

Cupertino Amateur Radio Emergency Service

Topic: Hands on Packet

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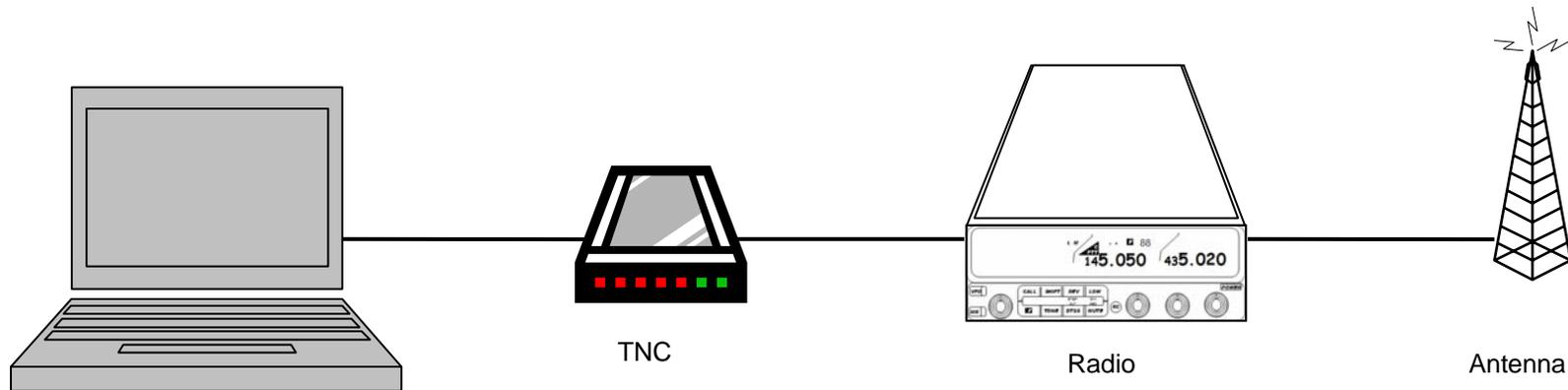
Event: Cupertino ARES Meeting, Orientation Training

Topics

- 1. What is Packet Radio... Refresher**
- 2. Manual Packet Radio**
- 3. Using Outpost**
- 4. Deploying Packet**

What is Packet Radio?

What are the components?



- **Computer:** runs a “terminal emulation” program
- **TNC:** Terminal Node Controller; similar to a telephone modem; the interface between your radio and your computer; may be hardware or software
- **Radio:** and antenna; transmits the digital data sent to the TNC to another packet station

Packet Radio Components

What are the components?

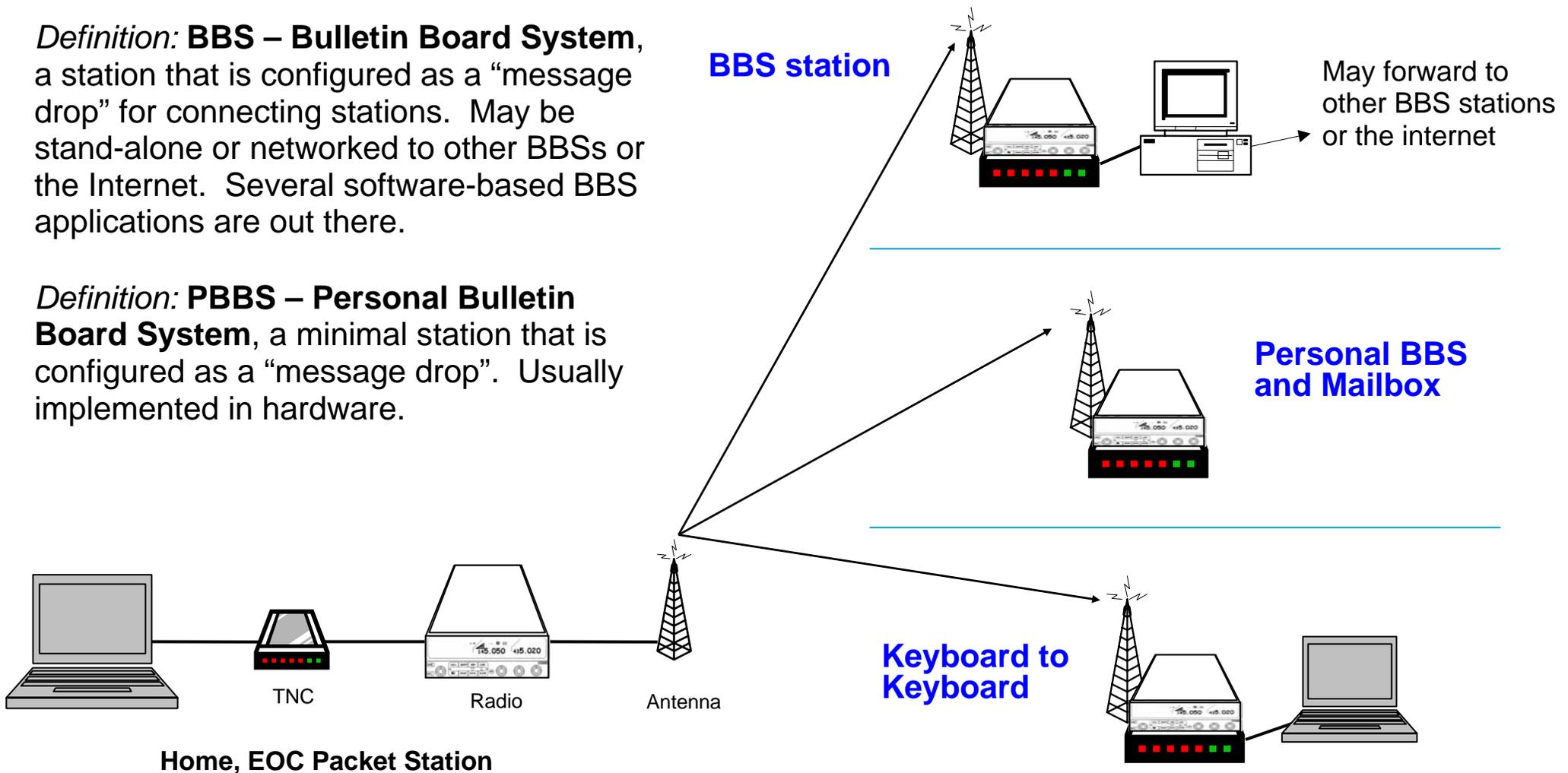


What is Packet Radio?

What can we connect to?

Definition: BBS – Bulletin Board System, a station that is configured as a “message drop” for connecting stations. May be stand-alone or networked to other BBSs or the Internet. Several software-based BBS applications are out there.

Definition: PBBS – Personal Bulletin Board System, a minimal station that is configured as a “message drop”. Usually implemented in hardware.

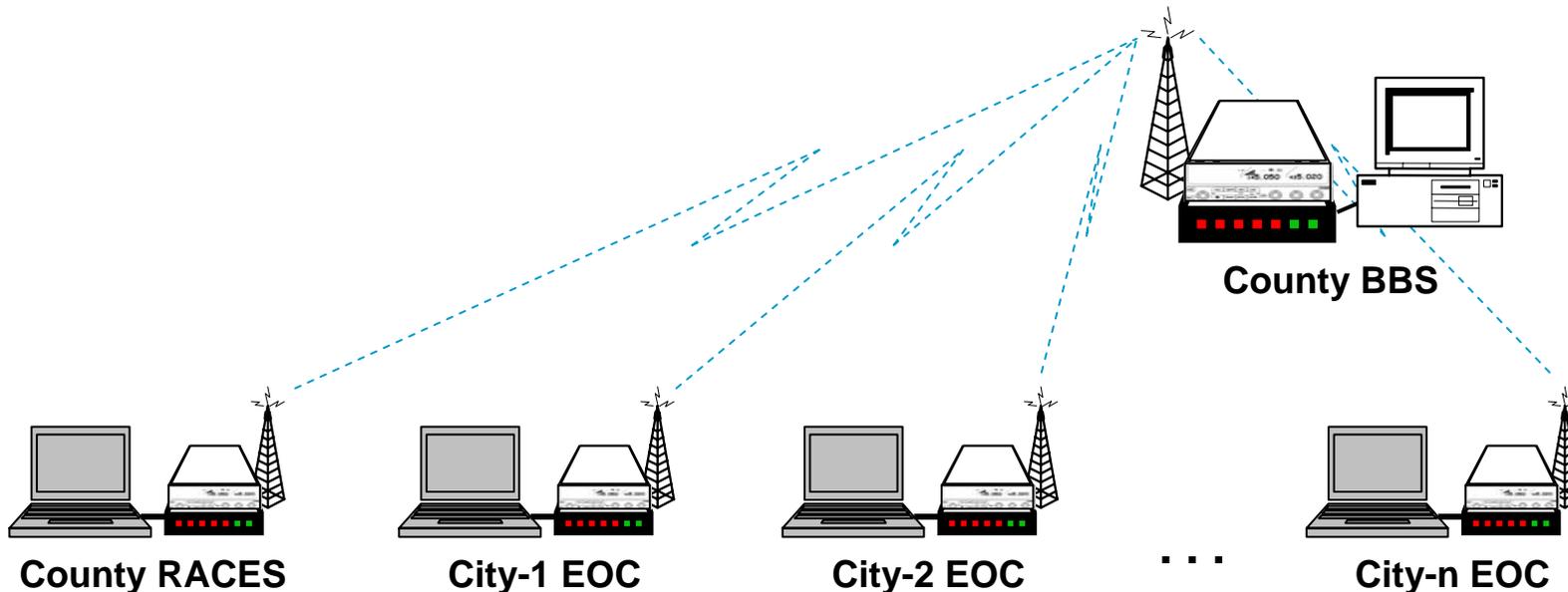


Why use Packet Radio?

The case for Packet

1. Message Store and Forward

- BBSs allow messages to be stored, retrieved, or forwarded throughout the connected BBS network.
- The recipient does not need to be on line to get the message, meaning that messages can be retrieved at the recipient's convenience.



Some 2 meter packet frequencies

... and local stations of interest

Freq (MHz) “organized” stations or use

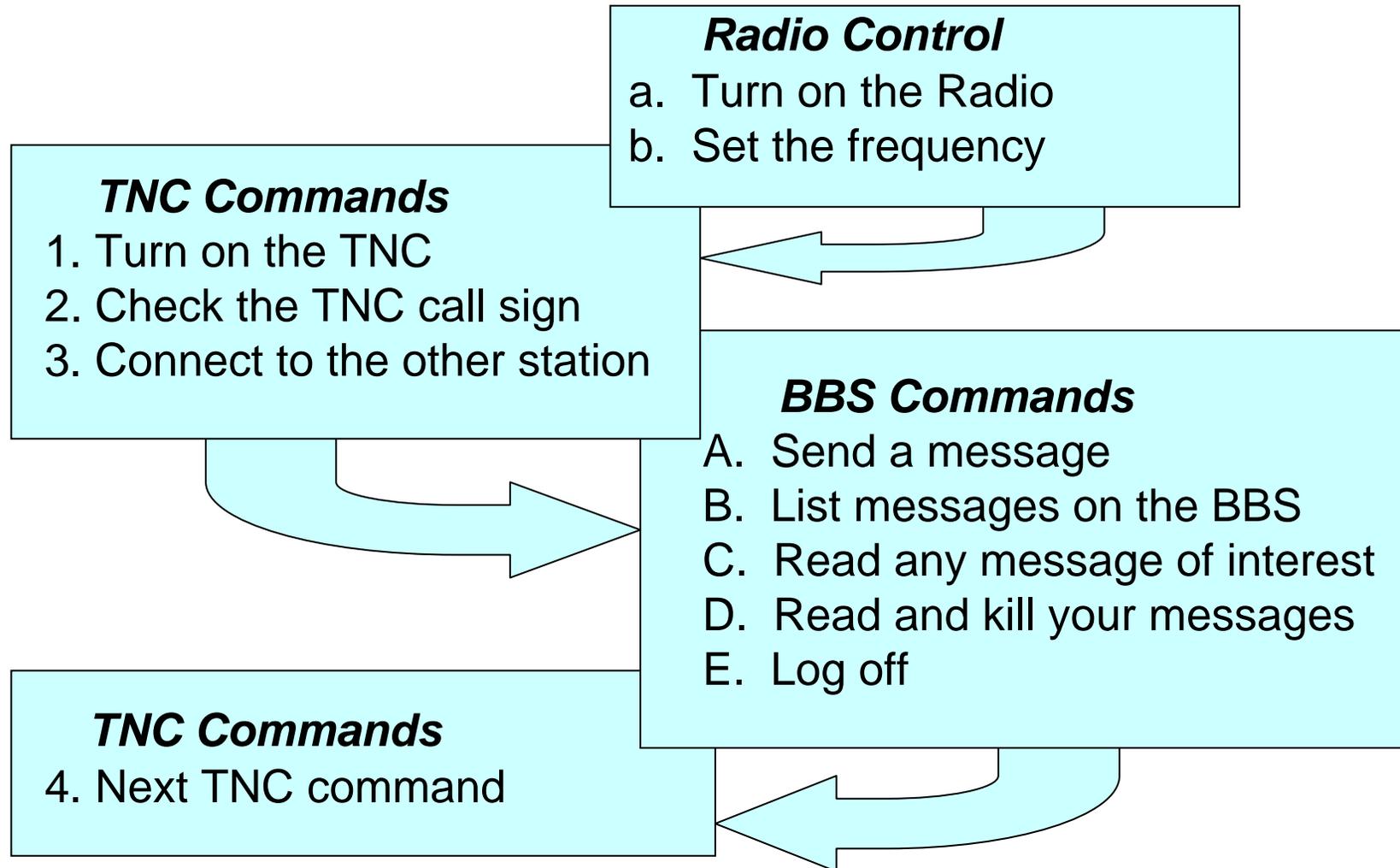
144.910	EP: W6XSC-1 (County EOC)
144.930	BBS: N0ARY
144.950	DX Spotting
144.970	
144.990	EP
145.010	
145.030	keyboard to keyboard
144.050	K6FB-2 (Los Cumbres ARC BBS)
145.070	K6MTV-1, -10
145.090	

Manual Packet Radio

Manual Packet Basics

- **TNC and BBS commands**
- **Talking to the TNC**
 1. **Setting the TNC call sign**
- **Talking to the BBS**
 2. **connecting to the BBS**
 3. **sending a message**
 4. **listing my messages**
 5. **reading, deleting my message**
 6. **exit the BBS**

Summary of a typical TNC session



TNC and BBS Commands

Nine commands for manual operation

TNC Top Commands

Some of the commands that control the TNC

- MYCALL <callsign> – sets the TNC call sign
- CONNECT <callsign> – connects to a BBS or another TNC
- HELP or ? – displays available commands and usage

BBS Top Commands

Commands that control the remote BBS station

- SP <callsign> – send a private message to another station
- LM – List messages addressed to me
- R ### – read message ### from LM listing
- K ### – delete a message ###
- Bye – log off this BBS
- HELP or ? – displays list of commands List - lists messages you can read

Powering On the TNC

Power-up Message

KANTRONICS PACKET CONTROLLER III VERSION 5.0

(C) COPYRIGHT 1988-1992 BY KANTRONICS INC. ALL RIGHTS RESERVED.

DUPLICATION PROHIBITED WITHOUT PERMISSION OF KANTRONICS.

cmd:

Basic TNC set-up commands

Setting the TNC callsign

```
KANTRONICS PACKET CONTROLLER III VERSION 5.0
(C) COPYRIGHT 1988-1992 BY KANTRONICS INC.  ALL RIGHTS RESERVED.
DUPLICATION PROHIBITED WITHOUT PERMISSION OF KANTRONICS.
cmd: ? mycall
MYCALL  This station's callsign {call[-n]}
cmd: my
MYCALL  NOCALL
cmd: my kn6pe
MYCALL was NOCALL
cmd: my
MYCALL  KN6PE
cmd:
```

TNC Commands (KPC-3 TNC)

Using the '?' command

Show the list of commands
that this TNC can execute

cmd: ?

TYPE 'HELP' OR ? FOLLOWED BY COMMAND FOR MORE INFORMATION

8BITCONV	AX25L2V2	ABAUD	AUTOLF	AXDELAY	AXHANG	BEACON	BKONDEL
BTEXT	BUDLIST	BUDCALLS	CONNECT	CANLINE	CANPAC	CALIBRAT	CD
CHECK	CMDTIME	CMSG	COMMAND	CONLIST	CONMODE	CONOK	CONVERS
CPACTIME	CR	CRSUP	CSTAMP	CTEXT	CWID	DISCONNE	DAYTIME
DAYTWEAK	DAYUSA	DBLDISC	DELETE	DIGIPEAT	DISPLAY	DWAIT	ECHO
ESCAPE	FLOW	FILTER	FRACK	FULLDUP	HELP	HBAUD	HEADERLN
HID	ID	INTFACE	K	KNTIMER	LEDS	LCOK	LCSTREAM
LFADD	LFSUP	LLIST	MONITOR	MALL	MAXFRAME	MAXUSERS	MBEACON
MCON	MCOM	MHEARD	MHCLEAR	MRESP	MRPT	MSTAMP	MYCALL
MYALIAS	MYNODE	MYPBBS	MYREMOTE	NDHEARD	NDHCLEAR	NDWILD	NEWMODE
NOMODE	NTEXT	NUCR	NULF	NUMNODES	PACLEN	PACTIME	PARITY
PASS	PASSALL	PBBS	PBHEADER	PBLO	PBPERSON	PERSIST	PID
PTEXT	REDISPLA	RELINK	RESET	RESPTIME	RESTORE	RETRY	RING
RNRTIME	RTEXT	STATUS	SCREENL	SENDPAC	SLOTTIME	START	STATSHRT
STOP	STREAMSW	STREAMCA	STREAMEV	SUPLIST	SUPCALLS	SWP	TRANS
TRACE	TRFLOW	TRIES	TXDELAY	TXFLOW	UNPROTO	USERS	VERSION
WEFAX	XFLOW	XMITOK	XOFF	XON			

cmd:

Starting a BBS Session

Connecting to the BBS

```
cmd: help connect
```

```
CONNECT callsign [via calls] can be used to reconnect with different path
```

```
cmd:
```

```
cmd: c k6fb-2
```

```
*** CONNECTED to K6FB-2
```

```
[KPC3-5.1-HM$]
```

```
67331 BYTES AVAILABLE
```

```
THERE ARE 9 MESSAGES NUMBERED 24-555
```

```
Welcome to the LCARC packet mailbox.
```

```
ENTER COMMAND: B,J,K,L,R,S, or Help >
```

An alternative way of getting help on TNC commands

Connect to the K6KP-2 BBS

Sending a Message

Using the 'Send' – SP – command

ENTER COMMAND: B,J,K,L,R,S, or Help >

sp K6FJC ←-----

Send a Private Message to w9bjx

67306 BYTES AVAILABLE

SUBJECT: County RACES ←-----

The subject is...

ENTER MESSAGE 556--END WITH CTRL-Z OR /EX ON A SINGLE LINE

Hi Mark,

Thanks for covering the weekly County meetings. I look forward to the next update.

73, jim kn6pe

/EX ←-----

“/EX” ends message entry

MESSAGE SAVED

ENTER COMMAND: B,J,K,L,R,S, or Help >

Listing my messages

Using the 'List' – L and LM – command

ENTER COMMAND: B,J,K,L,R,S, or Help >

l ←

MSG#	ST	SIZE	TO	FROM	DATE	SUBJECT
556	PN	106	K6FJC	KN6PE	09/06/08 20:45:48	County RACES
553	BF	2319	ALL	N6GBU	07/18/08 09:27:37	NAPA REPEATER & TCP/IP
238	PN	160	KN6PE	W6XSC	11/28/08 18:22:28	County meeting
27	B	3483	ALL	AA6WK	03/18/08 21:35:15	Net Preamble
26	B	760	ALL	AA6WK	03/18/06 21:30:47	>>> how to use the node and/or
24	B	947	ALL	AA6WK	03/18/05 21:20:33	Welcome

List all the messages on the BBS

ENTER COMMAND: B,J,K,L,R,S, or Help >

lm ←

MSG#	ST	SIZE	TO	FROM	DATE	SUBJECT
238	PN	160	KN6PE	W6XSC	11/28/08 18:22:28	County meeting

ENTER COMMAND: B,J,K,L,R,S, or Help >

List messages addressed to me

Reading, Deleting BBS Messages

Using the 'Read' and 'Kill' commands

```
ENTER COMMAND:  B,J,K,L,R,S, or Help >
```

```
r 238  ←----- Read Message #238
```

```
MSG#238 11/28/08 18:22:28 FROM W6XSC TO KN6PE
```

```
SUBJECT: County Meeting
```

```
PATH: K6FB
```

```
Jim,
```

```
At the last county meeting, you talked about Outpost. When is the next  
release of it do out? We want to check out the Scripting feature.
```

```
73, County OES
```

```
ENTER COMMAND:  B,J,K,L,R,S, or Help >
```

```
k 238  ←----- Delete this message
```

```
MSG#238 11/28/08 18:22:28 FROM W6XSC TO KN6PE
```

```
MESSAGE DELETED
```

```
ENTER COMMAND:  B,J,K,L,R,S, or Help >
```

Ending a BBS session

Using the 'Bye' command

```
ENTER COMMAND:  B,J,K,L,R,S, or Help >
```

```
B
```

```
*** DISCONNECTED
```

```
cmd:
```

***“B” for Bye!
Disconnect from this
BBS***

Problem with Manual Packet

Sending

When creating a message and press <CR>, the text is immediately sent to the TNC and transmitted. There is no message preview before sending.

Receiving

When retrieving a message, how do you capture the message for routing in the EOC?

Hands-on Outpost

A brief introduction

Outpost Packet Message Manager

What is Outpost?

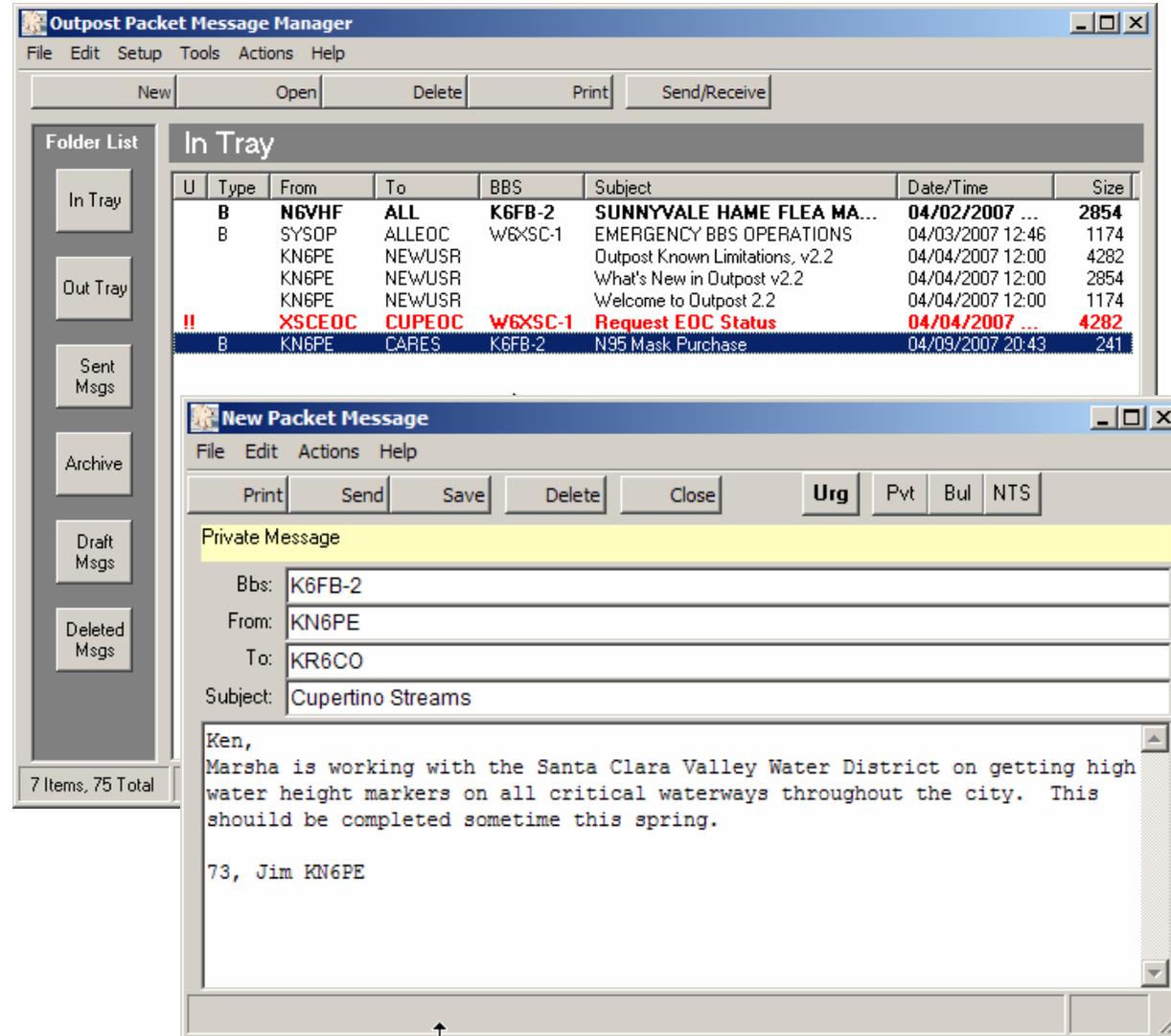
- A Windows-based packet messaging client that hides the complexity of the packet world
- Helps automate all the features available with the packet message handling environment
- Manages all message-handling between you and the BBS
- Lets you read, delete, create, reply to, or forward messages back to the BBS
- Enables ARES / RACES teams to support the response efforts and requirements of our local served agencies by pass digital traffic

A brief introduction

Outpost Packet Message Manager

Creating messages

- Familiar email-app look & feel
- Supports Private, NTS, and bulletin messages
- Freeform formatting
- Delivery and read receipts
- Different ways for originating messages



A brief introduction

Outpost Packet Message Manager

Viewing messages

- Supports viewing, printing, deleting or saving a message to a local file
- Reply and Forward message formatting

The screenshot displays the 'Outpost Packet Message Manager' application window. The main window shows a list of messages in the 'In Tray' folder. The selected message is 'N95 Mask Purchase' from KN6PE to CARES on 04/09/2007. A secondary window titled 'N95 Mask Purchase - Packet Message' is open, showing the message details and content.

U	Type	From	To	BBS	Subject	Date/Time	Size
B		N6VHF	ALL	K6FB-2	SUNNYVALE HOME FLEA MA...	04/02/2007 ...	2854
B		SYSOP	ALLEOC	W6XSC-1	EMERGENCY BBS OPERATIONS	04/03/2007 12:46	1174
		KN6PE	NEWUSR		Outpost Known Limitations, v2.2	04/04/2007 12:00	4282
		KN6PE	NEWUSR		What's New in Outpost v2.2	04/04/2007 12:00	2854
		KN6PE	NEWUSR		Welcome to Outpost 2.2	04/04/2007 12:00	1174
!!		XSCEOC	CUPEOC	W6XSC-1	Request EOC Status	04/04/2007 ...	4282
B		KN6PE	CARES	K6FB-2	N95 Mask Purchase	04/09/2007 20:43	241

N95 Mask Purchase - Packet Message

File Edit View Actions Windows Help

Print Reply Reply to All Forward Delete Close Expire

Bulletin Message

Bbs: K6FB-2 Sent: 04/09/2007 20:43

From: KN6PE

To: CARES

Subject: N95 Mask Purchase

All Packet-enabled CARES members,

Those CARES members interested in purchasing N95 masks as described by Marsha, please let me know. We will be doing a bulk purchase at a cost of \$1 per mask for CARES members.

Regards,
Jim KN6PE

Setting up Outpost

- 1. Identify who you are**
- 2. Identify the TNC**
- 3. Identify the BBS**
- 4. Set up some message defaults**
- 5. Your first message**

Setting up Outpost

Who are you?

Deploying Packet

Why talk about Packet in Cupertino?

- 1. Need to support County's requirements for packet communications**
- 2. Is there an application for Packet within Cupertino to support the City?**
 - **Field deployment for...**
 - Ark support
 - Medical Center
 - Participation as a County MAC
 - others?
- 3. As we think about our response, what information that needs to be passed aligns with the use of Packet?**
- 4. Next Steps?**

Any Questions?

