

N0ARY BBS

Users Manual

Version 2.1

Bob Arasmith, N0ARY
May 6, 1991

The N0ARY BBS program runs on a Sun Sparcstation 2 running Sun OS 4.1.1 (Unix). The computer has 64 Mbytes of RAM and over 1 Gbyte of hard disk. Callbook information was downloaded from a CD ROM and stored on the hard disk system.

Antenna: Comet tribander VHF/UHF CX-333 (2 M, 1.25 M, 70 cm) with Comet Triplexer CFX-324, at 10 feet above average terrain. Feed line: Belden 9913 coax, silver-teflon PL-259 connectors
Location: Mt Umunhum, 37.159938° N, 121.908315° W, 3323 ft

50.60 MHz

Motorola low-band T81JJA3900DK, 110 W output
TNC: PacComm Spirit-2, 9600 baud
FM deviation 3.0 kHz

144.93

Yaesu FT-212-RH, 40 watts output
TNC: PacComm Tiny-2 MK-2
FM deviation: 3.2 kHz

223.60

Kenwood TM321A, 23 watts output
TNC: PacComm Tiny-2 MK-2
FM deviation: 3.3 kHz

433.37

Tekk KS-1000, 4 watts output
TNC: Spirit-2, 9600 baud
FM deviation: 2.6 kHz

The BBS is supported in part by the Santa Clara County Amateur Radio Association, SCCARA. The bbs is operated at no charge to the users.

Weather station atop Mt. Umunhum is owned and operated by BAYCOM, who graciously allow the bbs to extract weather data. The N0ARY BBS performs the housekeeping function of clearing high/low memories at the end of the day.

The users of the BBS were instrumental in its development. From design suggestions to the editing of the manuals. In particular a few deserve extra note for their efforts: N6QMY, K6GSJ, WB6RIG, N6FW, WA6GXI, WA6WEB, N6WHO for ideas and testing. N60JV, N6UVY, N6UNE for their work with the manuals. N6ZF3 for design, implementation and putting up with it.

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Introduction

This manual for the N0ARY BBS is broken into two distinct sections, the Users Guide and the Command Reference. This section, the Users Guide, is meant to be read as a tutorial. It will take you through many of the commonly used BBS commands and explain their use. The more advanced forms of the commands will be described only in the Command Reference section.

There are a number of packet BBS programs in the public domain. These programs are responsible for a lot of the activity that packet has drawn.

This BBS differs from many others in that it runs on a Sun Sparc workstation under UNIX (SunOS).

1.1 How to read the manual

The BBS is very flexible in how it accepts commands from the user. You can either spell out the command or provide enough to make them unique. For instance the command HOMEBBS can be shortened to HO, or anything in between. HO is necessary instead of just H to be able to distinguish HOME from HELP. This manual will indicate the significant letters by placing them in a slightly larger font and making them bold.

HOMEBBS
HELP

In some circumstances, such as for compatibility to older BBS's, commands will have other short forms that are accepted. These short forms will be shown to the right of the verbose command and enclosed in curly brackets {}. Not all of these compatible options are shown in the text of this manual. Please refer to chapter 11 for a complete list of commonalities and differences with WORLI.

LIST MINE **{LM}**

The manual shows keywords and commands in upper case. This is just for clarity in the manual. The BBS is actually case insensitive with respect to these commands and keywords. Lower case words are an indication that you are to supply something in their place. For instance to change your first name in the system you will use the following command:

FNAME name

You will of course substitute your name for the word name. Many commands have parameters that are optional. These are shown enclosed in square brackets []. In most cases, if the option is not supplied, the BBS will assume a value for the option. A good example is message numbers. These are almost always optional.

If a message number is not supplied the BBS will assume you want to do the operation to the last message number you entered. We will show you examples of this later in the manual.

READ [HEADER] [msg_num_list]

Notice in the example the term “msg_num_list” this indicates that not only can you optionally choose to not supply the message number but you may also specify a list of numbers to read at once. This list can be separated by spaces or commas. Examples of most commands will be shown to illustrate the different forms of the usage:

READ 1820	{R 1820}
READ HEADER	{RH}
READ 1823 1845 HEADER 1900	{RH 1823 1845 1900}
R HE 1800	{RH 1800}

The flexibility in the parser allows you to enter keywords basically anywhere in the command string. In the example above the keyword HEADER can appear anywhere on the line.

1.2 Who said what?

This manual uses examples to illustrate the usage of commands. When an example is used it will be enclosed in a box. The part that the user types will be displayed in bold and the BBS’s responses and prompts will be in normal type. The font used will also be unique to further set the examples apart.

```
N6ZFJ de N0ARY [0]>  
SP N6UNE  
Home BBS: N0ARY.#NCA.CA.USA.NOAM  
Subject: M.eting tomorrow?  
Msg (/EX /AB /IN ICC /NU /ED /AD /KI):  
Are we utill on for the club meeting tomorrow?  
73, ConnIe  
/ex  
Message #1899 to N6UNE stored  
N6ZFJ de N0ARY [18991>
```

1.3 On-line HELP system

Once you have successfully logged into the system you can ask the BBS to provide you with up-to-date information on all commands. This is done by typing HELP followed by the command or keyword in question. The “?” can be substituted for the word HELP at anytime. There are some other special forms of the HELP command that should be aware of:

HELP ALL	dumps the entire command list
HELP B	dumps all commands that start with B, and so on
HELP KEYWORDS	will show you all the reserved words

All commands and keywords should have help messages attached to them. If you happen to come across one that doesn't please let N0ARY know.

This BBS supports 4 different help levels. New users are originally brought in at level 3. This level gives you verbose error descriptions and prompts. It will even attempt to lead you through some commands that were improperly built. Level 2 is similar to 3 with respect to error messages but it will not lead you through commands. Level 1 is the expert mode, error messages are terse and the BBS assumes you know what you are doing and just mistyped. It therefore will not give you suggested actions. Help level 0 is for BBS's, it provides no error messages and just performs whatever command it is given, proper or not.

You can change your help level by typing HELP and the desired level:

HELP 2

Be careful about lowering your help level too quickly. This BBS is very different from other BBS's commonly found on packet. Commands differ in very subtle ways and using a low help level will inhibit the BBS from telling you of the differences.

1.4 Connecting to the BBS

1.4.1 Via Radio and TNC

Connecting to the BBS can be accomplished via packet or phone modem. Packet is the preferable mode because the channel can be shared among numerous hams at once. The BBS will support multiple connects on all of the RF ports. Too many connects will saturate the band and retry timeouts will occur. The BBS itself can support unlimited connects, but real life tells us that 4 connects per channel is more realistic.

The BBS has the following RF ports:

50.60	This port is used for long distance BBS to BBS forwarding. It runs at 9600 baud. Users attempting to connect via this port may be disconnected. If you need access to this port a sysop can modify your account to allow for the connect.
144.93	This is the BBS's primary user frequency, 1200 baud.
223.60	This port is used for local BBS to BBS forwarding. Users attempting to connect via this port may be disconnected. If you need access to this port a sysop can modify your account to allow for the connect.
433.37	This the 9600 baud user port.

On all of these ports connect to N0ARY-1 to access the BBS.

1.4.2 Via Telnet

The BBS also allows connections via the internet using telnet. This service was originally established as an alternate forwarding port to other BBS's; however, users may connect this way too.

Telnet to sun.n0ary.org (default port, 23). At the login prompt, enter “bbs.” After that, it’s as if you just connecting via RF.

```
> telnet sun.n0ary.org
SunOS UNIX (sun)
login: bbs
erase character = ^H (Backspace)
Enter your callsign (first name if nonham): n6z fj
```

At this point both methods will look the same.

User Accounts

Every user of the BBS has an account on the BBS. This account is used to configure the BBS upon connection. Some of the items are mandatory while others are optional. I hope that everyone participates and fills in their optional fields as well. The reason for this will be explained shortly.

2.1 User Information

The BBS needs to know certain information to properly tell other BBS's of your existence. All BBS's share a database of users, this database contains call, first name, city and state, zip code and home BBS. This allows users elsewhere in the country to send you mail without having to know exactly where you are. This database is referred to as the White Pages.

FNAME name
QTH city, st
ZIP zip code
HOMEBBS BBS

LNAME last_name
PHONE phone_number

The last two are not necessary for White Pages (wp) but are tracked for sysop use. If you have chosen another BBS as home and/or are in the stored version of the callbook, the BBS will automatically fill in some of these fields for you. Feel free to alter them if you like, for instance you may go by a different first name, or you may wish to change your home BBS.

2.2 Equipment Database

Another addition to this BBS is the equipment database. Do you remember back when you first got into packet, building the cables to interface your radio to the TNC, TNC to the computer, setting the parameters of the TNC, getting the computer to talk to the TNC, etc.? If so you will understand the importance of this database. Every user is encouraged to tell the BBS what equipment he is running with respect to packet. This information will be confidential if you so choose. The information will be used in the following manner.

When a new user is experiencing problems a sysop will search the database for people who are using similar equipment and configurations. The experienced user will be contacted by the sysop and will be given the phone number of the newcomer. Your participation is optional and your number will not be given out without

your consent. To set your equipment list, use the following commands:

TNC your TNC make/model
COMPUTER your computer
RIG packet radio you are using
SOFTWARE communications software

PASSWORD your_password

The password is used to keep your information confidential. If the password has not been set then anyone can see your entire user account. With the password set certain fields will only be displayed when the password is supplied and you are connected via the phone line.

2.3 Listing modifiers

One of the major complaints about the BBS forwarding system is the amount of junk messages that are passed around. The thing to keep in mind is one persons junk is someone else's treasure. When a message is addressed it is sent to a category with a distribution, SALE @ SCV, SPACE @ AMSAT; etc.

Each user can have the BBS strip certain messages from being seen with the LIST command. You can specify up to 20 different words that the BBS will compare to the TO and @ fields of a message. For instance if you didn't want to see any SALE messages or AMSAT messages you could enter the following command:

SKIP sale forsale amsat

Conversely if you have a category or club that you are interested in you can have the BBS identify these and display them with a special command. Say you were interested in AMSAT and ARES information.

CLUB amsat ares

To list the messages that match an entry in your club list you issue:

LIST CLUB

For information on removing an entry from either of these lists refer to the appropriate section in the reference manual. The SKIP variables can be overridden with the LIST ALL command.

2.4 BBS modifiers

There are a few parameters that will alter the way the BBS views your connection. These will depend on what equipment you connect with and how you typically read messages.

As discussed earlier, your help level is stored in your user account. Your level is changed by typing HELP followed by the desired level, 0-3.

HELP 2

Another useful parameter is LINES. Setting this to a non-zero value you cause the BBS to pause every X number of lines and wait for a response from the user. The user can continue by typing a carriage return, or quit the listing by typing a "Q" and returning. This was devised for those that are using dumb terminals and cannot read as fast as the BBS can dump information. If you typically capture to disk and read at a later date you should set this value to zero.

LINES 20

There are plans to support terminal emulation in the future. To enable this feature you will have to tell the BBS what kind of terminal emulation you require.

TERMINAL vt100

2.5 Keystroke Macros

If you have a sequence of commands that you typically perform whenever you log in, you can have the BBS remember these sequences and either perform them automatically or with a single keystroke.

Each user has 10 macros available, each can hold a maximum of 80 characters. The macros are numbered 0 through 9. The 0 macro is special as it is executed automatically at login. The most common contents of macro 0 is the LIST MINE command. To see the current contents of your macros type:

MACRO

To set a macro you simply type MACRO, the desired macro number, and the command string you wish to execute.

```
MACRO 0 LIST MINE; LIST NEW      {MA 0 LM;L}  
MACRO 1 USER N6ZFJ N0ARY  
MACRO 2 LIST CLUB
```

Multiple commands can be included on the same line as long as they are separated by a semicolon (;) and the total length is not greater than 80 characters.

You clear a macro by setting the macro without including a command string.

MACRO 2

You execute a macro by typing the macro number by itself and returning.

Messages

A BBS allows users to send and read messages to and from other hams, even those physically located in other parts of the country. Messages are passed from one BBS to another in an intelligent fashion to move a message to its desired destination, this is referred to as forwarding.

3.1 Message types

There are 4 basic message types supported by this BBS: Personal, Bulletin, NTS and Secure. The first 3 are recognized by all BBS's while secure only has meaning on this BBS.

3.1.1 Personal messages

These are messages directed to a particular person. The only people that will be able to read the message is the addressee, the sender and the sysops on the BBS's it passes through. These messages are normally scheduled at a higher priority than bulletins when it comes to forwarding.

3.1.2 Bulletins

Bulletins are messages of general interest that anybody can read. They are addressed to a category instead of a call sign and often have a distribution rather than a home BBS. An example might be ARES @ SCV which identifies the bulletin as being of interest to ARES members. The message would go to every BBS in the Santa Clara Valley area.

Bulletins should be sent to as narrow a distribution as possible. This keeps the workload down on the forwarding systems. There is no reason to send a flea market announcement to USA. When you request information or send SALE bulletins, start with NCA (Northern California) and if you get no response then broaden the scope, CA, WUSA, etc.

3.1.3 NTS

Refer to chapter 8 for information on NTS traffic.

3.1.4 Secure

This BBS supports a special message type that can be used to pass private messages. Normal personal messages can only be read by certain people when using the BBS but anyone monitoring the frequency

when the message is read will be able to see the contents. The message can also be seen while it is being forwarded between BBS's. Since this BBS supports phone connection via a modem or telnet a new message type was added, secure. A secure message can only be read if the user is connected to the BBS by a secure mode, (not over the air). This eliminates the chance of eavesdropping. Further security can be invoked by assigning a password to the message. This eliminates the chance of someone logging in with someone else's call and reading a secure message.

Secure messages can not be forwarded to other BBS's. The forward link is not secure and no other BBS program supports this message type.

3.2 Listing messages

You can see what messages are on the system by executing a LIST command. Only messages that are readable by you will be displayed. The LIST command can be given a wide variety of arguments that will limit and/or specify the messages that will be displayed.

Msg#	Stat	Size	To	From	cnt	Date/Time	Subject
1900	B	6234	SALE @CA	N6UNE	4	0317/1830	loom 901 package
1899	BP M	201	WANT@SCV	N6YAV	1	0317/1826	Need help with P1:232
1892	P	145	N6ZPJ@N0ARY	N0ARY	0	0317/1822	Where are you at?
1890	B M	4003	ALL@AMSAT	N4QQ	3	0317/1815	OPERATIONS NET SCHED
1884	B	100	HUMOR@NCPA	WA6GXI	12	0317/1814	Why is there air?
1883	BP	1342	ARES@SCV	N6OJV	5	0317/1720	Practice drill coming up
1882	P B	800	N6ZPJ@N0ARY	N6YAV	1	0317/1718	Advanced test
1879	P KB	756	N6ZPJ@N0ARY	NA5P	1	0317/1654	Field day

Read Flag:	R - read by addressee
	M - read by you
	B - read by both you and addressee
Killed Flag:	O - old, about to be killed
	H - message is on hold
	K - message killed
Forwarding Flag:	P - pending forward
	I - forwarding in progress
	F - forwarding complete
	N - don't forward
Message Type:	P - personal
	B - bulletin
	T - NTS
	S - Secure

The size field is in bytes and the Cnt field indicates how many different people have read the message. Use the READ WHO command to get the call signs of each person.

3.2.1 Listing by type

You can supply arguments to the list command that will allow you to narrow the scope of the list request, for instance:

LIST Bulletin	list only bulletins
LIST UNREAD BULLETINS	list only unread bulletins
LIST MINE	list only your messages

The following is a complete list of keywords that can be used with the LIST command. They can also be combined but be careful to not specify a combination that cannot occur, such as LIST PERSONAL BULLETIN. A message cannot be both personal and a bulletin.

ALL	full list
MINE	addressed to you
BULLETINS	all bulletins
CLUBS	match with club list
HELD	messages held by/for sysop
FIRST	earliest messages on system
KILLED	killed messages
LOCAL	messages local to this BBS
LAST	latest messages
NTS	NTS messages
NEW	new since last login
OLD	messages about to be killed by aging
PENDING	awaiting forwarding
PERSONAL	personal messages
SECURE	secure messages
READ	messages you have read
UNREAD	messages you have not read

3.2.2 Listing by pattern match

As well as being able to specify message type criteria you can also search for messages that match a certain pattern in one of the address fields. The pattern matching code is case insensitive. You can match patterns in any one of the following four fields:

> pattern	in the TO field
@ pattern	in the AT field
< pattern	in the FROM field
pattern	anywhere in the message subject

MSG#	Stat	Size	To	From	Cnt	Date/Time	Subject
18848		100	HUMOR@NCPA	WABQXI	12	031711814	Why is there air?
1883	BP	1342	ARES@SCV	N6OJV	5	0317/1720	Practice drill coming up
1879	P KB	758	N6ZPJ@N0ARY	NA5P	1	031711854	Field day

TO field (>)	_____	_____	_____	_____	_____	_____	_____
AT field (@)	_____	_____	_____	_____	_____	_____	_____
FROM field (<)	_____	_____	_____	_____	_____	_____	_____
SUBJECT field	_____	_____	_____	_____	_____	_____	_____

You may have noticed that there is a problem in searching all of the messages for a subject that contains KILL, NEW OLD, etc. These are keywords to the LIST command. If you wish to search for a word from the reserved list you must enclose it in quotes. Here are some examples of common requests.

- LIST > SALE sale messages
- LIST @ AMSAT messages relating to amsat
- LIST < yourcall messages you originated
- LIST ICOM messages with Icom in the subject
- LIST "KILL" messages with kill in the subject

3.2.3 Listing by range and count

You can also list messages with respect to their message number. If you specify 2 numbers all messages with numbers between the two supplied will be listed. If you supply only a single number all messages newer than this number will be displayed.

- LIST 1879 1900 messages from 1879 to 1900
- LIST 1889 messages newer than 1889

With two of the LIST commands you may specify a count. If no count is given the BBS will default to 10. The two commands are LIST FIRST and LIST LAST.

3.2.4 Combinational listings

To provide the user with the greatest flexibility, the BBS has been written to allow the user to combine each of these listing criteria to create very complex requests. Be careful not to over specify. If you hit some mutually exclusive combinations you will receive no output.

- LIST UNREAD BULLETIN 1700 1800 @ AMSAT
- LIST LAST 100 > SALE

The order that arguments appear in the request is not important. This is the case with most commands on the BBS. You can also use a number of short forms that exist to maintain a certain amount of compatibility with WORLI. These abbreviated forms are covered in Chapter 4.

3.3 Reading messages

Once you have found the message in question with the LIST command you are now ready to read the message. You do this by typing READ and the message number; or list of message numbers.

READ #
READ #####

```
N6YAW de NOARY [0]>  
READ 1045  
  
Date: 16 Feb 91 12:16  
Message #: 1045  
  BID: <30871_WD6CMU>  
From: N6ZPJ@WD6CMU  
  To: WANT@NCA  
Subject: Need info on P1(232 MBX
```

```
N6OMY!WD6CMU
```

```
-----  
I just picked up a PK232 wIth MBX firmware and just wanted to know if  
someone could tell me the most recent firmware level and the best parameters  
for setting it up, TXD etc.  
73, Connie  
N6YAW de NOARY [0]>
```

The path the message took to reach you can be determined from the field just below the subject. This is a list of call signs separated by “!” that shows each BBS that the message passed through with the most recent being on the left side. If it has passed through more BBS’s than can be displayed on a single line and ellipsis “...” will be displayed on the right end of the call sign list.

The way that the path is determined is that every bbs that the message passes through will add a line to the body that identifies the BBS, it's location, date and time that it left the BBS, etc. The entire routing header can be displayed by using the HEADER keyword. The BBS’s will be listed with most recent at the top.

READ HEADER #

```
To: WANT@ NCA  
Subject: Need info on PK232 MBX
```

```
R:91 0215/1437 @:N6QMY.#NCA.CA.USA.NOAM Fremont #:5713 Z:94536  
R:910215/1248z @:WD6CMU.#NCA.CA.USA.NOAM OSKbox #:30871 Z:94805
```

```
-----  
I just picked up a PK232 wth MBX firmware and lust wanted to know if  
someone could tell me the must recent firmware level and the best  
parameters
```


3.4 Killing messages

Once you have read a personal message it is best if you KILL the message. This will allow the disk space to be reclaimed sooner. When you give the command to kill a message it isn't actually deleted from the hard disk till a few days later. This allows you to notify a sysop if the killing was accidental. The sysop can restore the message within the next 3 days.

KILL #
KILL # # # #

If you wish to physically delete a message, making it unreadable by everyone and therefore not recoverable, you can use the HARD keyword. Be careful with this option as there is no way to recover a message deleted this way.

KILL HARD #

3.4.1 Automatic message aging

The BBS will automatically age a file to reclaim disk space. A message will be flagged as OLD after 2 weeks. If the status of the message is not altered by a sysop the message will be flagged as KILLED three days later.

KILLED messages will remain on the system for about 3 more days, and then be physically deleted from the hard disk.

If you KILL your messages after reading them you will advance the schedule and free up disk space much earlier.

These times can change without notice.

3.5 Sending messages

The procedure for sending messages differs slightly depending on the type of message being sent. This section covers sending personal messages specifically. The procedure for sending NTS messages and bulletins is very similar.

3.5.1 Finding the addressee's home BBS

The home BBS of the message recipient must be known to send a personal message. To determine if the BBS knows the home BBS of the addressee use the WP command as shown.

WP call_sign

```
N6ZFJ de N0ARY>
WP N6UNE
N6UNE N0ARY.#NCA.CA.USA.NOAM Zip 94086 Ralph Sunnyvale, CA

N6ZFJ de N0ARY>
WP WBOWED
WBOWED not found in local white pages
N6ZFJ de N0ARY [0]>
```

If the home BBS is displayed with the WP command then the BBS has all the information it needs to forward your message. If the call is not in the local White Pages database, then you will have to determine the home BBS of the addressee by some other method. Everyone must have a home BBS to be able to receive mail.

If you send a message with out supplying a home BBS and the addressee is not in the local white pages, the message will not leave the BBS. The addressee will have to login here to read it.

3.5.2 Sending a personal message

Once you have determined the destination home BBS you are ready to issue the send command. Don't worry about making mistakes, you can abort the send at anytime and the message will not be sent. If the person was known to the BBS you can simply type:

```
SEND PERSONAL call_sign      {SP call_sign}
```

If the person was not known to the BBS you will have to supply the home BBS as well.

```
SEND PERSONAL call_sign @ home BBS BBS}      {SP call_sign@home_BBS}
```

In the former case the BBS will notify you of the BBS it identified as the home BBS of the addressee. In the latter it will inform you if your choice for home is different than the one it has identified. Depending on users help level, you may be asked to choose which one to use.

You will next be prompted for the subject of the message. This subject can be up to 60 characters long on this system. This could differ between BBS's so try to keep the subject brief and descriptive.

You may abort the send by not entering a subject and hitting a carriage return (CR). You will return immediately to the main BBS prompt.

3.5.3 Entering the message body

After the subject, you will be prompted for the message body. You are now in a free form entry mode. Whatever you type will be part of the message. When you have finished typing the body, exit the input mode by typing any of the following at the left margin, the first thing on a new line.

/EXIT	recommended form
.	UNIX mail compatibility
^Z	not recommended but works
/CC	see next section

If you decide you wish to abort the send and return to the main BBS prompt, you can do so by typing:

/ABORT

3.5.4 Using CC to send a copy of your message to others

A copy of the message may be sent to multiple people by terminating the message body input with the **/CC** command. The BBS will then prompt you for the additional calls of the recipients. Not only will duplicate messages be generated, but each message body will contain CC: lines at the end identifying the other recipients.

This method is preferable to the COPY command.

3.5.5 Including an existing message in your message body

If you wish to include an existing message in your new message body you can instruct the BBS to do this for you.

/INCLUDE #	include message number #
/INCLUDE filename	include file named "filename"

The included message/file will be identified within the new message by a ">" at the beginning of each line.

3.5.6 Editing a message body

Another feature of this BBS is the ability to edit a message while you are typing in the body. It allows you to go back and correct spelling, delete lines, insert lines, etc. All of these features are accessible via "/", " commands.

/NUMBER

This command will cause the entire message body to be displayed with line numbers on the left side. Following this command you are still in the input mode at the end of the body.

/EDIT #

The line number supplied will be displayed and the next line you type will replace the line as it was printed. if you decide that the line should not be changed, you can abort the edit by typing a carriage return by itself.

/KILL #

This command will delete the line specified by #. This is not recoverable so be sure of the line number before issuing the command.

/ADD #

The next line you type will be inserted in the body just before the line number you supplied. For example, /ADD 1 will allow you to type a new first line of the body.

Here is a fairly complex example, assume you received the following message and wish to pass it on to a friend. We will call this message, number 3478.

```
To: N6ZFJ
From: N6YAV
Subject: FT470 for sale
```

```
-----
Hi Connie, I have a FT470 for sale, heard you may be interested. It comes
with 2 FNB-17 batteries and a speaker mic. Works great. Let me know.
73, Pat
```

Here is how you would forward the message and add comments, and possibly edit out mistakes.

```
N6ZFJ de NOARY>
SP N6UNE @ NOARY
Subject: Still looking for a HT?
Enter message body (/ex /ab /in /nu /ad /ed /ki):
Hi Ralph, I just received a message from a buddy of mine, he
had a nice dual band rig for sale. Heeeere is a copy of hia message to me:
/INCLUDE 3478
> HI Connie, I have a FT470 for sale, heard you may be Interested. It
comes
> with 2 FNB-17 batteries and a speaker mic. Works great. Let me know.
> 73, Pat

I have known Pat a long time, he takes excellent care of hie gear.
see ya, connie
```

You notice that you made a mistake earlier with the word "Here." This is how you would correct the problem. First you would request the BBS to display your message with line numbers:

/NUMBER

```
1: Hi Ralph, I just received a message from a buddy of mine, he
2: has a nice dual band rig for sale. Heeeeere is a copy of his message to me:
3:
4:> Hi Connie, I have a FT470 for sale, heard you may be interested. it comes
5: > with 2 FNB-17 batteries and a speaker mic. Works great. Let me know.
6: > 73, Pat
7:
8:1 have known Pat a long time, he takes excellent care of his gear:
9: see ya, connie
```

If you were to just start typing now you would continue to add lines to your message, nothing changes. But to correct the line you tell the BBS which line you wish to retype and the BBS will display the line for reference.

/EDIT 2

```
has a nice dual band rig for sale. Heeeeere is a copy of his message to me:
has a nice dual band rig for sale. Here is a copy of his message to me:
```

If the line is not the one you wish to change you can simply return without typing anything and the BBS will leave the line unchanged. Following the edit, you are placed back at the end of the message ready to type the next line.

Let's insert a line of text in the middle of the body. You do this with the ADD command.

/ADD 9

```
If any of you buy this let me know, I'm still thinking about it.
```

And again, upon hitting the carriage return, you are placed back at the end of the message.

Now you are satisfied with the message but you decide you would like to send it to two other people. You can do this very easily while you are entering the message. Here's how:

/CC

```
Message #3994 to N6UNE stored
CC: WB6RIG @ N0ARY
Message #3995 to WB6RIG stored
CC: WA6GXI
Message #3996 to WA6GXI stored
CC:
```

Typing a carriage return without a call will tell the BBS that you are done copying the message and it will return you to the BBS main prompt.

Your final message will look like this:

```
Hi Ralph, I just received a message from a buddy of mine, he
has a nice dual band rig for sale. Here is a copy of his message to me:

> To: N6ZPJ
> From: N6YAV
> Subject: FT410 for sale
> -----
> Hi Connie, I have a FT470 for sale, heard you may be interested. It comes
> with 2 FNB-17 batteries and a speaker mic. Works great. Let me know.
> 73, Pat

If any of you buy this let me know, I'm still thinking about it.
I have known Pat a long time, he takes excellent care of his gear:
see ya, connie

cc: N6UNE @ N0ARY.#NCA.CA.USA.NOAM
cc: WB6RIG @ N0ARY.#NCA.CA.USA.NOAM
cc: WA6GXI @ N0ARY.#NCA.CA.USA.NOAM
```

3.6 Replying to messages

A short cut for responding to a message is the REPLY command. You supply the message number to reply to and the BBS will determine the address of the recipient from the existing message header. Then enter the body of the reply message.

The subject line that will be created will be the existing subject with "Re:" in front of it.

```
REPLY #
SEND REPLY #           {SR #}
```

You terminate and edit the body of the message as described previously.

File System

This BBS adopts a DOS/UNIX style interface which is radically different from the other common BBS's. Since this BBS runs on a UNIX computer the syntax must adhere to that domain. You must use "/" rather than the DOS equivalent of "\" when specifying paths.

4.1 Directory listings

You can request a list of the contents of the current directory by typing either LS or DIR. If you wish to see the contents of another directory you can either change directories to the new location or supply a path along with the LS or DIR command.

LS

LS BBS.help

DIR

DIR BBS.help

The list that is displayed will show you files and/or additional directories. Other directories can be identified by "/" after the name, i.e. "BBS.HELP/". Files will have a number preceding them that indicates the size of the file in kilobytes.

4.2 Directory navigation

You will be at the top of the directory structure when you first enter the BBS. Use the LS command to see the directories that are present. Move to another directory using the CD command and the desired directory.

CD bbs.help

change directory to "BBS.HELP"

CD /

go back to home directory

CD ..

go up one directory, toward home

CD

display current directory

```

N6ZFJ de N0ARY [1254]>
LS
1 ARES          1 BBS.HELP/          1 NCPA/          1 NTS/          1 RADIO.MODS/

N6ZFJ de N0ARY [1254]>
CD nts
N6ZFJ de N0ARY [1254]>
LS
6 ARLNUMBR.NTS      5 HOWT02.NTS      2 POSTALNTS
10 CALNET.NTS       4 MARS.NTS        3 REFERENC.NTS
8 DELIVERY.NTS      2 MGRDUTV.NTS    4 USER.LIST
3 DESIG.NTS         3 MSGFORM.NTS    7 WHATIS.NTS
3 HANDLING.NTS      3 NEWS.NTS        5 WRDCOUNT.NTS
13 HOWTO.NTS        11 OPAID218.NTS  34 ZIP.NTS
N6ZFJ de N0ARY[1254]>

```

4.3 Reading a file

The same command is used to read a file that is used to read a message. The BBS distinguishes a message from a file by the form of the argument. Messages are represented by numbers while files are represented by alphanumeric strings. Use the LS and CD commands to locate the file you wish to read. Issue the read command on the file just as it is displayed.

READ filename

4.4 Writing a file

To create a file you again use the CD and LS commands to get to the desired directory. Then issue the WRITE command and proceed to input the file. Terminate the input with a /EXIT at the left margin, just as in sending a message.

The upload can be aborted at any time by typing a /ABORT at the left margin.

WRITE filename

You can turn a message into a file by adding a message number to the write command. Again, be certain you are in the proper directory before issuing the command. The message number is determined with the LIST command.

WRITE filename msg~num

4.5 File system server

Not yet defined.

Callbook

The BBS has an online calbook facility that is available to all users. It will allow you to look up known calls as well as search on partial calls or search for a ham by name when the call is not known.

The callbook was obtained from CD rom and was moved to the hard disk where it has been restructured and indexed to allow for faster access. The callbook and index files consume over 100Mb of disk space.

5.1 Callsign lookup

You can look up one or more hams with a single command.

LOOKUP callsign

LOOKUP callsign callsign callsign...

```

          Class
          Year of Birth
          License Expiration Date
N0ARY  A   (56)  exp: 12/05/94
ROBERT E. ARASMITH
837 JASMINE DR.
SUNNYVALE, CA 94086

```

A suffix must be supplied for a search on a partial call sign. The prefix and/or the call area may be replaced with a “?” if they are not known. You must supply the entire prefix or none of it. The following is a set of good and bad examples:

LOOKUP ?0ARY	wildcard the prefix
LOOKUP N?ARY	wildcard the call area
LOOKUP ??ARY	wildcard both prefix and call area
LOOKUP K?6ARY	Illegal, must replace prefix as a whole
LOOKUP N0?	Illegal, must supply suffix

```

N6ZFJ de N0ARY>
LOOKUP ?0ARY

Searching for matches to ?0ARY =====
K0ARY  A  BRUCE B.QUAYLE
N0ARY  A  ROBERT E. ARASMITH
W0ARY  A  JOHN F. STRAHAN
KB0ARY T  MARK A RIDGWAY
WA0ARY G  TERRENCE A SJULIN

```

The suffix is always required because of the potential for matching thousands of calls. If you have a special request, send me a message and I can do some searching for you.

5.2 Callbook searches

Another powerful feature is the callbook search where you don't have a call sign or a partial call. This command will prompt for last name, first name, city and state. If you don't know a field just leave it blank. In fact, specifying too much information is sometimes a problem. Many hams go by a different first name than the one that appears on their 610 form. And not everyone notifies the FCC when they move.

For the best results, if the last name is unique enough, supply only that. If more than 200 entries match your search criteria a message will be displayed and the search aborted. You will then have to supply at least one additional field to narrow down the list.

The interactive search command requires a last name at the very minimum. If you have special requests, such as all the hams in a zip code or city, you will have to make that request to the sysop directly.

```

N6ZFJ de N0ARY
SEARCH
Last name: Coggins
First name:
City:
State: CA
Searching....
3 calls match request

N8ADN  G  COGGINS, MARTIN R      23 OXBOW CREEK, LAGUNA HILLS, CA
WA6VIB A  COGGINS, MARY A       23 OXBOW CREEK, LAGUNA HILLS, CA
N6YAV  G  COGGINS, PATRICK M    PO BOX A21, LA HONDA, CA 94020

N6ZFJ de N0ARY>

```

5.3 Callbook servers

The BBS supports both of the previous commands in a server fashion. This allows users from other BBS's to send requests to this BBS for callbook information.

Server requests are in the form of a message sent to `CALLBK @N0ARY`. The subject field informs the server of the function requested.

5.3.1 Lookup requests

To request a look up you need to make the subject of the message `LOOKUP`. You then put the desired call signs in the body, one per line.

```
SP CALLBK @ N0ARY.#NCA.CA.USA.NOAM
Subject: LOOKUP
Msg:
N6ZFJ
?6UNE
/EX
```

As in the interactive version, partial call sign lookups are allowed and the suffix must be supplied. Please refrain from putting signatures and greetings in the body of the request. No human ever sees them and they can potentially confuse the server.

5.3.2 Search requests

The same recommendations apply for server requests as for the interactive version with respect to supplying too much information. In the server version, you must indicate which field(s) you are providing. This is done by proceeding your information with a keyword that is understood by the server.

LNAME	last name
FNAME	first name
CITY	city
STATE	two letter state abbreviation
ZIP	zip code, 5 digits only

If you are not going to supply a field, you are not required to send the keyword at all.

```
SP CALLBK @ N0ARY.#NCA.CA.USA.NOAM
Subject: SEARCH
Msg:
LNAME arasmith
CITY sunnyvale
/EX
```

The responses from the server, good or bad, will be sent to you at the BBS where your request originated.

Events

This BBS has an event calendar to keep track of up coming events and display them chronologically. Anyone can create an entry in the events calendar.

6.1 Displaying events

You can display events in 4 ways.

EVENT WEEK #

EVENT MONTH #

EVENT keyword

EVENT mo/yr

The events will be listed in chronological order with an event number, date and time, and a brief description.

```
N6ZFJ de N0ARY>
```

EVENT

```
2 03/28/91 Thu 18:00 LERA ARC club meeting @ Sunnyvale, CA
23 04/06/91 Sat 08:00 HAMS & HACKERS SWAPMEET @ HANFORD, CA
1 04/06/91 Sat 09:00 NARCC meeting @ Sunnyvale, CA
11 04/07/91 Sun 07:00 Livermore ARC swap meet @ Livermore, CA
17 04/13/91 Sat 08:00 Foothill Flea Market @ Los Altos Hills, CA
3 04/18/91 Thu 19:30 WVARA club meeting @ Los Gatos, CA
```

Further details on any event listed can be displayed using the EVENT command and the event number.

```
N6ZFJ de N0ARY>
```

```
EVENT 1
```

```
Date: Sat 6 Apr 91 09:00
```

```
Event # 1
```

```
Title: NARCC meeting
```

```
Location: Sunnyvale, CA
```

```
Keywords: NARCC LERA MEETING
```

```
The Lockheed LERA ARC is proud to announce and sponsor the NARCC meeting  
April 6th at the LERA building 160 in Sunnyvale, CA Talk in on 224.28,  
443.775 all...
```

6.2 Creating an event listing

An event that is of interest to the ham community is welcome on the system. You will be asked a number of questions while creating the event. Some fields may be left blank while others are mandatory and not supplying the information will terminate the creation. The optional fields are keywords, city, state and description. It is up to the BBS users to make this facility worthwhile.

```
N0ZFJ de N0ARY>
```

```
EVENT ADD
```

```
Enter event date (mo/day/yr): 7/12/90
```

```
Enter event time (hr/mm): 18:00
```

```
Title (40 char): NCPA board meeting
```

```
City and State (Sunnyvale, CA): Fremont, CA
```

```
Keyword: NCPA NCXPN SYSOP
```

```
Description:
```

```
The meeting will again be held a the Apple facility on Warm Spring. We  
plan  
to cover frequency allocation in the 900 MHz band. Please plan to  
attend.
```

```
/ex
```

```
Event # 1003 => 07/12/90 18:00 NCPA board meeting Stored
```

The city and state are the location of the event, not your qth. The keywords field is used to allow people to get events that relate to clubs or categories, some examples might be:

```
EVENT FLEA
```

```
EVENT NCPA
```

```
EVENT SPECS
```

You can also combine the keyword and range arguments. To find out what flea markets are taking place in Sept. of 1990, for example, you would type:

EVENT 9/90 FLEA

6.3 Deleting events

If an event has changed or has been cancelled it can be removed from the events calendar with the DELETE keyword. You will be prompted to acknowledge the operation.

EVENT # DELETE

Weather

The BBS polls a weather station located on Mt. Umunhum at various times during the day. This information is available for readout in a few different forms. The weather information is provided courtesy of BAYCOM, WA6YCZ.

7.1 Current weather

The results of the last weather poll can be obtained at anytime by issuing the weather command, WX. If the keyword INDOOR is supplied the weather information is relative to inside the BAYCOM shack. Supplying the keyword YESTERDAY will show a summary of yesterdays weather.

WX [INDOOR] [YESTERDAY]

```

N6ZFJ de NOARY>
WX
Weather Data as of 91/03/31 17:25:02      High and Lows cleared at
midnight
Mt. Umunhum, El 3350' 5 miles south of San Jose

          Current      Rate  LOW           HIGH
Temperature (deg F)    40          +1    30 @ 04:13  45 @ 15:33
Humidity (%)           99          +0    36 @ 12:29  60 @ 16:10
Barometer (in)        29.87       -0.02 29.80 @ 7:59      29.92 @ 12:01
Rain (in)              .02          0.00
Wind (mph)             32 SW                HIGH AVG           HIGH GUST
                    52 SW @ 08:09      68 SW @ 08:20
Wind Chill (deg F)     11
Gust Chill (deg F)     12
Weather Information
Courtesy of WA6YCZ

```

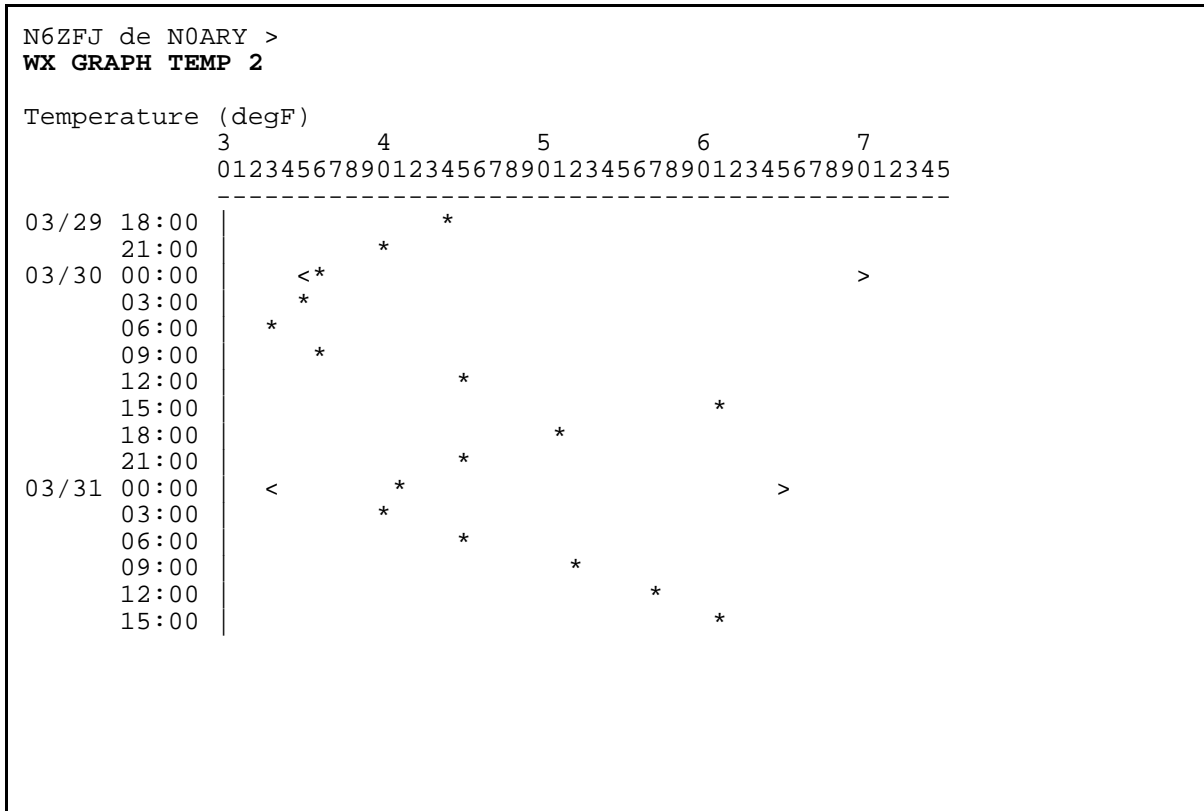
7.2 Weather data

The BBS stores information from previous polls and makes it available to users on request. This can be displayed in two forms, tabular and graphical. The graphical version is very crude, so don't expect too much. You can indicate how many previous days to display.

At the time of the request you also supply the specific weather parameter you wish history on: TEMPERATURE, HUMIDITY, BAROMETER, RAIN, WIND.

WX DATA 4

WX GRAPH 3 RAIN



7.3 Selecting weather

One of our most popular features is the ability to select the weather. This requires a certain amount of knowledge on how different weather parameters relate to each other. There are a number of interrelationships that must be maintained or you could cause sleet or fog when you merely want rain.

Keep in mind that the weather station is atop Mt. Umunhum and altering the weather there may have only a marginal affect in your area.

WX SELECT TEMP degrees

WX SELECT HUMDITY percent

WX SELECT BAROMETER mm (not inches, be careful)

WX SELECT RAIN inches

WX SELECT WIND mph direction (in degrees)

NTS Messages

NTS (National Traffic System) messages are handled the same as regular messages with the addition of some commands. First lets talk a little about what NTS messages are.

8.1 What is NTS

The National Traffic System (Nm) is sponsored by the ARRL and features an orderly method for reliably and responsibly moving messages across the continent on a daily basis as a public service. These messages travel through a system of voice and cw nets, and now, packet radio forwarding systems.

NTS messages follow a particular structure that makes them easy to pass in all the supported modes. Specific information on the NTS structure can be found elsewhere on this system. NTS messages can be originated by a ham or non-ham for delivery to a ham or non-ham. Of course, amateur radio is responsible for the transmission.

Everyone is encouraged to participate in the delivering of NTS messages. The following sections cover the procedure for doing this.

8.2 Listing NTS messages

List NTS messages that are waiting to be delivered by issuing the NTS keyword to the list command. For compatibility, the WORLI equivalent command is also supported.

```
LIST NTS  
LT
```

The subject of the listed messages describes the destination of the message. It normally contains the city, state, area code and prefix of the phone number.

```
QTC MIN VIEW, CA 415/965
```

8.3 Checking out NTS messages

If the message is in your area and you want to deliver it, all you have to do is read it and then as soon as you have a good copy, check it out of the system.

```
READ #  
CHECK OUT #
```

When a message is checked out it is not actually deleted, it is just hidden from other users so it doesn't get picked up twice. This differs from other BBS's in that they don't support the check in/out facility. This feature makes it easy to put a message back on the system if it was undeliverable. If the message was undeliverable, please remember to check it back in, as shown below.

8.4 Killing a NTS message

Once a NTS message has been successfully delivered, it should be killed on the BBS. A list of NTS messages that are checked out to you can be displayed with the LIST command.

```
LIST CHECK
KILL #
```

8.5 Undeliverable messages

Sooner or later a message will appear that is not deliverable. This could be because nobody was home or the message was misaddressed. The BBS has methods of resolving both of these issues.

8.5.1 Party not home

If you were unable to deliver a message but have no reason to believe that it is incorrectly addressed, just check it back into the system. This will make it visible again to all users. Another attempt can be made to deliver it at a later time. Again, you can see what message you have checked out with the LIST command.

```
LIST CHECK
CHECK IN #
```

8.5.2 Addressed improperly

The message header of an improperly addressed message should be edited in order for the message to be placed back into the forwarding system or directed toward a different person for delivery. You will be prompted for each field. Typing a return to the prompt will keep the field as is.

```
N6ZFJ de N0ARY>
LIST CHECK
NTS messages checked out to N6ZFJ:
1025 => QTC MTN VIEW, CA 415/965
N6ZFJ de N0ARY>
EDIT 1025
To [90404 @ NTSCA]? 94086
Sub [QTC MTN VIEW, CA 415/965]? QTC Sunnyvale, CA 408/749
```

If the new zip code is not one that is the responsibility of this BBS, the message will be queued for the next forwarding cycle.

White Pages

9.1 What are White Pages?

The White Pages (WP) is a distributed database that attempts to keep track of all users of BBS systems around the world. The data base contains call, first name, qth (city and state), zip code and home BBS for each BBS user. When any of these pieces of information is changed an update is queued to send the updated information to the national WP servers.

The benefit of the database is that a message can be sent to another ham that is in the database without having to know a home BBS or hierarchical address. The BBS will supply this information automatically when it is available. If a user is not in the database, you will have to find this information on your own.

9.2 How to choose a home BBS

A user must have a home BBS to be a part of this system. The BBS that you choose to be your home BBS has to be a member of the BBS forwarding system and be capable of forwarding bulletins and personal messages. Your personal TNC is not sufficient.

You should choose a BBS that is easy to hit from your station location. DXing to BBS's is discouraged. To choose this BBS as your home BBS you type:

```
HOME BBS NOARY
```

Notice that you don't put the -1 on the call. The -1 is the SSID and is only used when you connect to the BBS. From then on, refer to the BBS as just NOARY. This is how it is known to all the other BBS's.

9.3 The other WP fields

The other information that is in an entry in the WP database is of interest but is not as critical as the home BBS. Fill in the additional fields so your entry will be correct and complete.

```
FNAME John  
QTH Sunnyvale, CA  
ZIP 94086
```

A user who has been a ham for a while, or who has checked into other BBS's may have an existing WP entry.

Display your current entries by typing the command without an argument or by typing ME to display your entire account.

ME
FNAME
QTH
ZIP

9.4 Finding someone else's home BBS

To send a message to someone not sharing your home BBS, a home BBS must be supplied either by the sender or from the WP database. To determine if the BBS knows of the person use the WP command.

WP N6ZFJ

If the BBS knows of the person, the database entry will be displayed. If the home BBS is N0ARY you can get additional information on the user by calling up his/her account, similar to issuing the ME command.

WHO N6ZFJ

If the BBS identified the home BBS for the user; then you can send a message to the person without having to specify a home BBS or address.

SEND PERSONAL N6ZFJ

BBS Control

10.1 Quitting the BBS

The preferable method of exiting the BBS is to let the BBS disconnect from you. This is done by issuing the BYE command. This allows the BBS to clean up in a very orderly fashion prior to disconnecting. If you disconnect from your end there is a possibility that your account will not be closed out properly. This normally shows up in the LIST NEW command showing you messages you have seen before.

BYE

10.2 Getting help on commands

The system has a very elaborate help facility. Virtually every command and keyword has a help available for it. The helps are very similar to the entries found in the "NOARY Reference Manual."

You can request the entire list of commands but make sure your computer is setup to capture to disk because the list is very long.

HELP ALL {? ALL}

To get help on any command or keyword you need only ask the help system.

HELP SEND
HELP HELP
HELP LIST

If you are unsure of the command you want to issue, but know you will recognize it if you see it' you can dump the entire command and keyword list. This list can also be found in the reference manual.

HELP KEYWORDS

10.3 Displaying the Message of the Day

When you first connect to the BBS you may receive about a page full of text that is referred to as the message of the day (MOTD). As soon as you have seen it once a bit is set in your account and you will no longer see it on login, unless the message changes.

When a sysop has something important to say to all users he will edit the MOTD file and issue a command that will clear the MOTD bit in all the users accounts. Thus you will see the new message the next time you login.

In the event that you want to see what the message of the day was, you missed it the first time, forgot, or just like to read, you can request the BBS to display it for you at any time.

MOTD

10.4 Displaying Users

There are a few commands that relate to displaying users and information about our users. The first is the USERS command, this is used to display the last X number of people to connect to the system. If you supply a number with the command it will display that many users, if you don't it will default to a display of the last 10. The display will show call, number of times the user has been logged in, method of last connect, date and time.

```
N0ARY de N0ARY [0]>
USERS

User          Count ----- Last Login -----
N0ARY         123   Console           Sun Mar 31 19:00:58 1991
KC6RTR        93     Phone 12/24         Sun Mar 31 18:58:10 1991
KC6PPD        13     Phone 12/24         Sun Mar 31 18:37:49 1991
KA6ETB        3      Phone 12/24         Sun Mar 31 18:31:19 1991
N6QMY        849    Tnc 220             Sun Mar 31 18:09:20 1991
KK6VJ         49     Tnc 144             Sun Mar 31 18:04:43 1991
K6GSJ         67     Phone 19200         Sun Mar 31 18:02:59 1991
W6CF          80     Tnc 144             Sun Mar 31 17:59:03 1991
N6UW         102    Tnc 144             Sun Mar 31 17:21:44 1991
N6JLH        150    Tnc 144             Sun Mar 31 17:20:28 1991
```

To see the users currently connected to the system and on which port they have entered you use the PORT command. For those of you familiar with UNIX this is a portion of the output of a ps command.

```
N6FJ de N0ARY [0]>
PORTS

PID  TT  STAT  TIME  COMMAND
10034 p6   S     0:03  nbbs N6ZFJ CONSOLE
10038 p8   IW    0:05  nbbs K6GSJ PHONE_SLOW
10039 p5   S     0:01  nbbs W6CF I44.93
10045 p2   IW    0:01  nbbs KK6VC 144.93
10046 P4   IW    0:01  nbbs N6OJV 144.93
```

And if you want to see the user account of a user or yourself you can use the WHO command.

WHO callsign

ME (same as: WHO yourcall)

WORLI Commands

Since WORLI is accepted as the standard among packet BBS's the majority of the other BBS's support at least a subset of the WORLI command set. This BBS supports some of the commands as they relate to the sending, listing and reading of messages.

11.1 Translation to N0ARY BBS

This chart describes the translation between WORLI and N0ARY BBS commands and whether or not the WORLI command form is supported.

<u>WORLI</u>	<u>Supported</u>	<u>N0ARY</u>
H	Yes	HELP
H*	No	HELP ALL
B	Yes	BYE or QUIT
CM	No	COPY
D file	No	READ file
I	No	INFO SYSTEM
I call	No	WP call
I@ call	No	WP HOME call
IL	No	USERS
J	No	PORTS
K	Yes	KILL
KM	Yes	KILL MINE
KT	Yes	KILL
L	Yes	LIST NEW
LA	No	LIST FIRST
LL	Yes	LIST LAST
L>	Yes	LIST >
L<	Yes	LIST <
L@	Yes	LIST @
LB	Yes	LIST BULLETINS
LH	Yes	LIST HELD
LK	Yes	LIST KILLED
LM	Yes	LIST MINE
LO	Yes	LIST OLD
LP	Yes	LIST PERSONAL
LT	Yes	LIST NTS
LY	No	LIST READ

N	No	FNAME
NE	No	HELP #
NH	No	HOME BBS
NQ	No	QTH
NZ	No	ZIP
R	Yes	READ
RH	Yes	READ HEADER
RM	Yes	READ MINE
SR	Yes	REPLY or SEND REPLY
SB	Yes	SEND BULLETIN
SP	Yes	SEND PERSONAL
ST	Yes	SEND NTS
T	Yes	TALK
U file	No	WRITE file
V	No	INFO VERSION
W	No	DIR or LS in conjunction with CD

11.2 W0RLI commands not supported

The following commands are not currently supported in the N0ARY BBS. They may be added in the future if users indicate an interest.

Cp call	Connect to call using port p
IH	List users of this BBS at location
IZ	List users of the BBS at this zip
Mp	Monitor port p
RT	Invoke RoundTable?
S	Show system status

In addition to the above commands, none of the W0RLI sysop commands are supported consistently. The internal structures of the BBS's differ dramatically.

11.3 N0ARY BBS extensions not supported by W0RLI

This is where we get even :) (the :) is the way to make a happy face on packet)

CHECK IN/OUT	NTS message handling
CLUBS	Special include lists
EQUIPMENT	Equipment database RIG, COMP, TNC, SOFT
DIR LS CD	DOS/UNIX file system structure and cmds
EVENT	On-line event calendar
LINES	Terminal support
LOOKUP	On-line callbk lookups
LIST	Complex LIST commands
MACRO	User defined command macros
ME/WHO	User accounts

MOTD	Message of the day
PASSWORD	Account protection
READ WHO	Display who has read a message
SEARCH	On-line callbook searches, name, qth, zip, etc.
SEND SECURE	Secure message handling
UUCP	UUCP forwarding of personal mail
WX	On-line weather information

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