Outpost
Packet Message Manager
Overview
Version 2.1.2

24 March 2007

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Why are we here?
... and, why are we talking about packet?

Purpose
- City…   provides services; promotes the common good
- EMS…   ▪ Prepares for disasters
              ▪ responds to minimize loss of life and property
              ▪ speeds the recovery

Needs
- EMS…   ▪ needs information… what's going on out there?
              ▪ work with recovery partners and service providers

Capabilities
- What we bring…
              ▪ *Volunteerism!…* An interest to help out
              ▪ Communications
              ▪ Structure

Governmental bodies, civic groups and clubs provide services of various types to their members. All these groups need information in order to make decisions and respond effectively. Depending on the situation, the need for information may cover only a small area (a building or a park), or perhaps a large are (such as a city or county).

What do we bring? First, we love to help out – we're volunteers! But we bring a unique ability – the ability to communicate effectively over a wide area. Se also bring a lot of structure to the table – we typically like to enforce the way messages are defined and handled.

Why are we here?
... and, why are we talking about packet?

Capabilities… communications
- Frequency agility
- Different modes… voice, data, video
- Bandwidth
- Independence from commercial services

	Simple Messages	Complex Messages
Mode	**Voice**	**Packet**
Messages	**Short messages**	**Lists, instructions, details**
Delivery	**Immediate**	**Store & forward; mail drop**
Equipment	**Radio**	**Radio + TNC+ PC + SW + BBS**
Complexity	**Short learning curve**	**Many commands**

We are communicators. But beyond that, we have more than just the ability to communicate and get a message from point A to point B. This slide lists some of the capabilities that we bring to the table, including the ability to move information either via voice, or via digital means.

When comparing voice versus digital, there are some stand-out differences as shown by the chart. Voice is easy – push the button and talk. But digital, and its form that we use known as packet radio, is known for being harder to implement and requires more equipment. The plus of packet is that you can transmit a lot more information in a shorter time. And this data can be formatted, such as lists or spreadsheets.

Why are we here?
... and, why are we talking about packet?

Mapping Capabilities to Needs

- City OES… message handling with field sites, etc.
- Santa Clara County OES… EOC-to-EOC message handling
  - RIMS backup (PACRIMS)
  - City Scan / Flash Report
  - County Logistics Request Form
  - Emergency Volunteer Centers

CAPABILITIES help fulfill NEEDS, that support PURPOSE
  Is Packet a capability that could address other needs?

The reason we are here discussing packet is because there is an ever-growing demand for our resources and capabilities. More and more public agencies are wanting to use ham radio as their backup method of communications in case of disaster. The other reason that we are here is just the sheer volume of data that will need to be communicated from one site to another. As the previous slide demonstrates, voice is good for short messages. Digital (packet) is much better for longer messages.

Why are we here, really?

To dispel silly myths about packet radio!

Buy why are we really here?

When originally suggesting this training session, I had very little knowledge of packet. But I had heard stores, war stories about packet. There were explanations of why packet was no good, why it was so hard and cumbersome to use. The general feeling was that this (packet) is a hornet's nest and it's the last place you want to venture into.

To prepare for this class, I had to jump in with both feet. I purchased a Kantronics KPC3+ TNC and spent 3 days trying to figure out how to build the cable that goes between the radio and the TNC (I didn't want to mess anything up). The manual is less than great. So as I progressed through this, I was thinking "maybe they're right…".

But it turns out that a lot of the horror stories appear (to me) to be myths. Nothing more than myths. So in order to dispel these myths, I've asked the great myth-dispeler of all, the Travelocity Gnome, to help us through this.

Myth #1
Setting up a packet station takes lots of time and way too many cables and connectors.

Rubbish!

It's much easier than looking for a needle. It takes only 3 boxes and two cables! <u>Just take a look!</u>

First myth: too much time, too many cables, too much work.

As our friend says, rubbish!

Packet – A Quick Overview
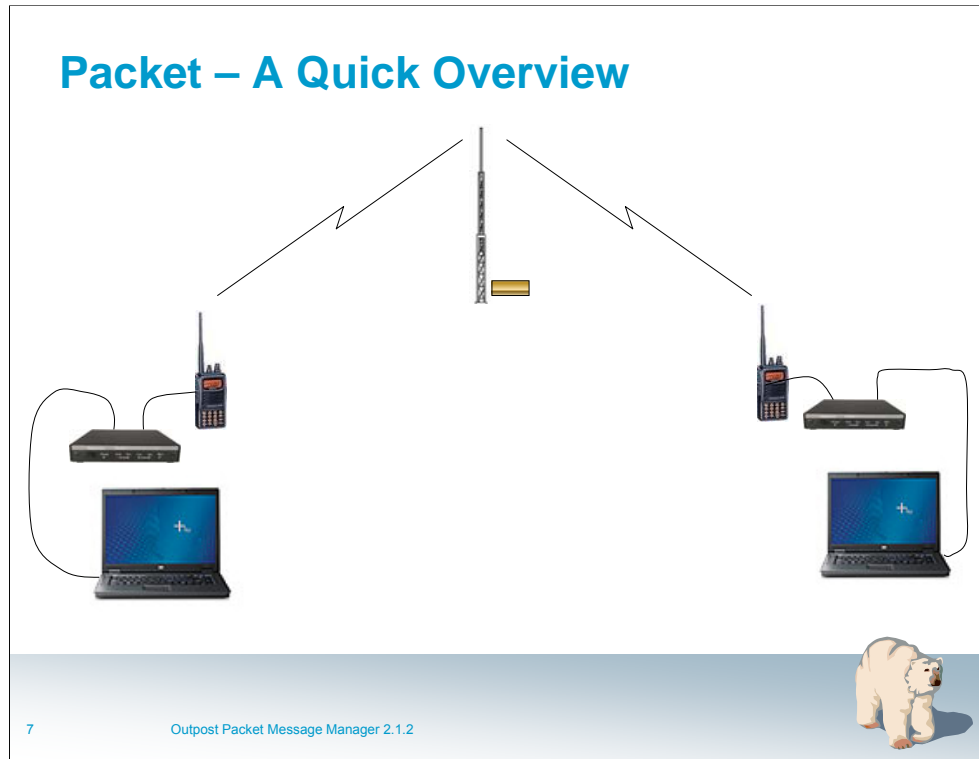
Granted, the initial part was tough, but I'm no techie – I'm a computer guy. Soldering cables and getting the right capacitor at the right place took some time to figure out. The other cable is the one between the TNC and the computer. A few minutes at Fry's and I was set. I walked out with a USB-to-serial adaptor and a 9-to-25 pin cable.

This is as hard as it got. I plugged everything in, fired up the terminal emulator and was able to talk to the TNC the first time. I was also able to contact the packet bbs in Sunnyvale. Success! So the hardest part was mechanical.

This is a typical packet environment, and shows the flow from one node to another. Notice the bbs/bulletin board in the middle by the big antenna. This is where messages are stored for retrieval. This is just like the old post office with mail slots.

Setting the Volume

Setting the Correct Volume is easy as…

1. **Turn on TNC**

2. **Turn on radio to lowest volume setting. Turn squelch setting to lowest setting.**

3. **Turn up volume until "receive" light on TNC lights up. Go just a little bit more.**

4. **Turn up Squelch until light goes back out.**
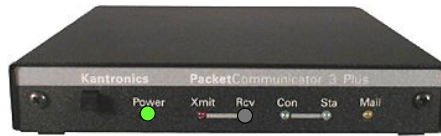
The one thing that is a "watch out for" is setting the volume. This is another great myth – if you don't have it set right your station won't work. I found this not to be true. Follow these simple instructions and you will be on your way. Another myth down the tubes.

Myth #2
Sending messages via packet is difficult and requires learning all kinds of silly commands

Nonsense!
If you can put on a set of headphones and push a button to talk, you will find this easy! Just use Outpost!

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- Myth number 2: You have to learn all these funny TNC commands, then a bunch of bulletin board commands and then remember when to use which set.

- I'll almost give this one to you. Granted, if you want to be a "Packet Purist", then you need to do this at some point. Cheat-sheets help.

- But we aren't here to be Packet Purists. We are here to do what we do best – communicate. And to help us the County has standardized on a software packaged called Outpost. In the next few slides, we will see how Outpost greatly simplifies the environment for us, and thereby increasing our productivity.

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Overview

What is Outpost?
- A Windows-based packet messaging client
- Supports ARES, RACES, and other amateur radio emergency response teams and their need to pass digital traffic
- Helps automate the packet message handling environment
- Manages all message handling between you and your BBS
- Lets you read, delete, create, reply to, or forward messages back to the BBS

Outpost is a software layer that provides a nice user interface to the complex world of packet operations, TNC usage and BBS commands

- What is Outpost? Generally, outpost is just a piece of software that hides the complexity of the TNC commands and the BBS commands. It manages the communications to these devices as well as managing the messages that we send and receive.

- As a comparison, many of us use e-mail which uses a protocol called SMTP. Did you know that SMTP has about 15 commands, and those 15 commands can generate about 25 responses? Do you know those commands and responses? Probably not. Most of us use an e-mail client like Outlook, or whatever e-mail package is provided to us by our network provider. The e-mail client that we use performs the same function that Outpost does – it hides the complexity of SMTP from us. None of us would think about learning all of the SMTP commands. So packet should be thought of in the same light – there isn't a need to learn all of the TNC and BBS commands – let Outpost do it for us.

Overview

Why use Outpost?

- Leverages the existing packet hardware, network, and BBS infrastructure
  - Compatible with many existing BBSs and TNC PBBSs
  - Uses your existing TNC and packet radio equipment
  - Only a packet client (end-user) change is required
- Hides the complexity of the packet operating environment
  - Similar look and feel to contemporary email programs
  - Shorter learning curve for packet operations
  - Allows users to… "*focus on the message, not the medium*"
- Implements most local emergency management policies for digital communications
- Still under active development based on user requests and on-going alignment with the Outpost mission.

- The key point here is that since Outpost hides the complexity of sending and receiving the message, we can focus on the message itself and not worry about packet or the commands necessary to get the work done.

Overview

General Outpost Features

- Message Management
  - Multiple message folders
  - Supports the three primary message types: Private, NTS, and Bulletins
  - Text Formatting in a free-form message window
  - NTS Message Maker with automated ARL message support
  - On-line report builder using report templates
  - Supports Urgent message, Delivery and Read Receipts

- Send/Receive Session Management
  - Supports Serial, AGWPE, and Telnet interfacing to a BBS
  - Automatically controls the sequence for initializing the selected interface, connecting to, and sending messages to and retrieving messages from the BBS

- Configurations and Setups
  - BBS, TNC, and Interfaces – manages a list of BBSs & Interfaces
  - Message Retrieval – choose the message types ti be retrieved
  - Send/Receive automation – 3 ways for automatically initiating BBS sessions

- This is an overview of the capabilities provided by outpost. This presentation does not cover a lot of these, such as NTS, online report builder and other interfaces such as AGWPE. This presentation will focus on the capabilities that we need to understand in order to be productive in an emergency situation.

Topics

- **Features**
- **Creating Messages**
- **A Typical Session**
- **Limitations and Constraints**
- **Questions**

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The following slides discuss these points

Features

Message management

- Familiar email-app look and feel
- Separate folders for message storage
- Clearer message identification (unread=**BOLD**, urgent=**Red**)
- Follows a formal message workflow
- Manage BBS and interface setups
- Additional settings to control how Outpost behaves
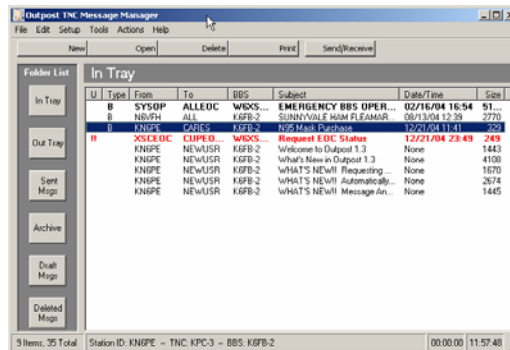
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This is the main menu that we see in Outpost. It is similar to other e-mail clients. But let's look at the various components of this screen.
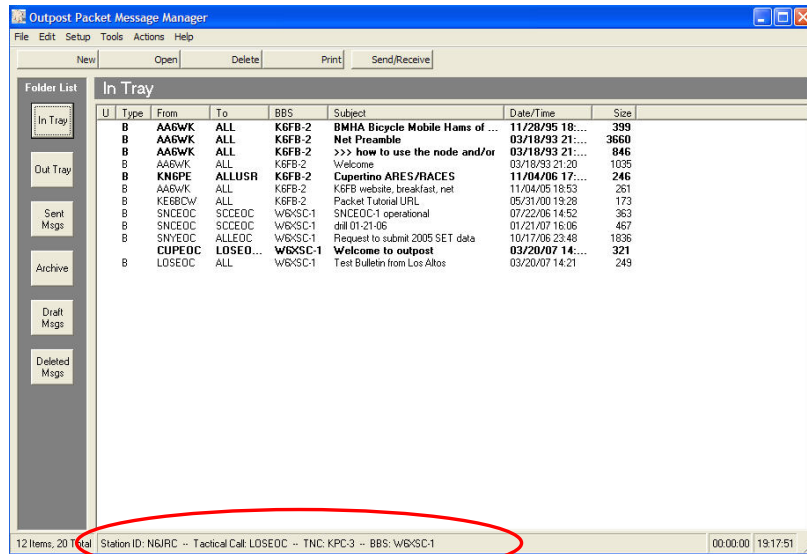
I like to read the screen from the bottom-up. At the bottom is a status line that shows our connection information. In here we will see our call sign, the TNC that we are using, the BBS that we are using, and if needed, our tactical call sign (used in Santa Clara County).
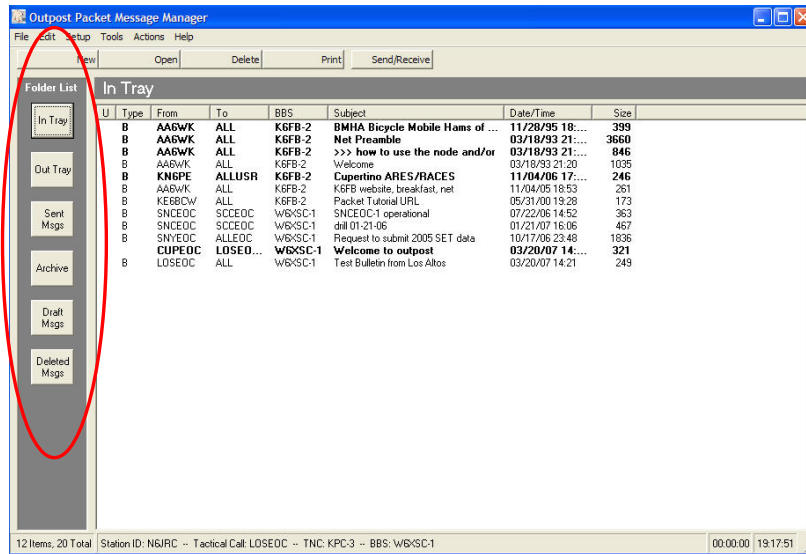
The left side of the screen is a navigation menu bar. These are the different areas, or "folder" if you like, that are available in Outpost. When you click on one, that folder is opened and the contents are displayed. The Current, or "open" folder is shown by the dashes around the inside of the box (look at "In Tray" for an example). The folder name is also displayed above the messages. It can be easy to forget what folder you are in because the main portion of the window where the messages are displayed looks the same.
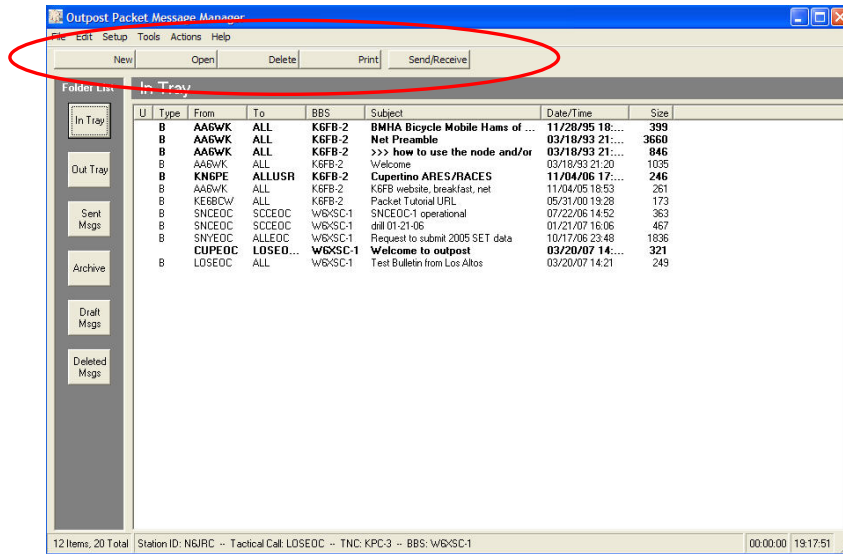
The top buttons are actions that you can take at any time. For example, you can create a new message by clicking on the "New" button.

The big window displays the messages in this folder. New messages are in bold. Urgent messages will be listed in red. Bulletins are indicated by the "B" in the "type" field.

Features

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

How?
1. Highlight Message
2. Press "Open"
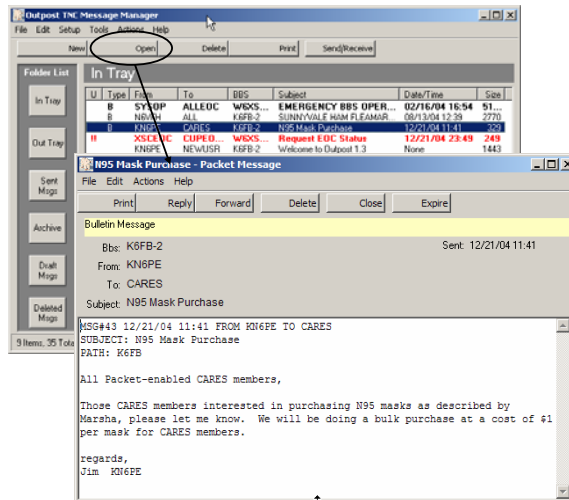
To read a message, simply highlight the message and click on "open". You can also double-click on the message to open it. Notice that when the message is opened, "Bulletin Message" is displayed in the yellow bar if this is a bulletin.

Features

Deleting Messages

- Moves message to the Deleted Messages folder (just like a trash can)

How?

1. Highlight Message
2. Press "Delete"

Outpost Packet Message Manager 2.1.2
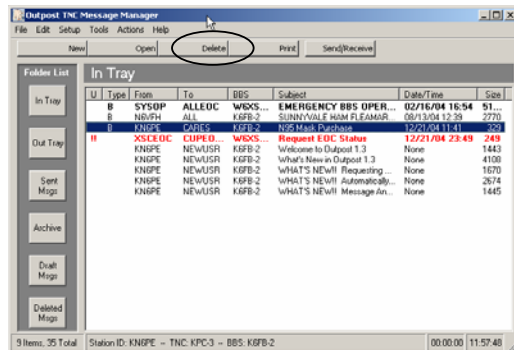
Deleting a message is just about as easy – highlight the message and click on "delete." Where do deleted messages go? To the "Deleted Messasges" folder. They are not removed from the system until you delete them from the "deleted messages" folder.

Features

- **Creating Messages**
  - Direct Entry
  - Cut-and-paste from other apps
  - Import Text from a file

Outpost Packet Message Manager 2.1.2

There are three ways to create a message to send. They are listed on this slide.

Workflow – How it Gets Done

1. **Press "New" to create a new message**
2. **Compose the message.**
3. **Press "Send" – message is moved to Out Tray**
4. **Press "Send/Receive" to transmit/receive msgs**
   1. Sent messages are moved from Out Tray to Sent Msgs folder
   2. New messages are displayed in bold in In Tray
5. **Read and handle new messages**
6. **Delete messages as needed**
   1. Deleted messages moved to Deleted Messages folder

Outpost Packet Message Manager 2.1.2

But before we talk about how to create a message and send it, it is important for us to understand how things happen.

The key here is that messages aren't really sent until you click on the "Send/Receive" button. (Note that there is an option in Outpost to send the message as soon as it is written, although it is not recommended to select this option.)

How it Gets Done

1. Click… New

2. Type msg…

3. Click… Send

Message stored in Out Tray

4. Click… Send/Receive

Message moved to Sent Msgs
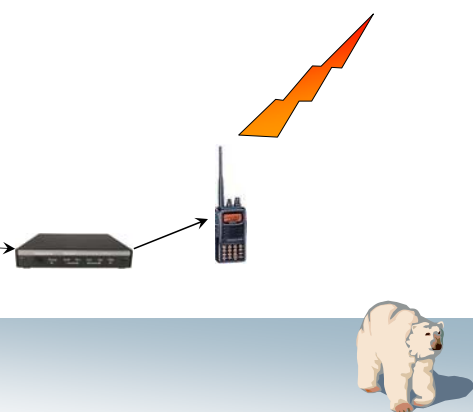
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This demonstrates the workflow graphically.
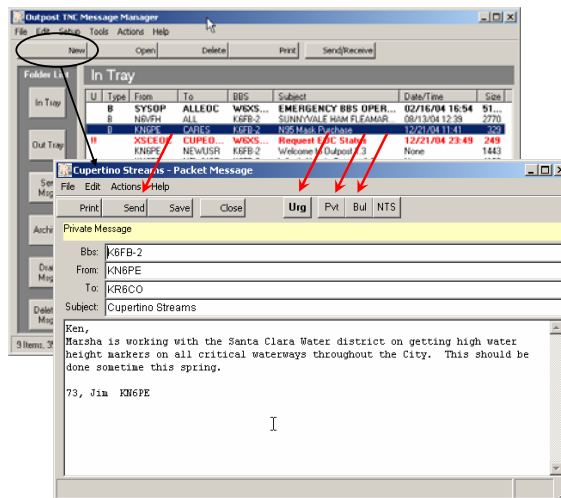
Now, to create and type a message from scratch, simply click on "send" and type in the information. If you are in Santa Clara County, not that we use tactical call signs.
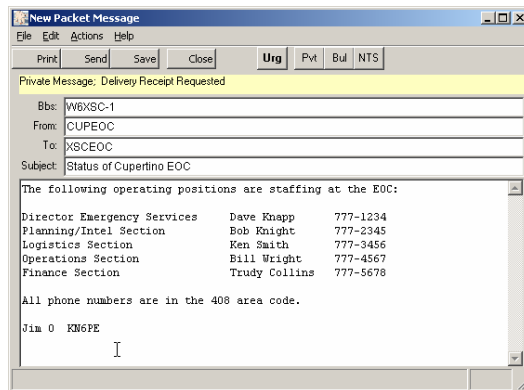
There are options to set message urgency to urgent. Setting a message to urgent does not change how a message is handled. For example, urgent message are not transmitted first. They are only flagged as urgent on the other end (they are displayed in red)

There are also options to request receive receipt and read receipt. Note that these increase the amount of network traffic. Use these options with care.

Creating Messages

Direct entry

- Allows cursor placement within the text field
- Supports TAB characters (cntl-tab) thereby reducing character count
- Allows text files to be directly imported into the message form

Outpost Packet Message Manager 2.1.2

When entering text directly, you can format the message using the tab key. This is recommended over using the space bar. The tab key represents only one character instead of multiple spaces. This cuts down on the amount of time it takes to transmit a message.

You can cut-and-paste from other applications such as Excel. When received on the other end, the user can then cut-and-paste back into Excel.

Creating Messages

Import text from a file
- Open a new message
- File > Open a file
- Select the text file, press OK
- Full in the Destination and Subject.
- Press Send when done.
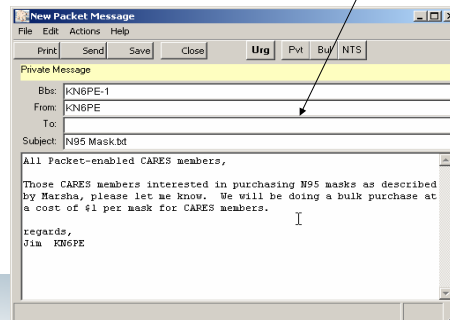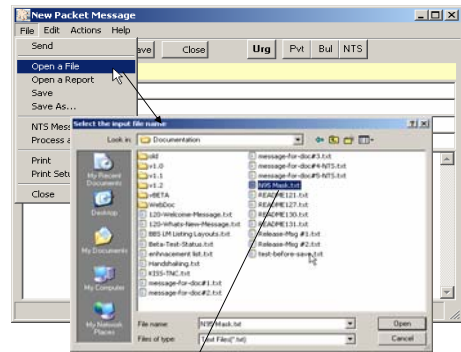
Outpost Packet Message Manager 2.1.2

The third option is the ability to read in the contents of a text file. This is the method that will be used to transmit what are know as PacFORMS.

To read in a text file, first select "new" to create a new message. Once the new message window is open, click on "File->open…" and point to the text file you want to use. The contents of the text file are then copied into the body of the message.

PacFORMS

What Are They?

Browser-based versions of

- City Scan/Flash Report
- Logistics Request Form
- RIMS Form (called PacRIMS)
- DOC9 form (for hospital support)

Requires Javascript to be enabled in the browser

Read and follow the red instructions

And while we are talking about PacFORMS, what are they?

These are browser-based forms that have been designed to look just like their paper cousins. The operator types theinformation from the printed sheet into the electronic form and then sends it to its destination.

The key to using the PacFORMS is to follow the instructions in red. If you don't, you may miss a key step.

This is an example of the flash report that the county will request from each city on a periodic basis.

8.) ... ⊙ YES ○ NO

9.) ... ⊙ YES ○ NO

14.) ... ⊙ YES ○ NO

15.) ... ⊙ YES ○ NO

16.) STATUS (Max 60 chrs.)

16a Benches make citizens' bottoms sore. Citizens revolting.

16b

16c

16d

16e

16f.

17.) ○ YES ○ NO

[SUBMIT]   [Clear Form]
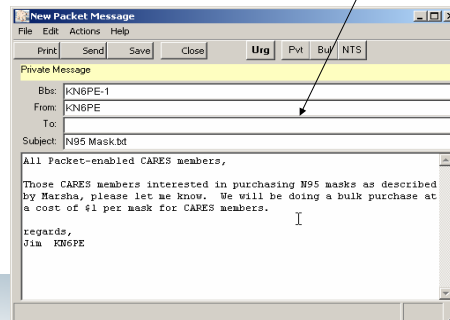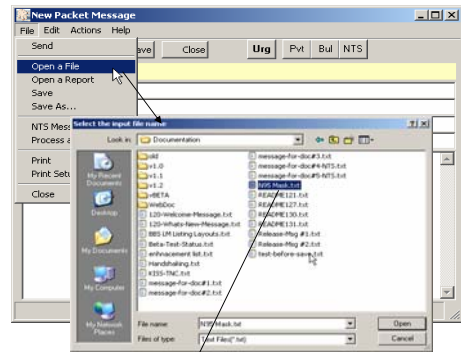
30   Outpost Packet Message Manager 2.1.2

After you have completed the forms, follow the instructions in red at the bottom o
the screen, which say to press the "Submit" button. Once this is done, another
window is displayed showing all of the text that you have entered (see inset).
Again, follow the instructions in red and save the input to a file. Remember the
name and location of the file. Hint: make the file name meaningful. You could
include a timestamp in the name so you have an idea of when I was transmitted.

Creating Messages

Import text from a file

- Open a new message
- File > Open a file
- Select the text file, press OK
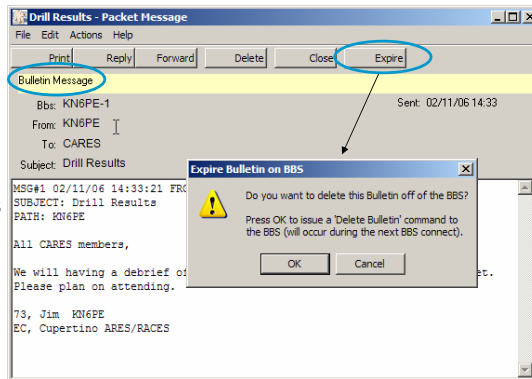- Full in the Destination and Subject.
- Press Send when done.

After you have saved your file from the Pac FORMS, open a new message in Outpost and click "file -> open…". Browse to your file and click on OK to read the contents of the file into the body of the new message.

Bulletins are special types of messages. These are received by every station in the county. Send bulletins with care – they can take up a lot of bandwidth since each city has to download the message.

Bulletins are stored on the BBS until you delete them. To delete the message, click on the "Expire" button. The bulletin will be deleted the next time you do a send/receive cycle.

A Typical Session

Initialize the Interface

Connect to the BBS

Process Bull, NTS deletes

Send all messages from Out Tray

If Private is set

Outpost TNC Message Manager

File   Edit   Setup   Tools   Actions   Help

New   Open   Delete   Send/Receive

Folder List   In Tray

Type	From	To	BBS	Subject	Date/Time	Size
B	KN6PE	USERS	KN6PE-1	Welcome to Outpost version 1.1	03/06/04 12:39	1104
B	KN6PE	USERS	KN6PE-1	What's new in Outpost 1.1	03/06/04 12:39	2880
B	KN6PE	USERS	KN6PE-1	Defects corrected in 1.1.1	03/14/04 15:50	731

In Tray

Out Tray

Sent Msgs

Archive

Draft Msgs

Deleted Msgs

3 Items, 5 Total   Station ID: KN6PE -- TNC: KPC-

TNC Session Manager

Abort Session

```
ECHO was ON
cmd:my KN6PE
cmd:Mon off
MONITOR was OFF
cmd:daytime 040220105032
cmd:connect K6FB-2
cmd:*** CONNECTED to K6FB-2
[KPC3-5.1-HM$]
91200 BYTES AVAILABLE
THERE ARE 13 MESSAGES NUMBERED 24-675
Welcome to the LCARC packet mailbox.
ENTER COMMAND:  B,J,K,L,R,S, or Help >
LM
```

☑ Always show this window during a Send/Receive session

Retrieving Message List...   00:00:04

When you click on send/receive, Outpost by default will open a window and show you the commands that it is using to process your messages. You can turn this window off if you don't like to see the details. But just for a second, watch to see how much work Outpost does for us, making our job that much easier!

For more information

Send inquiries to…
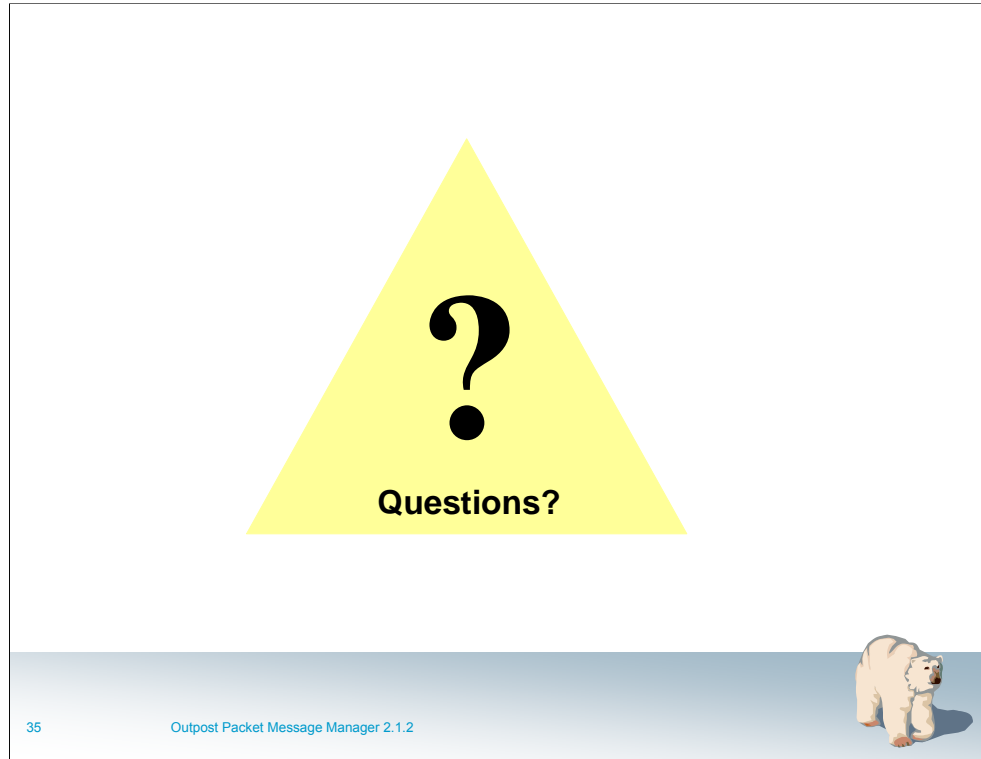Jim Oberhofer, kn6pe@arrl.net

Visit the Outpost website…
http://www.CupertinoARES.org/projects/outpost

Or, *Google*… <u>outpost packet</u>

For more info, call…

Your turn…