NCPA *Downlink*

The Packet Radio "White Pages"

Larry Kenney, WB9LOZ
NCPA Education Coordinator

Let's take a look at the White Pages. No, not your local telephone directory, but the packet radio database known as the White Pages. You help supply the information for "WP", and you can also make good use it to find the name, QTH, zip code and home BBS of your friends on packet.

The White Pages was initially designed by Eric Williams, WD6CMU, of Richmond, the current President of NCPA. Hank Oredson, W0RLI, later added a WP database to his packet bulletin board software, and both REBBS and MSYS BBS software now update "WP". The White Pages is a database of packet BBS users. It contains the callsign, name, QTH, zip code, home BBS and the date the information was entered for thousands of hams who are active on packet. The database is updated and queried by packet message, allowing stations from all over the world to take advantage of it.

When users register at a BBS by entering their name, QTH, zip code and home BBS, the information is stored for local use and is also forwarded to other White Page databases. Once a day, the BBS software automatically assembles a WP Update message containing all of the latest information that has been received. The update message also includes information on all users of the BBS on a regular basis so that "WP" is current. These update messages are forwarded to White Page databases at other systems and to the National White Pages at the AD8I BBS in Ohio. Here in Northern

California, all WP systems receive the update messages.

> **The annual NCPA general meeting is May 3rd. Please see page 7. Be there!**

All of this user information is available to everyone who operates a packet station. You can easily find the name, QTH, zip code and home BBS of other packet stations using the White Pages. If the BBS you use is operating with its own WP database, you make inquiries of it using the "I" command. Simply enter I followed by the callsign you'd like information about. If you wanted information on WB9LOZ, for example, you would enter: I WB9LOZ *(NB: On WD6CMU, the Q command is used instead of I.)*

Information can also be obtained from the White Pages at other systems by sending a personal QUERY message. You address the query message to: WP @ BBSCALL For the WD6CMU WP, for example, you would address the message: SP WP @ WD6CMU For information on stations outside of Northern California, you'll need to query the National WP database @ AD8I. Queries should be addressed: SP WP @ AD8I.#CMH.OH

The query messages are read and answered by the BBS software, not a person, so you must use the correct format: Subject: Query Text: callsign ? You may include as many requests as you wish in one message, but each request must be on a separate line. For query messages sent to WD6CMU and AD8I, if the requested information is not available from the WP database, the return

message will tell you so. For query messages sent to W0RLI systems, a response is returned only for the callsigns where information is known.

Here's an example of a message sent to a White Pages database:

```
Your BBS prompt>
SP WP @ AD8I.#CMH.OH
Subject:
Query
Text:
K9AT ?
```

In This Issue

Editorial

Steve Harding, KA6ETB
NCPA Editor

Well, radio pals, I lied. I promised you and the Board that I would get the Downlink back on track and up-to-date. Best intentions and great expectations. However, this will be my last Downlink as editor, as I tendered my resignation to the Board at the last Board meeting. What happened is that I tendered a book proposal to a publisher and it has been accepted. So, for the next few months, in my spare time I am going to be busy pounding keys for profit.

The Downlink is the most visible part of NCPA. Most of our members become members just to get a subscription, and that is OK. However, as with most organizations, ten percent of the people do ninety percent of the work. That is also true of NCPA, except for publication of the Downlink. In most organizations that publish a newsletter, the editor does everything including licking the stamps. In NCPA, all the editor does is collect the stories, check them for spelling and grammar, and to some extent, technical accuracy. The actual production of the Downlink is done by one member, the printing by another, and the mailing and distribution by still another.

Why am I telling you this? We would like to find someone new to take over the reigns. We need some fresh blood and new ideas (or is it new blood and fresh ideas). And, as my buddy, W6VOM, would say, we can offer you a six figure salary...unfortunately they are all 0s.

If you are interested and want to talk about it, contact me.

KA6ETB@N6LDL.CA

NCPA Has Moved!

Due to problems with our old mail box manager (misplaced and lost mail, billing errors, etc.), the NCPA has moved its address to a box run by Uncle Sam. Please note the new address for all future correspondance regarding membership information, book orders, newsletters submissions, and other official business. The old box will be maintained for some time until the word gets around. Thanks to everyone for your patience.

Northern California Packet Association
PO Box 61716
Sunnyvale, CA 94088-1761

The NCPA *Downlink*

The President's Letter

Eric Williams, WD6CMU
NCPA President

Folks, the NCPA is in trouble! Not money troubles, or lack of membership, or an attack by outside forces, but the slow death by member apathy. Let me explain:

From its inception, the NCPA has been able to rely on a core of dedicated, hard-working hams that did the work necessary to keep the NCPA going forward and accomplishing its goals of education and coordination. But as the years have passed, those individuals have had to curtail their involvement as other interests have intruded. Some needed to devote more time to their family, some moved away, and others had to deal with increasing demands from their job. As a result, the remainder of that core has had to shoulder more and more of the work, and the inevitable result of volunteer burnout looms ahead.

To a certain degree, the NCPA is a victim of its own success. When there are crises to resolve and hams are seeing resources they use and value threatened, it is easy to get volunteers to help out. But things have been running pretty smoothly recently. There haven't been any major frequency squeezes, the BBSs and nodes are all running reasonably well, and the interference problems that have cropped up have been relatively minor. People figure that the job is somehow getting done, so they feel that their help is not needed. Everyone shows up to help when there's a fire, but who wants to stand around and polish the fire truck in between?

The problem is that any organization requires a certain amount of maintenance to keep it in running shape, and they all experience a certain amount of personnel turnover, especially volunteer organizations. The problem here is that nobody is stepping in to replace those people who are leaving, and that spells trouble!

I was personally involved in a national computer user's group that had similar problems and gradually dissolved to the point where it could no longer sustain itself and was disbanded. Within a matter of weeks, several people "discovered" the need for the services that the old organization had been providing, and these people began the arduous task of trying to put together yet another user's group. Where were all these people when the old group needed help? Let me assure you that it is far easier to help to keep an organization like the NCPA running than it is to start one up again when you need it.

Think of the things the NCPA has been able to do: the frequency resources it has fought for, the interference difficulties it has resolved, the books on packet it has published and the lectures it has sponsored. Think of the national computer networking conference it hosted, and the newsletter you are reading now. If you think these things have value, consider becoming one of the people that make them happen. And if you think the NCPA should be doing more or better, now is your opportunity to see that things happen the way you think they should.

Here are just some of the things that need doing in the NCPA:

- The Downlink needs a new editor. This involves gathering articles, reading them over and getting them ready to be typeset. It also means developing a pool of authors that can be tapped for assignments, and keeping an eye out for the interesting things that happen in packet that are worth writing about. Two former editors stand ready to get you started, and typesetting, printing and mailing are handled by others.

- When the Downlink is ready to mail, we need people to spend an evening licking stamps and sticking on mailing labels. Ben Franklin said "Many hands make light work," and nowhere is this more true than in this job.

- We need a new frequency coordinator. This means dealing with NARC and other representatives of groups we share VHF and UHF frequencies with, putting together proposed bandplans for approval by the board, and investigating interference complaints and passing on the facts to the appropriate group. Right now, W6RGG is performing this job on a tentative basis, and will work with you to begin with, as will AA4RE, the previous frequency coordinator. This job is big enough to be shared by more than one person if we can find them.

- One of our most successful methods of attracting members and making revenue is to sell memberships and books at the flea market, but we haven't had anyone willing to man a table for over a year. It really takes two or three people so that everyone gets a chance to do their shopping. (As well as to reduce the number of five-finger discounts.)

- WB9LOZ has been shouldering the jobs of Vice President, Education Coordinator, and Assistant Editor. I'm sure Larry would appreciate help in any one of these areas. The Vice President assists the President in putting together board meetings and other duties.

- Yours truly has been holding down the jobs of President, newsletter typesetter, and packet database manager. I would be grateful to anyone who would be willing to take any one of these off my hands. ("Take my job, please!") Typesetting involves running Ventura Publisher and putting together the masters for printing. The packet database uses DBase IV and requires someone to gather vital info on nodes, BBSs, etc. and keep the database up to date. Being President means mostly running around and making sure that everyone else does their job.

- We always need writers for the Downlink. (You may notice that this issue is a bit short of our usual 20 pages. Need I say more?)

We try to spread things out so none of these jobs take more than a few hours a month, but we can only do that with more people. If you're interested in these or any other jobs, please get involved. Come to the general meeting on May 3rd and run for director or as an officer. Call one of the current board and find out what you can do to help. (Phone numbers are near the end of this newsletter.) Show up at a board meeting and see how things get done. The NCPA needs you!

73, eric

FCC Needs Attitude Adjustment on Packet

Phil Karn, KA9Q

Editor's note : Phil published these observations on one of the USENET newsgroups.

R umor has it that the "powers that be" in the FCC are uncomfortable with what they perceive as the building of a "common carrier" network on the ham bands — in the form of the packet BBS system (and other related packet systems).

Indeed, the situation is starting to look very much like that of about 20 years ago, when one A. Prose Walker, W4BW, decided he did not like FM repeaters and pushed through highly restrictive rules. For those of you who were not around, these rules required the special licensing of repeaters (with WR callsigns). Ordinary stations were not allowed to do anything that looked like repeating. Applications for repeater licenses required highly detailed system diagrams, with designated "control points", designated control operators (who had to hold special "control" licenses) and the like. The linking of repeaters was prohibited, as was crossband operation and a whole slew of other potentially useful activities.

After a few years Mr. Walker retired from the FCC and the draconian rules were lifted, but not until after quite a bit of damage had been done.

Now we seem to face a replay of history with respect to today's leading-edge amateur technology, packet networking. We've seen the opening shot in the form of the infamous "900 number" citation and the FCC's apparent intransigence on holding every licensee in an automatic network responsible for message content.

I thought it might be useful to draft a "white paper" to argue the case for a highly capable amateur packet radio network, because the FCC Private Radio Bureau appears unable or unwilling to appreciate the fact that packet networking is just as much (or more) in keeping with the Basis and Purpose of the Amateur Service as are more traditional activities such as ragchewing, DXing, contesting, building transmitters, etc. To me, building the biggest, fastest and most reliable and efficient packet network we can is amateur radio's "manifest destiny." It's so obviously the right thing to do that it's hard to exhaustively list all the reasons why. One might as well try listing all the arguments in favor of motherhood and apple pie.

Therefore I would like to solicit items for this white paper. At the moment, I am looking for brief points that I can expand into full sections in my paper. All should support these two basic ideas: 1) building an amateur packet radio network is entirely consistent with the charter of the Amateur Service, and 2) even a fully automatic, operational amateur packet radio network would not be a "common carrier" by the standard meaning of the term.

To get things started, I thought I'd put out a few points myself.

1. The "leading edge" of radio communications technology no longer deals entirely with the design of radio transceivers. It now deals instead mainly with the problems of organizing those transceivers into cooperating networks. If amateur radio is to stay current with the field of radio communications and produce technicians and engineers who understand today's communications systems, it too must do networking.

2. A "common carrier" is defined as a commercial entity that must provide its communications or transportation services to anyone willing to pay its tariffed rates. Since amateurs are a) volunteers who are free not to provide their services and b) cannot by law accept compensation, it is impossible for amateurs to create a "common carrier" network even if the amateur technology were otherwise identical with that used by common carriers.

3. By replacing a single pair of stations with a network of several stations between the same two points (among others), it becomes physically possible to use higher frequencies (e.g., line of sight links using VHF, UHF or microwave instead of ionospheric routes requiring HF) and lower powers (because of the smaller inter-station separations and higher antenna gains). This promotes the more efficient and effective use of RF spectrum, particularly through spatial reuse. Given the scarcity of the spectrum and the amateur's mandate to experiment, the development of amateur networks as a means of promoting more efficient use of the spectrum is clearly justified.

4. Automatic networks, particularly operating on line-of-sight paths at VHF and above, are much more reliable than point-to-point HF links, making amateur facilities much more useful in event of emergency.

5. The network itself has proven extremely useful in support of other, more traditional amateur activities by disseminating bulletins, coordinating the efforts of like-minded amateurs at some distance from each other, and promoting the broader discussion of policy topics of interest to amateurs.

Those are just a few of the possible points I could make. Any others?

Phil

Tidbits

Usenet — FCC - Washington, DC

The FCC has released Report & Order in PR Docket 90-561 adopting minor amendments to Part 97 of the FCC Rules. These amendments have to do with the broadening of rules to allow other specialized mode designations on in space telemtry frequency allocations (ASCII, AMTOR and Baudot). Changes take effect Dec. 16th.

Usenet — Newington, CT

In a story written by Fred Mia W5YI (W5YI Reports - VOL. 12 Issue 23 - December 1st edition) Fred reports that on November 16th, the FCC and the ARRL crossed swords for the last time on Docket 87-14, the reallocation of 220-222 MHz from amateur usage to private land mobile radio services. The basic jist of the story was that the ARRL paid Attorney seemed ill-prepared and did a poor presentation on behalf of the Amateur community in fighting this case to the U.S. Court of Appeals for the District of Columbia Circuit court. Final rulings are due in a few months.

What's Wrong with NET/ROM, TheNET and TheNET-Plus?

Scott Cronk, N7FSP
NAPRA Technical Vice-President

First there are three things wrong with each of these three node Networking software systems. Each has the same problem, so it is not a case for ours is the right one and the other 2 are wrong. That is old news since we haven't seen any improvements or updates now for several years to NET/ROM, but the TheNET and TheNET-Plus folks have forged ahead.

Problem No. 1 is that when you send data into one of these nodes, the information will not return an acknowledgement to the originating station of the packet until the information has been sent to the next node. In this case, the node is relaying the information to another node or user. So to visualize this, lets say that you have your local uplink node into the network. When the data is received by your local LAN, that node sends to the next node in the path to get to its destination, but will not send you an acknowledgement until the information has been relayed to the other node.

Problem No. 2 is that when you connect to a distant node and ask for a nodes listing, the entire listing must be received by each node in the connected path before it will be relayed to the next connected node, or end user.

To visualize this, lets say that you connect to your local LAN node, and then connect to another node in the network that is out of your local area and that there are a dozen other network nodes in the path. When you type "N" (for example) the information will start making its way across the network to the node at which you made your entry into the network, but you do not receive any information from your local node until the entire listing has been received at your local network node. This means that if the path was working

and it failed for some reason, you will not even get a partial listing.

Problem No. 3 is when you connect to your local uplink node and you wish to connect to another node in another state (for example) and you issue a "C xxx" your packets are essentially digipeating from the node at which you uplinked the destination node. But, how can this be? We have been told that is why the nodes were developed, right? *Right.*

The problem comes from the way that NET/ROM, TheNET, and TheNET-Plus handles the level 3 and 4 connections. On a level 3 connect between nodes you <u>do</u> get node-to-node acknowledgements, but on level 4 layer connections you're essentially digipeating across the network and backbone networks to your destination. This is one of the reasons why node hopping across the country will often be so difficult. If there is local activity that is keeping the network busy in part of your path and your Packets are trying to traverse that part of the network, it will be competing with the most aggressive timing parameters on the local connections.

Another factor that plays here is the timing parameters. Nodes operate the same way your TNC operates, with parameters like FRACK, PPersistance, DWAIT, and RETRY, and if your Packets are 'digipeating' across the network in a level 4 connection, these parameters might well time out your link connections before the data has even had a

chance to be relayed back to your last node connection.

This also is true for those BBS stations that advertise "xxxBBS". If you should connect to your local node and see a "xxxBBS" in the nodes listing (by typing "N") and see a BBS that you'd like to connect to but it is another state or even another part of your network, there might be a dozen or more network nodes in the path to get to that station and you're essentially digipeating the entire route. It would probably be best if the "xxxBBS" nodes were to be limited in the network to the area of intended coverage anyway and not propagating throughout the network and across the states, but that is another story.

Best bet here is to 'stage' your connections. First connect to the local LAN node, then type "N xxx" where 'xxx' is the destination node. The node will then reply with any information that is available to get to the destination node, such as in Example 1.

In this example I only ventured but a short distance, which never left my house, but this very same method has been used for years to travel across the country from one state to another several thousands of miles away! While I was living in San Jose, California I used to be able to connect with nodes in South Dakota! Now that I'm again living back in Washington state I still get connec-

```
C N7FSP-14                                    entered to connect to uplink node
Connected to N7FSP-14                            Connected!
N ALKI                                        entered to the local uplink node
#ALKI:N7FSP-14} Routes to: ALKI:N7FSP-1       this is a reply from the node
190 6 0 WSEA                                  second line of reply from node
C WSEA                                        next node in path to destination
#ALKI:N7FSP-14} Connected to WSEA:N7FSP-5        Connected!
N ALKI                                        entered to the local uplink node
WSEA:N7FSP-5} Routes to: ALKI:N7FSP-1         this is a reply from the node
   255 5 1 ALKI                               highest quality to destination node
   254 5 1 #ALKI2                             possible back-up route
   254 5 1 #ALKI3                             possible back-up route
C ALKI                                        connect to highest quality path
WSEA:N7FSP-5} Connected to ALKI:N7FSP-1          Connected!
```

Example 1: "Staging" NET/ROM connections

Foster City Loves Hams ... Not!

Eric Williams, WD6CMU

The acompanying letter was recently sent to an amateur radio operator living in Foster City. What appears to have happened is that Foster City, which used to be a planned community and not a city at all, required all residents to sign restrictive covenants (CC and R's) that prohibited outdoor antennas. Recently, Foster City incorporated as a real city, which called into question whether or not the CC & R's were subject to PRB-1.

Some of the hams living in the city challenged the ordinances in San Mateo county superior court, taking on the conservative population and their city council representatives, and citing PRB-1 as having precedence over local authority. The case was decided in favor of the hams, but the city council appealed to the state appeals court which overturned the decision on the basis that PRB-1 does not apply. Foster City hams are now planning another challenge based on California law.

In an interesting side-note, the Foster City council has also voted to allocate $2,500 to their police department in order to purchase amateur radio equipment for use in ARES/RACES activities. One can't help wondering who the police are going to have man these stations during an emergency if ham radio is outlawed by the very council that authorized their purchase.

73, eric ▐EOF▌

Dear *name withheld*,

You are being notified because your friends and neighbors in Foster City have been alerted to your being enticed into the conspiracy created by Mr. Jim Rich and the American Radio Relay Club that has targeted Foster City.

We are certain that you have been unwittingly recruited into the despicable hobby of ham radio and are being misled by these people. We know you as a very thoughtful and long standing advocates to maintain Foster City's beauty.

You purchased your home many years ago and agreed not to breach the CC and R's that declare any outdoor antennas are strictly forbidden, but we realize that these outside forces are doing everything possible to influence you and others to be a "ham" just to increase their foothold. You are certainly being manipulated in this plot!

We are appealing to you as your long time friends and neighbors to give up this pointless ham radio inanity and to eliminate all your transmitters and antennas as soon as possible.

Complying with this request you will not be subjected to litigation for violating the CC and R's on your property or expensive health claims and damages filed against you.

Our new City Council is cognizant of and strongly opposed to this conspiracy, pledging to block any form of ham radio in Foster City.

We urge you to join us to vanquish those who would jeopardize us to cancer causing radiation, ruin our property values or cause interference to life-saving devices and our televisions and telephones. We are determined to stop anyone from installing any type of ham antenna in our city.

You are in a very unique position to assist us and we believe you can be counted on to drive out this "ham" horror forever from our gorgeous city.

Sincerely;

Your neighbors in Foster City

Late Breaking News... A Ham in Congress?
Glenn Tenney, AA6ER of San Mateo, is running for U.S. Congress in the primary against Tom Lantos.

What's wrong with NET/ROM?
Continued from page 5

tions from N7OO using various VHF and HF links from Sierra Vista, Arizona!

You'll find that there are places where you can skip several nodes in your connect path over a period of time, and that there are others that you must connect to get past a place that has poor propagation conditions or heavy loading from BBS or user activity, but that your overall ability to get from one place in the network to the other will be vastly improved.

Disclaimer: NET/ROM or its equivalents are what we've got to work with, there may be other networking software packages out there that operate in a different way, but that doesn't mean that this software is inferior. However, knowing the limitations will better enable you to be able to use the software more effectively.

Enjoy!

de N7FSP

▐EOF▌

NCPA Resource Database Needs Your Input

Eric Williams, WD6CMU

The NCPA has begun the building of a packet resource database. This is a compilation of significan information about permanent packet installations in northern California. Such a database is needed by the NCPA to help keep track of the growth of packet, anticipate and resolve interference problems, and determine the most useful distribution of frequency resources. There are also many utilitarian applications for the database, such as programs that could figure out a path to get a user from point A to point B via the network during emergencies, the production of computer-generated maps, etc. The eventual goal is to make the database available via packet query.

By "permanent packet installation," we are referring to any non-HF packet station that is intended to operate 24 hours a day. We would like to hear about your station even if the use of that station is not open to the general ham popula-

tion. Such entries will be so marked, possibly even excluded from public availability, but we can't attempt to protect your station's operation if we don't know about it.

We'd like one set of the information below for <u>each</u> transmitter, even for multi-port systems. Best way to send it is via packet to WD6CMU @ WD6CMU, alternatively via internet to ewilliam@ub.com. As a last resort, use the U.S. Snail: 5860 Clinton Ave., Richmond, CA 94805.

- Callsign
  plus SSID, if AX.25

- Alias

- Location
  Common name and/or description

- Coordinates
  Latitude, longitude, altitude
  (This is essential for the utility of the database, please try your best.)

- Frequency
  Center or carrier frequency

- Transmitter power

- Modulation type
  FM/AFSK, direct FM, QAM, etc.

- Data rate
  Bits per second.

- Channel width required

- Antenna
  Type, gain, plus heading if directional

- Approximate coverage area

- Protocol(s)
  AX.25, Net/ROM, TCP/IP, RLI BBS, etc.

- Equipment notes
  Radio, filters, TNC type, firmware, etc.
  Note here if emergency backup power is available.

- Usage notes
  Purpose, restrictions, duplex, etc.
  Note here if station use is closed.
  List sponsoring organization, if any.

- Non-RF links to other nodes
  List callsigns & link data rates.

- Nodeop/trustee contact information
  Address and phone number preferred.
  EOF

NCPA General Meeting May 3rd

Eric Williams, WD6CMU
NCPA President

The NCPA will hold its annual meeting of the general membership on Sunday, May 3rd in the board room of the Contra Costa Water District, 1331 Concord Avenue, Concord, at 10:00AM. This meeting is open to the public. The preliminary agenda for the meeting is as follows:

- Review of NCPA's accomplishments in 1991.

- Discussion of goals for 1992.

- Discussion of 430MHz packet allocations, current and future. N6FRI, the NARC 440 coordinator, will address the membership on issues and options and the results of the most recent NARC general meeting. (See N0ARY's article on ATV/Packet interference on page 12.)

- Election of the 1992 board of directors.

Additional agenda items should be submitted to WD6CMU @ WD6CMU. Please attend if you have interest in any of the above subjects, even if you are not a member.

Talk-in frequency will be 147.735(-). Directions to the Water District are:

From the north, take I-680 south from the Benecia bridge. Exit at Concord Avenue and turn left on to Contr Costa Blvd. Go one short block to the Concord Avenue light, and turn left. Drive approximately one mile, passing the Concord Airport. The Water District building is on your left.

From the south, take I-680 north to Concord and exit at Concord Avenue. Continue east past the Airport one quarter mile, the Water District building will be on your left.

From the east, take Highway 4 west to Concord. Turn south on Highway 242 (connector to I-680). Take the Concord Avenue exit. Turn right and you'll find the Water District on your right.

From the west, take Highway 24 east to Walnut Creek. Turn north to I-680 and follow the directions from the south.

Putting the Microsats to Work

David Medley, KI6QE

About two years ago a significant event took place in a remote part of the world called French Guiana in South America. On that day an Arianne rocket, owned by the European Space Consortium,roared into space carrying seven communications satellites. One of these was a commercial unit but the other six were a new breed of satellite called "Microsats" each one occupying a space of no more than 800 cubic inches. These units had been designed, constructed and financed by a group of dedicated amateurs from the USA,Argentina,Brazil and the UK.

Not much notice was taken of this event except in the small world of amateur satellite operators because the microsats did not do very much that was considered useful. They were in a low orbit and therefore only visible at a given point for a maximum of ten minutes or so and their only capabilities included sending telemetry and acting as a digipeater. Much criticism was levelled at AMSAT and the satellite community in general for having wasted all this time and effort to do something which was only really a toy for those who could afford the ground station equipment.

Little did these critics know of what the future held. In the ensuing year or so software was developed and uploaded to three of these microsats providing a store and forward message capability with quite a surprising capacity of 1000 messages and in the case of one satellite 9600 baud transmission speed. Even allowing for the short visibility time much information began passing to and from the microsats.

Call	@BBS	LOCATION	HIER ADDR.	Name	Service Area
KI6QE	AA6QD	Los Osos CA	#CENCA.CA.USA.NA	Dave	CA,OR,WA,UT,ID,NV,AZ,VE6,7,8
VE8DX	VE8DX	Baffin Is	#BAF.CAN.NA	Bob	Baffin Island only
WA0PTV	WA0PTV	Fredonia NY	#WNY.NY.USA.NA	John	NY,NH,RI,VT,MA,ME,VE1,2,3
KF4WQ	KF4WQ	Selinsgrove	#NCLBT.NC.USA.NA	Rick	NC,SC
LU8DYF	LU8DYF	BA	.OLIVOS.ARG.SA	Norberto	CX,CP,OA,CE,PY,YV,LU/LW
ON4KVI	ON4KVI	Vielsalm Bel	.BEL.EU	Renauld	Western Europe, Scandinavia
ZS1ABM	ZS1ABM		.CP.ZAF.AF	Gerd	South Africa
JA6FTL	JA6FTL		#39.JNET5.JPN.AS	Seuo	JA,DU,VS6,BV,YB
W0SL	K0PFX	St Louis MO	.MO.USA.NA	Roy	KS,MO,IL,IA,NE,TN,SD,ND
ZL2AMD	ZL2AMD	Napier NZ	.#40.NZL.OC	Dave	New Zealand, South Pacific
EI6EH	EI6EH	Ireland	.KELLS.IRE.EU	Tom	Ireland,UK,DEN,NOR
EA8RT	EA8RT	Barcelona	.EAGC.ESP.EU	Miguel	Spain, Portugal, South France
OH6KG	OH6KG	Karleby	.FIN.EU	Kenneth	Finland, Sweden
NU9H	WV9O	La Porte IN	#NWIN.IN.USA.NA	Dave	IN, IL, MI, KY, WI, VE4, VE5
WH6AMX	WH6AMX	Honolulu HI	.HI.OC	Rick	US Islands in the Pacific
FO5LQ	FO5LQ	Tahiti	.TAH.OC	Alain	Polynesia
N0GIB	N0GIB	Sioux Falls SD	.SD.USA.NA	Russ	SD, ND, MN, MT, WY, NE
NL7NC	NL7NC	Anchorage AK	#NAK.AK.USA.NA	John	AK
W5ERO	W5ERO	Lubbock TX	#WTX.TX.USA.NA	Jim	TX, NM, OK, AR
KG4TM	KG4TM	Guantanamo	.CUB.CAR.NA	Tim	GB, Caribbean area
EA6IC	EA6IC	Malloca Is	.ESP.EU	Jose	ESP, PRT
SV8RV	SV8RV	Zakynthos	.GRC.EU	Denis	Eastern Europe, USSR
LU1ESY	LU1ESY		.ARG.SA		CX, CP, OA, CE, PY, YV, LU/LW
YB0QC	YB0QC	Jakarta	.RPA.IDN.OC	Dwi	Indonesia, SE Asia
VK5ZK	VK5ZK	Adelaide	#SA.AUS.OC	Gary	SA, WA, NT, QLD
NR3U	NR3U	Selinsgrove	#NCPA.PA.USA.NA	Clem	PA, NJ, OH, MD, VA, GA
4X1AS	4X1RU	Tel Aviv	.ISR.MDLE	Shlomo	Israel
LU7ABF	LU7ABF		.ARG.SA		CX, CP, OA, CE, PY, YV, LU/LW
VK3JAF	VK3JAV		#VIC.AUS.OC	Gary	VIC, TAS, NSW

Table 1: Microsat gateway stations

Putting the Microsats to Work

Continued from previous page

This was so successful that an experiment was started almost a year ago to see if this might have any value in an emergency situation. You will all remember the devastating earthquakes in Alaska not too long ago and some of you will recall the enormous communication problems that ensued particularly with relation to Health and Welfare traffic, normally handled by amateur radio. The only links with the rest of the USA was by HF radio which is notoriously unreliable particularly in high latitudes. A prominent BBS SYSOP in Anchorage, John Lawson NL7NC in conversation with an AMSAT VP conceived the idea of using the store and forward capabilities of PACSAT as an adjunct to the Alaskan ARES program and David Medley KI6QE, also interested in ARES was asked to help.

It was soon shown that the system was practical and that large volumes of traffic could be passed reliably and without atmospheric effects such as those which plague HF. This was done by using full duplex transmission and archiving procedures before and after transmission.

So regular use was made of this path to send packet message traffic to and from Alaska and California and ARES organizations at both locations were made aware of the new facility.

Soon others noticed what was going on, although no publicity was given at this time, and asked to be able to participate. Stations in the Canadian Arctic, New York and Ireland soon joined the gateway experiment which was so successful that today there are 30 gateways worldwide interfacing with local terrestrial packet networks. It is possible to send and receive messages from almost any part of the world in just a few days and with great regularity.

This has now allowed the average ham with a basic packet set up to communicate with the world using the most modern facilities without having to become involved with the expense of setting up his own Earth Station. Lets now look at how this can be done.

In California we are most fortunate in that we have a great organization of far sighted SYSOPS who have recognized the advantages of Satellite forwarding and have added this to the forwarding files of their bulletin boards. So now you can simply connect to your local BBS and send a personal message to anywhere in the world much as you would do to send a letter. To do this all you need is a name and an address. In the case of packet radio all you need is the callsign of your correspondent and the Bulletin Board he checks into. In the USA and a few other countries you can sent NTS format traffic to third parties who are not licensed amateur operators.

So if you want to send a message to your buddy in Germany, whose call is DL3AA and who checks into BBS DL3BB you simply type:

SP DL3AA @ DL3BB.DEU.EU

(Subject) Via Satellite

(Message)

If you live in another State where satellite forwarding has not been so well accepted you should consult your local SYSOP as to how to proceed, telling him that you want your message to go via satellite.

Please try to get the hierarchical address correct as your message will be held up if it is not. Note in the example given that Germany is .DEU and not .GER and certainly not .FGR or .GDR.

Table 1 is a list of the present gateway set up. You do not need to include these call signs in your message but you might want to mention to your correspondent his nearest gateway to help him in routing his reply.

As a final note if you are not certain that your message will go via satellite you can use "Inside Addressing" much like you would for an NTS message. You address the message to your closest gateway, in California this is KI6QE @ KI6QE.#CENCA.CA.USA.NA. The subject will be via Satellite as before and the text will start: TO DL3AA @ DL3BB.DEU.EU Please use this only if you are in doubt. Inside addressing adds to the workload of the gateway SYSOP who is quite busy as it is.

EOF

The Packet Radio "White Pages"

Continued from page 1

```
WA6DDM  ?
KC3XC   ?
K1TGZ   ?
Control-Z
```

Capital and lower case letters may both be used within the message. Just like all other packet messages, messages addressed to WP are forwarded from BBS to BBS toward their destination. If a BBS operating with the W0RLI WP Server handles a query message, it will respond with any pertinent information that it has available. As a result, you might receive more than one response to your WP query. The WP program also collects data from any WP responses it sees, as well as from the headers of every message that passes through the BBS. The information on each call in a WP database is usually deleted in 60 to 90 days if it's not updated. This is determined by each local sysop.

It is important to note here that you should choose ONE BBS as your home BBS, the one where you want all of your messages delivered. You should also make sure that it is a full service BBS, not a personal mailbox. Always enter that callsign when you are asked to enter your home BBS, even if you are using another system at the time. When a message arrives at the BBS destination given in the "@ BBS" column, some of the latest software will check the White Pages information to make sure that the message has been delivered to the right place. If it finds that a different BBS is listed as the addressee's home BBS, it will insert that BBS callsign in the message and send it on its way. If you enter different home BBS calls on several BBSs, your mail could easily end up being sent from BBS to BBS and never reach you. If you move or change your home BBS, you should then make sure that you update the information for your call in the White Pages database. Use the NH, NQ and NZ commands to update the information. By making sure that the information in the White Pages is correct you'll ensure that all of your messages are delivered to the correct BBS.

EOF

The Hamfest Junkie

Fred Lloyd, AA7BQ

Sometimes, a non-ham friend will ask me, "What is a hamfest". My usual response is, "Well, it's basically a flea market where electronic and ham radio stuff is sold". Sounds deceivingly simple, doesn't it?

Of all the amateur radio activities that I participate in, none gets me more excited than a good, old fashioned hamfest/swap meet. My first swap meet was the famous Foothills Flea Market, which is held once a month during the summer Silicon Valley. Just like the pusher who sold the addict his first fix, the Foothills swap meet has left me forever addicted to the art of buying/selling/trading ham equipment. I'm now destined to return time and time again to fulfill what has become an insatiable appetite for the "junk" bargain of the century.

Several hamfests later, I had finally accumulated enough junk to become a dealer in my own right. Shortly thereafter I bought a folding table, setup shop and became yet another user/dealer of the licit commodity. I must also confess to having inflicted the same addiction upon others, partly to satisfy my own habit as well as to build a network of friends and acquaintances with whom I could trade and barter on a regular basis.

The severity of my involvement became more apparent after I began to attend a monthly electronics surplus equipment auction. There, I would find and buy what certainly looked like excellent junk at prices which seemed to guarantee a profitable future. Yes, I was now buying junk not for myself but for the intent purpose of reselling it at future hamfests— tsk, tsk...shame!

This proclivity has also completely consumed my Monday night homelife, in that a weekly swap net is held on our local repeater at that time. Presently, I'm having a difficult time resisting the urge to subscribe to the Yellow Sheets, while stooping so low as to having been caught reading month old copies discarded by some legitimate subscribers.

Now, after some 2 years of this activity, I've overcome the denial phase of the affliction and am finally beginning to come out of the closet as a self affirmed, and publicly confessed, "junkie". Now that I've been exposed, I'd like to share

with others so that they may profit in both fun and dollars and that they may avoid some of the pitfalls that I've inadvertently discovered along the way.

There are basically two kinds of junkies: buyers and buyer/sellers. Most if not all buyer/sellers started out as simple buyers and like myself, graduated to the dual mode role in time. No doubt many readers of this essay will have attended swap meets themselves and they probably will have heard several "rules of thumb" on how things are done and where the bargains are. In the following paragraphs, I'll talk about some of these rules and about a few others that I've learned on my own.

"Get there early because all the good deals go down before daybreak."

Well, yes and no. Those "good" deals that go down early are often made by two groups: ignorant sellers and smart buyers, or smart sellers and ignorant buyers. Hopefully, you will be on the buying end of the former group. And hopefully, you'll be on neither end of the latter group.

The ignorant sellers are those who are offering a TS-940 for $400. They simply don't know what their stuff is worth and since they haven't toured the grounds yet they're not likely to find out. Should you take advantage of their ignorance? Well, if you don't then someone else surely will. Watch out for basket cases. Don't hesitate to ask the big question: "Why are you selling it?" Pay close attention to lots of uh's and er's in the answer.

How many really hot, smoking deals on late model, expensive gear are out there to be had? Once in a while one comes along, but on the overall, few if any. Most hams know what they have, know what they paid for it and know what it's worth. If you hear a fantastic deal such as "I'm selling this 940 for $400 because I just want to get rid of it..." then buyer beware, there is no free lunch — if it looks too good to be true than chances are it is. The best value deals will generally be on equipment that is 5 to 10 years old.

Ignorant buyers are those who blindly believe that "the best deals are the early deals" and are predisposed to spending their money no matter what. They will probably buy the first piece of equipment

they see which remotely resembles their wants and needs. An informed buyer will have cased the entire swap meet at least once before making an offer on anything. Some buyers will even come out with flashlights as the sellers are unloading their cars hoping to find that elusive deal. Personally, I prefer daylight to flashlight if I'm going to spend anything over $100. I really have to SEE it first.

Experience has shown that prime time at most swap meets is between 8 and 10 AM. Swap meets which start earlier sometimes do some business before 8 but the real crowds, and the real competition (both buying and selling) happens during prime time. Prices never go up as the day wears on, they only go down.

Another "great deal" time is also at or near the close of the event. You can often prey on seller desperation by waiting till closing time or until he's packing up before submitting your insultingly low offer. If he's hungry, he might just take it. Also, many sellers revert to giving things away rather than cart them home. I've picked up - and - disposed of some good stuff this way.

"I've got a few things to sell. How do I set up a booth?"

A few basic things: Try not to look to professional and try not to look too naive. If you look like the sidewalk sale at K-Mart then many buyers will peg you as a pro and will walk right on buy. If you have your junk heaped in a pile on the ground you'll get plenty of lookers rummaging through it but don't expect to make any money. Try for a middle-ground, soft sell approach. Avoid prepackaged and shrink wrapped items. Avoid store bought price stickers. Arrange your merchandise so that people can easily touch it and gather around it. If you have original equipment boxes, keep them visible but off of the main display (looks too professional).

Don't use a cash box or register. Avoid big, fancy printed signs and advertisements - neat but handwritten notes on index card sized pieces of paper look more sincere. Do everything you can to have at least one other person helping you. You'll need this person to take over for you so that you can do some buying yourself and to perform the necessary

recon to check your prices. Don't expose yourself to petty thieves. Expensive handhelds should be kept visible but just out of easy reach. At the Flagstaff hamfest last year, one guy stepped up to a commercial display and picked up an IC-24AT and began looking at it. A few minutes later the clerk noticed something awfully strange: the IC-24AT has metamorphosed into an old, beat up, IC-2AT!

Some dealers don't open their booths until after they've had a chance to go shopping first. Some of these guys are very shrewd and will go around buying up a lot of things which will then show up for sale in their booths a little later in the day. I suppose that there's nothing much one can say about this sort of thing but it does tend to rub me the wrong way. Needless to say, these guys are sharks.

"How about pricing and haggling?"

Make no bones about it, you're in a flexible price environment. Both buyer and seller alike are aware of this, and it's expected. Many people won't buy regardless of the price unless they can negotiate for some kind of discount. I've come down 5 as little as percent to make a sale which wouldn't have been made otherwise. Buyers want a deal, regardless of the price.

Never, ever, price your forsale item at your minimum price. Avoid the use of the word "Firm" in your pricing. You can keep the "firm" or lowest acceptable price in your head. If you don't like to haggle then don't expect to sell much, or, if buying, expect to overpay.

Don't be insulted by a 50 percent offer on your asking price — it's a typical ploy. A large percent of such offers really mean "I'll give you 75 to 80 percent of what you're asking for." Don't shut your bidder off with a blunt "no" response — unless it's so ridiculously low as to be obviously insincere. Do your best to counter any offer you get. You must show at least a willingness to concede something.

Research your prices before the event. New gear less than a year old typically loses about 20 to 30 percent of its value — sorry, but its a fact of life. Nobody is going to buy your "mint" condition rig on a 10 or 15 percent discount off of list. Get the AES catalog - it's the pricing bible for new and late model gear. Gear that's between 2 and 5 years old is typically worth between 50 and 70 percent of its

original purchase price. Don't bother consulting those fictional manufacturer's "list" prices, as everybody knows that they're just hype. Older gear is priced at roughly 30 to 50 percent of what comparable new gear would cost. For example, a Kenwood TS-520 (non digital) will go for around $300 while a new TS-140 is about $750.

A note about options such as CW filters, PL encode/decode modules, desk microphones, and other add-ons: sadly, they plummet in value much more rapidly than the gear to which they're attached. When the prospective buyer looks at a piece of used gear, the options add only about 30 percent of their original value to the price, regardless of the age of the equipment. For example, a PL decode unit might cost you about 80 dollars new. It won't, however, add anywhere near $80 to the resale value of the rig. This is especially true for handheld (HT) accessories. $150 dollars of HT accessories will be lucky to net you $50 dollars in resale — when sold along with the rig. Selling them separately does no better, you lose either way.

There are a few brand names which hold their prices better than others. For HF gear, the Big 3 (Icom, Kenwood and Yaesu) hold value over time the best. In used rigs, Collins is the all time leader in resale value retention. Don't get suckered into paying too much for a Collins, because for the same money you could probably buy a brand new transistorized (and WARC capable) rig from one of the Big 3. Drake has a brisk second hand market, especially the newer models. Forget about Swan, Eico, Gonset, most Heathkits, Atlas, Galaxy, and most of the all-tube rigs (except Collins). Lovers of these older rigs please don't take offense, I'm simply stating that their resale values don't hold up very well.

In the classic arena, Hallicrafters, Hammarlunds Johnsons and National's seem to be quite well liked. Each brand has a range of models ranging from CB-style cheap to broadcast or mil-spec quality. Prices vary with function, condition, and sentimental value to the current owner.

When selling new, late model gear, some buyers may grunt that your price is too high and that with a new one they can get a warranty. I've successfully countered this argument — and won — by offering to warrant the unit to the

buyer myself. It works! This shows that you're 100% confident in the equipment and that it's worth every penny of your asking price.

Here's a potpourri of miscellaneous observations about buying and selling:

Don't bother with Old Farts who only have one thing to sell. It's usually their dearest old HF rig that they bought new in the mid-70's. You can bet that it's overpriced, and that he really doesn't care if he sells it or not. Yes, we know that it's unmodified, that it's been meticulously fed and cared for, that it has the original cartons, manuals and sales receipts, and that he's damned proud of it. But remember: It's still a used rig that's worth the prevailing used price plus at most 10 percent more for being in excellent condition.

If you're a seller and things are moving really fast, and/or people don't seem to be haggling much, then take note — your underpricing your merchandise. Don't wait until you're almost sold out to realize this. If you have several of the same item, try to hold a few in reserve for this contingency. If you show a box full of 100 of the same widget, the seller will offer you less than if you only had one or two on display.

Never get sentimental or emotionally attached to any item. This killer attitude can cost you big $$$. If in doubt, don't. Pause, wait, research and rethink your position before you buy. Don't let the seller know when you are absolutely in love with an item - it'll cost you.

Find out if the seller is a local ham or not. Bluntly, local hams are less apt to screw people which might hear them on local repeaters. It's one of the peculiarities of this hobby — people talk. It can help you and it can hurt you. Ham gossip travels at relativistic speeds. If you take advantage of people, or if you misrepresent your wares, you'll soon be persona non grata both on the air and around town.

Rigs which come with service manuals: This definitely means that the owner was a tinkerer. It could mean that the rig has or had serious problems. It might mean nothing - just something else to think about.

When buying old, tube-type gear, be especially cautious of those which utilize

Living With ATV

Bob Arasmith, N0ARY

There have been assumptions on the part of packet and ATV regarding potential interference in the 433.00 to 433.50 band. This is a summary of testing performed jointly with the ATV folks on Black mountain.

On Saturday, 2/15, Bob WB6DYW and Bob N0ARY attended the South Bay ATV meeting. Bud Enochs KE6DN supplied a very informative letter that had been written to the NCPA on 4/26/89 that detailed the problem quite well. We setup a test to take place on Wednesday, 2/19, to determine what affect packet has on ATV in different parts of their 6mhz channel.

On the evening of the test we had the following parties present on the 2 meter simplex net: WB6DYW, KE6DN, KK6MX, N6YWH, N0ARY, N6FRI I am sure there were others and I apologize for not getting all of the calls.

The test consisted of an ATV source being transmitted to the ATV repeater on Black Mountain. The transmission was deliberately detuned by moving the antenna to achieve a weak signal that would be susceptible to interference. Bud and others were using scanners to listen to the

packet activity and correlate it to the noise present in the picture.

On the packet side, N0ARY would move the bbs port from 432.75 to 438.75 while Hugo N6YWH would connect and do long listings. The equipment in use at N0ARY was a Kenwood TM701 (supplied by N6JLH) at 25 watts into a Diamond vertical antenna with 11db gain. This should represent a worst case packet setup in this band. The possible exception being DXSPN activity.

The first sweep through the ATV band gave the following results:

432.75	No interference
433.25	No interference
433.75	Light cross hatching
434.25	Major wipe out
434.75	Major wipe out
435.25	Minor wipe out
435.75	Color burst wiped out
436.25	Color burst wiped out
436.75	Color burst wiped out
437.25	Color disrupted
437.75	Minor color problems
438.25	No interference
438.75	No interference

On the second pass we concentrated on the existing packet band by starting at 433.50 and moving down in 50Khz steps.

It was obvious that by now everyone was getting better at spotting the packet signals because it was noticeable at lower frequencies than the original pass. The signal started as a weak cross hatching at 433.50 and disappeared at around 433.10.

Bob N6FRI asked that we widen the test to include 430.00, 430.50 and 431. There was no interference to ATV at any of these frequencies, which are well below the lower sideband of ATV. It should be noted that the Kenwood was putting out substantially less power at these frequencies.

It appears that the interference that the ATV group has been experiencing for quite some time is probably not packet originating from the south bay. We could not find a signal that correlated well with it.

It was painfully obvious that packet and ATV cannot coexist in the 433.75 to 437.75 range. The only possibilities would be on the lowest or highest 500Khz of their channel. At these frequencies a reasonable ATV signal should overcome any packet interference.

Many thanks to all that participated in the testing. **EOF**

The Hamfest Junkie

Continued from page 11

TV sweep tubes in the finals - most of them stink. Even Heathkit used 6146's (as did Collins), which are a good indicator of a robust design. When these types of rigs were designed, TV sweep tubes were intended to be a more cost effective solution. Today, sweep tubes cost just about as much as 6146's and so the intended savings is lost. In fact, you'll likely blow two or three sets of sweep tubes before you'll put a dent in a 6146. Just look in an old tube manual (boy, I'm glad I saved mine from the 70's) at the sweep tube ratings. They're junk. Many sweep tube rigs also generate a lot of RFI.

Most homebrew equipment is worth nothing. About the only homebrew device I would buy would be an antenna

tuner — but only if I could see inside it first. Hopefully, it will have a roller inductor.

Used coax is a gamble. There's no telling how long it has weathered. Watch out for "RG-58" cable that says "30 Volts" on it. It's probably thin ethernet which doesn't even come close to being usable. It's probably OK if it is Belden RG-58 A/U type. The black insulation should be shiny.

Boat anchors like old test equipment and the like can be a real good buy if you can pick them up for about $10 or less. The more knobs and switches the better. Sometimes the cabinets can be worth quite a bit, especially if you're a builder. There's usually about $50 worth of good, high-quality parts inside these gems. Don't hesitate to scrap what once was a precision piece of test gear — even if it's a name brand like HP or Tektronix.

You'll get more for the parts at future hamfests than you paid for the whole unit. Also, your junk box will be well stocked afterwards.

Save all of the old vacuum tubes that you can get your hands on. An old HP frequency counter, for example, might have 100 tubes in it. There are virtually no tube manufacturers left and these old pulls will soon be in very high demand. I picked up a very good tube tester with charts for $2. I have since found it to be indispensable.

Well, that about brings me to the end and I hope that you will find this information useful and/or interesting. The comments and observations given here are my own and your mileage may (will) vary. Have fun and see you at the next swap meet.

-fred, AA7BQ
Fred.Lloyd@West.sun.com

EOF

Northern California Packet Band Plan

50 MHz

51.12	SOCAL backbone
51.14	Experimental
51.16	Keyboard to Keyboard
51.18	Experimental

144 MHz

144.91	Keyboard to Keyboard
144.93	LAN[1]
144.95	DX Cluster
144.97	LAN
144.99	LAN
145.01	Keyboard to Keyboard
145.03	Keyboard to Keyboard
145.05	Keyboard to Keyboard
145.07	LAN
145.09	LAN
145.71	9600 bps
145.73	LAN
145.75	TCP/IP
145.77	DX Cluster
145.79	LAN
146.58	DX Cluster

[1]Some TCP/IP in Sacramento grandfathered

220 MHz

223.54	Node uplink (East Bay)[1]
223.56	Node uplink (East Bay)
223.58	Node uplink ("Other")[2]
223.60	Node uplink (Sacramento Valley)
223.62	Node uplink (South Bay)
223.64	TCP/IP
223.66	Keyboard to Keyboard
223.68	LAN
223.70	Node uplink (Monterey Bay)
223.72	Node uplink (North Bay)
223.74	DX Backbone

[1]To move to .56 when SOCAL coordinates

[2]TCP/IP interlink (Sacramento) Not to interfere with node uplink.

440 MHz

433.05	TCP/IP Backbone (100 Khz wide)
433.15	NETROM Backbone (100 Khz wide)
433.25	DX Cluster Backbone (100 Khz wide)
433.31	Experimental
433.33	Experimental
433.35	Experimental
433.37	LAN
433.39	DX Cluster backbone
433.41	BBS Interlink
433.43	9600 Bps
433.45	BBS Interlink
433.47	NETROM Interlink (KB-to-KB)
433.49	TCP/IP
441.50	All

433MHz allocations are currently the subject of negotiations with NARCC and other band occupants and may be subject to modification at some point in the future. Contact W6RGG for details.

900 MHz

903.500	1 Mhz wide - TCP/IP
904.500	1 Mhz wide - TCP/IP
915.500	1 Mhz wide - Experimental
916.100	200 Khz Wide - Experimental
916.300	200 Khz Wide - Experimental
916.500	200 Khz Wide - Experimental
916.650	100 Khz Wide - Experimental
916.750	100 Khz Wide - Experimental
916.810	20 Khz Wide - Experimental
916.830	20 Khz Wide - Experimental
916.850	20 Khz Wide - Experimental
916.870	20 Khz Wide - Experimental
916.890	20 Khz Wide - Experimental
916.910	20 Khz Wide - Experimental
916.930	20 Khz Wide - Experimental
916.950	20 Khz Wide - Experimental
916.970	20 Khz Wide - Experimental
916.990	20 Khz Wide - BBS links (Contra Costa County only)

900 MHz activity is on a non-interference basis to vehicle locator service. 900 MHz is not considered suitable for omindirectional systems, use for point-to-point links only.

1296 MHz

1248.500	1 Mhz wide - Full duplex with 1299.500 Experimental
1249.000 to 1249.450	Unchannelized - Experimental
1249.500	100 Khz wide - Experimental
1249.600	100 Khz wide - Experimental
1249.700	100 Khz wide - Full duplex with 1299.700 Experimental
1249.800	100 Khz wide - Full duplex with 1299.800 Experimental
1249.870	20 Khz wide - Experimental
1249.890	20 Khz wide - Experimental
1249.910	20 Khz wide - Full duplex with 1299.910 Experimental
1249.930	20 Khz wide - Full duplex with 1299.930 Experimental
1249.950	20 Khz wide - Full duplex with 1299.950 Experimental
1249.970	20 Khz wide - Full duplex with 1299.970 Experimental
1249.990	20 Khz wide - Full duplex with 1299.990 Experimental
1250.500	1 Mhz wide - Experimental
1251.500	1 Mhz wide - Experimental
1297.000 to 1298.000	Unchannelized - Experimental
1298.500	1 Mhz wide - Full duplex with 1299.500
1299.000 to 1299.450	Unchannelized - Experimental
1299.500	100 Khz wide - Experimental
1299.600	100 Khz wide - Experimental
1299.700	100 Khz wide - Full duplex with 1249.700 Experimental
1299.800	100 Khz wide - Full duplex with 1249.800 Experimental

Northern California Packet Band Plan

Continued from previous page

1299.870	20 Khz wide - Experimental
1299.890	20 Khz wide - DX Packet Cluster users
1299.910	20 Khz wide - Full duplex with 1249.910 Experimental
1299.930	20 Khz wide - Full duplex with 1249.930 Experimental
1299.950	20 Khz wide - Full duplex with 1249.950 Experimental
1299.970	20 Khz wide - Full duplex with 1249.970 Experimental
1299.990	20 Khz wide - Full duplex with 1249.990 Experimental

Definitions

Experimental — Anything goes except full service BBS or any 24 Hr/Day services (nodes, gateways, etc). This is where you can come and test new gear, programs, etc. These channels may be reassigned in the near future so no permanent activities please.

Backbone, Uplink, Interlink — No uncoordinated stations. These channels are for specific purposes as defined by the NCPA and affiliated groups. This is where the various BBS, nodes, and clusters interlink and are very high usage channels. Please use the normal 2 meter entry points of the network you want to access rather than these channels.

Keyboard to Keyboard — Anything but full service BBS, TCP/IP, or DX Cluster. Primarily chat channels. These are also the primary emergency channels. Some existing BBS systems (eg. WA6RDH) were grandfathered.

A gray area is "Personal BBS." A PBBS is one with a small number of users (rule-of-thumb: five or less). A PBBS should not be attracting general users thru beacons, etc. Bulletins should be confined to local information and not duplicate the general bulletins send to the community. That's the job of a full service BBS and we have lots of them in Northern California to use.

LAN — Local Area Network. Anything except TCP/IP and DX Cluster is tolerated. Please avoid placing high level digipeaters or nodes on these channels since they are "local." A low-level node that links into a backbone on another frequency is the preferred implementation.

TCP/IP — Stations using TCP/IP protocol on top of AX.25. Some AX.25 tolerated to communicate to TCP/IP stations if p-persistance access method used.

DX Cluster — Northern California DX spotting network. No other activity should be on these channels.

9600 Bps — Stations using 9600 Bps with direct FSK (G3RUH, TAPR, etc.) modems.

Procedure for changes

Users should contact either the frequency coordinator or the NCPA board. The frequency coordinator will then present the requests to the board at the next meeting along with suggested assignments. The NCPA board elected by you, the packet user, makes all assignments!

Electronic mail is preferred.

Note: NCPA does not coordinate individual stations, nodes, etc. The only station coordination is done by K6RAU for bulletin board systems.

Where to Find a BBS

N0ARY-1	Sunnyvale	144.93
KE6BX	Hollister	144.93
KJ6FY-1	Benicia	144.93
KI6YK	Danville	144.93
WD6CMU	Richmond	144.97
N6EEG	Berkeley	144.97[3]
K6LY	Monterey	144.97
KK6SZ-2	Sonora	144.97
N6LDL	Los Gatos	144.97, 145.71[1]
KI6WE	Pleasant Hill	144.97
KD6XZ-1	Sacramento	144.97, 441.50
AA4RE-1	Gilroy	144.99
KA6FUB	Martinez	144.99, 441.50
N6OA	Lemoore	144.99
W6PW-3	San Francisco	144.99
KE6LW-1	Yuba City	144.99, 441.50
WA6RDH	Dixon	145.01, 441.50
KG6EE	Santa Cruz	145.07
KI6EH	Santa Cruz	145.07
KM6HK	Madera	145.07
N6IIU-1	Palo Alto	145.07, 223.56
KG6XX-1	Carmichael	145.07, 441.50
W6CUS-1	Richmond	145.09
N6ECP	Redding	145.09
KB6IRS	Soquel	145.09
N6IYA-2	Felton	145.09
K3MC	Fremont	145.09, 145.75[2]
WA6NWE-1	North Highlands	145.09, 441.50, 144.93[2]
K6RAU-1	Merced	145.09
WA6YHJ-1	Livermore	145.09
W8GEC	Boulder Creek	145.73
WA6HAM	Pittsburg	145.73
KB5IC	San Jose	145.73
KA6JLT-2	Menlo Park	145.73, 145.71[1]
WB6LYE	Eureka	145.73
AA6QR	Orinda	145.73
N6MPW	Ben Lomond	144.79
WX3K	Rohnert Park	145.79, 145.75[2]
WB6ODZ-1	Lake Isabella	145.79
N6QMY-1	Fremont	145.79, 441.50
N6REB-2	Modesto	145.79

[1] 9600 baud port
[2] TCP/IP port
[3] Temporarily QRT

EOF   **EOF**

NCPA Board Meeting Minutes

Bob Arasmith, N0ARY
NCPA Secretary

The NCPA Board of Directors meeting took place in General Parametrics in Berkeley. Present at this meeting were the following board members:

WD6CMU, WB9LOZ, K9AT, W6RGG, KA6ETB

Also in attendance were:

AL7IN, N6FRI, WB6DYW, WA6GOL, WA6RIB, WA8DRZ

1. The meeting was called to order by WD6CMU. General introductions were done for everyone in attendance.

2. Membership, those members that didn't receive their copies of the "Downlink" in 1991 will be credited for 1992. KA6ETB reported that the design of the membership cards is complete but an example was not available at meeting time. The design will be approved by KA6ETB and N0ARY. Cards will be ordered as soon as possible. In the interim new members will receive a letter indicating that their dues have been received and they are members in good standing. The new PO Box for the NCPA is in Sunnyvale. N0ARY will be responsible for filing a change of address at the old location.

3. Downlink, the fall edition was mailed on 1/25/92 and 2/7/92. The winter edition is scheduled for release prior to the General meeting in April. Steve indicated that he would be resigning as newsletter editor after the Winter edition.

4. CNC, Glenn AA6ER has not submitted an final report on the conference costs. Eric WD6CMU will be responsible for following up with Glenn.

5. Incorporation, Eric WD6CMU stated that Pat N6QMY has filed the paperwork with the state.

6. Frequency Coordinator, the board is looking for a new frequency coordinator to replace Roy AA4RE who resigned at the last board meeting. Bob W6RGG accepted the position tentatively. He wishes to talk with Roy and others prior to officially accepting the position.

7. TCP/IP Book, Steve KA6ETB has finished the book, it now needs to be edited. Plans are to make 200-250 copies and advertise in the next newsletter.

8. Interference Problem, the DXPSN replaced the node on 223.74 at Mt. St. Helen. This cleared up the interference problems with WB6PER on 223.76.

9. 145.01 and WA6RDH, no headway was reported on this issue. Brad WA6AEO and Dennis KA6FUB were not present.

10. Packet Resource Database, Eric WD6CMU sent out the first questionnaire to ALL@NCPA the week proceeding the meeting.

11. 70cm Bandplan, Bob N6FRI was present and gave a brief history of the actions that lead to the current packet allocation on 433.00 to 433.50 which was not approved by NARCC. Bob WB6DYW gave an explanation of the ATV bandwidth in particular the vestigial sideband that packet now occupies. At the time of the meeting the actual impact to the ATV band by packet operations was unknown. Bob N0ARY and Bob WB6DYW will attend the next ATV meeting in Santa Clara to start a dialogue. It was resolved that we will meet with ATV and other interests to come up with a 70cm bandplan to be presented for ratification at the general membership meeting.

12. Next Board of Directors Meeting has been scheduled for May 3rd. The location will be announced at a later time. The meeting concluded at 12:55. **EOF**

Replacement NTS Manager Sought

Steve Harding, KA6ETB

Elsewhere in this issue you will find my statement regarding my resignation as editor of the Downlink. For the same reasons I stated there, I have tendered my resignation as NTS NCN packet manager.

I have held the position for around four years. In that time, I have worked with some exceptional people. My thanks to the BBS sysops for their patience with me when I took over the job from NI6A. I was a total novice to packet and had some grand ideas that I found out were unworkable (in a hurry).

In my conversations with NTS packet folk around the country, I have found that our system works well, and it is primarily because of the dedicated people who take NTS off the BBSs, the BBS sysops who really do care to see that the traffic is taken care of, and the gateway stations who push the traffic back and forth across the country. You are a hard working crew and you made my job easy.

But, radio pals, you ain't heard the last of me. Soon's I get my book off to the publisher (and take a well needed, by then, vacation), I shall return with a vengeance.

73 de Steve

EOF

What is NCPA?

NCPA, the Northern California Packet Association, is an organization formed to foster the Digital Communications modes of Amateur Radio. So far, we have defined our goals as:

- **Education**
- **Coordination**

Education means making information available about various Digital modes, and this newsletter is but one part of that education process.

Coordination activities include frequency coordination (NCPA is recognized by NARCC as the official packet radio frequency coordinator) as well as coordinating people and their various uses of packet radio, be they DX Cluster, BBS, TCP/IP, keyboard-to-keyboard, NET/ROM, Traffic/NTS, Emergency uses of packet, or even experimenting with new frontiers of various digital modes.

We in NCPA believe that the next revolution in Ham Radio will come about in Digital Communications Technology, and in the beneficial coordination among all users of ham Digital Communications Technologies.

We invite you to join NCPA! Become part of the most dynamic group of packet folks in Northern California!

NCPA *Downlink*

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