA.NA	clatham@midcoast.com
W1HJF	Larry	Rappaport	Colebrook	NH	199804	V	K1UAQ.NH.USA.NA	
W1JFP	Calvin	Stiles	Hanover	NH	199801	V	W1JFP.NH.USA.NA	cals@sover.net
W1NMQ	Joseph	Boudreau Jr	Fiskdale	MA	199804	V	KB1H.MA.USA.NA	
W1NRG	Meridan ARC		Meriden	CT	199808	A	W1NRG.CT.USA.NA	
W1OQ	Hartley	Gardner	Phoenix	AZ	199711	A	N7MRP.AZ.USA.NA	
W1PEX	Dan	MacDonald	Nashua	NH	199808	A	KA1GOZ.NH.USA.NA	dmacdon609@aol.com
W1QJH	Gerard L	LeBoeuf	Hudson	NH	199803	A		gleboeuf-w1qjh@juno.com
W1TTY	H. Skid	Schermerhorn	E Sandwich	MA	199804	A	KC1KM.#EMA.MA.USA.NOAM	sscherme@capecod.net
W1WA	WA	Dennis	Sanbornville	NH	199710	A		IPARC@juno.com
W2IH	Ike	Hathaway	Syracuse	NY	199803	V	WA2TVE.NY.USA.NA	w2IH.IKE@worldnet.att.net
W2KGY	Cadet Amateur Radio Club		West Point	NY	999999	A		
W2PAT	Marvin	Bernstein	Asbury Park	NJ	199801	A	W2PAT.NJ.USA.NA	
W2RH	Richard	Black	Brockport	NY	199804	A	WB2WXQ.#WNY.NY.USA.NA	rhb@vectorbd.vivanet.com
W3HRR	Richard	Warner	Berlin	MD	199710	A		
W3KI	Carl	Black	Provincetown	MA	199710	V	KC1KM.#EMA.MA.USA.NOAM	cblack@capecod.net
W3SYY	Richard	Bender	Edensburg	PA	199712	A	W3SYY.#WPA.PA.USA.NA	rick@vms.cis.pitt.edu
W3ZCE	Therese	Bates	Rutland	VT	199712	V	WB2RUM.VT.USA.NA	W3ZCE@k2cc.sos.clarkson.edu
W5ONL	Dick	Sisson	Akron	OH	199802	A	WB8BII.#NEOH.OH.USA.NA	
W6GO	Jay	O'Brien	Reo Linda	CA	199710	A		w6go@netcom.com
W8KVK	Ted	Jacobson	Athens	OH	199810	A		aa270@seorf.ohiou.edu
W9DDD	John	Koster	Richardson	TX	999999	C		
WA1HJR	Leonard	Leach	Hudson	NH	199807	A		lsg1@juno.com
WA1KUN	Joseph	Jeffrey	Sanbornton	NH	199712	A	WA1WOK	
WA1LTD	Ronald	Bibber	Gorham	ME	199711	A	KA1RTW.ME.USA.NA	SeaDogNews@gnn.com
WA1POB	David B	Walker	Chicopee	MA	199803	A	K1MEA.#WMA.MA.USA.NA	
WA1PTC	Michael	Staines	Rochester	NH	199808	V	WA1WOK.NH.USA.NOAM	mike@nh.ultranet.com
WA1WOK	Cal	Calvitto	Concord	NH	199710	V	WA1WOK.NH.USA.NA	wa1wok@wa1wok.mv.com
WA1YKN	Frank	Hill	Osterville	MA	199810	V	KC1UA.#EMA.MA.USA.NA	fmhill@aol.com wa1ykn@aol.com
WA2AEA	Les	Schmarder	Elizabethtown	NY	199710	A	KD2AJ.#NENY.NY.USA.NA	WA2AEA@ka2tcq.ampr.org
WA2FNQ	Jerry	Mehrab	Northport	NY	199803	V	WA2FNQ@WA2FNQ.#NLI.NY.USA.NA	WA2FNQ@mail.idt.net
WA2HQA	Edward P.	Madison	Brooklin	NY	199803	A		maded@ix.netcom.com
WA2HWG	George	Hanrahan	Utica	NY	199801	A	WA2HWG	wa2hwg@juno.com
WA2IWW	Gerald	Murray	Albany	NY	199807	A	WA2UMX.#ENY.NY.USA.NA	
WA2SOK	Irv	Walter	Palmyra	NY	199712	V	WA2WXQ.NY.USA.NA	
WA2TVE	Howie	Cohen	Utica	NY	199801	V	WA2TVE.NY.USA.NA	
WA2UMH	Jim	McKnight	Schuylerville	NY	199808	A	WA2UMX.#ENY.NY.USA.NA	mcknight@capital.net
WA2WNI	Dana	Jonas	Valatie	NY	199712	V	WA2WNI.#ENY.NY.USA.NA	dana_jonas@juno.com
WA3LWR	Robert	Chimel	Clarks Summit	PA	199803	A	KB3BHH.#EPA.PA.USA.NOAM	WA3LWR@ncx.com
WA3QAG	Sanford	Reedy	Canton	PA	199803	A	KB3QW.#EPA.PA.USA.NA	
WA8DCE	James	Turrin	Stow	OH	199804	A	WA8DCE.#NEOH.OH.USA.NOAM	jlturrin@marconi.w8upd.uakron.edu

APRS Frequency Change

TAPR and AMSAT recently proposed a change in the national (USA) APRS frequency on 2 meters from 145.79 to 144.39. This new frequency would be coordinated and recommended worldwide.

The reason for this requested change is to help reduce terrestrial interference with space-based operations. It seems that 145.79 is within the passband of a space-based radio on 145.80 (part of the internationally approved OSCAR subband), when things like doppler and passbands are considered.

Reaction from the APRS community is mostly positive, with a few people insisting they'll never QSY.

In an unprecedented move, TAPR has set up a QSY fund, which will help APRS digi ops with the financial burden of the QSY. Donations to the fund are also being accepted.

For the latest details, please visit the TAPR web site at <http://www.tapr.org/aprsqsy>

On this same topic, Burt Lang VE2BMQ forwarded the following message from Mark Casey, K1MAP, the Secretary of the North East Weak Signal Group (NEWS):

North East Weak Signal Group/Northeast VHF Society bandplan.

Northeast U.S. & North Atlantic Region, 144-148 Mhz, August 1997

144.000-.050	EME (cw)
.050-.100	EME and CW weak signal
.100-.270	SSB and CW, and EME
.150	Packrats Weak Signal Net
.200	USB Calling Freq.
.250	Weak Signal Nets
.260	Microwave Liason (USB)
.282	TransAtlantic Beacon - RI to UK/FR
.275-.300	Beacons
.300	USB Call Frequency—Europe
.300-.500	Mixed—SSB,CW,Sat.,AM,FM, 20kHz Channels
.340-.480	No Digital, Packet, or Automatic Stations
.300-.325	Future Beacon expansion.
.340,.360	ATV, Hang Glider and other Liason, FM,AM
.400	AM Call Freq.
.420,.440	Liason, AM, FM, SSB
.460	Microwave Liason (FM)
.480	Liason, AM, FM, SSB
.500-.900	Repeater Inputs
144.900-145.100	Packet, FM, SSB, CW
145.100-.500	Repeater Outputs
.500-.800	Miscellaneous, Experimental
.800-.000	Satellite
146.000-.400	Repeater Inputs
.400-.600	Simplex (mostly FM)
146.520	National Calling Freq.—FM
.600-.000	Repeater Outputs
147.000-.400	Repeater Outputs
400-.600	Simplex (mostly FM)
.600-.000	Repeater Inputs

The foregoing plan was approved by majority vote at the NEWS meeting held on August 23, 1997. NEWS will be glad to consider changes and additions. The NEWS group is also looking for both input for and approval of, this plan, from the Mt. Airy VHF Radio Club and the Rochester VHF Group, and from other coordination bodies. The NEWS Group intends to continue the responsibility of updating and improving Bandplans and Frequency Coordination of 50 Mhz and higher Amateur Allocations, as had been the charge of the Northeast VHF Association, incorporated into NEWS in August, 1996.

73, Mark Casey, K1MAP, (ex-N1LZC) Secretary, Northeast Weak Signal Group (NEWS) Northeast U.S. & North Atlantic Region.

Here is Burt's reply to this message:

Thanks Mark for the note and the NEWS (proposed) Bandplan. I used to be quite active on low end dx work 30 years ago but have not been active recently. Good luck - you will need it if you think that all of this bandplan will be adopted regionally or nationally.

My interest is drawn to your proposed use of the 144.3 - 144.5 segment. You have indicated "no digital". As you are no doubt aware, there is a movement afoot to shift APRS packet to this part of the band (away from 145.79). It was started in Southern Ontario a couple of years ago and was proposed in a

national Canadian bandplan shortly afterward. Recently there has been extensive discussion in the US on a national level about shifting APRS to this segment. Considering the agressiveness of the APRS people (as shown by their original "takeover" of 145.79 irregardless of what may have previously been on there in a particular region), I don't see much chance that you will be able to restrict that part of the band to "non-digital". I see a national shift of APRS to that segment within 6 months. Myself, I have taken the stand that I will not coordinate any digital in that part of the band here until there is a continental consensus on the bandplan. Nevertheless there is already APRS usage on 144.39 in this region.

As for the 145.5 - 145.8 segment, lets face it, it is de facto digital. Fait accompli!! Irregardless of old ARRL bandplans or whatever. I have been able to keep 3 channels free of terestial digital in this region (Quebec) namely 145.55 for space, a channel for sstv and one grandfathered channel for a club remote base link. The rest are packet. It may be that packet will vacate channels in the future as the mode settles down to a more steady activity (as opposed to the hyped up explosive activity in the past 10 years) but don't hold your breath. In spite of reports to the contrary, packet is not dead.

73 and good luck in your dx hunting

Burt

NEDA Constiution

19. Grounds for Dissolution

a. If the board of directors doesn't hold 3 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 Report (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.

© North East Digital Association 1989, 90, 91, 92, 93, 94, 95, 95, 96, 97

Next Meeting: Saturday, January 24 , 1998

Technical session begins at 9am, Board meeting begins at 1:15pm. sharp!

The Winter NEDA Board meeting will be held in Northampton, MA on Saturday January 24, 1998. The meeting site will be the Depot Restaurant

The technical session will be held from 9:00 am until 12 Noon, and all members and guests are welcome to attend. The Board meeting will commence at 1:15 sharp and continue until all business has been completed, usually around 4:30 or 5 p.m. The Board meeting is open to Voting members only. Membership upgrades are always available at the door for those interested.

Directions:

Take Route 91 North or South to Exit 18, turn left off the bottom of the ramp, and head North on Route 5 about 1 mile. Look for the green sign on the right for the Depot Restaurant. Turn right into the parking lot.

PLEASE RSVP

Please RSVP to Cal Stiles, W1JFP@W1JFP.NH. USA.NOAM, by **January 12,** if you **ARE** planning to attend.

Talk-In: 146.34/94 K1ZJH (Mt. Tom)

Ray, N1CSB, at the October Board meeting (photo: KA2DEW)

Cross Reference of .PRN file parmnames to Parm/Mode TheNET X1J Rev 4

Burt Lang, VE2BMQ

   It has been pointed out recently that the terminology of the .PRM files and the windows/tables in the PATCH.EXE program are sometimes confusing when compared to the terminology used in some of our other Parm and Mode documentation. This document provides a cross-reference between the parameter names used in the .PRN files and the actual PARM or Mode parameter. Another document will address the confusion with the PATCH.EXE program terms.

```
NodeCallsign =                              HostEscapeCharacter =
NodeAlias =                                 IpTimeToLive =
NodeIpAddress =                             IpPortModeFlags = I
IpBroadcastAddress =                        pEnableFlag =
TxKeyupDelay = . . . . . . . .Mode 6        TryingToConnectMsgFlag = . . .Mode 12 bit 0
Persistance =  . . . . . . . .Parm 16       SysopSeesAllCommandsFlag = . .Mode 12 bit 1
SlotTime =    . . . . . . . . .Parm 17      GoodbyeMessageFlag = . . . . .Mode 12 bit 2
InformationMessage =                        ConnectWelcomeMessageFlag =  .Mode 12 bit 3
Password =                                  ShowNodesAsAliasCallsign = . .Mode 12 bit 4
ConnectRedirector =  . . . . .Mode 11       Pass8BitDataInTalkCommand =  .Mode 12 bit 5
CwidPeriod = . . . . . . . . .Mode 2        MakeAliasesCaseSensitive = . .Mode 12 bit 6
CwidSpeed =  . . . . . . . . .Mode 3        TexNetLinkedToHandler =  . . .Mode 12 bit 7
FullDuplexFlag = . . . . . . .Mode 7        IpMtuPort0 =
FullDuplexSendFlags =                       IpMtuPort1 =
HostMode = . . . . . . . . . .Mode 1        IpMtuNetromPort =
CrosslinkProtocol =  . . . . .Mode 5        IpMtuMaxL2InfoBytes =
L2WindowSize = . . . . . . . .Parm 19       IpMtuMaxTotalL2DataBytes =
L2RetryCounter = . . . . . . .Parm 20       AutoReconnectToNode =  . . . .Mode 15
L2T1Timer =  . . . . . . . . .Parm 18       L2DigiUpAndDownlinkCtrl =  . .Mode 17
L2T2Timer =  . . . . . . . . .Parm 21       DeviationMeterScale =
L2T3Timer =  . . . . . . . . .Parm 22       SmeterNoiseFloor =
L2DigipeatFlag = . . . . . . .Parm 23       SmeterScaleMultiplier =
CallValidateFlag = . . . . . .Parm 24       SmeterDbMultiplier =
MHeardTableSize =                           SmeterDbNoiseFloor =
NodeListSize = . . . . . . . .Parm 1        Voltmeter1Multipler =
NodeAutoUpdate = . . . . . . .Parm 2        Voltmeter2Multipler =
HDLCPortQuality =  . . . . . .Parm 3        Voltmeter1Offset =
RS232PortQuality = . . . . . .Parm 4        Voltmeter2Offset =
InitalObsolescence = . . . . .Parm 5        Voltmeter3Multipler =
MinimumObsolescence =  . . . .Parm 6        Voltmeter4Multipler =
BroadcastInterval =  . . . . .Parm 7        Voltmeter3Offset =
NetworkTimeToLive =  . . . . .Parm 8        Voltmeter4Offset =
SelectivePortBroadcast = . . .Mode 4        DevMeterEnableFlag =
CrosslinkBroadcastTime = . . .Mode 8        SMeterEnableFlag =
NodeBroadcastAlgorithm = . . .Mode 9        SMeterAsSPointsFlag =
HashNodeBroadcastControl = . .Mode 13       VoltmeterChannel1Flag =
TransportFrackTimer =  . . . .Parm 9        VoltmeterChannel2Flag =
TransportRetryCounter =  . . .Parm 10       VoltmeterChannel1Divisor =
TransportAckTimer =  . . . . .Parm 11       VoltmeterChannel2Divisor =
TransportBusyTimer = . . . . .Parm 12       VoltmeterChannel1Resolution =
TransportWindowCount = . . . .Parm 13       VoltmeterChannel2Resolution =
TransportOverfillLimit = . . .Parm 14       VoltmeterChannel3Flag =
NoActivityTimer =  . . . . . .Parm 15       VoltmeterChannel4Flag =
BeaconMode = . . . . . . . . .Parm 25       VoltmeterChannel3Divisor =
BeaconTimer =  . . . . . . . .Mode 10       VoltmeterChannel4Divisor =
BeaconDigiCallsign =                        VoltmeterChannel3Resolution =
CQEnableFlag = . . . . . . . .Parm 26       VoltmeterChannel4Resolution =
```

Not all KISS is the Same

The following message, taken from the PCLUSTER-L message redirector, and of general interest to NEDA members, was forwarded by Burt VE2BMQ.

From: Ron Dohmen <n0at@SKYPOINT.COM>
Subj: Solution to PacketCluster-BPQ-TNC Problem

Thanks to everyone who help to solve this unusual problem. The problem is an incompatibility between BPQ extended KISS and AEA PK-96 extended KISS. I did not suspect the TNC because everyone knows KISS mode doesn't pass any stream information to the TNC. That isn't excatly true.

Reference: http://hamgate.upc.es/info/kiss.html The "asynchronous packet protocol" spoken between the host and TNC is very simple, since its only function is to delimit frames. Each frame is both preceded and followed by a special FEND character (C0). In order to transfer the C0 character, when it is not the FEND character, the protocol inserts a Frame Escape "DB" charater, followed by a "DC" character. If the data is "DB" the protocol sends "DB" followed by "DD." The "DB" character is always followed by either a "DC" or "DD." That is how the protocol is able to send the C0 character at only the beginning and end of each frame. Remember the Frame Escape "DB" character - we will see it later.

Reference: PORTS.DOC from BPQ files. Extended KISS mode. "ACKMODE enables the transmission of 'ACK required' frames. These cause the TNC to send a reply when the frame has been transmitted. This will improve link performance by avoiding the possibility of a retry being send before the origional frame has even left the TNC. This mode should always be used if the TNC support it."

Reference: PK-96 Packet Controller Operating Manual KISS "Extended KISS mode adds these commands to the standard commands ($x0-$x5): $xC signifies data to be transmitted. Unlike the $x0 command, the $xC byte is followed by two frame ID bytes, then the data, when the TNC transmits the frame, it notifies the host application by echoing back FEND, the $xC byte, two frame ID packets, and FEND..."

I do not know how the BPQ software assigns the frame ID. But I do know it assigns frame ID "DB" to frames sent to the 15th station that connects to that port. This is where the problem occurs. The KISS protocol sez the "DB" character is always followed by either a "DC" or "DD" character. The extended KISS protocol sez the frame ID is followed by the data. What happens when the frame id is "DB"? The TNC sends out garbage!

I cannot confirm this, but I believe the TNC is dropping the data character following the frame ID, when the fram ID is "DB."

The reason why the data was getting from the user to the node is because the return acks from the node are not sent in extended KISS mode. The BPQ software doesn't need to know if and when a return

poll was sent out. A return poll doesn't kick off any of the AX.25 timers.

I discovered this by monitoring the RS-232 from the computer to the TNC. The data is in binary, so a program such as HEXED is needed to see the binary data.

The solution is to either limit the number of connects on that port to 14, or not to run extended KISS mode. I set the node up for standard KISS mode, and had 20 users tonight.

Thanks to everyone who helped solve this difficult problem.

73 de Ron N0AT

Ground Loops in TNC<>Radio Connections

Burt Lang VE2BMQ

Recently while interfacing a couple of KPC-9612/Motorola MAXAR combinations on 9600 bps, I ran into a serious oscillation on one of the units. Close checking revealed that the shielded cable from the radio receive demodulator to the TNC was grounded at both ends on the oscillating unit, but only one end of the cable shield was grounded on the unit that was clean. Removing the shield ground at the TNC end cleared up the problem. This incident has got me to thinking about the significance of proper grounding in RADIO<>TNC interconnecting cables.

Ground loops (or rather the prevention of ground loops) are a very important factor in low level audio design. A ground loop is created when a outside shield of a shielded wire is grounded at both ends to ground points that have different residual voltages. A current will flow in the shield between the two ground points. Any AC component on this current will be coupled to the center conductor. This can cause considerable hum, noise or oscillations in the circuitry. In the particular MAXAR radio I was working on, the receive audio circuit was left active as an aide to monitoring. The heavy current drawn by the audio output stage contributed to the AC voltage differences on the PC board ground and caused the oscillation.

To avoid this probelm, I would recommend that all shielded wires between a radio and TNC should be grounded at the radio end only. This would be especially important where the cables carry low signal levels and high frequencies like 9600 bps or higher.

Any comments would be appreciated.

NETMGR Home Page

Bill Slack, NX2P

I have added a NETMGR page to my home page. I have not gotten too far on the NETMGR page however I have virtually completed the NETMGR version 2.2 documentation page. I would appreciate any feedback on the page.

My home page is <http://www.qsl.net/nx2p>, and the NETMGR page is <http://www.qsl.net/nx2p/netmgr>

(Note: In case you weren't aware, NETMGR is a windows-based graphical configuration program, which allows the Sysop to fully configure and manage a ROSE network using a drag-and-drop interface. The program outputs configuration files for each switch in the network, and is extremely flexible. As a side-effect, it generates compact yet detailed network maps. -ed.)

Editor's Column

(Continued from Page 1)

you have Internet access (who doesn't?), visit <http:/www.tapr.org> and <http://www.prug.or.jp>. And yes, the Japanese site is, interestingly, in English.

In this issue, we also take a look at some technical subjects, mostly by Burt, the chairman of the technical committee. If you've done something lately, write it up, we'll print it. We're always looking for technical articles, and even if you don't sent it in for the DCC, you can still be published! We didn't get to the maps this time, but we'll see what we can do for next time. Of course, lacking any input from the members makes it all that much harder to get started.

Well, this makes yet another Report out and done, and we've actually kept to a reasonably regular schedule for a year. With your help, we'll be going for a few more years, at least.

73 de N2IRZ

Tiny-2 RS-232 Bug

Burt Lang, VE2BMQ

I recently heard about another bug in Tiny-2s. It was on packet from someone in Australia.

He reported that in the original PacComm Tiny-2, the MAX231 RS-232 interface IC was blowing up in several units. He checked the data on the MAX231, and noted that the absolute maximum supply voltage was specified as 12 volts, and the TINY-2 was allowing 13.2 volts as a supply voltage. He correctly assumed that a higher voltage was the culprit. He had developed a modification *(involving a Zener diode - ed)* that limited the voltage to 13 volts.

I find it hard to believe that 10,000 TNCs were put in service and we are only hearing about it now. But he was right about the absolute maximum voltage on the data sheet. I asked him if we could reprint the notice but have not heard back from him. So we can leave it for the next time.

The attendees of the October 1997 Board meeting are shown here gathered for lunch. From left: Jim Wzorek K1MEA, Burt Lang VE2BMQ, Dana Jonas WA2WNI, Cal Stiles W1JFP, Bob Seger WB2QBQ, Joel Curneal N1JEO, Tadd Torborg KA2DEW, Ray Feeley K1CSB and Mike Staines WA1PTC.

Mike WA1PTC contemplates the state of the network, and of the meeting, last October.

Matrix Buffer: RS-232 Buffer Amplifier and Matrix Extender

Burt Lang, VE2BMQ

Introduction

The standard RS-232 serial port will feed 4 (or in a pinch 5) receive loads. This note describes a buffer amplifier designed to extend an RS-232 serial port to more than 5 loads. The most immediate application in packet networking is to create a larger NetROM diode matrix by joining two 6 port matrices to give a 10 port matrix. Warning: This does NOT mean that the data thruput of the matrix will be increased, only that one can put more low thruput nodes on the same matrix.

Circuit Description

The circuit simply consists of two MAX232 dual RX/dual TX RS-232 transceivers wired with each receiver feeding a transmitter. In this way the two data lines and the two handshaking lines will feed an additional 4 or 5 loads while presenting a load of 1 on their inputs.The circuit is configured identical to the serial port output of a PacComm Tiny-2 including the pull-up resistors (R1, R3) on pin 7 RTS handshaking line. Therefore it will present a load identical to a Tiny-2 Mk 2 when it is connected to any matrix.

Voltage regulator U1 regulates a 12 volt supply to provides the 5 volt Vcc supply to the MAX232 chips. Diode CR1 protects against reverse voltage on the 12 volt supply. 10 ohm resistors R2 and R4 along with C2 and C7 provide protection against possible fast rise times from the power supply which could cause lockups.

Construction

This circuit can best be constructed on a circuit board although as an alternative the circuit is simple enough to construct with point to point wiring, wirewrap or other technique that you may be familiar with. A suggested layout is shown following this article. Also shown is a component layout for the suggested PC board. A drilled and screen printed circuit board is available from the author as well as wired and tested completed units. Contact him at:

Burt Lang, VE2BMQ, 1153 Hwy 203, Howick, QC Canada J0S 1G0. tel: (514)825-2597
email: ve2bmq@amsat.org

Operation

Connect the buffer to one port on each of two matrices. Use straight thru cables the same as you would use to hook up Tiny-2 TNCs to a matrix. Another alternative may be to plug the buffer connectors directly into the end ports on two matrices. This will only work on certain matrix layouts and may require the use of straight connectors on the buffer in place of right angle connectors.

Connect the power terminals to a suitable source of 12 volt DC. Very little current is required (about 10ma). You may wish to install a low current fuse or a 100 ma Raychem Polyswitch PTC protector (RXE010 or equivalent) in series with the power lead to protect against accidental shorts.

Test the assemblied double matrix data lines by connecting from a node on one matrix to a node on the second matrix. The handshaking lines will be harder to test but if you power down one node on either side, both matrices should lock up. Repeat this test with one node powered down on the second matrix. This is not a guaranteed test but should work in most cases with Tiny-2 TNCs (TNC-2s may have different responses). If the buffer handshaking lines are not working, you will still be able to connect between nodes on the matrix that does not have the powered down node attached.

Parts List

C1 to C11	10 uF 25v aluminum or tantalum electrolytic capacitor.
CR1	400v PIV 1 Amp silicon diode, 1N4004 or equivalent.
J1, J2	9 pin male Sub D connector, DE9P right angle or straight.
R1	4.7 kilohm (4K7) 1/4 watt resistor.
R2	10 ohm 1/4 watt resistor.
R3	4.7 kilohm (4K7) 1/4 watt resistor.
R4	10 ohm 1/4 watt resistor.
U1	5 volt low power voltage regulator, 78L05 or equivalent.
U2, U3	MAX232
PCB	Lantronics PC-409 or equivalent.

Matrix Buffer solder side PC Board pattern

Matrix Buffer component layout

Computer RFI

Taken from CompuServe's HAMNET

A Hamnet member asked for help in resolving an RFI problem in his shack. Packeteers, faced with the near requirement of operating with computers and radios in close proximity of each other, may find this answer he received useful and informative.

There are so many variables when it comes to RFI because at these higher CPU frequencies, your square wave clock fundamental is high as it is. The harmonics go, what? to the 7th or 9th and are still significant? Because of weird stripline antenna, gap antenna, and resonant effects which are practically impossible to predict, the only thing you can do is to perform systematic troubleshooting.

1. Listen to the interferance happening.

2. Take the computer to the bare configuration setting (CPU, motherboard, video card, mouse, keyboard, and monitor.

3. Once the system is up and in standby, unplug the monitor's video cable at the CPU. If it goes away, go to 100. If not, reattach it and go to 4.

4. Unplug the AC cord going to the monitor. If no RFI go to 100. If still RFI, go to 5.

5. Reattach the AC cord.

6. Remove keyboard connector at CPU. If no RFI go to 100 If still RFI, go to 7.

7. Reattach keyboard.

8. Remove mouse at CPU. If no RFI, go to 100. If still RFI, go to 9.

9. (Other Peripheral Check) As with outboard SCSI devices, or outboard backup drives, outboard CDROMS, printers, DVD, home controller interface cards, or lab controller interface cards, midi, joystick,etc.) copy steps 6, 7, and 8, but go to 10 if RFI is still there.

10. You've eliminated the peripherals. Try adding wrap-around chokes to the AC line, as close to the CPU as is practical. (We're assuming that the CPU is the source of the RFI, so you want to trap out the hash as close to the source as possible)

11. If the RFI is still there, then the CPU is radiating the hash from it's case (or lack thereof). Treat it like a transmitter enclosure and use the same shielding techniques to prevent radiation and re-radiation of RF

12. Remember, that just because your equipment is attached to ground, doesn't mean you have a good earth ground. Verify that the 3rd wire goes to a good cold-water-pipe ground.

100. Attach wrap-around RFI cores to the peripheral device you're investigating as close as possible to the CPU where it is attached. Experiment with the number of turns around the core, unless the wire is of such a large diameter that you must add cores in line with one another, because only one pass through the core is possible.

101. End

73, Gary Viveiros

Motorola MITREK 9k6 modification

Note: I haven't tried this, but it seems harmless enough, and will probably work fine. It might be a good idea to replace the 10.7 MHz receiver IF filters (there are 4 in most models) with 30 kHz versions).

The Motorola Mitrek is one of the BEST radios to use for general amateur packet at 9600 baud. This mod will allow 9600 baud packet with the G3RUH type of modems although other may work as well.

TOOLS AND SUPPLIES NEEDED:

a. Soldering iron b. Solder c. Small cutters or a sharp knife or razor d. 2ea. Small .1uF disk ceramic caps 12vdc or greater. e. 1ea. 1uF electrolytic non-polorized cap. f. Manual for your radio

Ok guys and gals! Get ready to get on 9600 baud packet!

A) Locate the transmit audio amp/splatter section on the transmitter section of the schematic. Locate the ACTIVE SPLATTER FILTER. NOTE the last transistor (Q504 on the vhf version - may be different number on other bands.) B) Now locate the transmit channel elements. Locate pin four on channel element #1. Do you note, on the drawing, the line going to pin 4 of element #1 to the collector of Q504? This is your direct FM modulator input. Cut this trace at the channel element. C) Solder one side of the 1uF electrolytic cap to pin 4 of the channel element. The other side of the cap is now you modulation input from you modem or tnc. I will let you decide how to run it into the radio. Use shielded wire. D) Install one of the .1uF caps between pin 3 and pin 1 of the channel element. E) Locate pin 11 on J1. This is the plug on the front of the radio. Hook you receive audio there. The average person will not need to make any mods to the receiver. If you dont have any real good test equipement dont make any receiver mods. IT WILL WORK A-OK. F) Install .1uF cap between pins 1 and 3 on receiver channel element.

****YOU ARE NOW DONE**** NOTES: The mod was really easy! You need to make sure that your max deviation is 3khz MAX. Set your TXD to 200 milliseconds at the beginning...txd 20 on most TNC's. After you are happy, start lowering you txd. You will probably end up with a txd of 7....or 70 milliseconds. The caps on the pins of the channel elements really do not effect the 9600 baud operation. What they do is reduce the local oscillator leak that emits out of these radios about 20 db...VERY VERY IMPORTANT on hilltops.

73's de Jim, WA6OFT @ KA6HMG.AZ,USA.NA

North East Digital Association Membership Application

Welcome to NEDA 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 network.

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

NEDA publishes documents each year including official meeting minutes and articles of interest to packet networking. Voting and Associate members receive all NEDA publications.

NEDA's administration is based upon six directors, alternates, and several appointees. The six directors of the Board are elected for two year terms by Voting members, three are elected each year. The Board meets three or four times a year in various locations within the club's area of interest. Meetings are open to the voting membership.

NEDA members sponsor general interest and special interest packet meetings throughout the region. NEDA's focus is to publish information on packet radio and packet radio networking. NEDA does NOT fund the building, operation nor maintenance of any packet networking facility.

The membership/dues structure of NEDA is:

Associate with US address $15
Voting with US address $25
Canadian Address surcharge $5
Non-US/Non-Canadian address surcharge $15
Upgrade to Voting, all countries $10

All membership rates are US funds only. Foreign members should send funds in a Postal or Bank Money Order in US funds. Thank you.

This form is dated 19970707

Name: _____

Full service BBS at which you get your packet mail.
Example: WB2XYZ@WA2WNI.#ENY.NY.NOAM

Call _____ @ **BBS** _____

Address: _____

City: _____ **State or Province:** _____

Home Phone: ( )

Postal Code: _____

Office Phone: ( )

Country: If not USA _____

If a NEDA member gave you this form, what is their callsign? _____

County: _____

e-mail address: _____

Membership desired – Check one

	Voting		Associate	
USA - $25/yr	☐	USA - $15/yr	☐
Canada - $30/yr	☐	Canada - $20/yr	☐
Foreign - $40/yr	☐	Foreign - $30/yr	☐
Renewal ☐	Upgrade to Voting Membership, $10/yr ☐	Information Update only ☐		

Membership Dues are payable in US Funds

Make Checks payable to NEDA

Address this form and all correspondence to:

NEDA

PO Box 563
Manchester NH 03105

NEDA Representative	Office Manager	Membership Chairman
Date:	Date:	Database:
Amount:	Amount:	
Check #:	Check #:	
Intro package Delivered: ☐		Intro Package Mailed:

NEDA's Mailing Address is:
NEDA
PO Box 563
Manchester, NH 03105-0563