The AA4RE Packet Bulletin Board System
BB Ver. 2.12 updated 11-29-98
USER GUIDE
prepared by KL7GNG

This guide provides an overview of the AA4RE (version 2.12) BB PBBS system and is intended to assist you in its efficient use.

The AA4RE, PBBS software was written by Roy Engehausen. If you are an experienced user of the W0RLI or F6FBB systems this one is comparable.

--- What can the PBBS Do? ---

The BBS provides the following resources and functions:

- Personal mail identified by callsign can be sent and received.
- Automatic Hierarchical addressing of mail traffic.
- Upload/Download of files, programs, documentation, maps, etc.
- Activity monitored (stations heard) on each port.
- Automatic forwarding of bulletins to other PBBS's.
- Automatic forwarding of mail via HF/VHF PBBS Gateway stations.
- Multitasking, multiport configuration.
- Phone modem access with automatic mail forwarding.

--- Logging on to the PBBS ---

You begin a session by simply connecting with the station running the BBS. After receiving a greeting message you will see a command prompt, at this point you can use any of the BBS commands.

If you are a New User you will be requested to "Please Register as a User" by typing REGISTER, please do so at this time or you could have restricted access to the BBS. You will be prompted for your Name, Zip code, and Home BBS (the BBS where you normally check into to receive your packet mail) type the information asked and (Hit a <CR> after each command). When your finished the system will come back with "Hello John" or something similar. Now the BBS and the Sysop will know who you are to aid with foRwarding your mail.

Depending on the sysop BB software can be configured user friendly with many user prompts or short prompts with limited access. Some BBS stations may vary slightly from this document due to sysop preference in setting up BB.

--- Commands ---

Commands consist of one or two letter groups. Some commands are followed by a message number, call or file name. For these commands, you must leave a space between the command and the message number, call or file name. During your connection to a PBBS, you send a series of commands to perform the functions you desire and at the end you send a B (bye command) to disconnect.

Before going on too far, you need to know how data is stored on the PBBS. There are two main formats

for data which you can access. These are not interchangeable and you must make sure that you are using the correct commands for the type of data.

Mail Messages:
Most of your interaction will probably be with the mail system and mail messages. Mail messages are to and from specific users or to generic users like ALL.

Data Files:
This is the other format of storage and can contain any kind of data. These files generally contain larger amounts of data such as newsletters, programs, maps, etc. Data files are always named with 1 to 8 characters, a period and 0 to 3 more characters. Examples are INFO. BB, ALASKA. MAP, etc. Using the same suffix (i.e. .MAP) allows grouping of files of similar type.

--- HELP-TYPE COMMANDS ---

These commands give the user information about the system and how to use it.

Command: H
HELP - Gives a basic HELP COMMAND listing. It isn't context sensitive, it always gives the same answer regardless of where you are in the system. This shouldn't be necessary if you have this guide.

Command: H [Letter]
HELP for COMMAND - Detailed HELP with individual system commands. For example, type "H U" for HELP with uploading. The descriptions in this guide are similar to what you would get with this command.

Command: I
INFORMATION - about this particular PBBS - equipment, stations served, links, SysOp, etc..

--- MESSAGE-TYPE COMMANDS ---

These commands are used to read and send personal messages to other users. All messages are referred to in every command by number, and you find out what the number of each message is by using the LIST command.

The READ command is for looking at the message text. The first time you log into a PBBS, you may wish to list all messages. PLEASE don't list all messages each time. It takes a long time and ties up the frequency needlessly. Some PBBS stations will list the number of Active and Last message numbers upon log in as well as in the beacon text, use this as a guide.

There are several variations of the list command. Each is explained below, but first let's look at a sample message list and explain what all the information means. Here's a sample section of a message list:

Msg# TS Size TO From Date/Time Subject
4069 Y 102 AL7ID KL7GNG 0205/0240 User Manual

4064 BN 15659 ALL KL7GNG 0205/0235 Alaska. Map 2/1/89
4043 BN 723 ALLAK AL7FG 0204/1725 Byers Hamfest
4042 TN 1172 NTSAK W1HAB 0204/1402 Traffic for KL7GNG
4041 N 126 K7TPN KE7OM 0204/0910 The-Net BBS
4040 PN 243 KL7IKX KL7EDK 0203/1312 Net/Rom Link
4039 BF 354 SYSOP AA4RE 0203/1022 Ver 2.7 BB
4038 + 566 KA7TBU NL7HP 0203/0922 Trip
4037 - 1066 SYSOP AA4RE 0203/0920 Hints
4036 - 2355 W3IWI KL7GNG 0202/1430 Programs

Msg# - This is the message number. You will use this number in other commands such as read or kill. You designate which message you wish to read by specify its number in the read command.

T (Type) - The message type designation. This allows the categorization of messages, B indicates a bulletin message, T an NTS Traffic message and P a private message. Private messages can only be listed or read by the sender, recipient and sysop.

S (Status) - This column usually contains Y or N depending on if the recipient has read the message (it is not changed if someone OTHER than the intended recipient has read it). If N, the message has not been read and the recipient call still appears in the beacon text. The column also can have an F to signify a message or bulletin has been forwarded or a (+) to indicate that the message is cued for forwarding or a (-) to indicate that it was being forward at the moment you did a list as part of the automatic PBBS forwarding system. Bulletins waiting to be forwarded to other PBBS will be shown following msg line with a (-) or (*) preceding call of forward BBS depending on message status at the moment.

Size - This column tells you how big the message is in bytes. On longer messages, you might want to capture the message to disk or printer as it comes into your computer so you can read it later.

TO - This is the intended recipient of the message. It is specified by the user sending the message. It's generally a callsign or ALL. A name like ALLAK, or something like that, is used to specify mail to be forwarded to all users at one or more other PBBS's.

@ BBS - This column indicates the PBBS that this message is to be forwarded to.

From - This column is set automatically to the call of the station sending the message.

Date - This is the date that the message was posted at this PBBS. It may not be the same date that the sender sent it if it was forwarded to the PBBS from another PBBS, (mmdd/hhmm) format.

Subject - A description of what the message is about. It may also contain "Forwarded from ..." for messages from another PBBS. Please be brief with information as this is limited field.

--- LIST COMMANDS ---

Command: L
LIST NEW messages - List any new messages that have been posted to the PBBS since the last time you used the L command. Listing is in reverse order newest to oldest. Note, Private messages not addressed to you will not be shown with a LIST command.

Command: LM
LIST MINE - List only messages addressed to you or by you.

Command: LN
LIST UNREAD - List all unread messages. Listing is in reverse order newest to oldest.

Command: LU
LIST UNREAD - List all unread messages by you.

Command: LL x
LIST LAST - List the most recent number of messages specified by x. LL 10 will therefore list the last 10 messages.

Command: L x
LIST FROM # - List only messages above number x. L 325 list messages above #325.

Command: LA
LB
LT
LF
LY
LIST TYPE - List messages of type 'A '. LB lists bulletins, LP lists private messages (although you will only see those sent by you or to you), LT lists NTS traffic messages (mainly used by NTS traffic handlers), etc. LF to list forwarded mail and LY to list all read messages. You can also do a LA x or LA x y.

Command: L@ callsign
List at CALLSIGN - List messages addressed at that BBS call.

Command: L> callsign
LIST TO - List all messages sent to the specified call sign. L> KL7IKX will therefore list all messages currently in the PBBS that were posted there for KL7IKX. Entering L> your-call is the same as entering LM.

Command: L< callsign
LIST FROM - List all messages sent by the specified call sign. L< KE7OM will therefore list all messages currently in the PBBS posted by KE7OM).

Command: LD > yymmdd
LIST by DATE - List all messages newer than some date.

Command: LD < yymmdd
LIST by DATE - List all messages older than some date.

Command: L$
LIST a PATTERN - Lists messages with BIDS that match a pattern. For information on patterns, Type H ! at the BBS command prompt.

Command: LS
LIST a PATTERN - Lists messages with subjects that match a pattern. for information on patterns, Type H ! at the BBS command prompt.

--- READ COMMANDS ---

Command: R x
READ - Read message #x (not "files"). You may read multiple messages as example R 325 327 340 would list out those three messages. You may also list a range of numbers, R 325 to 340 would list all messages from 325 to 340.

Command: RA
RB
RT
READ TYPE - RA lists bulletins (type A),RB lists bulletins (type B), and RT lists (NTS msgs).

Command: RH
VERBOSE READ - Headers from forwarding stations are listed along with message text. Command format is same as R command.

Command: RM
READ MINE - Read all unread messages addressed to you.

Command: R$
READ MSGS - List messages with BIDS that match a pattern. See Wildcard section or type H ! at the command prompt for listing.

Command: RS
READ MSGS - Lists msgs with subjects that match a pattern. See Wildcard section or type H ! at the command prompt for listing.

Command: R> call
READ all msgs to this callsign.

Command: R< call
READ all msgs from this callsign.

Command: R@ call
READ all msgs addressed at this BBS call. Be careful to List these messages first to see how many there are with the L@ command.

Command: RD > yymmdd
Read msgs newer than some date.

Command: RD < yymmdd
Read msgs older than some date.

Command: REPLY msg#

REPLYS to a MSG # - Type REPLY to respond to a message. You will be prompted for a message # if not given then the text of your message. The call sign of the sender will be automatically addressed with reply to original subject line. See also SR command.

--- KILL COMMANDS ---

Command: K x
KILL - Kill a specific message. Only the sender, recipient or SYSOP can kill a message. You may kills multiple messages numbers per line as example K 351 353 450. NOTE, you may only kill messages addressed to you with the only exception being the KT command.

Command: KM
KILL MINE - Kill all messages sent to you that you have read. This will not kill messages that you have not read. Please kill your messages that no longer need to be on the PBBS.

Command: KT #
Kill NTS - Kill an NTS message which may not be addressed to you. Please kill any NTS message that you handle so that it wont be delivered again by someone else.

--- SEND COMMANDS ---

Command: S callsign
SEND - Sends an open message to 'callsign'. Others can read this message. You can not send S alone - you need a callsign. The BBS will prompt you for Callsign of addressee if you fail to provide it. Note some PBBS sysops only allow P (private),B (bulletin) or T (NTS) messages in which the BBS will respond with a query for Type.

Command: SP callsign
SEND PRIVATE - Send a personal message to 'callsign'. Others cannot read this message, although the 'callsign' will appear in the beacon. Preferred to cut down on long L listings by others.

Command: S callsign @ callsign [optional Hier. address]
SEND VIA - Send a message to a station at another PBBS by automatic mail forwarding. SP K7QXL @ KE7OM would send a private message to K7QXL at KE7OM's PBBS. Typically, once a message is forwarded, the originating PBBS will change it status to F and the sysop will then kill or put into old message file.

With ver BB 2.6 Hierarchical addressing is suported. In the example above the @BBS field could contain the following Hierarchical information SP K7QXL @ KE7OM.WA.USA.NA With BB ver 2.7 the BBS will attach a default Hierarchical address to the @ field but only if the user hasnt already done-so. Reffer to the Hierarchical Addressing section of this doc. file for more information.

Command: SB ALL
SEND BULLETIN - Send a general bulletin addressed to ALL.

Command: SR xxxx
SEND REPLY - To send a reply to message number xxxx, alias is REPLY. See command REPLY.

Command SR and REPLY can be used interchangeably.

Command: ST Zipcode @ NTSxx
SEND TRAFFIC - Send NTS traffic to Zipcode @ NTSxx with xx as the state abbreviation. ST 99808 @ NTSWA would send NTS traffic for zip code 99808 in Wash. State. Your SUBJECT field should contain additional NTS information about recipient - city, PH #,etc. to aid BBS sysops or traffic stations to foRward your traffic.

After you've told the PBBS who the message is to, the PBBS will then ask you to supply a title for the message. This entry will show up in the message list in the Subject column. Be brief this is a limited data field.

You will then be asked to enter your message. When finished, you terminate text entry by sending a control-Z. (Some user computers are unable to send a control-Z. In this case, you may place the command /EX on a separate last line).

If you are going to be entering a rather long message, it's a good idea to compose the message off line with a word processor or even a simple text editor. Then connect to the PBBS, execute the send command, enter the title and then send the pre-composed message text to the PBBS. You could even include the send command and message title in the pre-composed message as the first and second lines of the message. Add /EX as the last line of the message and you can completely automate your message entry.

--- FILE-TYPE COMMANDS ---

The following commands deal with Directory areas, which generally contain text material (AMSAT bulletins, RMPRA news, area user MAPS, etc.) or PROGRAM files. With ver 2.6 binary files can be uploaded/downloaded using any of the following protocols XMODEM, XMODEMCRC, YMODEM,YMODEM-BATCH(alias YMBATCH) and YAPP.

Command: W
WHAT files - Lists all the file directories available on the PBBS. Recall that file names in these directories are of the format xxxxxxxx.yyy.You must use PC/MS-DOS file names.

The Amount of system memory available is now shown after a "W dirname" command, use this to check for available memory for uploading to the BBS. Format is shown in K bytes :

dirfile space used / disk memory left /total disk memory

In the file directory list, you will see directory names followed by a description of what type of files it contains. Usually files that are related will be placed in the same directory. All AMSAT Bulletins might be placed in a directory named AMSAT. To list the contents of a subdirectory enter the W command followed by the directory name. W AMSAT will list all files in the AMSAT directory. Many directories will have a README file which may give you information about the files in that directory. You may use wildcards, such as "W BBSINFO *.DOC" to list all files with the extension of DOC (Documentation).

Command: WD dirname
FILE TIME STAMP - List files in a directory along with Time stamp of record.

Command: WX dirname
FILE TIME STAMP and SIZE - List files in a directory along with Time stamp of record and size.

Command: D [directory] [filename]
DOWNLOAD - Sends a ASCII file from the PBBS to you. The D command is followed by the directory and filename you want to download, such as "D BBSINFO USER.DOC". You generally want to have a capture buffer on your computer open to receive the incoming file. To give a listing of Directories available use the W command.

Command: DB [protocol] [directory] [filename]
DOWNLOAD a binary file.Key words are DB,protocol,directory,filename. For example to download STAR.BAS in the Programs directory using Xmodem you would type " DB XMODEM PROGRAMS STAR.BAS ".

Command: U [directory] [filename]

UPLOAD - Send a ASCII file from you to the PBBS (opposite of the D Command). The file naming convention is the same for uploading as it is for downloading, including the subdirectory name if any. Terminate the upload by sending a control-Z or /EX. As an example, to upload the CALIFORNIA packet map into the MAP directory, type "U MAP CALIF.MAP" .

Command: UB [protocol] [directory] [filename]
UPLOAD a binary file to the BBS. Refer to DB command format example.

One danger in uploading to the PBBS is that you could use up all of the remaining space on the system. This can crash the system since the mail, user and log files need room to expand. Don't push the storage. BB Ver 2.7 will show the total amount of storage and free space left on BBS after each "W dirname" command.

You may be looking for a command to kill a file, similar to the K command which removes a message. Sorry, there's nothing like that. Only the SYSOP can do that from the console - leave a message to him making the request.

--- OTHER COMMANDS ---

Command: B
BYE - Log off the PBBS (gracefully) and disconnects your call. You will be logged off automatically if there is no response to a menu in 4 minutes or so due to inactivity or path timeout.

Command: DU callsign
DISPLAY USER - Displays user status as example DU KL7EDK .....
BB responds with the following:

Call SS Last On CNT PC TBRXDL Home ZIP Name
KL7EDK 891028/0415 162 LE R KL7GNG 99701 Jerry

Call : Callsign of requested station.
SS : SSID if any.
Last On : Date and Time of last connect.
CNT : Count.

PC : Class of user, (L)ocal sysop with (E)xpert command prompts.
Other classes include:
N = New user
U = Unregistered user
O = Registered user
B = BBS
A = Advanced BBS
TBRXDL : Lists privilege allowed user by SYSOP.
T - (T)rans. If off packets will end with CR.

B - Is a (B)BS.
R - (R)emote sysop
X - (E)xcluded from connect to BBS, LID.
D - (D)elete, user qued to be deleted from data base.
L - (L)ocal user.
Home - Home BBS of user. Changeable by user command: NH
Zip - Zip code of user. Changeable by user command: NZ
Name - Name of user. Changeable by user command: NN

Command: J
LIST TNC ports - Lists what tnc ports are in use by the PBBS you are connected to.

Command: JL
LIST CONNECTED - Calls of users that have connected lately to the PBBS.

Command: JN
LIST PRESENTLY CONNECTED - List calls presently connected to the PBBS by port "A,B,C....and stream 1,2,3....".

Command: JP
CALLS HEARD - Where "p" is the tnc port identifier. Gives a short list of stations recently heard on that port. Typing "JA" will list those stations monitored on port A. Typing "JB" will list those stations monitored on port B,etc..Use the J command to list what ports are active.

Command: NN
NAME - Enter (your firstname)or change your name in the database.
Phony names will be canceled.

Command: NH
HOME BBS - Enter your home bbs, the bbs that you regularly check for your mail. Please do not list your call even if you own a personnel bbs. This information is used to foward mail to you by the BBS.

Command: NE
EXPERT - Toggle your expert status to "Expert" mode with short prompts and messages.

Command: NP xxxxx

CHANGE PASSWORD - To change your password to xxxxx, can be issued only from phone modem port.

Command: PL
LF on/off Toggle. Can be issued from Phone port only to add or remove Linefeeds.

Command: NZ
ZIP CODE - Enter your zip code.

Command: T
TALK - Pages the SYSOP. If the sysop is available to chat, you'll get a response within ONE MINUTE. Otherwise, the BBS will advise you that sysop hasn't answered. You'll be returned to the command prompt and can continue normally. You may leave a message with the sysop if the sysop is not available. At the prompt Type "SP SYSOP" to leave a message.

Command: V
VERSION - Shows specific version of this BBS, the date of the software release.

--- PHONE MODEM PORT ---

BBsupports Phone Modem inputs, check with the BB sysop as to its availability and baud rates. To check into the BBS use your favorite terminal program and set parameters as follows:

[Baud rate,Parity None,8 databits,1 stop bit,Echo on or HDX,add LF]

You will need to add Line Feeds On depending on your terminal program if you get line overtypes. After logging in if you are getting double spacing type command PL to toggle BB to remove/add line feeds.

After connecting with the BBS you will be ask for your call letters and a PassWord. You must provide a PassWord to your BB sysop or one can be provide for you,keep it short. Once the sysop enables your PassWord you will be given access as usual to the BBS. All commands are the same as the standard packet radio port. After loggin you may change your pass word via the NP command.

--- FORWARDING ---

Automatic forwarding of messages to other BBS's allows mail to be passed between PBBS's automatically, according to a pre-defined list. The forwarding can occur in off-hours to minimize traffic on the frequency or can occur on a different frequency.

Each mailbox has the capability to maintain a list of all stations and their "home" BBS. When not connected to another user, the BBS checks the mail file each hour for stations with mail on the forwarding list. If there is mail to any user on the forwarding list and it is the proper time to forward to that station, the BBS goes off line, connects with the other BBS and sends the mail. If the connect is not successful or the other BBS is busy, the mail is not forwarded and waits until the next forwarding time (generally an hour later).

Each BBS in the link is assigned a forwarding time - a certain number of minutes after the hour. These are coordinated to prevent 2 stations from trying to forward to each other at the same time. When not inhibited, forwarding occurs at the same time each hour for a given station. Start and stop times can also be specified for each forwarding time to each destination. This allows inhibiting forwarding during busy

peak times.

You don't have to do anything special to use forwarding. The SYSOP is responsible for getting the forwarding files set up. All you do is send the message. Mail sent to a user served by another BBS will automatically be forwarded if that user is in the forward file or you assign an @ BBS. Typically, all mailboxes in a given area will have entries in their forwarding files for all other BBS's in the area, perhaps even for the entire country. So if you know that AL7FQ reads his mail on the KL7GNG PBBS, all you need to do when you send your message to AL7FQ is enter S AL7FQ @ KL7GNG. Your BBS will then forward it on to KL7GNG where AL7FQ will see it.

If you travel and operate packet at other BBS's, you might want to add an SSID number to your call, such as K0GUZ-1. Then when the PBBS's share forwarding files, only one (your HOME) BBS will have your plain call sign (such as K0GUZ), and mail sent to you will be forwarded to only one BBS and not numerous ones.

Not every BBS is set up to forward to every packet user. The only way a SYSOP will know what your home BBS is if you tell him. It might be a good idea to send a message to your home BBS SYSOP and ask him to inform the other BBS's of your "home" status. That way, if someone posts a message to you on a BBS across town and doesn't specify your home BBS when sending the message, the BBS itself will have a record in its forwarding file of your call sign and what your home BBS is. That BBS will then automatically forward the message on to you at your home BBS.

There are certain "ALL" destinations that are used to send mail to all users at a remote PBBS. For example, ALLAK will distribute a message to all ALASKAN PBBS's, as ALLUSA will do for ALL PBBS's in the USA. What "ALL" designations are available and where the messages so addressed will go is determined solely by the SYSOPs of the various BBS's. You might leave a message for the SYSOP of your home board asking for a copy of his forward file. This will tell you everything you need to know about what goes where.

--- Good Operating Ideas from a Sysop's Viewpoint ---

The following ideas come from many hours watching the SYSOP's screen and seeing difficulties that users have had. New users to the PBBS will occasionally send a command, wait for a response, and seeing nothing will become impatient and send the command again. This is unnecessary because in packet radio, either the packet will get through to the other station or you'll "retry out". If you're still connected, the packet will get through. If you send the command twice, the BBS will respond twice.

Repeatedly executing the information or help meun is unnecessary. The H or ? (HELP) command prints a summary list of commands. The I (Information) command gives information on the particular BBS installation. They aren't context sensitive and their responses won't vary depending on what you're doing in the BBS. The information is always the same,therefore,there's no need to print it more than once.

If possible, stack multiple commands using the PASS character (usually control-V). With at TAPR TNC or clone, each time you hit return, you send a packet. You have to end a command to the PBBS with a return so you have to send it. You can save air time, though, by "stacking" commands in the same packet by preceding the return with the PASS character. This will put all the commands in the same packet. Of course, don't use the PASS character before the last return or you'll never send the packet at all!

Don't list all messages. The message file gets pretty long very fast and listing the whole file takes a long time. Along these lines, please be courteous during peak usage hours - limit your access time so others may pick up their mail.

Finally , please recognize two things. First, it takes a good deal of time to properly run a BBS , so be patient with occasional problems which may occur. Disks have to be backed up, files moved around, old messages deleted, and new versions of the program have to be loaded. BB is continuously being upgraded so check with your sysop as to changes. ENJOY!

-- Hierarchical Addressing --

It is probably fair to say that the maintenance of the forwarding tables is a drudgery that most sysops could do without. This point also under-scores a serious problem faced by all networks: ROUTING.

With the introduction of support for Hierarchical routing designators, we have an opportunity to improve traffic routing particularly for international traffic. Hierarchical routing designators can assist in local and international routing. Since N6VV is at present time responsible for traffic to Asia and the Pacific, he has implemented routing designators to assist him in international routing.

Using this structure mail can now be addressed for example to:

SP JA1ABC @ JA1KSO.JPN.AS
or
SP KB6RAA @ KB6RAA.CA.USA.NA

** Continental Designators **

NA - North America
SA - South America
EU - Europe
AS - Asia
AF - Africa
AA - Australia

** Country/Province Designators **

These codes are international accepted codes that may be found in call books, or post offices.W9ZRX BBS listing also contains US/CAN as well as many country codes.

State and province codes shall be the recognized two-character code established by the American and Canadian Post Offices. These may also be found in the Callbook listings. Most BBS can provide a list of state, province and country listing upon request.

It is after we get down to the state/province/county level where the trouble may begin. To understand why, we must examine how the BBS code goes about matching things in the route. The first principle is that it attempts to find a match between the items in its forward file and the left-most item in the address field. As an example, say that we send something to KB6RAA @ KB6RAA.CA.USA.NA, and that the only entries that we have in the forward file are for CA. That match would be sufficient to allow the

message to be forwarded. If KB6RAA were found, that entry would take precedence (because it is more left in the field than CA) and would of course also ensure delivery. The best way to look at it is "KB6RAA AT KB6RAA" which is in CA which is in USA which is in NA". So far so good.

The Japanese BBS network wants to use area routing numbers. For example, JA1ABC @ JA1KSO.42.JPN.AS ... and everyone says, "So what, let them!" Of course, that is very mature of all of us, but the trouble is that the 42 in that string may also match wild-card ZIP codes that some folks keep in their forward file, such as 42*. The solution we propose is to use an agreed upon key character for designators below the state and province level, and we recommend the octothorpe, "#".

So now the above address would be JA1ABC @ JA1KSO.#42.JPN.AS . Other examples could be:

1) W0RLI @ W0RLI.#SFO.#NOCAL.CA.USA.NA - W0RLI within SFO (San Francisco) within North California, etc.

2) VE3BTZ @ VE3GYQ.#LONDN.#SONT.ON.CAN.NA - VE3BTZ at VE3GYQ in London, in Southern Ontario, in Ontario, etc.

There is another added benefit to this scheme. It involves Gatewaying between the BBS world and other networks, such as TCP/IP via SMTP. This means that we can take advantage of the the TCP/IP host-names and their domain or hierarchal format for forwarding. Thus it is possible to send mail from the BBS to VE3BTZ as VE3BTZ @ PC.VE3BTZ.AMPR.ORG or from SMTP to W0RLI @ W0RLI.OR.USA.NA and not have any ambiguity.

This system is still comparable with older style systems, a BBS that handles hierarchal forwarding identifies with the H feature letter: [4RE-02.7-HM$]. If it does not get an appropriate response, it uses the left-most item in the "@ BBS" string as the "@ BBS" for the message. BB version 2.0 and higher support hierarchical addressing.

BB searches for ALL the words in the BBS and H fields for a match in route file. Thus, given a message addressed to:

SP N6TFX @ AA4RE.#NOCAL.CA.USA.NA will search for #NOCAL CA USA and NA if AA4RE is not listed in the BBS routing files. The first match determines the path the message would take. If CA was the first match the message would forwarded onto AA4RE. If a message was sent to W3IWI @ W3IWI.MD.USA.NA and NA was the first match the message would be sent onto W3IWI.

SP N6VV @ N6VV.#NOCAL would mean a NUMBER followed by NOCAL . Instead, use "#NOCAL. The " is the escape that says that # is not a wildcard character.

With BB version 2.7 hierarchical addressing is automatically looked up at foward time using a BBS Hierarchical lookup table and tacked to the @BBS call of each forward file not containing a Hierarchical address. Of course this assumes that the @BBS call is a listed BBS (most BBS use W9ZRX list of BBS stations).Automatic addressing (default) will not change a hierarchical address already provided by a sender which takes precedence.

See the files - COUNTRY.DES and STATE.DES for a listing of designator codes in the BBSINFO directory of many PBBS's.

--- Wildcards ---

Wildcards are supported in many places. With wildcards we attempt to match something with just more than a straight comparison.

Special characters in the pattern are:

* -- Matches 0 or more characters of any type
@ -- a..z, A..Z
# -- 0..9
+ -- A..z, A..Z, 0..9
? -- A-F, a-f, 0-9 (a hex number)
< -- a..z
> -- A..Z
$ -- =@#+?<>$
= -- Any one character
" -- Escape. The next character in the pattern much match exactly.
wild cards will not be interpreted.
(-- Group. A "(" starts a group and a ")" ends it. For each
group, there must be a matching character in the string.
Example: (abc) matches b. Wild cards are not interpreted.

Examples:

95* -- Will match anything starting with 95 such as 95020,
95123, 95abc, and 95.
95=== -- Will match anything that starts with 95 and is 5 characters
long. 95020 will match but 9502 will not.
95### -- Will match anything that starts with 95 and has 5 digits.
95020 will match but 95ABC will not.
(WK)6* -- Will match anything starting with W6 or K6.

Wildcards can be used with the W, L and R commands. A few examples
follow:

W AMSAT UO* - Would list out all files in the AMSAT directory that
start with the letters U0 as in UO10,UO11.DOC etc.
W PKTNEWS AEA.* - Would list out all files in the PKTNEWS directory
that start with AEA and end with any extension.
LS *ARRL* - Would list out ALL messages that have Subject areas
containing the word ARRL.
L$ BULLETIN - Would list out ALL messages with BIDS that match a pattern such as BULLETIN.

RS *REBBS* - Would read all messages that have subject areas
containing the word REBBS.

R$ AMSAT - Would read all messages with BIDS that match a

pattern such as AMSAT.

This USER GUIDE contains material obtained from AA4RE,W0RLI,N6VV and VE3GYQ.