

President's Message

Gary Mitchell, WB6YRU

Yeah, I know... It's nearly June and this is the *Winter* issue? Well, better late than never, yes? 😊

The big thing coming up is the change to the Association. The last issue contained ideas about the changes and a copy of the bylaws. This issue contains the first draft of specific changes to the bylaws.

This is just a first draft, so please feel free to make comments and suggestions. The plan is to have a final draft ready by the annual general meeting (probably October).

Again, the basic idea is to make the organization run smoother by converting it back to a committee structure, much like it was when first formed. If anyone has any other ideas, please say so.

One question I've been thinking about is what to do with the current membership. There is now a board of directors and general members. Under the committee structure, it will be like reducing the organization down to just the board. It seems to me the best way to go is to give each current member the option of effectively becoming a board member in the new structure or settle for being a so-called 'secondary member' (no voting rights). Again, any comments or suggestions are encouraged.

On the band planning front... Not much has been done on the bands above 70 cm. Some of you may be aware that the 802.11b networking standard is being experimented with by amateurs. This happens at the top of the 13 cm band, so now would be a good time to send in comments and suggestions about how to it divide up.

NCPA

News from the ARRL

From *The ARRL Letter*, March 21, 2003

ARRL SURVEYING INTEREST IN HIGH-SPEED DIGITAL NETWORKS

The ARRL High Speed Multimedia (HSMM) Working Group is surveying the amateur community to gauge interest in IEEE 802.11b "Hinternet" activity. The HSMM Working Group encourages spread-spectrum communication modes including such protocols as IEEE 802.11b operating on Amateur Radio frequencies under FCC Part 97 rules. It's adopted Hinternet (a contraction of "ham" and "Internet") as a way to describe the technology. The HSMM Working Group's survey is on the ARRL Web site <<http://www.arrl.org/hsmm>>.

"The primary goal of the survey is to encourage amateurs to get on the air and

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start playing with this cheap digital microwave gear," says HSMM Working Group Chair John Champa, K8OCL <k8ocl@arrl.net>. Hinternet Radio Local Area Networks (RLANs) typically use direct-sequence spread spectrum between 2412 and 2437 MHz and are capable of simultaneously carrying audio, video and data signals. Hinternet aficionados adapt commercial 802.11b interfaces designed for Part 15 operation to amateur use.

The HSMM Web survey is brief and permits an opportunity for open-ended input. It asks if respondents have a IEEE 802.11 or "other high-speed digital station" running under Part 97. If so,

amateurs are asked to register their stations. It also asks respondents to explain how they might use a high-speed digital system or network if they were to set one up.

Champa urged Hinternet-minded amateurs to also report what they've learned and any new applications to the ARRL IEEE 802.11b reflector operated by Texas A&M University <<http://listserv.tamu.edu/archives/>

arrl-80211b.html> (and linked from the "HSMM Resources" menu under "Contacts").

Asked if the Hinternet is catching on within Amateur Radio, Champa simply points to the more than 15,000 hits to the HSMM Working Group's Web site. The Hinternet also is the focus of the article "High Speed Multimedia Radio" by Kris Mraz, N5KM, in the April 2003 issue of QST.

Hinternet proponent Mark Williams, AB8LN, of Milford, Michigan, says he envisions growth of amateur 802.11b operation to cover all large metropolitan areas in the US, not just the few miles some contend is the outer limit for such point-to-point connections. "This is just too easy," he says. "With some of the Amateur Radio pioneering that we are famous for, we should be able to push this technology to its limits--50, 75 and 100-mile links at 2.4 GHz." He said wireless networks dedicated to Amateur Radio stretching across states and linking hams everywhere with high-speed voice and video are possible.

"File-sharing and e-mail, network gaming and pop-up chat are just the tip of a titanic iceberg," he predicted.

Applications abound for public service work too. Amateurs recently involved in the Texas search for debris from the shuttle Columbia used a 802.11b high-speed system on ham radio to link the net control station in Nacagdoches with the Internet.

More information is available on the ARRL High Speed Digital Networks and Multimedia Web page <<http://www.arrl.org/hsmm/>>.

From The *ARRL Letter*, April 11, 2003

FCC OPENS RECEIVER INTERFERENCE IMMUNITY INQUIRY

The FCC wants to know how it can incorporate receiver interference immunity specifications within its overall spectrum policy. In a Notice of Inquiry (NOI) in ET Docket 03-65, released March 24, the FCC seeks public comments on possible methods and means of improving receiver performance. The Commission suggests

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The digital band plan as well as other information about the NCPA, are available on the Web at: <http://www.n0ary.org/ncpa>

The NCPA Board of Directors meets electronically in order to transact association business and meet with members and interested amateurs. The address for the board remailer is: ncpa@kkn.net. Anyone can subscribe by sending e-mail to ncpa-request@kkn.net with the command "subscribe" (without the quotes) in the body of the message.

that these could include incentives, guidelines or regulatory requirements--or a combination of all three.

"From a technical standpoint, a radio receiver's susceptibility to interference is largely dependent on the interference immunity of the device, particularly with regard to its rejection of undesired radio frequency (RF) energy and signals," the FCC said in its introduction to the NOI. While expressing its reluctance "to implement a new regulatory regime" of mandatory receiver standards, the Commission said it believes incorporating receiver performance specifications could "promote more efficient utilization of the spectrum and create opportunities for new and additional use of radio communications."

The FCC said the NOI builds upon the recent work of its Spectrum Policy Task Force, which looked at ways to improve overall radio spectrum management. The ARRL commented on the Task Force report and plans to comment in the receiver interference immunity NOI as well.

While the NOI does not specifically address interference from Amateur Radio transmitters to consumer TV and radio receivers, the FCC does seek information describing the interference immunity characteristics of "receivers used in the various radio services." With respect to broadcast sets, the FCC suggests in its NOI that set manufacturers have been doing a pretty good job all along.

The FCC seeks comments on "the desirability of developing minimum interference immunity performance

specifications for broadcast receivers." But it added that the Commission has no plans to reverse its "longstanding practice of allowing the market to determine the performance of broadcast receivers, with the Commission stepping in only where obvious deficiencies appear" that could disrupt reception.

FCC Chairman Michael Powell said he'd prefer that the Commission "rely on market incentives and voluntary industry programs to establish receiver immunity guidelines."

The FCC Notice of Inquiry in ET Docket 03-65 is available on the FCC Web site <http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-54A6.doc>. Although it has not formally been posted for the filing of comments via the FCC's Electronic Comment Filing System (ECFS), the

DX Spotting Nodes

September 2002

<u>Location</u>	<u>Call</u>	<u>Alias</u>	<u>Frequency</u>	<u>Coverage</u>	
California City	K6ZZ		144.490	Antelope Valley area	
	EARN8		144.490	Oak Peak	
Castro Valley	W6RGG	DXCV	145.770	East, West, South SF Bay area	
	Chico	K6EL	DXC	145.670	Chico
		K6EL	DXW	145.670	Oroville, Red Bluff
Hanford		K6EL	DX	144.950	South Fork Mtn - Redding area
		K6UR	DXFRES	144.950	Bear Mtn, Fresno area
		K6UR	DX7	145.770	Mt. Adelaide, Bakersfield
		K6UR	DX16	145.770	Oakhurst
Livermore	NF6S	DXL	145.770	Tri-Valley area	
Los Gatos		N6ST	DXLG	146.580	Santa Cruz Mtns, Monterey Bay
		N6ST	DXF	146.580	Santa Cruz/Los Gatos
Oakdale	K6OQ		146.580	Modesto area	
Penngrove	K6ANP	DXANP	145.670	Sonoma County	
Reno, Nevada		N7TR	RENODX	144.950, 146.58, 441.500 (2400 baud), 51.7	
		N7TR	PCDX1	146.580	Low Level in Reno
		N7TR	PCDX	144.950	Virginia City, NV
		N7TR	DX2400	441.500 (2400 baud)	
Rio Linda	K6NP	DXRL	144.950	Sacramento, Woodland, Davis	

Bob Vallio - W6RGG wsixrgg@crl.com

system is accepting comments. The formal comment period concludes 75 days from publication of the NOI in the Federal Register, which has not yet happened. The FCC does not post such dockets for electronic comments until publication occurs.

NCPA

Board of Directors Electronic Meeting

Excerpts of the NCPA board remailer traffic, January 1, 2003 through May 20, 2003. Compiled by Gary Mitchell WB6YRU (Quoted material is in italic. Full text of traffic is available).

Jan 27, 2003

John Smith W6JWS/N6IYA:

The N6IYA BBS system will undergo a

call sign change on Saturday Feb 1st, 2003. The new call sign will be W6JWS.

The BBS will be W6JWS-2 and the Node will be W6JWS-1. Please modify your systems accordingly.

Feb 10, 2003

Howard Krawetz N6HM:

This is to thank Barry Barns, WH6IO for his three year renewal to the NCPA.

May 15, 2003

Dale Jr, William N2RHV:

I'd like to start or join a Packet Net in the Santa Clara Valley Section. Is there any activity along these lines ? Does anyone have a preference on times and days ?

Is there any plan to set up a replacement for N0ARY or other forwarding BBS

systems here?

Gary Mitchell WB6YRU:

The N0ARY BBS is sort of running now, but it won't talk to its serial ports for some reason. So, except for the dial-in port, the BBS is effectively deaf and dumb. The only two people I know of who can really help appear to have lost interest. The system is a Sun Sparc 2.

Mike Fahmie WA6ZTY:

The N6LDL bbs is on the air from Los Gatos, 144.970, you should be able to hit that, I hear it in Albany.

Andreas Ott K6OTT:

>> Does anyone have a preference on times and days ?

I'd be interested in participating, but given my current work schedule i should not be a gating factor to establish a time/day. Evenings are best for me, the later the better.

> The N0ARY BBS is sort of running now, but it won't talk
> to its serial ports for some reason.

My day job is UNIX sysadmin (among other things). Could the owner or operator please contact me with details so that I can make a call if I would be able to help or not.

NCPA

Treasurer's Report

The treasury has \$374.48 as of the last bank statement. The count of paid up members is 46.

NCPA

Packet Sysops of Northern California Packet Bulletin Board Systems January 2003

Call	Location	User Ports
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WH6IO	Benica	144.99, 145.71&+, 145.75&, 433.43&+
WA6ZTY	Berkeley	144.97
KE6I	Berkeley	145.01&, 433.43&
N6RME-1	Diamond Springs	145.07
N6CKV	Gilroy	144.99
N6LDL	Los Gatos	144.97, 145.71&, 441.50
KD6DG	Redding	145.09
W6CUS-1	Richmond	145.63
N0ARY-1*	San Jose	* 144.93, 433.37&
K6YV	Sonora	144.97
WA6EWV-1	South Lake Tahoe	144.97
W6YX-9*	Stanford Univ	* 145.75+
W6SF	Stockton	144.99

Keys:

& = 9600 Baud Port
+ = TCPIP Port
* = Currently Inactive

The Bylaw re-write of 2003

The following is just a first draft of the amended bylaws. Comments and suggestions are encouraged.

The primary goals of these amendments are to lighten the work load on those very few who are doing all the work and to make it easier for the organization to function during the increasing inability to obtain a quorum. Specifically, the idea is to return to the organization's roots. The NCPA was originally set up to be like a roundtable for all the various packet special interest groups, including but not limited to Keyboard to Keyboard, BBS, TCP/IP, DX Spotting, and APRS. As such, this committee decided on digital channel usage, band planning, digital coordination, and interfaced with other organizations on behalf of these packet groups.

Deleted text is in ~~strike out type~~, added text is in *italic type*.

CONSTITUTION OF THE NORTHERN CALIFORNIA PACKET ASSOCIATION

This document shall serve as the CONSTITUTION and BYLAWS of the Northern California Packet Association, and may be referred to as either.

ARTICLE I Purpose

The Northern California Packet Association is ~~an educational, research, and public service organization~~ *a committee of packet special interest groups and others involved in Amateur Radio digital communications*. The purpose of the Association is to foster the development of digital Amateur Radio communications in Northern California (*approximately the top two thirds of the state*). This field is occupied foremost by ~~individual~~ Amateurs who, individually and in groups, make efforts to research, design, test, construct, operate, and use digital systems. These individuals and groups also make efforts to recruit and educate others in the field. All of these efforts can benefit from planning and coordination, ~~and~~ It is the purpose of the Association to provide the forum for such to take place. To achieve these goals the Association is organized to function as a working group, rather than as a social organization, and it shall, among other things, strive to do the following:

1. Improve the state of the art in the field of digital communications via Amateur Radio.
2. Encourage and educate interested persons and groups in the area of digital communications via Amateur Radio.
3. Encourage the construction, operation, and expansion of local, regional, national, and worldwide communications systems using digital methods via Amateur Radio.
4. Encourage the development of new and diverse methods of digital communications.
5. Bring together a cross-section of all the diverse interests in the field of Amateur Radio digital communications so all will have a voice and the opportunity to offer their knowledge, experience, talents, and goals to the benefit of the digital community.
6. Select frequencies for digital use *through both general band planning and defining specific activities on digital channels*. *General band planning efforts include* working with users and coordination groups for non-digital modes, with an aim to maximize the ability of the Amateur Radio Service to accomplish its purposes as set out in Federal Regulations.
7. Coordinate use of digital frequencies so that the goals of the digital community are best facilitated.
8. Represent the interests of the Northern California digital community in its contacts with others, such as regulatory bodies, coordination groups for non-digital modes, and digital coordination groups serving other geographical areas.
9. Perform all these activities in Northern California, plus in any contiguous areas of the digital users in those areas and as the Association should so decide.

ARTICLE II Members

{Paragraph A is split into two paragraphs, A and B, the rest are re-lettered accordingly}

A. Any individual or bona fide Amateur Radio club *or group involved in digital communications, band planning, or interested in the* coordination of digital communications may become a Member upon making application and paying the dues. *The Association shall make every effort to include at least one representative from each known digital special interest group in the Association's territory, but if no such representative is available or does not care to participate, the Association is not required to operate as if it has a vacant seat nor will this count toward achieving a quorum.*

B. Memberships run from the time of joining until the same date the following year. Memberships automatically expire unless renewal dues are submitted. Membership may be denied or revoked for cause. "Cause" is defined as conduct by the Member inimical to the Association's interest, and shall include, among other things, the inability to work with others in carrying out the Association's purposes.

B. Each bona fide Amateur Radio club *or group* which joins the Association shall designate a person to act as their representative. A club may also designate an alternate to serve if its representative is absent. Such designations shall become effective when the Secretary is notified of them by the club, and they shall remain in effect until he is notified otherwise.

C. Each individual Member and each representative (or alternate) of each club *or group* which is a Member shall have one vote at ~~General~~ Meetings of the Association.

D. All records of the Association shall be open to the inspection of any Member, and any Member shall have the right to timely copies of such records at cost and in any reasonable format requested. Only information in the nature of access codes may be withheld from such a request.

E. Lists of names of Members, as well as other information provided by the Association from its records, shall be used only for internal matters concerning the Association or the digital community it serves. Such lists shall not be used for solicitation, by other associations, for publication, or for commercial purposes of any kind. ~~The Board may in writing waive these restrictions in circumstances where they deem it appropriate.~~
This restriction may be waived upon two-thirds vote, but each Member retains the right to disallow their name to be included in any such distribution.

{Paragraph F is split into two paragraphs, F and G}

F. Amateur radio operators may band together to form Special Interest Groups in cases where they share an interest in a specific aspect of digital communications. They may select individuals to represent their group *in the Association before the Board.*

G. *Secondary Members. Individuals merely interested in digital communications may join in a secondary capacity and thereby achieve greater participation in the Association's activities. Such ~~representatives~~ secondary members may ~~shall~~ not ~~become~~ have voting rights nor count towards a quorum, ~~members of the Board because of that status,~~ but the ~~Board~~ Association shall make every ~~an~~ effort to obtain and weigh their opinion before making decisions ~~concerning the interests of the group.~~*

ARTICLE III Committee Structure Board of Directors

A. The Association shall be run ~~by a Board of Directors (Board)~~ *as a committee* which shall ~~each year originally~~ consist of ~~seven individuals~~ *at least members representing the various recognized digital special interests in the Association's territory. If any such group chooses not to participate, for purposes of achieving a quorum, the Association may proceed as if that group doesn't exist.* ~~elect~~ *elect*ed at the Annual General Meeting and have a term of one year. ~~The Board may at any time elect additional individuals to the Board in order to achieve a Board reflecting the diversity of interests in the digital community; however the maximum size of the Board shall be eleven members. These additional Board members shall, upon their election, have equal standing with the electing members and they shall have terms of office to expire at the same time as those of the electing Board. Each Board member must be an individual Member of the Association.~~

B. ~~The Board shall manage the Association, and it shall perform other duties attributed to it by custom or law.~~

C. ~~Board Meetings shall be held in Northern California unless all Board at least two-thirds of the members agree otherwise. Board Meetings may be called by any three Board members. To have a Board meeting, each Board member must have been notified, as per Article VI, of it or have waived the right to notice. Notice may be put in the mail, sent digitally, or phoned to each Board member at least 4 days before the meeting, or publication in the newsletter will suffice. Half of the Board members representing digital special interests (one each) shall constitute a quorum to do business.~~

D. ~~The Board Association may elect to meet electronically (e.g. internet remailer) so long as all Directors and Officers members who wish to participate have approximately equal access. Such meetings may occur often and deal with single issues as they come up. As far as is practical, every effort must be made to make such meetings as open and accessible as face-to-face meetings.~~

E. A majority of those voting on any matter is required for it to pass. EXCEPTION: An affirmative vote of two-thirds of the Board members is required to remove a Board member from that body or revoke a membership in the Association.

F. If the number voting members ever consists of fewer than three, the Association shall be considered dormant, in which case the remaining members should make a good-faith effort to fill the vacant seats with reasonable candidates. If this dormancy lasts for 90 days or more, each member may have their membership expiration frozen as of the date the Association went dormant.

G. If a vote is pending and there is no quorum, the Secretary shall solicit the votes of the membership in a timely manner, (acceptable methods include, but are not limited to mail, e-mail, telephone, packet, fax, etc.). If all current members have been so notified and have had a reasonable opportunity to vote, that constitutes a quorum.

ARTICLE IV Officers

A. Officers shall be ~~appointed by the Board~~ elected by the membership. ~~Officers need not be Members of the Association, nor must they be members of the Board.~~ The Officers shall carry out the day-to-day management of the affairs of the Association in accordance with direction given them by the membership Board.

B. The Association shall have ~~five~~ the following Officers with duties as follows:

1. The President shall run Association meetings. His primary function is to coordinate. He shall strive to get other people to do as much as possible and thus increase involvement by others.

2. The Vice President shall assist the President, and shall perform the President's work if the President is absent.

3. The Secretary shall keep the Association's records, except financial and property records. He shall keep minutes of meetings and issue Association correspondence.

4. The Treasurer shall handle the Association's money. He shall make reports on the Association's financial condition as needed. He shall keep an inventory of any materials owned by, or on loan to the Association.

~~5. The Newsletter Editor shall produce the Association's newsletter. The newsletter shall be sent to all Members of the Association, all Board members, all Officers, and all Appointees. It may be sent to others at the Editor's discretion. All notices of General Meetings and minutes of all General and Board Meetings shall be published in the newsletter. Newsletters giving notice of a General Meeting must be placed in the mail thirty days before the Meeting.~~

C. In addition to the duties specifically listed, each Officer shall have the duties attributed to his office by custom or law.

D. ~~The Board members~~ may designate individuals or committees to assist in specific duties (Appointees). Technical committees, frequency coordinators, *web-master*, *newsletter editor*, and the like are examples. ~~The Board members~~ shall specify the extent of the authority of such Appointees in the motion appointing them.

E. Officers and Appointees serve at the pleasure of the ~~Board members~~, and the ~~Board members~~ may ~~remove~~ dismiss such

persons from their positions and/or redefine their authority at any time. The ~~default~~ term of office of Officers and Appointees ~~terminates on April 30 of each year~~ is one year, *or as specified by the members.*

ARTICLE V General Meetings

A. An Annual General Meeting shall be held once per year, the time and date to be announced in the newsletter or by separate written notice, as per Article VI, at least 30 days in advance. Additional ~~General~~ Meetings may be held during the year ~~upon being called by the Board, or upon petition of the members per paragraph C of this article.~~ ~~General Meetings shall always be in Northern California. General Meetings shall be held only on Saturdays or Sundays, with a starting time no earlier than 10 a.m. The purpose of General Meetings is to provide a line of communications between the Board and Officers on one hand and the Members and members of the public on the other.~~

B. Meetings may be held on-line (electronically), in which case the restrictions of time and place may not apply.

~~B. The final power in the Association rests with its Members; a vote by the Members prevails over a vote by the Board if they conflict. Any Member may bring any action up for a vote, but only if notice of the topic to be voted on has been published in the newsletter. The Editor shall include any notices of this type submitted to him by a Member.~~

~~C. Any ~~fifteen~~ *three* Members may submit to the Secretary a petition calling a ~~General~~ Meeting. The petition shall state the date (at least 33 days hence), time, place, and topics to be discussed. ~~The petitioners shall then within three days place a copy of the petition in the mail to all usual recipients of the newsletter.~~ If the Secretary's office is vacant or he cannot be located in Northern California, delivery of the petition to another Officer ~~or a Board Member~~ shall suffice.~~

~~D. Items of business may be brought before a General Meeting by the Board of Directors without prior notice in the newsletter, but such notice is always required for actions at a General Meeting to amend this Constitution, to remove a Board member, or to revoke a membership in the Association.~~
Items of business may be brought before a Meeting without prior notice; however, 30 days prior notice is required for actions to amend this Constitution or to revoke a membership in the Association.

~~E. Fifteen percent of the Members, but at least ~~ten in number~~ *half of the members representing recognized digital special interest groups (one each)*, must be present at a ~~General~~ Meeting to constitute a quorum, and a majority of those voting on a measure is required for it to pass. EXCEPTION: Two-thirds of those voting is needed to amend this Constitution, ~~remove a Board member, or revoke a membership in the Association.~~~~

F. Members who are unable to attend a Meeting, but wish to vote on any issue, may submit their proxy to the Secretary. The Secretary must have possession of all such proxies prior to the vote.

ARTICLE VI Required Notice

Notice of Meetings must be sent to all Members by newsletter or other notification, including but not limited to: mail, e-mail, telephone, fax, etc., thirty days before the Meeting. If the newsletter is published on-line (i.e. available as a web page on the internet), it is considered to be "sent" once it is available on the internet. However, to assure that people will see on-line notices of Meetings, notification shall be sent within three days by a reasonably sure method (including but not limited to: mail, e-mail, telephone, fax, etc.) advising about the meeting and to check the on-line newsletter form more information. New members shall be informed as to the web address of the newsletter, and the existing membership may also be re-notified from time to time.

~~If action to remove a Board member or revoke a membership in from the Association is to occur, written notice must be put in the mail to the affected party at least 15 days beforehand, so that he can have his say at the ~~General or Board~~ Meeting where the vote is to be taken. Temporary actions of this type may be taken without notice in an emergency, but no final action may be taken without it.~~

**ARTICLE VII
Amendments**

Amendments may be made to this Constitution ~~only~~ by the Members ~~(not by the Board of Directors)~~. Proposed Amendments shall be set out in full in the newsletter *or notice* preceding the General Meeting at which the vote is to be taken. The newsletter *or notice* to all Members shall be *given as per Article VI* ~~put in the mail by first class mail~~ at least thirty days before such meeting.

**ARTICLE VIII
Implementation**

This Constitution shall become effective on an interim basis, until the next General Meeting, when approved by the ~~Board~~ Members. It shall be submitted to the membership for approval at the next General Meeting, and it shall become effective upon their approval.

Digital Channel Allocations for Northern California

N C P A

April 2003

50 MHz

50.60-50.80 (20 kHz channels, non-specific at this time)
51.12 SCA backbone
51.14 BBS
51.16 Keyboard to Keyboard
51.18 Experimental
51.62 TCP/IP, 9600 baud
51.64-51.68 (20 kHz channels, non-specific at this time)

NOTE: On this band adjacent channel interference is harder to overcome for repeaters. NARCC requests that any new six meter permanent packet installations (such as nodes) please check with their six meter coordinator. You don't need to get a formal coordination, but they would like to be aware of your station and have an opportunity to check for possible conflicts first.

144 MHz

144.31 BBS
144.33 Balloon & experimental
144.35 Keyboard to Keyboard
144.37 BBS LAN forwarding
144.39 APRS (U.S. and Canada)
144.41 Duplex, lower half (145.61 upper half, 1.2 MHz split)
144.43 TCP/IP (OK to run duplex with 145.65)
144.91 Keyboard to Keyboard (and EOC)

144.93 BBS
144.95 DX Spotting
144.97 BBS
144.99 BBS
145.01 User access
145.03 Keyboard to Keyboard
145.05 Keyboard to Keyboard
145.07 BBS
145.09 BBS
145.61 duplex, upper half (144.41 lower half)
145.63 BBS
145.65 TCP/IP 9600 bps (OK to run duplex with 144.43)
145.67 DX Spotting
145.69 BBS
145.71 9600 bps
145.73 BBS
145.75 TCP/IP
145.77 DX Spotting
146.58 DX Spotting

NOTE: Allocations from 144.31 through 144.43 are relatively close to the weak-signal sub-band—please watch your FM deviation.

220 MHz

219.05-219.95 100 kHz channels, Backbone
223.54 LAN

223.56 LAN
 223.58 LAN, Gilroy (GARLIC)
 223.60 LAN, Sacramento Valley (SACVAL)
 223.62 LAN, South Bay (SBAY)
 223.64 TCP/IP
 223.66 Keyboard to Keyboard
 223.68 DX Spotting Backbone
 223.70 LAN, Monterey Bay & North Coast (MRYBAY)
 223.72 LAN, North Bay (NBAY)
 223.74 Backbone, DX Spotting

NOTES:

- 219 channels are by coordination only. There are currently political problems with using 219-220, making them unavailable in most of northern CA.
- On 223.58, TCP/IP interlink (Sacramento) is secondary, not to interfere with node uplink.

440 MHz

431.45 / 434.85 Duplex (100 kHz)
 431.55 / 434.95 Duplex (100 kHz)
 431.65 / 438.40 Duplex (100 kHz)
 431.85 / 438.60 Duplex (100 kHz)
 431.95 / 438.70 Duplex (100 kHz)
 433.05 TCP/IP backbone (100 kHz)
 433.15 BBS backbone (100 kHz)
 433.25 DX Spotting backbone (100 kHz)
 433.33 Experimental (60 kHz)
 433.37 BBS, 9600 baud
 433.39 DX Spotting
 433.41 BBS LAN
 433.43 9600 baud TCP/IP
 433.45 BBS LAN
 433.47 Keyboard Interlink
 433.49 TCP/IP
 433.51 Keyboard to Keyboard
 433.53 Keyboard to Keyboard (and EOC)
 433.55 BBS LAN
 441.50 Any digital

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, LAN links (Contra Costa County only)

NOTE: 900 MHz activity is on a non-interference basis to vehicle locator service. This sub-band is not considered suitable for omnidirectional systems. Use for point-to-point links only.

1296 MHz

1248.500 1 MHz wide, experimental*
 1249.000-1249.450 Unchannelized, experimental
 1249.500 100 kHz wide, experimental
 1249.600 100 kHz wide, experimental
 1249.700 100 kHz wide, experimental*
 1249.800 100 kHz wide, experimental*
 1249.870 20 kHz wide, experimental
 1249.890 20 kHz wide, DX Packet Spotting
 1249.910 20 kHz wide, experimental*
 1249.930 20 kHz wide, experimental*
 1249.950 20 kHz wide, experimental*
 1249.970 20 kHz wide, experimental*
 1249.990 20 kHz wide, experimental*
 1250.500 1 MHz wide, experimental
 1251.500 1 MHz wide, experimental
 1297.000-1298.000 Unchannelized, experimental
 1298.500 1 MHz wide, experimental*
 1299.000-1299.450 Unchannelized, experimental
 1299.500 100 kHz wide, experimental
 1299.600 100 kHz wide, experimental
 1299.700 100 kHz wide, experimental*
 1299.800 100 kHz wide, experimental*
 1299.870 20 kHz wide, BBS LAN
 1299.890 20 kHz wide, DX Packet Spotting
 1299.910 20 kHz wide, BBS LAN
 1299.930 20 kHz wide, experimental*
 1299.950 20 kHz wide, experimental*
 1299.970 20 kHz wide, experimental*
 1299.990 20 kHz wide, experimental*

* Full duplex channel pairs at 50 MHz separation, example:
 1249.910 ↔ 1299.910

Definitions

9600 BPS Stations using 9600 baud with direct FSK (G3RUH, TAPR, etc.) modems.

Backbone No uncoordinated stations. These channels are for specific purposes as defined by the NCPA and/or affiliated groups. These are frequencies where the various BBS, nodes, and networks forward traffic and are very high volume channels. Please use the normal user entry points of the network you want to access rather than these channels.

BBS These frequencies are for user access to a full-service BBS. Keyboard-to-keyboard is tolerated. Please don't put high level nodes or digipeaters on these channels since they are local. A low-level direct link or node that links into a backbone on another frequency is the proper implementation.

Duplex Simultaneous transmit and receive by a single station, including digital repeaters. Duplex channels are intended for high-volume applications. 9600 baud or higher is encouraged, but not required at this time.

DX Spotting Northern California DX packet spotting network. No other activity should be on these channels.

EOC Emergency Operations Center Any group participating in or set up for emergency communications in support of appropriate government agencies.

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

Forwarding same as *backbone*

Keyboard to Keyboard Primarily chat channels. These are also the primary emergency channels, including EOC usage. No continuous high-volume activity such as full service BBS, DX Spotting, and TCP/IP servers.

Interlink same as *backbone*

LAN Local Area Network. BBS's are grouped into LAN's for more efficient forwarding. A LAN frequency is the forwarding channel within a LAN and to the backbone. Please do not attempt to access the BBS network on these channels.

Personal mailbox/maildrop A BBS-like system, often running entirely within a TNC, with a small number of users that handles information of a personal, local or

special-purpose nature. A mailbox is allowed on keyboard-to-keyboard channels ONLY if it does not forward with other BBSs. Mailboxes may forward with full-service BBSs on LAN channels at the discretion of the BBS SYSOP.

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

User Access User access to a network. This is for the next generation of packet which is expected to operate like the internet. Users would access such a network on these frequencies. The load on these channels may be rather high, like BBS channels. The activity may be any combination of BBS, keyboard, TCP/IP, or other modes.

Procedure for changes

Send requests for changes to either the frequency coordinator or the NCPA board. The frequency coordinator will then present the request to the board along with suggested assignments. The NCPA board, elected by you, the packet user, makes all assignments.

Misc. Info.

Packet tends to splatter if the deviation is set too high. Please keep your deviation to less than 5 kHz.

Except for the 219-220 MHz segment, the NCPA currently does not coordinate individual stations, nodes, etc. leaving that to the special interest groups. BBS station coordination is done by the PSNC in Northern CA. DX spotting is coordinated by DXPSN. Some digital has been coordinated on auxiliary channels by NARCC.

The NCPA board conducts most of its meeting activity electronically by internet e-mail remailer, ncpa@kkn.net. As with face-to-face board meetings, interested persons are welcome. For more information about the remailer send email to ncpa-request@kkn.net with just the command HELP in the message body, nothing in the subject, and an email message will be sent to you. Subscribe by using the command SUBSCRIBE in the message body. Subscribing to the remailer is like attending a continuous NCPA board meeting. One must subscribe before posting messages.

Northern California Packet Association

The NCPA fosters digital communications modes of amateur radio through education, band planning, and acts as an umbrella organization for various packet special interest groups. Your annual dues helps pay for this newsletter and other educational materials activities. If you might be interested in getting more involved, please let us know.

Call: _____ Home BBS: _____ e-mail: _____

Name: _____ Address: _____

City: _____ State: _____ Zip + 4: _____ Phone: _____

- New Membership Renewal Change of Address I'm an ARRL Member
 One year: \$10 Two Years: \$20 Three years: \$30
(make checks payable to NCPA)

Please indicate your area(s) of interest:

- BBS SysOp BBS User APRS NET/ROM TCP/IP High-speed packet
 DX Packet Spotting Network Keyboard to Keyboard FCC/legal issues Other:

NCPA *Downlink*

Northern California Packet Association

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Sunnyvale CA 94087

First Class